THE

MEDICAL COLLEGE JOURNAL.

"A WISE PHYSICIAN SKILLED OUR WOUNDS TO HEAL,

IS MORE THAN ARMIES TO THE PUBLIC WEAL."

SEPTEMBER 1886.

NIHIL SINE LABORE.

FEMALE MEDICAL EDUCATION.

WE have decided this month upon saying a few words upon the need of Female Medical Education in Southern India. We do not say anything against the study of Medicine by young ladies of perseverance and ability in the local College, and we particularly wish those who happen to differ from us to note the fact,—for the demand for them is apparent; but what we wish to point out is this, and we think it better to put it in the form of a question, thus,—Do the native females of Southern India need special female medical practitioners to attend upon them, or are they, and have they been satisfied, up to now, with male medical attendance? Now this is a large question, and cannot be readily answered, but we hope to shew in the limits of this paper, that there is no apparent need in S. India for female medical practitioners. We all know that "a straw best shews how the wind blows," and we shall proceed to indicate some straws shewing the current of public opinion in this matter. We have lately had amongst us the Countess of Dufferin, the Lady President of the "Countess of Dufferin's Fund" for the support and encouragement of the spread of Female Medical aid in all India, and that august lady, seizing the opportunity of her presence in Madras convened a Meeting and administered to the Hony. Secy. of the South India branch and to the Managing Committee, what looks like a very severe wigging; so much did her displeasure appear that she desired the election of a new Hon. Secy. and fresh members of the Managing Committee. Now the S. India branch of that Fund was able to collect for the

above purpose only Rs. 21,000. We do not know how much of this sum was subscribed by wealthy parties who cared only for the distinguished company in which their names would appear, and how much by those who sincerely believed in the genuineness of the demand, but there the fact remains, and is published to all the world that S. India, notwithstanding its many centres such as Madura, Combaconum &c., was willing to subscribe only a paltry 21,000 Rs. to this Fund. Now this fact means, if it means anything at all, that the need for female medical practitioners in S. India bears the same proportion to that in other parts of India as the small sum subscribed does to the lakhs elsewhere subscribed.

Another straw,—the Principal of the Medical College in his Report on the working of that Institution for the year 1885-86 points with pardonable pride, to the honorable positions held and large salaries drawn by past lady Students of the College. Now how many of the 7 lady students mentioned are practising among the natives of S. India? *But one*! and she, being the medical attendant to the ladies of the Zenana of His Highness the Nizam of Hyderabad numbers among her patients at the Dispensary most of the female dependants of the Nizam's harem. Now why should such things be, and what other cause than the want of the demand, produces them? We believe that the Countess of Dufferin had a shrewd inkling of the truth when she invited the people of S. India, even if they did not subscribe to the Fund for their own needs, to open their purse-strings to the relief of others' Wo believe that there is nothing to be ashamed of in such a state of things, for it, to our minds, indicates not so much a state of backwardness, as one of advancement. Tho natives of S. India have never seen any harm or inconsistency in Medical attendance by males upon the females of their families, so much so that the various vythians (always male) have, at all times, been looked up to with respect. This feeling has been strengthened by the spread of education and especially English education among the masses. The prejudice still lingers however among those peoples who still hold their females in a bondage akin to slavery.

To reckon the Madras Presidency backward, because it does not rise to bolster up a fictitious demand is unjust. To bring home to our readers the truth of what we say, let us compare the condition of education in this so-called "benighted" Presidency, with Bengal. Even at present time of writing, the Bengal Medical Hospital Assistant is taught the various subjects of medicine, not in English, but in Bengali. A similar state of things existed many years ago in Madras, but we have advanced since then. The same class of student does not rest satisfied till he obtains a University Degree, and is a thorough Master of English.

We have been careful to preface our remarks with the statement that we confine ourselves to the needs of S. India and therefore, with the spread of education, it would be, as retrograde a step to locate female medical practitioners in the large towns of S. India, as it would be, to revert to the old system of lecturing to Hindu youths in their own vernacular. These being our views, we do not yearn for the day when the inhabitants of every district and town in S. India will enjoy the benefits of having in their midst a well-trained lady-doctor from some Indian college, because we feel assured that day will never dawn.

PHTHISIS ITS VARIOUS TREATMENTS BACTERIOTHERAPY.

By Mr. N. M. Parakh.

Arnaldo Cantani and others have treated several cases of tuberculosis by giving daily spray inhalations of a rich culture of "Bacterium termo" in gelatine, diluted with meat broth, by means of a spray producer. The downward progress of the disease was checked, patients improving rapidly, symptoms disappearing.

The treatment is based on the theory that Bacterium termo as a harmless organism prevents Bacillus tuberculosis from flourishing. All treatment was stopped, when this was resorted to.

Inhalations in phthisis,

Inhalations of iodine and iodoform with spirits of turpentine (1 to 25, a few drops of these placed in a respirator) stimulate the general nutrition increase the inspiratory and expiratory pressure and relieve the condition of the lungs. Iodoform with spirits of turprentine, will specially ease both cough and expectoration.

Colliquative symptoms will not be modified during this treatment.

2. Inhalation of hydro-sulphuric-acid and sulphurous acid have a simeilar effect. Hydrosulphuric acid, when inhaled produces a general effect on respiration diminishing in number the respiratory movements which become easy, quieter and deeper and the cough which becomes less troublesome and violent and may even entirely disappear. (3) Dr. Renzi considers the inhalations with spirits of turpentine and hydro-sulphuric acid most beneficial.

Dr. Morgan refers to the singular exemption of the Western Highlanders from this disease, which he attributes to the inhalation of great smoke, that constantly fills their chimneyless cabins and of the antiseptic ingredients tar, creasote, tannin contained therein, with various volatile oils and resins, black unchiorus peat being particularly rich in theso subtances. (Journal May 1885.)

(New york Medical Journal 1885.)

Dr. Miquel recommends the following spray:—

Corrosive Sublimate	gr. 16.
Laudanum (Sydenham's)	dr. 5.
Distilled water quarts. 2.	

Lefort uses, with marked success

Camphor oz. 8.	
Tinct. iodine.	
Pitch *a a* dr. 30.	
Hoffman's annodyne oz. 1.	

all these mixed and put in a wide mouthed bottle to the vapour frequently inhaled.

As a germicide in phthisis nothing is better than $\frac{3}{12}$ drachms of commercial hydrofluoric acid diluted with its own weight of water and evaporated from a leaden vessel over a water bath into a cabinet in which the patient sits. The inhalation should last for an hour and be repeated daily.

Injection into lung in phthisis Dr. Phillips remarks about affording great relief from coughing and dyspnæa by resorting to *intra-pulmonary* injections of iodine.

The injections are made by thrusting a hypodermic needle ½ inch deep, through the first, second or third interspace in the axillary region, the arm being held at right angles from the body and 10 drops of dilute solution of pure iodine injected and repeated at intervals of a few days.

Drs. Smith and Robinson recommend the same process. These injections prove more efficacious in conjunction with other measures, viz. Super-alimentation, *i.e.*, a pint of milk, three raw-eggs, beef-peptonoids, administered by a soft æsophageal tube twice daily. Also the use of inhalations of creasote, iodine, carbolic acid, menthol eucalyptol.

TERPINE IN PHTHISIS.

Terpine is said to modify the respiratory mucous membrane and to check the muco-purulent secretion. It is indicated when the patient suffers from severe cough and gets exhausted by abundant muco-purulent secretion (either from bronchial tubes or cavities in lungs.) Terpine is also useful in the hæmoptysis of incipient phthisis (*i.e.*, before development of cavities with aneurisims in their walls.) On account of its perfect harmlessness and easy digestibility, it is superior to phenol and creasote. It is administered in the form of a pill or alcoholic solutions Dose 20—60 centigrammes.

New, easy and Portable Tests to detect Albumen and Sugar in the urine by Test and Papers introduced by Dr. Oliver.

Test Papers for albumen.

Two kinds of papers are used.

(*a.*) Citric acid paper.

(*b.*) Potassio iodide of mercury (Nesler's) papers.

Preparation of the papers :—

They are prepared by simply saoking filter paper in saturated solutions of citric and potassio iodide of mercury. (nesler's solution) respectively for 12 Hours and drying and cutting them afterwards into narrow strips.

Mode of using these papers :—

Take a test tube of ordinary size and fill the three-fourths of it with the urine containing albumen. Take a narrow strip of the citric acid paper, dip it in the urine first, and after a few seconds, dip by its side the mercury paper. If albumen be present, it will be precipitated in the form of a white streak commencing from the end of the mercury paper to the bottom of the tube.

The object of using citric acid paper is to dissolve the phosphates if they be present and that of mercury paper to coagulate and precipitate the albumen.

Test papers for sugar.—

Two kinds of papers are used.

(*a.*) Carbonate of soda papers.

(*b.*) Indigo-carmine papers.

Mode of preparing.

They are similarly prepared like albumen papers by soaking filter papers in seperate saturated solutions of indigo-carmine and carbonate of soda respectively.

Mode of using.

Take a strip of indigo-carmine paper and another of carbonate of soda-paper. Put these both in a test tube and pour a drachm or two of distilled or soft water or rain water over it and heat it gently. You will get a fine blue solution. When it begins to boil, add a few drops of the urine containing glucose. In a short time if sugar be present, the blue color will begin to change to violet, brown or different tints of red, purple and finally to straw yellow. In a few words the blue color will be discharged, *i.e.* the indigo-carmine will be oxidized The time occupied to effect this reaction is in proportion to the amount of glucose in the urine. If sugar be present in a large quantity, say, 15 gr. to 3 oz. it will take a few seconds. If small, say,5 gr. to 3oz. from ½ to one minute.

Sometime the color will change to brown or purple or violet or to red, then we should add more urine to bring on the final character the straw-yellow-reaction.

Chemical advantages of Carmine paper over Fehling's and other alkaline solutions to detect glucose iu urine..

1. The liquid tests solutions very soon decompose owing to their exposure to air, light, damp, &c., but these carmine papers are the most stable of all the tests. In spite of the exposure to air, light, &c. they never decompose.

2 Fehling's solution fails to detect sugar in the urine in the presence of albumen, blood, pus &c. but Carmine papers detect it easily.

3 Water uric acid reduce Fehling's solution, but not indigo-carmine.

Rough, but almost approximate and very convenient method of the quantolative analysis of sugar.

From varions experiments and calculations Dr. Oliver has laid down the following two as easy rules to calculate the amount of sugar.

1 The discharge of urine in 24 hours exceeds 150 oz.

The p.c. of urinary solids falls to such an insignificant degree, that the secretion is little more than a solution of glucose, the sp. gravity becomes a fair gauge.

"Each degree over the thousand being nearly equal to *one* grain of sugar per one ounce of the urine.

e. g. sp. gr. is 1030, then

30 grains of sugar per one ounce of the urine.

2 The discharge of urine is *under* 150 oz. during 24 hours.

The rule for the correction is to substract from 1020 (the normal specific gravity) 1 degree for every 5 oz. of urine over the average normal discharge of 50 oz. and then deduct the figure thus obtained from the sp. gr. of the urine to be examined, when the remainder will roughly represent the glucose in grains per ounce of the urine.

e. g. 90 oz. of the sp. gr. 1039.

90—50(the normal quantity of urine =40oz.

1 degree of every. 5 oz.—8.

1020 (the normal spqr.)—8=1012

1039 (sp. gr. of the urine)—1012=

27=27 grains per oz. 1 of the urine.

NOTES.

Surgeon-Major C. Sibthorpe having returned from field service assumed charge of the duty of Senior Surgeon

of General Hospital and also the Professorship of Surgery in the College. Surgeon-Major R. W. Browne M. D. who was officiating as Senior Surgeon &c., is now doing duty as the 2nd Surgeon of General Hospital and Professor of Materia Medica. By this arrangement Surgeon H. A. F. Nailer M. B. was relieved of his arduous task of lecturing two large classes—Pathology and Materia Medica.

Distinguished visitors. Dr. Simpson, Surgeon-General with the Government of India accompanied by Surgeon-General Bidie, visited the General Hospital' whilst going through the different wards conducted by Dr. Keess saw many cases of interest. Among the many which attracted Dr. Simpson's attention most was a case of elephantoid scrotum of extraordinary size. Dr. Simpson got the photograph of the case taken. Having gone through all the wards of the General Hospital, Drs. Simpson, Bidie, Keess and Sibthorpe walked to the College and had a run through the whole building.

A few days later, Dr. Ray, Professor of Anatomy of the Calcutta Medical College, accompanied by Dr. Sibthorpe, paid a visit to the College and appeared to have been much interested at every thing he saw. When in the Dissecting Room he remarked that the preservation of bodies was more successfully done here than in Calcutta.

We note, in the *Lancet* of 20th November last that Retired Surgeon General M. C. Furnell, among others, was introduced, on 16th inst. into the presence of the Queen Empress at Windsor Castle, and decorated with the Badge of a Companion of the Order of the Indian Empire.

We hear that Brigade-Surgeon A. Porter has been appointed Principal of the College, and Physician General, in the room of Dr. Keess, who retires on 4th proximo.

Dr. Thomas Button, Harrogate, states, from his experience, that iodide of potassium in small doses is an almost certain remedy in cases of albuminuria in pregnancy and urges its claims for more extended trial.

EXTRACTS.

MOBILITY OF THE HEART.

Dr. M. M. Shershevski publishes in the *Vrach* a paper on the mobility or desplaceability of the heart. The fact that the heart's position is liable to slight changes according to the position of the body has been recognised by many observers, but theyhave none of them formulated the conditions under which it takes place. Dr. S. gives details of the examn. of 40 persons, all of them free from cardiac and pulmonary affections in whom he noted accurately the position of the heart's boundaries in the upright dorsal, left lateral and right lateral positions. The chief mobility was towards the left side, but the heart was often quite perceptibly displaced to the right, as well as downwards and even backwards. The chief conditions under which this occured were youth, nervous states, and freedom of the vessels from signs of sclerosis. Displacement backwards was found in nearly half the cases, and this shows that the heart ought to be examined in the upright posture. The writer specially remarks on this when the examination is made as a prelude to the administration of chloroform : whereas, as a rule, the stethoscope is applied when the patient is lying down and in a very agitated frame of mind, which latter condition always renders the organ more easily displaced. And the deminished diameter due to this may lead to erroneous conclusions if the measurements be not previously taken in an upright position. This has reference chiefly to young persons. In the case of subjects over 60 yrs. of age, and of much younger persons whose arterial system had already begun to shew signs of degeneration there was little or no displacement produced in any position.

CALOMEL AS A DIURETIC.

The virtues of calomel have in these days come to be somewhat undervalued, a reaction doubtless from the indiscriminate prescription of former times. Dr. Mendesohn calls attention to its value as a diuretic, especially in cardiac dropsy, basing his remarks upon papers recently published by Dr. Hendrassik of Peoch and Dr. Stiller. The former, having noticed the marked diuresis which ensued in a severe case of cardiac dropsy after the administration of jalap and calomel found by further observation of other cases that this effect was due to the calomel and not to the jalap. In the great majority of the cases the daily quantity of wine reached from 2 to 5 or more litres on the 2nd to 4th day of calomel treament. Stiller's experience is confirmatory of this, and Dr. Mendelsohn adds his own testimony to the value of the prescription. He says that when calomel is prescribed in doses of from 3 to 5 grains, three times daily, diuresis occurs within 8 hours. It is not necessary to induce salivation to get this result, which often takes place with surprising rapidity; the anasarca and serous effusions disappear, and the patient is much relieved. It is said even to be more effective than digitalis, squills, and other remedies in certain cases especially when the pulse-tention is not very low. Calomel does not, however act through the heart, and is often disadvantageously combined with digitalis.

TANNIN IN TUBERCULOSIS.

M. M. Raymond and Arthaund have made some comparative researches on the action of sulphide of carbon, iodoform and tannic acid in tuberculous patients. Having found that when tannin had been administered to animals for a month, they were more refractory to the effects of the tubercular virus it was used in more than fifty cases of human tuberculosis in doses of from 2 to 4 grains daily. In less than a fortnight half the patients showed an increased weight, which continued during the treatment. In acute tuberculosis, both of the child and the adult, the symptoms amended and the disease retrograded in some cases which had been looked upon as hopeless.

VARIATIONS IN PULSE OF ANIMALS.

In Dr. B. W. Richardson's recent Cantor Lectures on "Animal Mechanics" speaking of the mechanism of the heart he described the number of the pulsations of the heart in different animals in fish, frog, bird, rabbit, cat, dog, sheep, horse and made a few comments on the remarkable slowness of the heart 40 strokes per minute—on the horse.—Then the pulsation in man at various periods of life, and at different levels, from the level of the sea up to 4000 feet above sea-level, was brought into review, and was followed by a computation of the average work performed by the heart in a healthy adult man. The work was traced out by the minute, the hour, and the day and was shewn to equal the feat of raising 5 tons 4 cwt, one foot per hour, or 125 tons in 24 hours. The excess of this work under alcohol in varying quantities formed a corollary to the history of the work of the heart, Parlies's calculation showing an excess of 24 foot-tons from the imbibition of 8 fluid ozs. of alcohol. The facts relating to the work of the heart by the weight of work accomplished was supplemented by a new calculation, in which the course of calculation was explained by mileage.

Presuming that the blood was thrown out of the heart at each pulsation in the proportion of 69 strokes per minute, and at the assumed force of 9 feet, the mileage of the blood through the body might be taken at 207 yards per minute, 7 miles per hour, 168 miles per day, 61,320 miles per year.

HOSPITAL PRACTICE.

A CASE OF SEVERE HŒMOPHYSIS, TREATED SUCCESSFULLY BY SUBENTANEOUS INJECTION OF PILOCARPINE.

Reported by Student K. J. Pestonji.

A Hindu cooly, 40 years of age was admitted into the Canning Ward at 1 P.M., on the 23rd November 1886, suffering from profuse bleeding from the lungs, supposed to be brought on by exposure to cold on the previous night. On admission, Temperature 104, Pulse 120 ; Respirations 40. No dulness on percussion, auscultation revealing the presence of bubbling *rales* all over the lungs. Ordered gr. I of Ergotine hypodermically, and grs. 10 of Gallic acid in powder internally. In spite of this treatment bleeding continued during the night but was much diminished in quantity.

On the morning of the 24th, bleeding profuse, pulse 110, respirations 32 per minute, shallow and hurried;

Treatment.

R. Acid. Gallic. Grs. 10.
Acid. Sulph. Dil. M 15.
Ext. Ergot. Liq. dr. ½
Aquæ . . . . . oz i. every 2nd hour until bleeding stops, and spongiopiline sprinkled with turpentine to the chest as counter irritant, after this, bleeding diminished a great deal, his temperature rose to 101° at 2 P.M., and a Diaphoretic mixture with M iii of Tincture of Aconite was ordered to be given regularly, every 3rd hour until temperature came down to normal. Passed a good night.

25th November. Patient began to spv blood in alarmingly large quantit from 6 A.M., till 7 35 A.M., (Pulse 11

respirations 38 per minute, Temperature normal) when gr. ⅓ of Pilocarpine was given hypodermically, and hot bran bags (Chapman's) were applied to the upper dorsal spines. The effect was marvellous, bleeding ceased 5 minutes after. The injection, when the patient experienced a burning sensation all over the body followed by profuse perspiration for one full hour during which time, his pulse fell from 100 to 72 per minute, temperature remaining normal throughout. Patient was kept under observations for a few days and discharged cured.

Remarks. In this case Pilocarpine seems to have acted by diverting the blood from the lungs to the skin, and the hot bran bags assisting the action of Pilocarpine, by contracting the Pulmonary arterioles and thus drawing off the blood, towards it.

A CASE OF ACUTE BRIGHT'S DISEASE.

Under the care of Brigade-Surgeon Keess, M. D., M. R., C. S. L.

R— a young man of temperate habits aged 22 years was admitted nto Canning Ward, General Hospital 31st Oct. 1886) to be treated for swelng of the body, states this disease vas brought on by exposure to cold wo months ago.

Symptoms present on admission vere—more or less general anasarca vith slightly distended abdomen, face lanched and puffy, extreme pallor nd dryness of the skin, feeling of eaviness, pain in the back and loins, so along the inside of thighs and stes—urine scanty only 10 ounces in hours, smoky from the presence of ood, highly albuminous becoming alost solid on boiling—heart sounds eak, pulse full and infrequent 56 r minute, loss of appetite, great thirst, tongue furred and slightly red at the lip and edges—bowels rather costive, sleep disturbed.

Treatment.

(1) Dry cupping and lin-seed meal poultice to loins (To relieve kidney congestion and favour blood depuration.

(2) Purgatives every other day (to drain away fluid by the bowels and also to eleminate retained solids of urine in the blood.)

(3) Vapour both and hypodermic injection of pilocarpine ⅓grain subcutanously on alternate days (as diaphoretics to eleminate urea by the skin and thus to lessen the work of kidneys.

(4) Tr Ferri Perchlor m 15 (To improve the blood condition.

Tr Digitalis m 10 { To cut short the supply of blood to the kidneys by contracting renal arterioles.

Potass. Acetatis gr. 15 { To coax
Spt œther: nitrosi m15 { kidneys.
Aquam ad oz. 2.

(Sig.) oz. 2 to be given 4 times a day.

Result.—

2nd Oct. 1886. The patient passed 16 ounces of urine during the last 24 hours against 10 ounces of the previous day. The œdema slightly gone down, the albumen in the urine measured ⅕ part.

(3) The quantity of urine passed during the last 24 hours measured 24 ounces. The puffiness of the face is less. The patient had a good night.

4th During the last 24 hours the patient passed 30 ounces of urine The pain in the loins and back is less.

The swelling is much gone down. The patient feels lighter. Appetite is improving. Temperature is normal. Pulse 60 per minute.

5th He is much better this morning, passed 30 ounces of urine during the last 24 hours. The urine is not so high coloured as it was on admission, albumen measured $\frac{3}{8}$ part. He likes to eat more. Slept pretty well last night.

6th Oct. 1886. The puffiness of the face has entirely disappeared, general ædema is going down. The pain in the loins is very slight. Appetite is much improved. He is not very thirsty, passed 30 ounces of urine during the last 24 hours, albumen measures $\frac{1}{2}$ part.

7th The patient feels much lighter, tongue is improving, passed 28 ounces of urine during the last 24 hours. The quantity of albumen in the urine is about $\frac{1}{2}$. The ædema is much gone down. The colour of the urine is becoming lighter.

(To be continued.)

K. KRISHNAN,
Civil Hospital Apprentice,
Medical College,
Madras.

ANTIPYRINE.

Effects of antipyrine in reducing Temperature observed in cases at the General Hospital Madras, during the months of Oct.-Dec. 86.

No.	Age.	Disease.	Temperature.			Dose.	Remarks.
			Before administration of drug.	After administration of drug.	Consequent Temp.		
Case 1.	15	Intermittent Fever ...	103·8 in the morning	104· same evening	99 and 101·8 next day ...	10 grs. in ½ oz. Brandy every 3d hour (4 doses)...	No effect whatever on tep.
,, 2.	26	Do.	103· in the evening	101· next morning	103 and same evening ...	Do.	Temporary effect only.
,, ,,	26	Do.	102·4 in the morning	100·8 in the evening	100·8 and 99·4 next day ...	Do.	
,, 3.	20	Simple contd Fever ...	104· in the morning	101·2 same evening	97 and 99·4 next day ...	15 grs. given as above.	Very marked effects. ... ...
,, 4.	20	Intermittent Fever ...	105·6 in the evening	100· the next morning ...	98·4 in the evening ...	20 grs. given in 2 doses one at 5 P.M., & 1 at 9 P.M.	Do.
,, 5.	13	Pneumonia ...	{107·2 in the evening 3P.M. 105· same evening 5P.M.}	98·4 the next morning ...	Normal ...	2 doses of 10 grs. at 10 P.M., & 2 A.M. in Arrack.. ...	Pulse 156 fell to 110. ... ...
,, 6.	19	Intermittent Fever ...	105· in the evening	98·4 the next morning ...	102· in the evening ...	one dose of 10 grs. at 3 P.M. ...	

(Student Morrison) Asst. Phys. Wards.

PROCEEDINGS
OF THE
STUDENTS' ASSOCIATION.

The opening meeting of the Madras Medical College Students' Association for the session 1886-87 took place in the main theatre at 5-5 P. M. on Thursday the 14th October 1886, with Surgeon. T. H. Pope M. B. Professor of Hygiene in the chair.

Among those present were Surgeon H. A. F. Nailer M. B., Mr. Rajagopaul L. R. C. P. et S. and others.

Mr. N. Subramhanya Aiyar, M. A. Secretary having read his report, the Chairman opened the meeting thus :—Student's I have been asked to say a few words on this the re-opening, this session, of the meetings of your Association. I must acknowledge that I wish you had been able to obtain the assistance of one of the College staff with longer service and experience than myself. I have been hardly two months in your midst and consequently do not feel that I am in a position to preside at and help to reopen the meetings of this Association which has been now nearly a year in existence. At the same time I can see no reason why, when others are unable to do so (as I am told they have been) that I should fail to come forward when asked.

In December last year when the Principal of this College opened the Association he told you that he hoped you would make it "a common centre of sympathy and thought for all past present and future students of the College. Moreover he trusted that the meeting together from time to time of the members would tend not only towards the developement of a spirit of brotherhood among the students. but also a spirit of true humility."

It is for you now to decide how far those hopes have been realized, whether your Association has promoted a greater feeling of union amongst yourselves as fellow students; whether each and every member has endeavoured in some way to help in the interest of the Association.—Without union on your side there will be no strength.

Putting aside all differences you have one interest in common; and that is the endeavour to obtain for yourselves in due time the privilege of being qualified members of the Medical Profession. You wish eventually to become each one of you either a licentiate or graduate in medecine and surgery. Should you succeed in obtaining your wishes you will be placed each in his own sphere of work. If this be as a public servant you will be regarded with respect and esteem by a large circle of individuals of different ranks, provided you prove yourselves worthy of the same.

Having this before you as an object highly to be desired you will I am sure, when you attain to it be glad to look back on the days when you were members of the Students' Association of this College and you will also be more than ever willing to further its interests.

I was asked also in this address to give you some little advice in your career. Now I am sure this is not needed. In your daily work both in College and Hospital in addition to the instruction that your teachers give you, much that is said and done must take the form of good advice. To give advice is easy, but to make people take it is a serious difficulty. In most instances people who ask for advice or guidance have made up their minds before hand what course they will pursue irrespective of the help they ask for.

However I may be able to say this much to you :—*Firstly* :—Keep the honor of the profession well before you. To become physicians and surgeons of any standing is not a trural or easy matter. *Secondly* :—Try not to forget that what you are as students develops itself into what you will be as practitioners. Those who endeavour to be zealous earnest and gentlemanly while they work in College and Hospital now will be so hereafter and vice versa.—I need say no more.

I can but trust your Association will prosper, and that more of your number will join it at once, and that permanent success will attend all your efforts made on its behalf.

Dr. Nailer thanked the Chairman on behalf of the Association for the kind words of advice he addressed to the students. He said that he undertook to edit the Students' Journal as he was himself an old student of the Collegeof which he was injustly proud —while endorsing fully the words of the chairman. Dr. Nailer impressed on the students the importance of developing the faculty of observation rather than that of empty theorizing.

At a general meeting of the Association held on the 15th of April 1886 with the president Brigade Surgeon Jas Keess M. D. etc. in the chair a large number of students were present. The chairman called on the Secretary to read the minutes of the previous meeting which were then read and adopted.

The Chairman then called upon Mr. S. V. Ramaswami Iyengar to read his paper on "food."

The speaker then said :—

CHAIRMAN, LADIES AND GENTLEMEN.

When I was called upon by our energetic Secretary Mr. Jaganatham, to address you on the subject of "Food," I accepted the invitation with no little hesitation. For in the first place, I know that my poor capacity and time would prevent me from preparing a formal lecture on this important subject, so that I should have to ask you to be satisfied with this poor and by no means an exhausting address; and in the second place, I feared that the subject allotted to me would not lend itself to the drawing of those direct practical conclusions which have made many of the lectures, already delivered before you, so peculiarly valuable to the hearers. And, in truth, I come before you this evening with no prepared lecture, and with a subject which will not permit me to dogmatise and to lay maxims of immediate applications to the work of your daily life. It might seem an unnecessary task for me to address on the subject of food an audience who have so much regard for their personal health as to come and hear a lecture as this; for it is impossible to suppose that those who are here were in any way doubtful as to the relative merits of different kinds of food and had come to see what I had to say in its favor. It is not, however, a superfluous task, but, on the contrary, a very necessary

one; for a fellow-student of mine, a distinguished Master of Arts, wanted to know what I had to say on this subject; he has, I dare say, more than twenty-one reasons for asking me to speak on this subject. He believes, not without much foundation, that I am not a strict vegetarian. I would not be sorry to see him going away at the end of this hour with an idea akin to this.

Man is sent into this world to work, all men work mentally or physically. But some men work too much, while others work too little. As a rule, perhaps, those who work too little are less happy than those who work too much. There is no surer road to all round happiness than a wise system of hard work. Our Creater has given us all plenty to do, if we will, but do it. But work in any shape implies the possession of energy; we cannot work without energy. The food which passes into the system of a man supplies him with energy which he cannot create, but without which his body would be an useless organism. In the performance of the various functions of the human body, the physical and chemical changes upon which life depends produce a vast amount of tissue waste. Without increasing renewal and decay vital activity cannot go on. There is abundant evidence of expenditure in the work done by the lungs, the skin, the kidneys, the intestines, besides the various and uncertain amount from other obvious sources.

The sensations of our every daily life remind us that we require food. The ever-recovering wants of the body made themselves felt by the means of the sensations of hunger and thirst. Every hour of our lives our bodies are suffering a certain loss. It is this loss, which requires to be made good, that gives rise to the instinctive desire for food. Experience has taught mankind that if, unfortunately, they are deprived of food they grow thin, and if the deprivation continues, in a week, more or less, they die.

In the full-grown animal, or in man, waste and repair proceed in such a manner that the bulk and weight remain pretty much the same. In old age the diminish but in infancy and early life growth has to be provided for as well as mere maintenance In this case the additions to the system are more than required to make good the waste of tissue, and the surplus is used for building up the growing frame.

Now one great object of food is this repair of the waste constantly going on in the living body; and in the young the building up of the bones, muscles, blood-vessels, nerves, vicera, skin, hair and nails, which has to be done if the helpless infant is to grow up to adult age, but besides this, there is another purpose served by food which is also of importance, namely that of keeping up the warmth of the body. So important is this, that a large portion of our food is employed in this way, and if it were not so we should soon die.

We have, moreover, not only to be kept warm and to increase in growth when young, and be maintained at about the same weight and size in middle life, but we have each of us our work to do. Work is for almost all (perhaps we may say for all) the main business of life. Our work is not

alike. Some have to use their muscles more than others, while these latter may work harder with eye or brain, than the man who may, in the pride of his strength, despise the feeble frame of a giant in intellect. Not that I would have you think that a great mind is necessarily bound up with a feeble body, for the old Latin Grammar example, "a sound mind in a sound body," still holds good, and if you want to find a sound mind I should recommend you to search for it among those who have sound bodies. In these days it seems as if too high a value were put on work done without much physical effort—desk-work of various kinds—when compared with those occupations in life that require the use of one's muscles, parents often put their boys in situations and professions in which it is certain that if they succeed they will spend almost the whole of their working life in offices at places often close and badly ventilated without sufficient healthy exercise, and for pay not much, if any, higher than they would obtain at many other healthier employments, under the idea that it is a step upwards. The probability is that they would live longer and have happier lives, if such parents and young men were less ambitious. Although this is a degression, it seems not unlikely that in the future some kinds of work that cannot be done by machinary may be more highly paid than the lower kinds of head-work. The spread of education must certainly tend to cheapen many employments as the member of those sufficiently educated will make some kinds of brain work almost a deny in the market, I say this not to disparage education, but rather with the hope that greater value and greater dignity may be attached to some kinds of manual labour.

Returning now to the need for providing force for the performance of muscular or brain work we see that there are three great purposes which food has to serve. Food has been defined as "a substance, which when introduced into the body, supplies material which renews some structure or maintains some vital process." This definition will include some things which none of us ordinarily look upon as food namely water we drink and air we breath—but which are of such importance that life without them would be impossible. Besides these there are certain mental markers which form an essential part of our food. It includes moreover things with which we are familiar, such as rice, wheat, ragi, meat &c. As our body consists of mineral constituents, of water, of saline matters, and of organic matters, both nitrogenous and non-nitrogenous, it follows that in order to supply the requirements of the body our food must consist of the same ingredients, or of substances which can be easily changed into them when submitted to the process of digestion. It is desirable as to that the food should be of such a nature that its digestion can be accomplished without difficulty. If we try to find a perfect food-one on which life can be sustained and on which growth can take place—we must go to those which have been provided by nature. The young of many animals live for a longer or shorter period on the milk of the mother, which not only suffices for the maintenance of life, but also for growth. The young of

birds are formed out of the matters contained in the egg, which also represents a kind of food perfectly adapted to its purpose. We may, therefore, conclude, from the provision made by nature for the young mammalia and for the young of birds and also from the universal practice of man, that our food must consist of these four ingredients—namely—nitrogenous principles, non-inintrogenous principles, consisting of fats and carbohydrates, and of inorganic principles, namely water and Salines.

No food, or combination of foods, is perfect or all sufficing, which does not contain representatives of these four classes. Not only must they be present, but they must exist in certain definite proportions. It is, of course, not necessary that all the elements should be found in just these proportions in the same article of diet. In fact, one of the objects of cooking is the judicious assorting and proportioning of the different classes of foodstuffs, to make up a perfect meal. I do not mean to say that this is consciously done by the majority of people; but it is unconsciously performed by even the most ignorant, and purposely aimed at by the skilful and intelligent who does not know that, as in a proverb, bread goes with cheese, dhall with ghee, and milk with rice? But it is not every cook that could explain the underlying physiological reasons why these particular associations have gained such general approval. When we once understand that a perfect diet must include not only certain elements, but these elements in certain proportions, we can see readily why beans which are rich in albuminous matter, but devoid of fat, have come by instinct to be best enjoyed with butter or ghee, why the highly albuminous milk goes naturally with the lowly albuminous rice; and why cheese containing much albuminous matter is naturally associated with starchy bread and fatty butter.

Within the geographical limits of the world there are living several distinct races of people. The surface configuration of the land, rising from the sea level to the altitudes of different heights, gives great varieties of climate.

The food of man is as diversified as the geographical features of the country in which man lives and the influences of caste and race have tended still further to perpetuate distinctions in the kind and quality of substances used as food. However food may vary in external charecteristics, the frame of man requires essential ingredients to be supplied by its means. There must be a material to repair the daily waste of tissue, and there must be a different order of material to support the respiratory functions, and the heat and the vitality of the body. Nature has wisely provided in the vegetable and animal kingdoms, all things necessary to the sustinance of man. The country he inhabits will, as a rule, be found to produce the food best adopted to the conditions in which he exists.

Nitrogenous foods.

Although our bodies contain a large amount of hidrogen it is always combined with other things and is never free. We obtain our nitrogenous food both from the animal and vegetable kingdoms. The muscle or flesh of any animal contains one of these

nitrogen holding principles. They are found also in the seeds of plants. These seeds contain nitrogenous matter in different proportions and are therefore classed along with meat, as substances which will, when digested and taken into the blood, nourish the muscles. They sometimes go by the name of flesh—formers. I may here say, in passing, that all vegetables contain nitrogenous matter, but in some the quantity is so small that they are not of much value in nourishing the muscles, though they may be useful in some other way. Beef, mutton, pork &c. form necessary and useful foods for many, being pleasant to taste, satisfying the appetite, and more readily digestible than the nitrogenous foods derived from the vegetable kingdom. Beef taken in large quantities, especially by those who have indoor work, is likely to lead to sick head-aches, disordered livers, kidneys, gout and its kinsman rheumatism. In whatever form meat is taken, it is of great importance that it should be well cooked. Not only does cooking render it more digestible by softening and of seperating the fibres, but it is imperatively necessary to prevent disease from being conveyed from the animals used as food to man. Pork, ham, bacon and beef are all liable to contain the undeveloped forms of certain worms, which, if not destroyed in the cooking, develope in the intestines of the "host," either in the form of tape-worm, or form cysts or hydatids in his liver, or even brain; or if the meat contain *trichind* innumerable minute worms multiply in the intestines and spread to every part of the body, but principally to the muscles giving rise to very serious disease, often ending in death. And further, both sheep and cows suffer largely from consumption, or tuburcular disease. There is therefore much probability, as some recent researches have attempted to show, that one form of consumption from which man suffers is derived from the cow. Fish is a food of much importance. In some parts of the world it is almost the sole sustenance of the people, as in the most northern parts of Europe, Asia and America. There are great differences in the varieties of fish, as to their digestibility. The flesh of salt water fish, is rich in phosphates.

Eggs of birds, generally of the common fowl, are nutritious and agreeable articles of food. They are rich both in the nitrogenous and corbonaceous elements of food.

All the cerelia contain vegetable albumen, strach and mineral ingredients in varying proportion, those which are richest in nitrogenous compounds, are, as a rule, the best adopted for the staple food of a people and those who use such grains have all the elements of which their bodies are built up, contained in their chief article of diet.

As regards the labouring population of India, the great bulk of their food is furnished by the staple grain of the district in which they live. Ascending higher in the social scale the variety of food is extended, and the dietary scale is as complex as more of the rich and luxurious of European nations. Although there are no people in India who are strict vegetarians in their diet, yet it may be truly said that there is no other country of which

we have any record, where there is a smaller portion of animal food consumed by the people generally. The strict Brahmans and Rajaputs confine their demands upon the animal, kingdom to the use of butter-milk, curds, butter, ghee and milk—who eat of nothing which in their estimation contains life.

Next in order to the cereals, came various plants of the natural order Leguminosæ, in fact, those who eat sparingly of animal food are compelled by the stern necessities of their being, to get in the plants of this family the amount of nitrogenous material required to renew the waste of tissue constantly going on in their bodies. All the pulses, the peas, beans, gram and dholl, contain a large percentage of vegetable albumen, or casin, besides a large proportion of inorganic constituents and hence their great value as sabstitues for animal food.

NON-NITROGENOUS FOODS.

(1) Hydro—carbons.

Fat—This is found in almost all organs and tissues.

The principal forms in which we take fat as food are, the fat of animals, where it is often intimately mixed with the flesh or lean meat. In many parts of the world vegetable fat is much used in the form of oil.

The consumption of fat in some shape or other is necessary to our existance, and the purposes it serves are various. Our bodies must be maintained at a certain temperature and this is accomplished in great part, by the union of Carbon and Hydrogen of the fat with the Oxygen that enters the blood with every breath we draw starch and sugar do the same to some extent, but from the chemical composition it has been calculated that fat in this respect is $2\frac{1}{3}$ times the value of the others.

Of late years, also, it has been made out that fat and other foods not containing Nitrogen are used in the production of muscular force and energy. As Dr Pavy says, "it may be considered that nitrogenous matter, which constitutes the bases of the various organs and tissues, forms the instrument of action, whilst the oxidation of non-nitrogenous matter supplies the motive power."

(*b*) I must now say a few words about the carbohydrates, in which group are comprised such foods as starch, sugar of the sugar-cane, that of grapes and lactine. There are also other substances, as gum and cellulose or the cordy fibre of vegetables.

Now before starch can be applied to the uses of the body, it must be converted into sugar, which is effected in great part by the action of the saliva in the mouth. The starch contains granules, which are so hard that unless the starch is cooked before being eaten, the conversion of starch into sugar can't take place and it passes away undigested. Boiling or exposure to heat in some other way bursts the granules and so they can be easily acted on by the saliva.

The carbohydrates serve somewhat the same purposes as the fats or hydrocarbons. There is no doubt that they can produce fat in the body; but for this purpose they must be taken along with nitrogenous food and salines. As force producing agents they take a lower place than the fats, but are easier of digestion

So much for the organic world. Now we must see what part the inorganic matters water and salines play in our bodies.

Water:—Life consists in change without the presence of water no change can take place and all vital action would cease. Water itself does not undergo any change, but it makes the chemical and molecular changes possible, by supplying a condition necessary for their occurence.

While such is the case water ought to be regarded as the *prima via*, it should be a *Theertha*, then and then alone will it become *Amrita*. But alas; look at the state of our water, we may almost say in the words of the "ancient mariner," that we have "water, water everywhere, but not a drop to drink." Our rivers and wells are poluted and our towns have to go to enormous expense and to bring it from long distances. It is one of the necessaries of life and we deal with it as if it were of no value. Really pure and wholesome drinking water is by no means easy to produce. The exceptions are to be found chiefly in the mountains ranges where the supply is constantly swelling up fresh and sweet from the hill sides. We have an abundant supply from clouds but we do not store it up; who have streams that once were pure and might be so again, but we make them the receptacles of our filth. The use of impure water is probably one of the most common causes of the prevalence of malarious fevers, fluxes from the bowels, guinea-worm, cholera, and dysentery.

SALINE MATTERS.

All food contains, besides the organic compounds, saline matters, which play an important part in the economy though they have not the force-producing powers of the forms. The saline matters exist intimately bound up with the orgaine principles comprising the different parts of the fabric and forms an essential part of the secretions. This mineral matter is required by the animal as well as the plant and is found more or less abundantly in all our vegetable food. Dr. Pavy says; that saline matter is one of the factors of the formative operations carried on, and no food can satisfy the requirements of life that does not contain in appropriate amount of certain saline principles.

SPICES AND CONDIMENTS.

These do not appear to have much nutrient value in themselves, although they form a very marked feature in all nation's dietaries. Without something to stimulate and excite the digestive organs it seems probable that the vast amount of food taken into the stomach, especially if it be grain every 24 hours could not be assimilated.

The essential oil, or acrid resins, of the condiments of an Indian dietary, appear to have the effect of exciting a sufficient flow of gastric and salivary juices to soften the bulk of vegetable food, and thus help in its conversion into material fitted for the nutrition of the body.

The natives of India are unequalled in the preparations of "Chatnies," compositions of fresh fruits and vegetables, with onions, garlic, chillies, &c., and these often take the place of pickles in giving taste to food. With the variously prepared chatnies and spiced curries, the native gives to the most tasteless food a piquant and ap

petizing flavour. When taken in excess it probably remains in the alimentary canal, irritating the gastric and intestinal mucous membranes and resisting the action of the solvent juices to their interior. The burning sensation, left often eating a large quantity of condiments, leads the lovers of condiments to drink a large quantity of water. A large quantity of liquid taken at meal times dilutes the gastric juice too much, and thereby delays digestion and not unfrequently causes dyspepsia. The dyspepsia produced by irritant stimulants is usually of the acute sort, that is, it is produced by irritation leading to inflammation of the living membrane of the stomach, and according to the amount of mischief done, accompanied by more or less severe symptoms.

BEVERAGES.

With regard to beverage we have water, tea, coffee, cocoa, wine &c.

As to water I have already alluded to its universal use *as a beverage.*

With regard to tea and coffee &c., we may say that they are agreeable and refreshing, if taken moderately. If tea is too strong and taken immoderately, it produces nervous agitation, tremors, palpitation &c. It often relieves head-ache.

Coffee refreshes and invigorates without subsequent depression. It is more heating and stimulating than tea, and some people, therefore, cannot take it. It sustains the body under exertion and fatigue and enables it to bear exposure to cold better than almost anything else. To the soldier, and the arctic travellers coffee has been proved to be very valuable. It is far better as a protection from cold than either beer or spirits—the effect of which is to lessen our powers of resistance—just the opposite of which is often supposed. Cocoa has somewhat the same properties in a better degree.

The subject of Alchoholic drinks is so large and was so ably treated by the last lecturer, that I must not venture to say more than that extreme temperance in their use is the best, from the physician's point of view.

The appetite for stimulant, as Dr. Bind has truly observed is one "which like the other faculties is given to different men in different proportions and is subject like them to the organic laws. It grows with use and lessens with disuse. It can be inherited and transmitted. Moderately indulged in, it is sanitarily and socially a blessing; immoderately it becomes a curse to its victim and a social pest.

In India, where the starchy foods predominate, the national love of stimulants is exemplified rather in the universal consumption of betel, tobacco, opium and hemp than in a general proclivity towards the use of fermented drink.

It would be well perhaps if reformers would content themselves with teaching and practising temperance, seeking to prove the wisdom of using all God's good gifts instead of abusing them; more good might be done in this way than by wasting energy, in attempting to show that Nature is a food and the craving for nervine stimulants merely the promptings of an evil Friend.

Having gone over in a too hasty and yet, perhaps, you may think a tedious manner, some of the principles connected with food, and the purposes it has to serve. I must pass on to the more practical part of the subject.

PREPARATION OF FOOD.

Man differs from every other animal in that he cooks his food. The carnivorous animals having secured their prey, immediately devour it. Horses sheep or oxen eat their grass gram &c, in an uncooked state. Man alone lights his fire and cooks his food, for, he has found by experience that he thus renders it more digestible and pleasant to the taste. Yet it is to be feared that man, with all his intelligence, has not yet learnt to appreciate good cooking aright. Among the upper classes, the principle aim seems to be to tempt the appetite, and thus lead to excess in eating; while among the poor, cooking is performed by guesswork with light variety and great waste. It is greatly to be desired that the home-meals should be what they ought to be comfortable, satisfying, nourishing and rendering unnecessary the daily visits to sweetmeat shops and confectionaries. Only it requires knowledge and skill to turn cheaper material to good acount, to provide an appetizing variety of dishes. The male and female members of a family and more especially the latter, should learn what has to be known on these points. Don't be surprised at this proposition. I said that men also should learn this art of cooking. Is it not desirable? To such of us that do not wish to get married, or to such of us that cannot get married and much more employ a cook, this art will surely become a blessing.

It must always be one of the accomplishments of a woman. It was so at any rate. Our mothers and still more our grand mothers, knew how to cook, and few house-wives failed to make their hospitality agreeable, by setting before their guests dainty dishes of their own making, and for their skill in making which they were noted in their social circles. Is it so now and will it be so in future? Now, you may trace the same general flavour in all the dishes presented to you and you shudder as you think of the pains which follow on the participation in (I cannot say enjoyment) of a feast which suggests only the work of the pastry-cook who feeds you at so much a head. Therefore, practically, good cooks are rare in all stations of life and especially in the upper classes, the more the pity. The only reason is that at present the young women don't care to learn or are not made to learn. I am sorry to note that a change has come over the social life of the wealthier classes, which exercises an evil influence on those beneath them. This is one of the bad effects of western civilization. This influence is sure to do an enormous amount of mischief if we do not take proper precautions. By all means give a fitting education to your sisters and daughters an education which will make her bear like a woman, an ornament to society and really the better half of man. Let the art of cooking be a part of her general and technical education. This is sadly wanting; this is one of the desiderata of the present system of education. Look into the status of the several school established by the pioneers of western education! Into the girl schools founded by patriotic Rajahs and wealthy Ze-

minders! In which of them do you find cooking taught, except in that renowned girl school, established by the illustrious Prince of Mysore, nowhere in S. India is it taught to be a desideratum. Let us all strive to redeem this faulty condition of the education of our sisters and daughters.

QUANTITY OF FOOD.

The amount of food required for the sustinance of body depends upon several surrounding conditions, and especially upon climate, and the amount of physical exertion which the individual undergoes. In the northern latitudes where the temperature is low and the atmosphere dense large quantities of what is called respiratory food (the fatty or starchy principles) are required to supply the waste occasioned by breathing an increased supply of oxygen. In tropical climates, when the air is heated and rarified, and where each inhalation contains a diminished supply of oxygen, less food is required. So the man who undergoes severe bodily exercise in the open air, has his respiration increased, and takes into his system more oxygen than one who sits all day at a desk; and whose breathing is never hurried. The former will require more food than the latter, for the reason that the waste and molecular changes in his various organs, go on with greater rapidity while he is working hard.

Severe mental application induces waste of cerebral and of nervous tissues, and those who work hard with their brains, require a large supply of nourishing albuminious food, rich in phosphates to maintain their mental vigour, equally with these who engage in pursuits which demand mere bodily exertion.

It has been calculated that a labourer who engages in active bodily exercise, requires at the best 35 ounces of dry nutritious food per diem, and that sound health cannot be kept up for any length of time under 30 ounces. In addition to the solid food, a considerable quantity of fluid is required as a delutent; whether this is taken in the form of succulent fruits and vegetables, or as pure water milk, tea, coffee, &c., it is calculated that the quantity of mixed solid and fluid food required daily is about 7 pounds and that 5 of these will be water.

The average women needs about one tenth less of all foods than the average man. There is a popular opinion among Hindus handed down from generation, that a woman eats twice as much as a man. That this is an absurved notion is palpable on the very face of it.

Boys of ten years of age will not be satisfied with less than one-half of what a woman needs. Lads of fourteen require as much food as their mothers; while a young man of 20 or 21, who is doing the full work of a set and grown man, needs even more food than he.

TIME OF MEALS.

In taking our meals it is necessary if we are to take care of our digestion to observe regularity as to time. Our much esteemed Principal and Professor on medicine has been pointing out about the importance of this part of the subject. Few can speak with greater authority and exactness. After a good repast sufficient time should be allowed for digestion before the stomach is again taxed with food. Three meals a day are probably

enough. The time for breakfast should be determined by the hour of rising.

Breakfast should be taken before the hard work for the day is commenced. A walk in the open air or some light work before breakfast, helps by invigorating the system after the night's confinement to the bedroom, to promote digestion; but any fatiguing work should be avoided. Breakfast should be of substantial meal. The digestion earily in the day is active and the hard work of the day is to follow.

Dinner or supper should be taken when the work of the day is over. It should be so arranged as to be taken a few hours before retiring to bed. Going to bed just after eating or with an empty stomach, is to be avoided.

Tiffin or luncheon is very desirable in the middle of the hard day's work. This arrangement as to time of our meals is what is desirable, what it ought to be in accordance to the laws of physiology. Do we obey the laws of nature and of physiology? Are we, medical men, taught to observe this? No surely not. Within the walls of this College this is taught but not put into practice were we here taught to obey every one that is placed, either by undoubted merit or by sheer chance above us. We are here driven about from place to place from hospital to College, like dumb driven cattle. Gored at this rate, driven at such a pace we complete our course of medical education at the end of 4 or 5 long long tedious years. The remnent of this shattered frame at the end of its time in the College, goes out to practise and establish himself as a practitioner. There we hear and become cognisant of the fact and cry "Physician heal thyself." Work and more especially mental work under these circumstances is done; but more like an antomatom.

To substantiate my statement I will only request you to run your eyes over the College curriculum; for instance; the students qualifying themselves for the M. B. examination, in the 2nd Winter Session have work from 6-30 A. M. to 5 P. M. daly with actually little or no interval.

(1) From 6-30 A. M. to 9-30 A. M. Hospital work. Such is the case only when the Surgeon, under whom such students are working, comes not later than 7-30 A. M. to his work. If he happens to come late, or if he has to perform any operations, the students have to leave the Hospital only at a later hour.

(2) From 10-30 A. M. to 1 P. M. Dissections.

(3) From 1 to 2 P. M. Anatomy.

(4) From 2 to 3 P. M. Physiology.

(5) From 3 to 4 P. M. Mat. Medica.

(6) From 4 to 5 P. M. Surgery.

Under such circumstances what can you expect from the students.

He has hardly time even to gulp his food, much more to eat and masticate it well. Breakfast has to be finished within this short interval between 9-30 A. M. and 10-30 A. M. To satisfy the imperious sensation of hunger he has to run home, which may be anywhere within the circumference, which has a measurement of about 3 miles as its radius; and be back again at the dissecting room at 10-30 A. M. even before the cardiac orifice of the stomach has had

circumstances of the case. The other members who had neither the time nor the ability, acquiesced in the goodness of these Rules, and obeyed them, though often, at great sacrifice. In process of time, through long successive periods of power the representative or deputed nature of the Rulers was forgotten or ignored and authority gained the upper-hand.

Circumstances alter and so Rules framed under one set of circumstances cannot suit those of altered character.

We have been led to make the foregoing remarks because lately much has been written about the need of reform in the curriculum of studies in the Madras Medical College. The original rules, though modified from time to time are said, by one set of Reformers, to have become obsolete and require complete abolition, a new set of Rules being framed in their place; the opposite party holds to the idea that no change is needed, the present state of things being the best. Without presuming to judge between these two, but simply looking to the altered state of things, we are inclined to think that a modification alone is necessary. Take the present status of the College, compared with that at its foundation. It has outgrown the intention of its original founders and from being but a training school for apprentices to the military grades of apothecary it has become a noble College, with its scores of Graduates. During the time of the former class of pupils rigid military discipline was exacted and its breach visited with severe punishment *a la militaire*. But now this discipline is somewhat relaxed and the students enjoy a certain amount of freedom, though not to the extent that some of them claim.

The curriculum of studies does not seem to us to have been planned in any definite way, or in other words some special standard has not been copied. We ask, *apropos*, with what License in any other College does the L. M. S. correspond in the number of subjects, &c., with what the degree of M.B. or that of M. D? Why has there not been any attempt to produce uniformity with older Universities? Why should a five-years' course of study be necessary for the M. B. when other Universities are content with 45 months? Why should private students, who like other private students elsewhere pay for their lectures and hospital practice be treated like the military apprentices of a by-gone time? Because of the said law of the Medes and Persians.

We think therefore the present year, when eleemosynary education comes to an end, opportune for those who are charged with the duty of framing Rules to see if the old ones are suited to the present altered times.

EXTRACTS.

THE DIAGNOSIS OF URÆMIA FROM APOPLEXY.

By C. W. Suckling, M.D., Lon. &c.
Physician to the Q's Hospl. Birmingham.

Chandernesse and Tenneson, in the *Revue de Medecine*, Nov., 1885, relate cases of partial epilepsy, and hemiplegia in Bright's disease which they have, by *post mortem* examination proved to be due to local œdemas of the brain.

I believe that it is not generally known that hemiplegia occurs in uræmia, thus occasionally making the diagnosis between uræmia and apoplexy an extremely difficult one. As in uræmia the treatment must be one of active interference, while in apoplexy the opposite holds good, the diagnosis is of the utmost importance.

I have recently met with two cases similar to those reported by Chanternesse and Tenneson. A man aged 40 was recently admitted into the workhouse infirmary in a comatose condition, with right hemiplegia and without convulsions. The pulse was of high tension, the heart considerably hypertrophied, and there was a trace of albumen in the urine.

All these symptoms were compatible with the diagnosis of cerebral hœmorrhage. To my astonishment, he recovered consciousness immediately after being bled, the hemiplegia passing off in a few hours.

During his stay in the infirmary, he had five other attacks, which were always preceded by delirium and restlessness, together with violent convulsion of the right side of the face, right arm and leg, and conjugate deviation of the eyes to the right, giving place to hemiplegia, the eyes then being turned to the left. Each attack was cured by a small bleeding. The urine in this case was free for days from albumen, though it was tested at various periods of the day.

The other case was that of a woman, aged 62, brought in one evening completely comatose. There was right hemiplegia, conjugate deviation of the eyes to the left, dilatation of the right pupil, and abolition of the right conjunctival reflex.

The breathing was of the "Cheyne—Stokes," type, the heart a little enlarged, but the pulse of low tension. Clonic spasms of the facial muscles occurring at short intervals, the case was suspected to be uræmic though the urine apparently was not albuminous, and I ordered her to be bled. One ounce and a quarter were drawn, and she became conscious almost immediately after.

The next day the hemiplegia had disappeared, but she had sensory aphasia, there being "word blindness" and "word deafness." Free purgation was kept up, and within two days she was perfectly well.

On testing the urine by day-light, I found there was a slight trace of albumen present, the quantity of urea being only 1 per cent., and the average daily quantity of urine passed being 40 oz. I could discover no casts and there was no change in the fundus oculi.

In both the above cases, the temperature was a little below normal; and in both no history of the onset of the attack could be obtained, the patients being brought in from the street by the police. In the diagnosis of these cases, the occurrence of convulsions is of great assistance is rarely repeated, while in uræmia convulsions are common, and usually frequently repeated; any elevation of temperature would be strongly in favour of apoplexy. In all cases, when in doubt between apoplexy and uræmia, I should bleed.

NOTE ON THE TREATMENT OF THREAD-WORMS IN CHILDREN.

By S. Martin m d. Lon : m. r. c. p.
Fellow of University College, Lon.

The complete cure of thread-worms in children is often very difficult. While the ordinary methods used, such as rectal injections of salt and water, infusion of quassia, and other remedies, do good for a time, yet they often fail to relieve the attendant symptoms of "worms," symptoms usually very irregular, and in some cases severe, in character. In many cases, though the irritation about the anus is relieved by injections the irregularity of the bowels and the disturbance of sleep remain the same. This is probably due to the fact that the habitat of the worms is higher up in the large intestines where no remedy introduced by the rectum can reach them.

In many cases I have found that rhubarb in small doses brings away large numbers of worms, and at the same time regulates the bowels: so that the use of injections may in most cases be dispensed with. The formula which I have found most useful is as follows, varying slightly with the age of the child :—

Tincturæ Rhei	m. 3.
Magnesii Carbonat	gr. 3.
Tincturæ Zingiber	m. 1.
Aquam ad	dr. 1. m

This is to be taken twice or three times daily according to the effect on the bowels. Whether the rhubarb acts as a vermicide or simply by "moving the worms on," I am unable to say.

Practitioner.

MASSAGE IN SURGERY.

Dr. Zabbedowski (Longur beck's Archiv furChirurg,xxi. 2.) has entered very fully into the uses of massage in Surgical practice. He is an enthusiastic believer in this therapeutic measure, and supports his arguments by a series of very valuable experimental inquiries. He shows, as Dr. Weir Mitchell has already pointed out, that massage is an excellent "mechanical tonic," and also demonstrates that it rapidly restores exhausted muscle that it increases the blood pressure in the exercised part, and also raises the local heat.

He advises that the treatment should only be carried out for five minutes at a time, and that it should be frequently repeated. The muscles of the affected part are to be stroked and kneaded, the pressure is to be deep, and to be evenly distributed, and the whole of the muscular district is to be equally exposed to this scientific shampooing.

The author speaks highly of massage in the treatment of limbs that remain stiff and painful after the union of fractures; and certainly no measure yet introduced appears to restore more rapidly and perfectly the impaired function of the damaged extremity. The treatment may be commenced while yet the limb is adjusted in a fixed position, but it is more advantageously applied when the limb is removed from all splints and the fracture has united.

Massage acts also most beneficially in restoring the function of overworked muscles. This condition is met within many artisans whose employment demands the constant use of a certain limited set of muscles. It appears also to have been followed by speedy good results in cases of crutch paralysis. The advantages of massage in the treatment of hysteria have been clearly demonstrated by Dr. Weir, Mitchell, and it is to be hoped that this simple therapeutic measure will receive a more extensive application in Surgical practice.

MASSAGE IN THE TREATMENT OF INTESTINAL OBSTRUCTION.

Dr. Kriviakin (Proceedings of the Caucasian Med. Soc., No. 14, 1884 p. 358) is a strong advocate of this measure. The *modus operandi* is as follows :—The patient lies quite flat upon his back with the legs extended. The hands of the operator are oiled, the fingers are widely separated, and both hands are then made to exercise steady pressure upon the abdomen. The hands are passed in all directions first from below upwards, then from above downwards, then from right to left, and then from left to right. The whole of the abdomen is thus carefully kneaded. The process is continued for twenty minutes, at the end of which time there will be excited a regular peristaltic storm. Massage for a period of fifteen minutes may be re-applied at the end of one and a half hours if the first manipulation has produced no effect. Dr. Kriviakin uses this measure in all forms of obstruction. He gives illustrative cases. In one the constipation had been absolute for ten days, and the vomiting was fœculant. The patient was cured at one sitting. In two others the obstruction had existed for eight days and in one of these the vomit had become fæculant. The patient was relieved in two sittings. In a fourth instance, where there had been absolute constipation for twelve days, the patient died. It must be noted also that the massage is associated with the free use of enemata.

This mode of treatment is obviously not suited to all cases of obstruction, and is indeed likely to prove obnoxious in geniune examples of acute obstruction. In acute cases—such as those due to strangulation by hands, increased peristalsis merely adds to the mischief. If the bowel is gripped with sufficient tightness for acute symptoms to be produced, it is not to be expected that even a storm of peristalsis will set it free. In intussusception also especially of the acute and subacute varieties increased peristalsis is a state of intestine to be very distinctly avoided; and there is sound evidence to show that such increased movement merely adds to the mischief. The form of intestinal obstructions however, to which this mode of treatment would appear to be peculiarly well adapted, is that due to faecal impaction. This form in its acute manifestations is known as *ileus paralyticus*. In this condition there are faecal masses to be dislodged and to be moved to the other parts of the gut; the blood supply within the abdomen requires to be increased, or at least to be modified as to its distributions; and lastly the muscular power of the bowel needs to be revived and stimulated. There is probably, no one measure that could meet these ends so readily as they are met by massage. Massage, as Dr. Weir Mitchel expresses it, is an admirable mechanical tonic and its effect upon the blood pressure has also been demonstrated. Systematic

kneading of the abdomen, with the free use of enemata, is likely to prove a most valuable measure in the treatment of *ileus paralyticus*, or severe and obstinate constipation. The cases reported by Dr. Kriviakin would appear to have been all of this character.

COCIANE IN GENITO-URINARY SURGERY.

Professor E. L. Keyes (in Knapp's Cocaine in Surgery, New York and London, 1885) writes. "I have employed it in watery solution of 2 and 4 per cent., and as a 6 per cent. oleate. In the urethra my experience leads to the conclusion that the effect of the solution in abolishing sensibility is mainly confined to the surface of the canal, and that this effect is more marked in the anterior than in the deeper parts of the urethra. If a 4 per cent solution is painted several times over the meatus and near it upon the glans penis, and assisted by an injection of 10 minims into the urethra, the latter being retained by compressing the meatus for a few minutes, meatotomy and the division of a stricture near the orifice with a straight bistoury may be accomplished sometimes without pain. Generally, if the cut is deep, a little pain is complained of, yet so little that it is unimportant. In cases of irritable neck of the bladder, where exploration was desirable, I have not found as much advantage from the remedy as has been claimed by Dr. Otis in his report. In one patient I had occasion to inject the prostatic urethra with a strong solution of the nitrate of silver, about half a drachm to the ounce. In this case I tried the Cocaine, following it in five minutes with the nitrate of silver instillation of the usual strength. The pain on introducing the deep urethral syringe was not materially altered, the discomfort immediately attending the nitrate of silver application was as great as before, but no desire to urinate followed, and the subsequent urinary acts were not attended by the usual smarting pain. I have not injected cocaine into the bladder, but I have employed it in deep urethral injections for subacute gonorrhœal cystitis without any apparent effect. For the urethra my experience leads me to conclude that cocaine is valuable for catheterisation, sounding, explorations, &c., particularly in the front parts of the urethra, less so as we progress more deeply in the canal, but that some effect is obtained throughout. Doubtless with strong solutions used in larger quantity more satisfactory results may be obtained preparatory to making cauterisations for mucous-patches, venereal ulcers, and the like, removing warts, excising chancres and small growths upon the penis, the cocaine solution is very valuable in releiving pain, but the effect is not uniformly great upon all subjects, yet it has been obvious in all where I have tried it." Dr. F. N. Otis adds the following remark :—"I think that an important point is in the necessity which I have found of waiting fully fifteen or twenty minutes after the introduction of the Cocaine before attempting operative procedures. In a rare case of spasm in the penile urethra at two and a half to four inches from the orifice, the spasm did not give way until twenty minutes after the introduction of a 4 per cent, watery solution, and then only after the glans had become shrivelled and cold. Up to that time only a No. 4. French bougie could be passed; after that a No. 28 was passed and withdrawn without holding." Mr. E. Bellamy (Lancet, Feb. 14, 1885) illustrates the use of cocaine in a case of chronic cystitis and irritable bladder. One quarter of a grain in a gelatine bougie was pushed up the urethra and allowed to dissolve. A more extended trial of the drug in this form is recommended.

In referring to the chief uses of cocaine in the examination and treatment of urinary diseases, it must not be forgotten that when a part is rendered insensitive to the touch; it is quite possible to do harm unless additional care is taken in conducting the various manipulations; subject to this reservation the urinary system has reaped quiet its share of advantage in connection with the discovery of this important drug.

LITHOLAPAXY.

Dr. Freyer Indian Medical Gazette, April 1885) furnishes a statement relative to 309 operations for stone in the bladder in his own practice. Litholapaxy was performed on 115 adult males with four deaths, and on three female children, with no deaths. In three female children the calculi were successfully removed by rapid dilatation of the urethra. This was before the introduction of litholapaxy into Dr. Freyer's practice. There were forty-six adult males treated by lithotomy, with nine deaths. In the 142 cases of stone in male children, lateral lithotomy was the operation performed in all, and amongst these no death occured. Referring to the results from litholapaxy, Dr. Freyer, remarks that "it is destined to play an important part in the Surgery of the future in this country (India) where unrivalled opportunities abound for its practice in reducing by a large percentage the mortality, as well as the suffering attendant on operations for stone. The operation can no longer be said to be on its trial. The prejudice against the operation that existed (and still exists) in the minds of many Surgeons, and which is in great part due to the association of litholapaxy with the old operation of lithotrity, which is radically different, must gradually vanish before the stern reality of facts. The Surgeon who would give his patients suffering from stone the best prospect of recovery must practice litholapaxy. I have no hesitation in saying that in the course of a few years there will be few hospitals in India that will not be provided with litholapaxy instruments." Such a valuable experience as Dr. Freyer furnishes in reference to his operations for stone, cannot fail to be of service to us in this country in our efforts to diminish a mortality which seems capable of a still further reduction. Though much depends on the selection of the operation, it is impossible to over-estimate the importance of skilled and practiced manipulations in connection with the performance both of lithotomy and lithotrity. As India presents such an unrivalled field for this kind of experience, it is only natural that we should turn with considerable interest to the records of Surgeons practising there in our desire to estimate the true position of a comparatively new operation, such as litholapaxy, in the treatment of stone.

WASHING OUT THE BLADDER.

Mr. Buckston Browne (Lancet, October 18, 1884,) describes a simple contrivance applicable to almost any catheter for washing out the bladder.

By means of it an ordinary Higginson's Syringe can be adopted for forcing the requisite fluid into the bladder; by merely removing the finger the current is reversed. By this contrivance the process of washing out the bladder is simplified, whilst at the same time it is rendered thoroughly efficient.

THE TREATMENT OF THE SOFT CHANCRE.

Dr. Unna of Hamburg (Virtely, F. Dermund Syph., III., w. iv., 1884, s. 540,) states that in the treatment of the soft sore there are two principal indications to be fulfilled. (1) To destroy the poison contained in the ulcer in order to prevent its spread, whether by continuity or through the lymphatic vessels. (2) To avoid everything likely to cause thickening or induration of the base of the ulcer, and consequent apparent resemblance to the initial sclerosis of syphilis. These indications are fulfilled by Iodoform which destroys the morbid germs and when used early, prevents a suppurating bubo. It never causes induration. It in no way affects a developing sclerosis, so that no confusion arises from its use. Moreover, it soothes pain and promotes healing. Its odour is the only objectionable feature. This cannot be removed, and it is therefore desirable to use a minimum quantity of the drug. Unna recommends Iodoform dissolved in ether, as being more rapidly efficacious than the powder. The spray apparatus may be conveniently utilised, especially when the ulcers are either large or multiple. The application is made in this way: the ethereal solution is applied to the ulcer by means of a plug of cotton-wool, and, while in position, a current of air is directed upon it. The ether is volatilised, and a minute quantity of iodoform is deposited at the desired spot. Over this is placed a piece of fenestrated plaster, large enough to cover the sore. Some scented wadding fastened near this dressing will serve to mask the odour of the drug, and the application is renewed every twenty-four hours. When the sore is situated at the orifice of the urethra, a bougie composed of iodoform, gum arabic, tragacanth, and glycerine is to be freely applied several times a day, and a plug of scented wadding can be placed between the lips of the orifice.

LOCAL ANTIPARASITIC TREATMENT OF GONORRHŒA.

Admitting the parasitical origin of Gonorrhœa, M. Diday, of Lyons (Annales de Dermatologie etde Syphiligraphic, Feby. 1885, p. 121/, draws attention to two points in the treatment, viz., the parasite itself and the structure of the urethra. Very dilute solutions of corrosive sublimate (1: 20,000) will destroy the microbe. To destroy the colonies of the micrococcus, which are continuously reproduced, it is necessary that they should

be kept in contact with the antiseptic for a considerable time. In order to reach and destroy the microbe the sublimate must be applied to the whole of the affected surface, and the urethral canal must be destended to the full extent. When the solution is injected, as is best done by the aid of an irrigator, after the introduction of the canula, the glans penis should be tightly pressed by the thumb and finger, so that the injection may distend the canal. Stronger solutions may be used if the weaker ones are insufficient. M. Aubert passes into the urethra a piece of caoutchouc tube, about two inches in length, to which the syringe is fitted. The fluid finds its way back between the tube and the urethra, and thus thoroughly the surface of the latter.

THE TOILETTE OF THE PERITONEUM.

Baumgartner (Ueber Peritoneal tiolette, centralblatt fur Gynockologie, 1885, p. 685), in discussing this subject, states that it is now generally recommended to cleanse the peritoneal cavity thoroughly of blood, cyst contents &c., after operation. This is usually done with sponges. A series of simple cases will not require the toilette of the peritoneal cavity generally; in many cases, however wiping with sponges on holders will not prove sufficient to remove completely from the deepest parts blood, cyst contents, and exudations from peritoneal inflammation. Baumgartner would not overburden the absorbing power of the peritoneum and advises in cases in which the peritoneal toilette is necessary to wash out the whole of the peritoneal cavity. After the tumour has been removed, and the pedicle has been secured, the author introduces a glass tube, about half a c. m. in diameter, which is connected with an irrigator containing ten litres of an antiseptic fluid, and placed at a height to give pressure of one metre. The tube is introduced in different directions between the coils of intestines and into the pouch of Douglas the intestines being kept back with the hand. In this manner all dirt and uncleanness is washed out of the pelvis and the rest of the peritoneal surface. The fluid is allowed to flow until it returns clear. The tube is then withdrawn, and the fluid removed by means of sponges. He has never seen harm result from this practise.

NERVE STRETCHING IN LEPRA ANAESTHETICA.

Mr. Arthur Neve records (Ed. Med. Journ., Novr. 1885) 190 cases of nerve stretching performed on 90 lepers, 84 improved and recovered sensation, 2 did not improve, 4 died. The sciatic nerve was exposed by a simple verticle incision, 1½ inches long, midway between tuber ischii and great trochanter, the finger inserted, the nerve separated from its adhesions, and stretched.

THE TREATMENT OF OPACITIES OF THE CORNEA.

Herr Heisratle (Berlin Klin Wochenbl and central bb. fiirr Praktische

Augenheilk., Jahrg. viii., gr. 24), after commenting upon the unsatisfactory results of the ordinary treatment of corneal opacities, recommends friction with an ointment composed of potassium iodide 1 part, sodium bicarbonate 0·5 part, vaselin 10 parts. It acts quickly, and restores the transparency of the cornea even in cases where the cloud is of considerable density. It may be employed in the later stage of cases of keratitis parenchymatosa.

ATROPIN AS A REMEDY FOR SQUINT.

Boucheron (Berlin. Klin. Wochenschrift, 1884, No. 41) strongly recommends the employment of atropin in the treatment of incipient internal squint. The rationale of its action is sufficiently obvious. By rendering accommodation impossible, it prevents any disposition to look at near objects, and therefore removes the efforts at accommodation. After some weeks appropriate glasses must be selected for the patient and worn by him which will prevent a relapse. The plan is only likely to prove effective in those cases where the affection is incipient; where it is confirmed an operation is required.

GLYCERINUM ALUMINIS.

R. W. Parker (British Med. Jour., January 24, 1885) has found a solution of Alum in glycerine, in the proportion of 1 : 5, a valuable and powerful astringent. The alum is dissolved in glycerine on the application of gentle heat. The remedy is especially recommended in chronic pharyngitis of children, and it is stated that it is much less disaggreeable than tannin preparations, equally powerful, and at the same time, compatible with Iron. Diluted with water it is useful as a gargle.

A CASE OF ALBUMINURIA.

Death resulting from acute œdema of the brain.

By H. Wilcox, M.B., M.R.C.S.

The following case, which came under my notice while returning from my holiday trip to New York, may be worth publishing, as the carefully recorded temperature throws some light upon the Etiology of uræmic coma:—

S. T.—aged fifty-one, a gentleman of spare appearance, florid complexion, looking somewhat older than his age, occupied the seat opposite to me at the saloon table. From my observations, and from several conversation we had together, I found he was in a shattered state of health; his habits were those of a man who for a long time had drunk freely of spirits, giving me the impression that he was suffering from chronic Bright's disease, accompanied by the usual dyspepsia and want of appetite. On the morning of the fourth day of our voyage he appeared to be in better health and spirits than during the previous three days; his skin was clearer and he ate more; later in the day, however, he complained of severe occipital headache. He was not alarmed at this symptom as he had frequently had it before in a milder degree, when it generally passed away in a few hours. He declined to apply for the advice of the surgeon of the ship. Towards the middle of the day, his headache still

continuing, he retired to his state-room, with the intention of "sleeping it off," as he expressed it. Nothing more was seen of him until 4 P.M. When the bedroom steward finding him to be sleeping soundly left him undisturbed. At 6 P.M., he was still sleeping, and the attention of the surgeon was called to him. This gentleman (Dr. Coffey) soon afterwards asked me to visit the patient with him. We found he was in a state of profound coma. Our combined efforts failed to rouse him in the least. His breathing was stertorous; face dusky, slightly œdematous; pupils fixed, insensible to light, and the left larger than the right; carotids pulsating strongly; no abnormal sounds about the heart's action; pulse 72, hard; temperature 98; legs and feet slightly œdematous. We were fortunately able to make an examination of the urine, which, so far as we could learn, had been normal in quantity and general appearance; it was highly albuminous and we estimated roughly that the deposit, after boiling and the addition of nitric acid, was one-third of its bulk. From these evidences we concluded that the patient was in a state of uræmic coma. Dr. Yarrow of Philadelphia, who was also a passenger on board, endorsed this opinion, and watched the case to the end with us. The treatment we employed was first wet cupping over the loins to twelve ounces; there was no Jaborandi on board, but we administered hydragogue cathartics by enemata, subcutaneous injection of Digitalis, mustard sinapisms to the nape of the neck and calves of the legs, and occasional nutrive enemata with a little brandy. In spite of our efforts the patient showed no signs of improvement, the coma becoming more profound; convulsive fits came on at intervals, greatly exhausting his vital powers. He died after a severe paroxysm about four o'clock in the morning. During the few hours that we were in attendance we were able to make careful observation of temperature, which we took constantly in the axilla at intervals of about half an hour from nine o'clock at night until the time of his death. Early in the evening there appeared an initial lowering of the temperature; at 7 P.M. it was 97°; the pulse 72, full, incompressible; carotids strongly pulsating. At 9 P.M., a slight rise in the temperature was noted; it was then 99°. At 10 P.M. it was 100·2°; at 11 P.M. 101·4°; at midnight 102°; at 1 A.M. 103·4°; at 2 A.M. 105°; at 3 A.M. 107°; and at 4 A.M. 109·2°. The last record of temperature was taken both in the axilla and rectum. The thermometer in the rectum was expelled in the death struggle; it indicated 109·2°, the same as that in axilla; had it remained longer, a higher temperature would probably have been recorded. As the temperature began to rise the pulse assumed a different character becoming faster, smaller, and easily compressible; shortly before death it was 135 per minute, and the respiration 38.

The point of interest in this case is the remarkable rise of temperature preceded by a stage of initial lowering, and between these two conditions there was a stationary period from 7 to 9 P.M. in which the temperature was normal. The presence of urea in the blood, or its product of decomposition—carbonate of ammonia,—may account for the coma and convulsions, but they have not been found to produce this influence upon the temperature, however, in the apoplectic state accord so well with the above that we may fairly assume that our patient died not so much from the toxic state of his blood as from a sudden acute œdema of the brain with perhaps effusions into the ventricles. This view of the case is I think supported by the following considerations:—

(1) The secretion of urine at the time of seizure was normal or increased in quantity. (2) The sudden onset of cerebral symptoms preceded by intense

occipital headache. (3) The strongly pulsating carotids and full incompresible pulse at the beginning of the attack. (4) The variations of temperature were the same as those observed in cases of cerebral hœmorrhage in which death occurs in from 10 to 24 hours.—*Lancet.*

HYPOPYON-ULCER OF THE CORNEA, AND ITS TREATMENT.

BY SIMEON SNELL.

Ophthalmic Surgeon to the Sheffield General Infirmary, and to the Institution for the Blind.

HYPOPYON-ULCER of the cornea is met with in comparative frequency, and is of importance from its gravity. It affects alike the young and old, and may arise idiopathically or owe its origin to some injury. With children it is more common among the debilitated and scrofulous, and in adults there is usually associated with its onset some decided impairment of health or want of tone. A slight injury, even a simple abrasion, is in some cases quite sufficient to cause ulceration with hypopyon. It is common among harvestmen, from the eye being struck by the stalks of corn, and among country folk also at the time of pruning hedges and gardens, from the eye being scratched by thorns or hit by branches. A not infrequent cause in this district is an injury occasioned by a particle of coal in the mine, or by a splinter of steel, iron, or other material in the workshop. In all the larger industrial works are men having a reputation for their readiness in removing these "motes" when fixed in the cornea, and many indeed accomplish their task in a skilful manner. Not uncommonly, however, cases come under observation in which the condition has been rendered worse by the attempts at removing the "motes," and ulceration with hypopyon has been set up.

With these preliminary observations I will now pass to the object of this paper, namely, the treatment of this class of cases. Commencing then with the general treatment, it will, perhaps, in most cases be found advisable to administer quinine or bark, or some other tonic, with in children perhaps cod-liver oil; in the traumatic cases, this internal treatment is less essential. Generous diet is necessary, and rest in bed ranks high among remedial measures.

Passing to local treatment, warm applications may be mentioned first. Fomentations of poppy or belladonna, or even of warm water, frequently used, and either alone or in conjunction with the instillation of atropine or eserine-drops, are of great value. Either of these alkaloids alone in many cases acts like a charm, especially, in my experience, atropine. It is not, however, always easy to tell beforehand the case that will be benefited immediately by one or the other, but in many cases with the use of either the pus in the aqueous chamber will clear away, and the ulcer will assume a healthy appearance and rapidly heal. Perhaps in children eserine is more useful than atropine. In some cases distinct benefit has seemed to be drived from the regular use of atropine, instilled three or four times daily, and also of eserine-drops used occasionally. The weaker solutions of eserine (for instance ½ per cent.) are sufficient.

There are, however, many cases in which experience teaches that it would be unsafe to depend only upon the measures just mentioned. Destruction of the cornea may progress and the eye be destroyed. Keratotomy is a valuable means of treatment in such cases. It has been extensively used and was brought prominently forward by Saemisch, and goes therefore by the name of Saemisch's incision. It is performed with a Graefe's cataract knife. This is inserted in healthy corneal tissue on one side of the ulcer and carried through the anterior chamber, and brought out again in healthy tissue beyond the ulcer, and this latter is then divided between the two. Any pus in the anterior chamber will readily escape. The relief to pain from this procedure is frequently immediate and lasting, and sleep which may have been absent returns. If it be thought desirable the wound may be re-opened the next day. Atropine and eserine may often be usefully employed to keep the iris away from the wound, the use of the one or the other depending upon the position of the incision. Warm fomentations may be employed or a mild antiseptic (boric acid) lotion may be used warm. This treatment by incision has rendered very great services, and has enabled many eyes, which before its adoption would have been lost, to be saved. Its place may now, however, in many instances very well be taken by the following methods, namely, the use of the actual cautery and employment of iodoform. The cautery which I use consists of a small platinum-bulb situated at the end of a rod, shaped something like a squint-hook. The platinum bulb very readily heats in a spirit-lamp, and the cautery is very handy, and answers well the purposes required. I described this little instrument, and indicated its use in this class of cases and others, in a brief article in the *British Medical Journal* (vol. i. 1883 : p. 9). It was made by Pickard and Curry, and now also by Weiss. If the corneal ulcer be touched round the edges and on its surface with this cautery, in many cases healthy action speedily sets in, and the pus in the anterior chamber clears. A short time since I saw a miner with a large central ulcer arising after an injury with a piece of coal; the anterior chamber was half-filled with pus. Cocaine was instilled into the eye and the actual cautery applied to the ulcer. No other treatment was adopted. Next day the pus in the aqueous chamber had well nigh disappeared. Atropine was now resorted to, and an excellent recovery was the result. There is, I believe, no reason to apprehend that the cauterisation adds to the density of the scar.

My experience with the cautery leads me to assert that in it and iodoform we possess the two best means for treating hypopyon-ulcer. In many cases the action of idoform is very marked. It should be used very finely powdered, and may be placed freely between the eyelids twice a day. A little gentle manipulation of the eyelids to ensure its dispersion is often of service. Many cases will by this means very speedily assume a healthy aspect and the hypopyon clear up. In some cases warm fomentations have been used, and the iodoform powder placed in the eye after each application; atropine or eserine may also be instilled. In a

case recently under treatment, a very bad example, with great swelling of lids and conjunctiva, the ulcer was in the first place cauterised, and improvement was very visible the next day. Iodoform was now put into the eye every morning, atropine was instilled, and in the evening warm poppy fomentations were used. At the end of ten days, the eye had recovered from a condition of the greatest danger, and only a small nebula will be left in the cornea. The case occurred in a young miner, and resulted from a piece of coal striking him while in the pit.

Iridectomy has not been referred to, as with these other very satisfactory methods it has in my practice fallen almost into disuse.

PUNCTURE OF THE NERVE SHEATH IN SCIATICA.

BY SIR JOSEPH FAYRER, K.C.S.I., M D., F.R.S

Some years ago I was asked by a medical man in Calcutta to see a case of aggravated sciatica of long standing in a man of middle age. The pain was very severe, continuous, and liable to increase of a paroxysmal character. The posterior muscles of the thigh were somewhat atrophied; the patient himself was wasted and worn by continued suffering and deprivation of rest and sleep. There was no history of syphilis, gout, rheumatism, or other specific cause. A malarial origin of course was possible, but as far as I can remember there was no satisfactory explanation of the origin of the disease. All the usual methods of treatment has been resorted to but without relief. On examining the limb carefully I detected with some feeling of fluctuation a fulness and tenderness in the course of the sciatic nerve near its origin in the upper part of the limb; I thereon introduced a long narrow knife into the swelling until it entered the sheath of the sciatic nerve; this gave exit to a certain quantity—a couple of drachms or so—of clear serous fluid, which was followed by immediate relief of suffering, and rapidly resulted in complete recovery

I have seen other cases, none so well marked as this one however, and with much less effusion of fluid, where incision, or rather I should say puncture, has given relief; but I am not aware if others have had similar experience, and would call attention to it as of practical interest. It has long been known that acupuncture with needles not infrequently gives great and permanent relief in some forms of deep-seated pain; indeed it is practised by some Oriental races for this purpose. I think it possible that its success may sometimes be due to the relief of tension caused by evacuation of the fluid which has accumulated as a result of inflammation in large or small nerve-trunks. The painful character and the obstinacy of these affections to treatment would induce one gladly to accept any suggestions which afford prospect of relief. I should be glad if the experience here related were to prove of use to any one who finds himself embarrassed by an obstinate case of sciatica or other form of neuralgia.

NOTES.

First Anniversary Meeting of the Students' Association.

The first anniversary meeting of the Madras Medical College Students' Association was celebrated in the Main Theatre at 5-5 P. M. on Wednessday the 22nd ultimo, when Brigade-Surgeon Jas. Keess M. D., took the chair. A detailed account of the proceedings of that meeting will be found under another heading.

The Madras Park Fire.—In connection with the said disaster that occurred on the night of the 31st ultimo, 122 persons including women and children were admitted into the General Hospital suffering from different degrees of burns. died of shock at once and on the few succeeding days. Of those that died subsequently one died of tetanus and another of erysipelas.

Appointments.—Brigade-Surgeon A. Porter, M. D., &c., has been appointed Principal of the Medical College and Senior Medical Officer of the General Hospital *vice* Brigade-Surgeon J. Keess, *retired*. The chair of Medical Jurisprudence vacated by Dr. Porter was filled up by Surgeon-Major C. MacNally, M. D., Professor of Chemistry and Chemical Examiner to the Madras Government.

Dr. Porter, as President of the Association.

We have much pleasure in announcing that Dr. Porter has kindly accepted the office of President of the Students' Association in place of Dr. Keess, resigned.

Hindu Holidays for the College.

The College was closed on the 13th and 14th Instants on account of the Pongul Holidays. The College was similarly closed on the occasion of the last Depavali festival. The Hindu Students of the College view this concession in favor of their religious feelings with great satisfaction.

We hear, that in consequence of serious illness Mrs. M. Scharlieb M. B., B. S. Lon: Superintendent of Victoria Caste and Ghosa-women Hospital goes to England shortly on leave, and that Miss Pailthorpe accompanies her. We do not know what is the reason of the latter lady's departure, but we hope it is not illness. We are not in a position to state who will take up the duties of these ladies in the Hospital and of Mrs. Scharlieb as lecturer on Midwifery for the lady students in the College.

Antifebrin—A new Antipyretic.

The New York Medical Journal states that Drs. A Cohn and P. Hepp of Strasburg have brought forward an antipyretic agent which is somewhat remarkable. It is a neutral principle known as Acetanilide or phenylacetamide. The formula is given as $C_6H_5NHC_2H_3O$ which may also be written as $C_6H_5N(C_2HO)H$. It is a white crystalline odorless powder, producing a slight burning sensation when placed on the tongue, almost insoluble in cold water, more readily soluble in hot water and freely soluble in alcoholic liquids. It has no acid nor basic properties and is indifferent to most reagents. The authors have tried this drug in 8 cases of typhoid fever, 5 of erysipelas, 2 of acute articular rheumatism, 4 of pulmonary phthisis, and one case each of pulmonary abscess, leucœmia with fever, pyœmic fever consequent on cystitis and bedsores, septicœmia and ambulent pneumonia. The doses varied from 4 to 15 grains. The size of the dose depends on the nature, severity, stage of disease and peculiarities of individuals; but a given amount such as 4 grains is said to produce the same effect as 4 times the quantity of antipyrine. The authors think that single large doses are more efficacious than repeated small doses. The effect of antifebrine begins to show itself in an hour, reaches its

About 3 weeks ago the patient left hospital on his own accord with the sac considerably shrunk and almost on a level with the chest.

PROCEEDINGS OF THE STUDENTS' ASSOCIATION.

At an ordinary meeting of the association which met at the main theatre when there who present many Members of the association, students of the College. Brigade Surgeon Dr. J. Keess the Peesident took the chair on the occasion. The Secretary having read the minutes of the preceding meeting. The chairman called upon Mr. M. Sreenevasa Row to read his paper on the "Motor Centres of the Brain and the Mechanism of the will."

Mr. Sreenivasa Row rose and addressed thus :—

LADIES AND GENTLEMAN.

Feeling deeply as I do the responsibility I have incurred in undertaking to address you to-night, I desire to express my regret that I cannot, instead, share with you the pleasure of listening to an abler man than myself. As I have taken for my subject "The mechanism of will" it might properly be asked "what has a medical man to do with Psychology." To which I would answer "everything." Till recently, many diseases of the brain were considered to be beyond the domain of surgery. But science properly so called has brought them within a measurable distance of the knife and therefore a step nearer towards their cure.

To many of you the title I have chosen may seem too comprehensive. But until we are ready to admit a new terminology we must employ the old, though there may be coupled therewith the risk of expressing more than we desire. Thus in speaking about the mechanism of the will and of the brain I do not intend to discuss the existence of the so-called freedom of the will or the source of our consciousness and voluntary power.

I shall rather describe to you the general plan of the mechanism, which conveys information to our brain the thinking organ 2ndly, the arrangement of those parts in it which are concerned with voluntary phenomena and finally I will seek to show that the consciousness of our existing as single beings but at the same time knowing that we possess a double nervous system is due to the fact that pure volition is dependant entirely on the exercise of that attention which connotes the idea of singleness; consequently, that it is impossible to carry out two totally difierent ideas at one and the same time when the attention must of course be fully engaged upon each.

The nervous system in its simplest form consists of a sensitive cell on the surface of the body, connected by means of a sensory nerve with an internal automatic central nervous cell, which in turn is connected by means of a motor nerve with the muscular fibre cell. When two or more central nervous cells occur together a further differentiation occurs into cells which though still susceptible of being influenced from without are more especially restricted to automatic action and into cells which should forego their automatism for the sake of being more efficient in modifying sensory impulses with a view of transmitting them into motor impulses and so of giving rise to appropriate movements. This differentiation into automatic and reflex cells is clearly manifested by the brain and spinal cord.

Embedded in the tissues all over the body or highly specialised and grouped together in separate organs such as the eye and the ear, we find a large number of nerve-endings (*i e.*) small lumps of protoplasm from which a nerve fibre leads away to the brain or to the spinal cord. These nerve-endings are designed for the reception of the different kinds of vibrations by which nervous energy presents itself to us. Pressure on the end of a nerve fibre in a Pacionian body causes a stream of nerve energy to travel through the spinal cord to the brain and so we become conscious of something happening to the finger. A something falling on the retina excites sensory impulses and these passing up the optic nerve to certain parts of the brain, produce changes in certain cerebral structures and thus give rise to what we call a sensation of light. It is this transformation of nervous energy into heat, light, pressure, &c., which should alone be considered a sensation irrespective of consciousness. And in fact we habitually say we feel a sensation. Feeling is the conscious disturbance of a sensory centre on the surface of the brain and in short feeling is the conscious perception of sensations. Now the nerve fibre which conveys the energy of sensation is a round thread of protoplasm which in all probability connects the nerve-ending with the sensory corpuscle in the spinal cord. These nerve fibres which run in nerves are white whereas you know that protoplasm is grey. They are white, because each is insulated from its fellow by a white sheath of fatty substance just as we protect telegraphic wires by coating. It is not stretching analogy too far to say that nerve force may probably escape unless properly insulated. In consequence of the fibres being covered with these white sheathes they form what is called the white matter of the brain, while the nerve centres are greyish and form what is called the grey matter of the brain, so that the grey matter receives and records messages conveyed to it by the white insulated fibres. From the sensory corpuscle which is the small mass of protoplasm provided with branches connecting it with neighbouring corpuscles, the nerve energy if adequate passes along a junction thread of protoplasin to a much larger corpuscle which is called the motor corpuscle, and the energy of which when tolerated by the sensory impulses is capable of exciting muscles into active contraction. These two corpuscles form what is called a nerve-centre. Not only are the motor corpuscles fewer as well as larger than the sensory ones but also the nerve fibres which go out of them are larger too. In fact it would seem as if we had another close analogy to electrical phenomena, for here when we want a sudden discharge of a considerable quantity of nerve force we find to hand a large accumulator mechanism and a large conductor the resistance of which may justly be supposed to be low. Finally the motor nerve fibre ends in a protoplasmic mass which is firmly united to a muscular fibre which enables it

As healthy discussion must needs be impossible among beginners—for such we are in the vast field of Medicine—the business of the Association has been almost entirely confined to addresses. In this connexion it strikes me forcibly that in vindication of our sense of humility and of the spirit in which our addresses are composed and read, it should be stated distinctly.

(*a*) That deliverers of these addresses lay no claim to originality, so far as facts go;

(*b*) That the very act of studying a variety of books with a view to giving an essay on a particular subject, of arranging in one's head facts contained in them; of digesting them, and lastly of publishing them for the information of one's brethren is, we believe a healthy exercise for young minds and therefore deserves to be encouraged by those that have the interests of the students at heart.

(*c*) And lastly that we are conscious more than any one else of our feeble powers in the vast field of Medicine and hence of our inability to give original dissertation.

B. JOURNAL.

Toward the end of this year, it was thought desirable to extend the scope of the Association and to conduct a Monthly Medical Journal. But at the same time the committee of Management was not slow to observe that the students, inexperienced and overworked as they were, could not well afford to undertake the serious responsibility of conducting a journal, and therefore thought that they will best promote its interests without violating either the letter or the spirit of the journal's intended authorship, if they could secure the services of Dr. H. A. F. Nailer, M. B., Professor of Pathology, and an old student of the College, to edit the journal and help the students in their contributions towards the up-keep of the magazine. The request was promptly made and as kindly granted. Eight numbers of the journal have been issued and we have at present 155 subscribers on the list. While we take this opportunity of gratefully acknowledging the great help we have received from our friends in the Mofussil, it is a matter of intense regret that only 33 out of the 155, viz. a little less than one-fourth of the total number, are students of the College. That they should contribute such an exceedingly small portion of the total patronage to a journal conducted under the auspices of an Association of which they are the prime factors, and ought in all fairness to be jealous and enthusiastic supporters, is surely a startling announcement to most of you. It is nevertheless true. But it is also equally true that our journal can live and flourish independent of help from outside the College, if only we all choose so to do. The management of this journal has a decided advantage over that of other periodicals.

Ours is no commercial enterprise but simply a labour of love; neither the editor nor the managing establishment cost us anything. Once the whole body of students resolve to subscribe to it, it will become at once self-supporting and would save the persons directly concerned in its up-keep from a considerable amount of needless anxiety and trouble. Now add to this, the 122 Mofussil subscribers we have at present not to speak of the many more we expect. Remembering that each

Mofussil subscriber pays annas five for each copy, we shall have a distinct profit of Rs. 33 a month making up an annual income of about Rs. 450—a fund which, if judiciously handled, will be the means of achieving great and noble things, such as the founding of Oriental Library of Medicine, endowment of prizes and scholarships and things of a like nature. My principal hopes with regard to the benefits of this journal are three-fold, viz:—

1. If willingly and elaborately contributed to by gentlemen here and in the Mofussil, the magazine will serve as a permanent record of the quantity and quality of medical work done in this Presidency.

2. If carefully studied, the student of Medicine, however little advanced, will find brought together on its pages several pieces of valuable medical knowledge, scattered far and wide amidst various medical papers practically beyond his reach.

3. If judiciously managed, it will not fail to be an excellent organ in the hands of the students whereby they may safely and effectually advocate the educational as well as professional interests of their class.

C. READING ROOM.

A Reading room was organised last October in connection with the Association, and a room in the College was kindly placed at our disposal for that purpose by the Principal. Our warmest thanks are due to Mr. D. Robertson, Assistant to the Professor of Anatomy, for presenting us with copies of *The Madras Times* and *The Madras Standard*, and to two students, Messrs. Krishnan and Mathan, who have also obliged us in this direction.

D. ACKNOWLEDGMENT.

I must not conclude this short report without expressing most emphatically our deep sense of gratitude to Dr. Keess, for the manifold services he has rendered to this Association. His bonds of attachment to the Society are multiple in their character. He has been the Principal of the College and a Professor besides, and hence felt it his duty to encourage all laudable undertakings on the part of students committed to his care. He has been further the President of this body, and was on that account bound to indentify its interest with his own. But the strongest ties of all, the thought of which should touch our hearts most keenly is, that he received his first professional training under the roof of this institution of which he has subsequently become the well merited Principal. When we have concluded this meeting, his formal connection with the Association shall be at an end. A constant sense of strength in him has been our strength; a firm confidence in his winning support to all that best aids our interests, our consoling encouragement. If, from the circumstances of the case, we cannot help saying goodbye to him, we need be under no apprehension regarding the support of our Association so long as we have others bound to us by the very same ties. Dr. Nailer was a student of this College. He has kindly consented to be the editor of our journal, and a member of the Committee of Management. Further, he is one of our loving Professors. Then we have our other Professors, who, though themselves no students of this College, are neverthe-

less bound, from their position, as Professors to help us in all our reasonable projects. Last, but not least, comes our next Principal, who has already evinced signs of active sympathy with the Association and of its working. This our Association has no room to fear. I have only to conclude this report by reminding all gentlemen interested in the prestige of this College, that they will best requite the services done to the Association by Dr. Keess and others by nourishing the infant they have helped to foster, and bringing it up to a condition creditable alike to all concerned.—

IV. *Finance.*—The fees fixed by the Association were originally 2 annas per mensem and an entrance fee of annas 4, but owing to the additional expenses consequent on the amalgamation of the Paper Club the fees were raised to annas 4 per mensem and the entrance fee to annas 8.

The subscription to the Journal has remained unaltered viz., Re. 1, 8 annas to all *bona fide* Medical students who are members of the Association. Rs. 2-4 to all *bona fide* Medical students who are not members of the Association. Rs. 3 annas 12 for all others inclusive of Postage.

Then Dr. Keess, rose up and addressed the Students thus :—

"My dear Students," With the conclusion of this evening's proceedings I practically cease to be your President and Principal. Before I sever my connection with the College, I would like to say a few words to you. I thank you much for the very warm way in which you refer to my help to the Students' Association. I sincerely hope that it may continue to prosper under the fostering care of my successor, who, I have no doubt, will do all in his power to develop it. Wherever I may be, your proceedings here will always possess the deepest interest for me. I believe that if the Association be properly worked, it will promote not only a friendly feeling among present members, but also create an interest in your work and welfare in the minds of past students as well. If you succeed in bringing this about, the Association should then also become, to some extent, a representative institution, whose function will be, in addition to the interchange of thought and experience, to make an associated representation whenever the interests of its members are in danger. To my mind, your Association contains the germ of a representative body, and I, for one, will rejoice to see it develop healthily in this direction also, and become, in course of time, strong enough to be heard by those who may be able to influence the future career of its members. To bring about this desirable state of things, it is necessary, above all, that you should cultivate a brotherly feeling for each other, and not be influenced by considerations relating of race, caste, creed, social position, or educational attainments. In a College like this, there may, at any time, be elements of discord, but I entreat you, in the interests of your *alma mater*, to so disregard all these, as to leave you free to cherish a friendly feeling for each other. This, in time, must create an interest in each other's welfare. The next step must be a union of all of you, based on friendship and mutual interests. The practical outcome of such union will be a strong representative body. It is to be regretted that

the old students of this College have not contributed articles to the journal of the Association, giving their experience of disease as observed by them under different conditions. Should this remark ever meet their eyes, I hope they may be induced to come forward with the necessary help. Let me now pass on to some matters that more immediately affect the students. In the course of my long experience as a teacher, (more than 22 years in all), I have formed some views relating to reform of medical education and examinations, which, owing to circumstances over which I had no control I could not well place before the authorities or our University. At one of our Association meetings, a member once touched on the subject of over-work during the second year of attendance, and this reminded me of ideas that had passed through my own mind, several times, long ago; but the pressure of one's daily professional and other duties, and the difficulty of dealing with old established usages, professional traditions, and examining bodies, deterred me from making an attempt to put forward my views. Now, I shall ventilate some of them, and if they appear of any value, they will, doubtless, be worked out, hereafter. Let me premise by saying that the following remarks do not apply to individual teachers of the College ; but to the system under which each of us works. If I had the power to remodel the curriculum I would proceed in the following directions, keeping in view the necessity for a sound and practical scheme of medical education, "comprehensive, yet moderate in its requirements" and, moreover, adapted to the majority of the students and practitioners. According to our curriculum, two courses of anatomy are given to our students. Instead of these, I would arrange for lectures on the bones, ligaments, muscles and viscera only, being given to first year's students. The lectures might be delivered either by the Professor or his assistant. I would hand over the 2nd year's students to the Professor, who would be required to take up arteries, veins, lymphatics, nerves, and regional anatomy. In this way, students would be able to take in leisurely, and retain for a long time, the many and important facts of anatomy. Simultaneously with these courses, students, as now, would be required to work practically at the subject in the dissecting room. Here, by constant practice, dexterity in the use of the knife would be acquired, and such dexterity, I need hardly say, is of immense use to the Surgeon. As regards Chemical Physics and Chemistry, I would suggest that only so much of these be taught, as would enable a student to understand the lectures on Physiology, Toxicology, Pharmacy and other branches of medicine. I would insist on Animal Chemistry being very carefully taught, for it is this branch of chemistry that a medical man needs more than any other. I would make Surgery and Medicine single courses, extending over a period of nine months each. To compensate for the reduction in these courses, I would do my best to develope, still further, practical instruction in our clinical hospitals, especially for those who are in their final year of study. Hygiene should be taught practically in the laboratory, the

formal lecture on this important subject being reduced in number. Physiology, likewise, I would have taught in a thoroughly practical manner. There should be even here, more demonstration than class lecturing. I would make Materia Medica, a summer course, and cancel the course on elementary Materia Medica. These are the modifications that appear to me desirable. To avoid the tendency to over-lecturing. I would have syllabuses drawn up, on the several subjects that we are required to teach, in which the range of the subject should be clearly defined. In these syllabuses I would exclude all superfluities. Essentials only should be taught, such as could be applied in practice or are considered generally useful to the practitioner. Teachers should see that every student is thoroughly acquainted with the essentials of their respective subjects. While doing all this, I would not lose sight of the requirements of English examining boards. A student, so disposed would not be prevented from continuing his studies in Europe; for all his lectures here ought to count. As regards examinations at the University, they should all be kept strictly within the range laid down in the various syllabuses. The students would then know how much is wanted by the examiners. The range of a subject should not be left to the option of an examiner. Another change is urgently needed. When a student fails in any one subject, he is remanded for a year and is bound to go up, in all subjects, again and again, until he passes. I think it would be a great improvement, to re-examine a candidate, only in the subject or subjects in which he has failed. In the course of my daily work with you, I have availed myself of so many opportunities of speaking to you on the importance of discipline, as a training for those who are preparing for the battle of life, that I now refer to the subject, for the last time, in order to emphasise my oft repeated advice. By discipline I mean, subjecting oneself to rules framed for the maintenance of order, and for the proper performance of one's duty. Under the term duty, I include respect and obedience to your teachers and superiors, attention to your College and hospital work, punctuality of attendance, orderly behaviour in the class room, and at the hospital, close attention to the teaching imparted, and avoidence of any conduct that would lead to distraction of the minds of other students from the subject before them. I hold that discipline like this, if practised when young, will best fit you for the important work that lies before you. Coming to myself, it is hardly necessary to say, that although my influence over you, as Principal, will soon cease, my sympathy will be with you in all your rightly directed efforts. My interest in you will continue unabated, and no one will rejoice, more than myself, to hear of your success; but, to secure this, there must be earnestness and thoroughness in your work. In short, I must hold up, before you, the old noble advice 'whatsoever thy hand findeth to do, do it with thy might." To all, past and present pupils who have passed through my classes, I wish to convey my thanks for the kindly feeling that they have generally extended to me throughout my long connection with the College. And now, dear students, let me express a hope

at the 'Unseen Hand' which has, along, guided and sustained me roughout my career, may so shape ur course, that all of you may go rth hence, bearing in your hearts and inds the capacity to alleviate human fferings, and it is my sincere wish at all your efforts, for the benefit of ur fellow creatures, may be abuntly blessed." (Loud cheers,)

A handsome garland and a bouquet ere then presented to Dr. Keess, and e meeting terminated amid much eering and applause. Dr. Keess afrwards took leave of each student lividually and spoke appropriate rds to each.

EXAMINATION QUESTION.

aminations at the Royal College of Surgeons. Questions for the diploma of the fellow of the Royal College of Surgeons.

ANATOMY.

I. Describe the soft palate; and) mention in their order, from above wnwards, the several structures met th in its dissection; (*b*) state the arces of its arterial and sensory rve supply; (*c*) give the extrinsic achments and the motor nerves of h muscle.

II. Give the origin, course, and tribution of the branches of artery pplying the various part of the ain and its membranes.

III. Describe the positions and ape of the first ribs give its relans and the muscular and ligamenus attachments to it. How is it veloped.

IV. Describe fully the levator ani muscle, giving its relations and nerve supply.

PHYSIOLOGY.

I. Name the proteids which occur in the human organism. State their general properties, and the special characteristics by which the different varieties may be distinguished.

II. Explain the effect upon the blood, blood pressure, and excretions of diminishing the volume of the blood by bleeding, and of increasing it by the transfusion of normal living and of whipped blood.

III. What is meant by the cortical motor centres, and in what region of the brain are they situated? What do you know by experiment or otherwise of their use.

IV. Describe the mode of origin and state the destination of the Wolffian and Mullerian duct.

PATHOLOGY THERAPEUTICS AND SURGERY.

I. Describe, and contrast clinically and pathalogically the condition known as (*a*) pulpy degeneration of synovial membrane (*b*) Charcot's joint disease (*c*) Chronic Rheumatoid Arthritis.

II. Give the symptoms diagnosis and treatment of tetanus and discuss the causes and pathology of the disease.

III. Give the pathology, symptoms and treatment, general and operative, of malignant disease of the rectum.

IV. Describe the various forms of gangrene of the lower extremity and state fully the treatment appropriate to each.

The Manager begs to acknowledge with thanks the receipt of the following sums of money being the subscription for the Journal.

Brought forward ...	Rs.	309	0	8
Miss. A. Palmer ...	„	1	8	0
Mr. K. J. Pestonji ...	„	1	8	0
„ Jas. M. Fry ...	„	0	12	0
„ N. Krishna Rau ...	„	1	8	0
„ Wm. Bazely ...	„	0	8	0
„ J. F. DeAbreu ...	„	1	8	0
„ Raman Nambyar ...	„	2	0	0
„ Mahamed Ghouse ...	„	2	4	0
„ J. Reardon ...	„	1	14	0
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Miss K. Rechter	„	1	8	0
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Mr. Rajaruthenum Pillay	„	1	14	0
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„ M. Govindarajulu Naidoo...	„	1	14	0
Miss. K. Stewart ...	„	0	12	0

* 8 Annas were omitted when acknowledged in Journal No. 7.

1. Objects of this Journal:—

1. To benefit by the knowledge and experience of present and especially of past students of the College.
2. To register cases of interest in the local hospitals and elsewhere.
3. To stimulate original inquiry and research.
4. To awaken a greater degree of professional interest.
5. To jealously guard the professional interest of members of the profession in general, and of the Association in particular.
6. To register the fortnightly meeting of the Association, and to publish the papers read, as far as advisable.

Payments to be made yearly or half-yearly strictly in advance.

2. All past students of the College and all medical practitioners are hereby earnestly requested to help The Journal by contribution of articles.
4. Subscription and donations are *earnestly solicited.* These will be thankfully accepted, and duly acknowledged. An *earnest appeal* is made to the profession at large and to all well-wishers for pecuniary encouragement,

4. Advertisements:—

Advertisements will be received from Chemists and Druggists, &c. For terms &c., apply to Manager.

5. Rules:—

Copies of the rules of the Association be had on application with one anna price of the pamphlet and six pies for postage either to the Librarian of the College or to the Honorary Secretary to the Association.

All well-wishers will please make the annual or half-yearly remittance for the Journal to the Manager on receipt of this number.

THE MEDICAL COLLEGE JOURNAL.

"A WISE PHYSICIAN SKILLED OUR WOUNDS TO HEAL,
IS MORE THAN ARMIES TO THE PUBLIC WEAL."

FEBRUARY. 1887.

NIHIL SINE LABORE.

JUBILEE MEMORIAL.

CONVALESCENT HOSPITAL FOR MADRAS.

Half a century of the reign of a loved Sovereign is about to close. ese fifty years of an exemplary will be perpetuated in all parts of Empire in a manner worthy of this at event. Madras the oldest of Majesty's possessions in India has er lacked in love and loyalty to Throne. Her part she will act in tting manner. The establishment the Metropolis of a Technical Institute for the use of the whole Presidency has been suggested. No one undervalue the importance of h an institution which will be of nense benefit to the country. Our ral Zemindars, wealthy citizens, and common folk, all will contribute to it. It may be the choice of the profession which I have chosen as the field of my future labour that points me out quite a different sphere for the munificent liberality of my countrymen. We are destined to labor for the poor; our sympathy for the sick never lacks. It is as strong today as when Hippocrates was first engaged in his labor of love. I may therefore be pardoned if I on this occasion take the role of a spokesman for suffering humanity. A convalescent hospital is much needed in Madras.

My claims to an experience in the General Hospital are very limited indeed. It has, however, been my privilege to be a student here for some little time, and the limited opportu-

nities afforded me to study the conditions and diseases of that excellen institution, have revealed to me, (as it has undoubtedly done to the more experienced) deplorable facts, which are certainly remediable. When patients are discharged, they are in a tolerable good state of health but to recoup it to its normal standard, open air, fresh scenes, absence of cares &c-, are all indispensable. Instead of these, the poor wretches regain the entrance to a dirty hood, in the midst of the noise and tumult of a mighty city, where they are obliged to "Scorn delights and live laborious days," to appease the hungry edge of a keen appetite. The result is inevitable. In a few days they return to the hospital to be treated for, perhaps a fresh ailment, which has come down upon them with all its virulence and all its troubles. This is perhaps the reason, why we meet with the same patient in the hospital over and over again. In this way, we are driven by necessity to permit a set of patients to monopolise the beds of the General Hospital. Look at the hospital for Women and Children. It tells the same woeful tale. The timely removal of patients from the noxious atmosphere of the Hospital, to a convalescent institution would have probably restored to life a departed angel and gladdened the sad survivor. Monegar Choultry, I need hardly say, is a sink of chronicity and certainly the history of mortality of that beneficent institution, would have told a far different tale by the side of a convalescent hospital. Such a hospital must be situated in a healthy locality, not far distant, but at the same time remote enough to avoid the bustle and din of this great city. It would do honor to Madras, and doubtless be a fitting monument to the "noble charity" of that August lady who has always taken the deepest interest to alleviate human suffering and shown the Kindliest, sympathy towards the sick and suffering.

P. K. M.

EXTRACTS.

Will cancer ever be curable? With a suggestion as to the treatment of early cases of external cancer.

By James Braithwaite m.d., London.

Obstetric Physician to the Leeds General Infirmary.

I believe the explanation of the occurrence of cancer to be to this effect: when old age attacks the body as a whole, we look upon it as a natural thing. The whole of the tissues become gradually a little less active in their growth, are a little less rapidly formed and each individual molecule or cell a little less rapidly dies, and is replaced. Along with this slowing or retardation of both waste and repair, the pabulum from which each individual cell draws its nourishment, becomes less rich, for the blood itself is becoming older. The cell which draws upon its supply more slowly has therefore its supply more slowly formed and all is consequently in proper proportion, and old age of the cell as of the individual goes on in a natural manner. But what happens if a set of cells become old before their time the pabulum from which their waste is supplied being as good as even it was—the pabulum of youth with the cell of old age? the senile cell

die and are replaced by new ones, more slowly no doubt, but the young senile cell, finding itself stimulated by nutritious serum around it, and having lost to a great extent its original properties, reverts to the condition of its remote ancestor, the embryonic cell, which is almost indistinguishable from a cancer cell, and so becomes practically a fungus. This reversion to the embryonic cell allows of unlimited appropriation of pabulum and unlimited growth. The whole process is therefore a want of contemporaneous senility. If this were an explanation approaching the truth we ought to find cancer most common in well-nourished individuals approaching old age, and in those parts of the body which naturally become useless about that time, such as the womb and breast. This is precisely what occurs. Cases of cancer of the womb are much less commonly met with in pale, anæmic, or ill-fed women, than in the plethoric and well-nourished. The typical woman for cancer of the uterus is stout, florid, has a good appetite, but is weak, easily fatigued, and leads a life free from much toil. Work, and hard work, leads to removal of effete material. The fungus cancer is more likely to attack the tissues of a body, the nutrient material in which stagnates for want of use and removal.

If this explanation were true cancer should be more common in the upper and middle classes than amongst the poor and ill-fed. My impression is that this is the case. It is particularly common in London in proportion to the population; and I have noticed how comparatively few cases of cancer are seen amongst the proverty-stricken at Out-Patients of the Leeds Infirmary.

This theory explains such a case as the following:—An old woman had a cancerous growth springing out of one nostril, and projecting to about the size and shape of a walnut. Every day there was a little epistaxis, not much, but regularly recurring. I tried various means to stop this without success, because the bleeding occurred from the posterior part of the nostril if arrested at the anterior outlet. After some months it was evident that the old woman would bleed to death. I proposed removing the growth and plugging the nostril, but she would not hear of it. She was old and tired of life, and "would rather die quietly." But—and this a most interesting fact the hemorrhage killed the cancer before killing the patient, and it came away entire, with everywhere a smooth surface on the long stalk-like portion which had been in the nares. The patient then recovered her health, and lived for two years, infirm and weak, but otherwise well. I never saw her again, but subsequently ascertained that in two years the disease had reappeared, and she died from it in about twelve months, or rather less.

It is evident that cancer requires good nourishment. This to some extent is generally admitted, and directions are usually given patients to let their diet be moderate, and even abstemious It is not found that life is prolonged by the opposite plan, for the disease becomes rapid in growth.

Sir James Paget relates the following case:—After a cancerous breast was removed the cancer recurred, and grew rapidly; the patient's health failed, phthisis ensued, and the patient finally died from that disease, *the cancer having gradually healed.*

This is almost a parallel case to the one I have recorded above. The cancer was killed before the patient; it could not bear the loss of nourishment.

My point, then, is not simply senility of a cell, having from natural causes lost its original properties, its self-restraint and increase only as required for purposes of health, takes on itself a new and exuberant form of growth. It thus becomes practically a fungus, and grows at the expense of the tissues around it. Its principal characteristic is that it requires plenty of food; given that and it will grow; cut off that, and it will languish, or even die as in the two cases related.

There is yet another way in which this animal fungus can be started, and that is, local irritation. This is well known, and I need say little about it except that the cells, which are so stimulated into disease, are probably deficient in something necessary to their complete functional health. Shall we ever be able to cure or arrest this disease? I am afraid not; but in some cases we may, and my principal object in writing this paper is to put before the reader several curious cases in which at any rate, the affection seemed to be modified by treatment. All we can hope for ultimately is to be able to arrest or render quiescent cases of recent origin. Cases fully developed, where extensive parts are invaded, always will be incurable, unless it is ultimately found that a bacterium is at the root of the matter; but I think this will not be discovered.

Three years ago a woman came to the Women and Children's Hospital to which I was then one of the Surgeons, with a cancer of the breast, the size of a moderate-sized apple. She said it was growing pretty quickly and was painful. The house being full I gave her, as a placebo extract of belladonna thinned with a little glycerine to be kept constantly applied to the breast beneath a piece of oiled-silk. She came in a week or two to say the pain was relieved, and we had several operation cases on hand I consequently deferred her admission again. The next time she came she said the lump was smaller, and I continued the belladonna for two months, by the end of which time I had no doubt whatever that the tumour was smaller. It was not much smaller, but even supposing I was mistaken in this, it was quite certain that growth had been arrested. She continued to attend another month, and seeing her no more I called upon her at home in about a month or five weeks. She was still using the belladonna but her supply was nearly exhausted and she promised to come for more. She still considered the tumour smaller. I examined it and thought it was nearly the same size as it had been three months before, but it had not grown. I never saw this patient again, partly because I was too busy to call upon her and afterwards because I laughed at my own credulity in supposing it possible that cancer could be modified in its growth by belladonna or anything else.

About a year after this (February, 1884) a woman 43 years of age, very large and stout, but feeble, fell in going up a steep street. She thinks she became unconscious. She fell with her right hand doubled up and pressing upon the skin between the right breast and the clavicle, but quite clear of the breast by two inches. There was no one about at the time and it was late

at night. She must have fallen very heavily for she lost her artificial teeth, but went back next morning and found them where she had fallen. She probably laid there some minutes. Next day she felt that the place where her hand had been was painful. After this six weeks elapsed and she then discovered a small lump at this spot. This grew a little in size and was occasionally slightly painful, or sufficiently to draw her attention to it. She sent for me six weeks after first noticing the lump, that is, twelve weeks after the accident. I found a hard tumour just below the skin, which felt adherent to it, the size of a small walnut, it was not painful to pressure and the skin above it was pale. It was pretty moveable in consequence of the great thickness of fat it was embedded in it I had not much doubt that it was a cancer, but could not be absolutely certain. She objected strongly to any operation so to gain time, and afterwards persuade her to have it removed I applied belladonna, as in the preceding case. The tumour at once began to lessen in size, and in four months it had quite disappeared. On recently questioning the patient she says that she could always feel "a little something by pressing very deeply." My impression was that it had quite disappeared, but no doubt the patient was right. I told this case to several of my friends who laughed at my idea that it could have been cancer, and I dismissed the subject from my mind, thinking it could have only been inflammatory.

On August 27, 1885, she sent for me again and I then found the tumour as before but larger than when I had first seen it. It was at least two inches in diameter. She stated that she had remained free from it four months, but that six months ago it had reappeared and was rapidly increasing in size. I commenced the belladonna at once and the tumour remained absolutely stationary for about three months. Then I thought, but was not quite sure it was increasing a little in size. I measured it as well as such a growth could be measured and found that it was very slowly growing on. February 5th last it measured just two and a half inches from side to side. I now committed a fatal error, I injected into the centre of the tumour a few drops of the belladonna. All antiseptic precautions were taken but the tract of the needle never healed, and at the spot where it had been inserted an angry red zone appeared covered by thin skin. This was owing to the cancer cells taking on a new and more rapid development which was propagated throughout the whole tumour, for the red zone, which was elevated above the surrounding parts of the tumour rapidly spread over the whole, and ulceration commenced at the point of puncture. The patient is still living but there is a deep and increasing cavity which frequently bleeds.

In December 1885 I was sent for to see a lady 73 years of age with a small cancerous tumour of the left breast. This has now for nine months remained absolutely stationary, the belladonna having been constantly applied. Mr. Jessop has seen this patient with me recently and heard the statement of her niece that she thought even less than it was last Christmas. My impression is that it is exactly as it was, but am quite certain it has not grown. I do not lay much stress on

the value of belladonna in this disease. for my experience of it is too limited. All I say is—you have no other remedy to propose—try it. I have given all the cases I have used it in with the result. The cases are too few, but these cases now rarely come under any observation, and cancer of the womb which I see more frequently is not a fit subject for the use of belladonna. If you remove by operation a cancer of the breast, the chances are that it will turn rapidly with increased virulence.

At the same time most cancer patients should be put upon rather starvation diet, and I have some impression that occasional small bleedings would not be amiss when the patient is plethoric. We see, however, that in cancer of the womb excessive hemorrhage does no good, but harm. I am here only speaking of early cases of cancer of the breast in which it is proposed to try the belladonna. When, however, it is decided to remove a cancer of the breast I have a very strong feeling that the knife should be avoided. Arsenical paste will gradually eat out a cancerous tumour and leave almost untouched the neighbouring healthy parts. I have seen a tumour so removed—round and entire—the size of an apple, and the breast perfectly healed and showing no signs of return twelve months afterwards.

Provincial Med. Jour.

ON A CASE OF

TRAUMATIC TETANUS SUCCESSFULLY TREATED BY THE SUBCUTANEOUS INJECTION OF MORPHIA.

BY

J. FALCONER MURISON, M. B., C. M. ABERD.

ONE of the most appalling and fatal maladies to which man is liable is traumatic tetanus. The following case, which came under my care nearly twelve months ago, will, I think, be of some interest to the profession.

On Jan. 29th, 1886, I was sent for to visit a young man whose "jaws were stiff and would not open." I found him in bed, complaining of great stiffness in his jaws, and peculiar feeling when he attempted to swallow food or drink. He was twenty-six years of age, over six feet in height, and powerfully built. On questioning his parents I elicited the following facts: On Jan. 15th he was engaged, along with a servant lad, carting manure from the farmyard to the fields. He asked the lad to hand him a spade, which he (the lad) at once took up and threw towards the patient. The distance between them was only six yards, and the spade struck the patient severely on the inside of the left knee-joint, causing at the time excruciating pain. The part was badly bruised, but although in severe pain the patient continued at his work all that day. In the evening the pain increased and the knee-joint became swollen and stiff. For the following ten days he was confined to bed, during which time he constantly applied fomentations and poultices to the knee. The swelling

and pain disappeared, and he resumed his ordinary duties, feeling nothing whatever the matter with him, until the 29th, when the first symptoms of tetanus made their appearance.

When I first saw this young man he was suffering intensely. The jaws were firmly clenched, and he experienced some difficulty in swallowing. The muscles of the temples, jaws, and neck were stiff and rigid, the features were fixed, and the countenance expressive of acute pain. Risus sardonicus was well marked, giving a comical expression to the face. I saw at once that I had to deal with a very serious case, and, as the patient was lying on a bed in the farm kitchen, I had him removed at once to a cool, quiet, and airy bed-room, a screen being drawn round his bed and perfect quietness enjoined. His temperature was 104°. his pulse 90, and his body covered with free perspiration.

The treatment consisted of thirty grains of hydrate of chloral, with twenty grains of bromide of potassium, given every four hours. This was continued for three days, at the end of which time the patient was in no way benefited; he did not even sleep. The symptoms increased; the muscles of the back and legs became involved; and during the paroxysms opisthotonos was well marked and excruciating pain felt at the pit of the stomach. Tincture of Cannabis Indica was then tried, the dose being fifteen minims at first, gradually increased to half a drachm, with inhalation of nitrite of amyl. This was also given every four hours and continued for three days, at the end of which time there was still no improvement visible to the patient. Ice was applied to the spine, and he was put under the influence of chloroform twice a day for an hour at a time. Still the paroxysms continued as bad as ever, if not worse, and as the patient had got little or no sleep for the previous week, I determined to try the effects of morphia. I therefore injected subcutaneously one grain and a half into the muscles of the right thigh, and awaited the result. In about half an hour he was dozing, and continued so for about two hours. On awaking he felt himself greatly relieved, and begged hard to have the injection repeated, as he was unable to suffer such severe pain. The medicines were now all discontinued and the subcutaneous injections of morphia thereafter solely relied on. For four days one grain was injected every four hours, for the next two days every six hours, and the next two days every eight hours. Then, as the symptoms gradually disappeared, the injections were used less frequently, until at the end of the third week only one grain was injected at night, with an occasional half-grain through the day. During the fourth week only half a grain was injected at night, and during the fifth week only every alternate night. At the end of the sixth week the patient was convalescent, and was able to be out of bed and to do without the morphia. During the whole time of his illness, which extended over a period of six weeks, his nourishment consisted of beef-tea in a concentrated form, milk, switched eggs, soups, wine, and brandy, all being given freely.

I think this case will interest not a few, owing to the marked benefit the patient derived from the subcutaneous injections of morphia, after the usual

remedies—chloral hydrate, bromide of potassium, cannabis Indica, ice, &c.—had been thoroughly tried and completely failed to relieve him of a single symptom of this terrible disease. So much am I convinced of the benefit accruing from the use of morphia in this particular case that, were I called upon again to treat another case of a similar nature, I should have no hesitation whatever in beginning the treatment at once with a full dose of the solution of morphia injected hypodermically.

Glasgow. *Lancet.*

ABSORPTION OF CORROSIVE SUBLIMATE BY THE SKIN.

Dr. Kopff states in the Przeglad lekarski that having made seven experiments with careful analysis according to the methods of Schneider, Schridde and Lehmann, with the view of determining the power of absorption possessed by the skin for Corrosive Sublimate, he has found that healthy skin can absorb small quantities from aqueous solutions containing from 1 to 2 per cent. of the salt. The quantity absorbed, which, however, is never large, seems to depend mainly on the degree of concentration of the solution. The chloride of mercury is also invariably excreted very soon after it has been absorbed.

POISONING BY COCAINE.

Mr. Kelham related this case. A man aged thirty took 4½ grs. of Hydrochlorate of Cocaine in solution by mistake. In twenty minutes he was seized with severe pain in the stomach, throbbing of heart, loss of eye-sight and of power in the legs, with incoherence of speech and confusion of ideas; no unconsciousness. Severe vomiting came on with cramps in the stomach and legs, very profuse perspiration, intermittent action of the heart, cyanosis of the face, and feeling of suffocation; then severe prostration, shivering, and coldness of skin. The severe symptoms passed off in about three hours, but the prostration and vomiting lasted all next day. Thirty-six hours after taking the cocaine he began to lose taste, and had a leathery feeling in the mouth and tingling of the fingers. The treatment consisted in emetics and stimulants. Remarks were made by Mr. Snell, Dr. Roberts. Mr. Jones, and Mr. Pye-Smith.

COCAINE COTTON,

By K. Eller.

A very easy, neat and successful way whereby to obtain the effect of cocaine is to combine it with absorbent cotton. As thus prepared it can easily be applied in a variety of ways to assuage pain, and bring quick relief to those suffering. It requires the suggestion merely in order to insure its ready preparation by any ordinary skilful pharmacist: for instance, a given weight of absorbent cotton, a certain quantity of solution of cocaine of definite strength, and the requisite skill, and a cocaine cotton of exact cocaine value will be the result. A three per cent. solution of cocaine is a good average strength to work with, and on this basis the following formulæ are suggested, unless an exception be noted.

COCAINE COTTON.

Solution cocaine 3 per cent...1 oz.
Absorbent cotton ... ...1 oz.

Thoroughly saturate the cotton, carefully dry same in a current of warm air and card the cotton to restore it to its former appearance.

COCAINE COTTON WITH MORPHIA
(*For Tooth-ache.*)

Solution cocaine, 3 per cent 1 oz.
Sulphate of morphia ... 12 grs.
Absorbent cotton ... ... 1 oz.

Dissolve the morphia in the solution of cocaine and proceed as above.

To be used by introducing a small piece of the cotton in to the cavity of the tooth. It can also be used for ear-ache by moistening a suitable piece, with a few drops of water, landanum or alcohol, and carefully placing it in the ear passage.

BORATED COCAINE COTTON
(*For burns and scalds.*)

Cocaine solution 2 per cent	1 oz.
Boracic acid	30 grs.
Glycerine	1 dr.
Carbolic acid	20 grs.
Absorbent cotton	1 oz.

Dissolve the boracic acid in the glycerine and cocaine solution, add the carbolic acid and proceed as in making plain cocaine cotton.

Very useful in the treatment of burned and scalded surfaces, and also in troublesome chafing, where pain and persistent inflammation are attendants.

This list is capable of very large extension. Only this short suggestion is indeed to enable the pharmacist to carry his experiments to the limit of wish or convenience.

A MIRROR OF HOSPITAL PRACTICE.

A CASE OF URETHRAL CALCULUS

UNDER THE CARE OF
SURGEON-MAJOR W. R. BROWNE, M. D.,
Reported by Mr. P. Venket Subbayya.

Govindan, a hindu aged 20 years was admitted into the Hospital on the 21st January 1887, for a painful swelling in the perineum, and difficulty in passing urine.

History.—Three years ago the patient began to feel occassional pain while passing urine; at the same timo he noticed that he was passing some whitish particles in his urine. A few months after this he noticed a small swelling at the root of the penis; the stream of urine was getting smaller and the difficulty in passing urine increased. He then sought admission into a hospital, where catheters were passed which gave him some temporary relief. Shortly after this a small abscess appeared at the anterior surface of the scrotum, which burst in a few days leaving a fistula through which urine dribbles. Two years ago he experienced pain on defœcation and a few days after he noticed pus and blood in his motions, while at the same time a greater part of the urine escaped through the rectum. For the last two years the swelling at the root of the penis has been increasing.

Present Condition.—The patient is a low-sized poorly developed youth.

There is a hard smooth tumour about the size of a lime situated behind the scrotum. The tumour extends from the middle of the perineum to the root of the penis. There is a small fistula at

the anterior surface of the scrotum half an inch below the root of the penis. A probe passed through this opening for about half an inch grates against a calculus; the same sensation is felt through the urethra at about four inches from the meatus. A finger passed into the rectum discovers an opening into the urethra, at about an inch from the anal orifice, large enough to admit the tip of the finger. Two inches from the anus the finger strikes against a constriction of the bowel which is smooth all round and is just large enough to admit the endof the finger. The stricture seems to be about half an inch in depth from above downwards and to be equal in depth and thickness all round. As far as can be felt, the bowel above the stricture seems healthy.

Pulse and Respirations normal. Temperature normal. Bowels regular appetite good.

Treatment. — 22nd The patient's bowels being cleaned by a dose of castor oil on the previous day and an enema in the morning; hewas put under chloroform, and having placed him inthe lithotomy position, the perineum and the adjacent parts were well washed with carbolic lotion (1 in 40). An incision was then made for about an inch and a half from the root of the scrotum to the centre of the perineum in the mesial line. The urethra was opened, the stone reached and was extracted after the incision was further prolonged. Some smaller masses which were subsequently found to be particles of food were also removed. On examining the urethra an ulcerated surface was found on the anterior surface. A pouch had formed on the left side of the much dilated urethra in which the above-mentioned food detritus was found.

The parts were well washed with antiseptic lotion (Perchloride of mercury lotion (1 in 1000) and the wound was dressed with carbolised lint.

Character of Stone.—The stone is irrigularly ovoid, the surface is smooth at the smaller end where it is of a fawn color, and irregularly coroded at the larger end and of a dirty brown color. It measures $3\frac{3}{4}$ inches in length and $3\frac{1}{4}$ in circumference. Weighs 2 ozs.

23rd, Slept well last night. Complains of burning pain in the wound. Passes urine and fæces both through the rectum and the wound in the perineum. Pulse 80 rather weak. Respiration 16. Temperature last evening 99·6° Normal this morning.

Treatment.—Iodoform dusting and carbolic dressing to the wound.

Dover's powder grs. 10 at bed time.

24th The wound looks healthy. Temperature normal. Pulse 8(Resp. 16.

Treatment.—Rectal bougies every morning. Continue dressing and Dover's powder.

26th Sleeps well at nights. Temperature normal. Pulse 84 weak Resp. 16. No urine comes through the meatus.

Treatment.—Continue dressing and bougies 28th Sleeps well at nights Wound looks healthy. Temperature normal. Pulse stronger and 84 per minute. Resp. 16. Urine and fæces are passed through the rectum and the wound No urine escapes through the meatus.

CORRESPONDENCE.

MADRAS, 14*th February* 1887.

THE EDITOR OF
"THE MEDICAL COLLEGE JOURNAL."

SIR,

The Commission appointed by Her Majesty's Government to enquire into the systems of Public Service in India has had its sitting in Madras.

Neither here nor at their former station did they shew any sign that they recognized the fact that the Medical Service of this country is an essential part of the Indian Public Service. If it is the intention of Government to encourage the competition of natives of India for the higher offices of the administrative department, it is unjust to presume that a similar encouragement to young Indians for filling the upper ranks of the Medical establishment was not contemplated by Government. The statistics of the Medical Colleges of India and of the Indian Universities in the Branch of Medicine, will fully convince any one that natives of India are beginning to aspire to high medical situation with as much earnestness and enthusiasm as have been justly enough recognized by Government with respect to the strictly administrative portion. That the Medical Profession is one of the learned professions of the civilized world none will be prepared to deny. It should therefore be granted that the Indian students of Medicine should be looked after and encouraged in exactly the same spirit as their brethren who have chosen a different line of life.

The system under which all the respectable situations on the medical staff are filled by men who have passed a competitive medical examination in England and are completely closed to natives who through force of poverty, restrictions of caste, or each other harassing circumstances, are debarred from undergoing their examination in England, this system, I need hardly remark requires a thorough revision. If the absence of qualified medical men some years ago justified the inauguration of such a system, the persistence in it when circumstances have altered is indeed unnecessary and even injurious to the interests of Natives of India.

If one of the results of the Public Service commission be to hold competitive civil service examinations in India and in England I see absolutely no reason why a competitive medical examination should not be held in India and young native enabled to aspire to the offices of civil surgeons and even higher positions. All other conditions that hold good at present with reference to competitive medical examination and to Indian medical service may be retained. I beg to commend this subject for the consideration of the authorities concerned.

N. S.

PROCEEDINGS
OF THE
STUDENTS' ASOCIATION.

At an ordinary meeting of the association. There were present a larg number of the members, the Lady students and others.

The President Brigade-Surgeon Jas. Keess, M. D., was in the chair.

The minutes of the preceding meeting having been read by the Secretary and adopted.

The President called upon Mr. Parakh to deliver his address on "Micro-organism."

Mr. Parakh then rose up and addressed the assembly thus :—

LADIES AND GENTLEMEN,

I am not here this evening to speak on a grand topic as that of "aneurism," Nor am I come to advise you to turn your "dead bodies into bricks," for a future monument to your medical fame; nor am I come here to prevent you from enjoying your "pegs;" nor am I come to evergorge you with too much of good "food," nor am I come to preach about saving of animal life and make you converts to "vegetarianism," but I am come this evening to speak on a subject of small bodies "micro-organisms" which require small instruments (micro-instruments) to observe them and which bodies have engaged actively the minds of the present Medical World.

I may now venture to say, without much dread to contradiction, that science is becoming the director of the Medical man, and that in exact proportion as she appears in the sick room, does the routine practice and rule of thumb prescribing vanish, therefore I need no apology in bringing before you, this subject of micro-organism or germs this evening.

I may venture to say that we were at a perfect loss to explain the cause of unaccountable cases of contagious and infectious diseases like cholera and small pox which ever and anon sweep over and disseminate, in different forms, and at different times, different parts of this dear country, the great land of the Aryavart and other parts of the world, and after completely disappearing from one part, and appearing in it again after longer or shorter intervals, and that too generally in the same form and under the most similar circumstances.

The germ theory will not yield a philosophic clue to the sudden out breaks and equally rapid cessation of virulent diseases like cholera, typhoid, &c., and the occasional sporadic example of these diseases; but explain the rationalé of the longer or shorter periods of incubation which follow upon the heels of these infectious and contagious diseases, the causes of periodicity, in malarial group of affections and lastly the inexplicable phenomina of quiescence in particular localities of a same place and the acute prevalence of the disease in other ones which is so characteristic of these diseases.

Those who have taken sufficient interest in the germ theory of the disease, must be perfectly conscious that it has not only adduced facts which have given an entire new idea regarding the etiology of the disease, but even the pathology of affections, like boils, chancers, abscesses, gonnorrhœa, syphilis, erysipelas, pneumonia, malaria, phthisis. So we may safely with slight hesitation assert, that as our knowledge of the life history of these vegetable or animal germ poison extends day by day, our ideas of the nature of the disease might vary. This we may believe, for some I may say great light has been thrown on this subject by men like, Pasteur, Sir Joseph Lister of immortal fame, Bilroth Ewart, Buchaner Watson Cheyne, Ogstone, Tyndal, Koch, Klebs, Klein, Ptomasi Crudale, Bastian, Cunningham of Calcutta,

Lewis of Netley, Mansion of China and last but not the least my beoved, respected and esteemed acting principal of the Grant Medical College of Bombay, Dr. Henry Vandyke, Carter, whose name is associated with a disease peculiar to this Presidency, viz., the Madura foot, or Chyonyphe Carteri.

These popular and celebrated writers have shown on observations independently made, how typhoid fever, cholera, scarlet fever distributed and spread by contaminated impure water, milk &c. Dr. H. V. Carter has shown that a germ, named spirulum is present in the blood of patients suffering from relapsing or famine fever.

Mansion has shown that elephantiasis is due to the presence of filaria sanguinis hominis; Bancroft has attributed Chyluria to the same parasite in the blood.

Eating of bread made from spured, rye (a disease of the plant produced, by a particular fungus) gives rise to fever and local inflammation ending in gangrene of some parts of the body.

Then we have known from a long time that in some form of gastritis, the vomited matters contain organisms called sarcina ventriculi.

Pasteur has shown clearly that he can give antharax to animals by watering their food with diseased germs of antharax.

Dr. Henry Vandyke Carter succeded very well, after inoculating dogs, monkeys &c. with spirulum parasites, not only in getting febrile symptoms in these animals, but anatomical lesions.

Talamont says he succeded in producing diptheria in animals by inoculating them with a specific bacilus The diptheric membrane produced in the mouth of these animals, contains similar bacteria to what found in the ordinary diptheria in men.

Italian doctors viz. M. Murchifava, Professor Peronto (one of the leading mycologists of Italy.) Ptomasi Crudale have succeded in finding a bacilus of malaria.

Now with these preliminary remarks I will proceed further.

Scientists of the day have arrived to the conclusion that these germs give rise to putrefaction.

Three views are brought forward to support this statement.

1stly, that the atmosphere contains dust, and in this dust there exist germs of minute organisms, which under favourable circumstances induce putrefaction in fluids and solids capable of that change, in the same manner as a yeast plant occasions alcoholic fermentation in saccharine solutions.

2ndly, That putrefaction is not occasioned by the chemical action of oxygen or any gases in the air, but by the fermentative agency; these germs can be destroyed or rendered inert by various chemical substances, natural agencies, heat, cold, light, electricity, &c.

3rdly, That the vitality of these germs can be destroyed, &c,

I am not going to ask you to believe these facts *ipse facto*, or absolutely or as gospel truth, but I will shortly in proof for these put before you, the results of experiments performed by great men, like Pasteur, Lister,

Tyndal, B. Sanderson, and others, which justify the above conclusions.

You are all perfectly aware that organic fluids, like milk, soaps, blood, syrups or Saccharine solutions, vegetable infusions if kept in contact with the air at ordinary temperature will ere long decompose or putrefy and give evidence of putrefaction by turbidity (if the fluid is clear), by the evolution of offensive gases and by development within them of bacteria.

Again let me bring this fact to your mind that prolonged boiling will not of itself preserve such fluids from putrefaction.

Yet any of these or similar fluids may be kept free from putrefaction any length of time, in spite of free access of the atmospheric gases, provided that the fluid has been boiled at the onset to destroy any organisms contained in it and that the vessels containing it have been thoroughly purified by heat and that the dust of the air is thoroughly excluded.

The exclusion of the dust can be affected in various ways.

In some of M. Pasteur's experiments it was done by having the neck of the flask containing the liquid drawn out by the aid of the heat into a fine pipe bent at various angles, in which form though open at one end and allowing perpetual entrance and exit of air, it arrested all particles suspended in it, and the urine or other fluids the subject of experiment, remained permanently unaltered.

Or again the same object may be obtained by having the mouth of the flask plugged with a mass of purified cotton wool, which effectually filters of its dust, the air that enters the vessel, in consequence of the condensation which alternates with expansion in the diurnal changes of temperature.

But if the neck of the flask is broken short or the plug of cotton removed, organisms are sure to show themselves before many days have passed.

Even more stricking then the above is the method adopted by Sir Joseph Lister, who decants boiled organic liquids in wine glasses, purified by heat, and each covered with a similarly purified glass cap and a glass shade care being taken to avoid all entrance of dust during the process of decanting.

Neither the cap nor the shade fits closely, so that a constant change takes place between the external air and that in the wine glass, yet the double protection excludes all dust and the result is, although organic liquid gradually diminish in the bulk by gradual evaporation and in course of months dry up altogether, no organisms make their appearance from first to last, nor does putrefaction, nor fermentative changes occur.

If however the glass shade or the cap is removed for a few minutes and then replaced fungi or bacteria will appear. It is also shown by Pasteur, Bastian, Tyndal that it is by no means essential to the success of such experiments that the organic fluids should be boiled, but that circumstances admit of their being withdrawn uncontaminated from their natural receptacles, such as the urinary bladder the blood vessels, the udder of the cow, or the shell of a freshly laid egg, they will remain free from organisms and putrefaction when kept in pure vessels and protected from dust.

63

It has also been discovered that impure air will purify itself by mere subsedence of its dust, M. Pasteur long ago proved that putresible fluids could be kept free from putrefaction in air taken from cellars free from draughts, when the solid particle of the atmosphere had had time to deposit themselves by subsidence or precipitation.

Professor Tyndal subjects air purified by being kept at rest to very searching tests to ascertain if it will excite putrefaction in putresible solutions.

He has found that solutions of meat, cheese, turnip &c., first subjected to high temperature can be kept free from putrefaction for an indefinite period of time.

Exposed to the air closed boxes that have been kept at rest a day or two to allow the dust to subside, precaution being taken to prevent the dust rising in the box by smearing the inside of it with glycerine. The same experiment has demonstrated the fact, that the air which has been thus rendered incapable of exciting putrefaction, is also optically pure, *i.e.*, there are no particles or motes to be detected in it when illuminated by a beam of light from a solar or an electric source.

Ladies and gentlemen, I can cite instances upon instances and experiments upon experiments in proof of this; but the short space of time given me won't permit me to stretch this point further but come to the conclusion from these experiments that in the dust of the atmosphere there are such things as fermentative particles, organisms, germs, micro-organisms or whatever you please to call them (because what is in a name?) and that these induce putrefaction in liquids and solids, that without these germs putrefaction and formation of bacteria do not take place and by various methods these germs can be destroyed or rendered inert. These germs enter wounds, sinuses, cavities exposed to ordinary air, set up putrefactive changes, viz: irritative inflammation, suppuration and other pathological changes which I need not enter upon here; and now it naturally suggests to one to inquire what are these little things which though infinitely microscopic in size, still perform such gigantic and terrifie mischief.?

They are chiefly made of microscopic cells, which are for the most part peculiar and distinctive of the fermentation in which they are found, as the Bacterium Lactis in sour milk &c.

All sorts of simple micro-organisms are called bacteria, including both bacilli, and micrococi, moving and motionless, straight, curved, linked, and aggregated; different bacteria may be identified by their shape and size, by their different staining with aniline dyes, by their behaviour in cultivating fluids.

I need not explain the process of examining them microscopically here, for it was my idea to show you some of these organisms practically but though there was the will to do it, the short space of time and the absence of materials in this institution to show all these practically, obliged me to put aside this idea. But if circumstances permit, I intend showing these things on some other occasion; I am not going to dwell on

birds are formed out of the matters contained in the egg, which also represents a kind of food perfectly adapted to its purpose. We may, therefore, conclude, from the provision made by nature for the young mammalia and for the young of birds and also from the universal practice of man, that our food must consist of these four ingredients—namely—nitrogenous principles, non-inintrogenous principles, consisting of fats and carbohydrates, and of inorganic principles, namely water and Salines.

No food, or combination of foods, is perfect or all sufficing, which does not contain representatives of these four classes. Not only must they be present, but they must exist in certain definite proportions. It is, of course, not necessary that all the elements should be found in just these proportions in the same article of diet. In fact, one of the objects of cooking is the judicious assorting and proportioning of the different classes of foodstuffs, to make up a perfect meal. I do not mean to say that this is consciously done by the majority of people; but it is unconsciously performed by even the most ignorant, and purposely aimed at by the skilful and intelligent who does not know that, as in a proverb, bread goes with cheese, dhall with ghee, and milk with rice? But it is not every cook that could explain the underlying physiological reasons why these particular associations have gained such general approval. When we once understand that a perfect diet must include not only certain elements, but these elements in certain proportions, we can see readily why beans which are rich in albuminous matter, but devoid of fat, have come by instinct to be best enjoyed with butter or ghee, why the highly albuminous milk goes naturally with the lowly albuminous rice; and why cheese containing much albuminous matter is naturally associated with starchy bread and fatty butter.

Within the geographical limits of the world there are living several distinct races of people. The surface configuration of the land, rising from the sea level to the altitudes of different heights, gives great varieties of climate.

The food of man is as diversified as the geographical features of the country in which man lives and the influences of caste and race have tended still further to perpetuate distinctions in the kind and quality of substances used as food. However food may vary in external charecteristics, the frame of man requires essential ingredients to be supplied by its means. There must be a material to repair the daily waste of tissue, and there must be a different order of material to support the respiratory functions, and the heat and the vitality of the body. Nature has wisely provided in the vegetable and animal kingdoms, all things necessary to the sustinance of man. The country he inhabits will, as a rule, be found to produce the food best adopted to the conditions in which he exists.

Nitrogenous foods.

Although our bodies contain a large amount of hidrogen it is always combined with other things and is never free. We obtain our nitrogenous food both from the animal and vegetable kingdoms. The muscle or flesh of any animal contains one of these

nitrogen holding principles. They are found also in the seeds of plants. These seeds contain nitrogenous matter in different proportions and are therefore classed along with meat, as substances which will, when digested and taken into the blood, nourish the muscles. They sometimes go by the name of flesh—formers. I may here say, in passing, that all vegetables contain nitrogenous matter, but in some the quantity is so small that they are not of much value in nourishing the muscles, though they may be useful in some other way. Beef, mutton, pork &c. form necessary and useful foods for many, being pleasant to taste, satisfying the appetite, and more readily digestible than the nitrogenous foods derived from the vegetable kingdom. Beef taken in large quantities, especially by those who have indoor work, is likely to lead to sick head-aches, disordered livers, kidneys, gout and its kinsman rheumatism. In whatever form meat is taken, it is of great importance that it should be well cooked. Not only does cooking render it more digestible by softening and of seperating the fibres, but it is imperatively necessary to prevent disease from being conveyed from the animals used as food to man. Pork, ham, bacon and beef are all liable to contain the undeveloped forms of certain worms, which, if not destroyed in the cooking, develope in the intestines of the "host," either in the form of tape-worm, or form cysts or hydatids in his liver, or even brain; or if the meat contain *trichind* innumerable minute worms multiply in the intestines and spread to every part of the body, but principally to the muscles giving rise to very serious disease, often ending in death. And further, both sheep and cows suffer largely from consumption, or tuburcular disease. There is therefore much probability, as some recent researches have attempted to show, that one form of consumption from which man suffers is derived from the cow. Fish is a food of much importance. In some parts of the world it is almost the sole sustenance of the people, as in the most northern parts of Europe, Asia and America. There are great differences in the varieties of fish, as to their digestibility. The flesh of salt water fish, is rich in phosphates.

Eggs of birds, generally of the common fowl, are nutritious and agreeable articles of food. They are rich both in the nitrogenous and corbonaceous elements of food.

All the cerelia contain vegetable albumen, strach and mineral ingredients in varying proportion, those which are richest in nitrogenous compounds, are, as a rule, the best adopted for the staple food of a people and those who use such grains have all the elements of which their bodies are built up, contained in their chief article of diet.

As regards the labouring population of India, the great bulk of their food is furnished by the staple grain of the district in which they live. Ascending higher in the social scale the variety of food is extended, and the dietary scale is as complex as more of the rich and luxurious of European nations. Although there are no people in India who are strict vegetarians in their diet, yet it may be truly said that there is no other country of which

Pathogenic Bacteria.

Koch, Pasteur and several others, by injecting solutions of decomposed blood, putrid meat, &c., succeeded in producing in rabbits, pigeons, monkeys, diseases like septicæmia, fowl-cholera, peritonitis pneumonia, &c.

In these animals innumerable bacteria were found in the blood, internal organs and cavities and to these organisms, the name. B. Septicæmæ is given.

III. Bacilli or Desmobacteria.

They are cylindrical or rod shaped rounded or having square-cut extremities, they are longer in proportion to their thickness, divide by fission, forming straight, curved, zigzag chains of two, four, six or more elements. In nourishing materials, many species of bacilli grow by repeated divisions into longer or shorter chains. These appear straight or wavy and twisted, isolated or in bundles. In fresh-condition, they appear of a homogeneous aspect.

When suitably prepared by drying and staining them with aniline dyes, they show themselves. Composed of shorter or longer, cubical, cylindrical or rod shaped protoplasmic material contained in linear series within the general hyaline sheath; between many of them is a transverse septum.

There are great many bacilli differing from one another in the shape of elements, in mobility, in the power of forming filaments or leptothrex and in the thickness and length of elements. They are killed by drying, but they must be exposed to the drying process in thin layers. Strong heat carbolic acid, thymol, corrosive sublimate kill them

There are two sorts of Bacilli. Non-pathogenic and pathogenic.

We will talk of the latter only.

Pathogenic Bacilli.

B. Septicæmæ. (in man) :—

In several cases of human septicimia they are found in blood vessels of the swollen lymphatic glands. They form continuous masses both in the capillaries and minute veins, amounting in some cases to veritable emboli. They occur isolated or in short chains, they are ·0025. M. M. long and ·0005 M. M. thick.

B. of typhoid fever (in man). Klebs found in the inflamed Peyer's glands, in the mesenteric glands, larynx, and lungs of patients died of typhoid fever certain bacilli. They form spores B. of choleraic diarrhœa from meat poising.

Dr. Porter, Professer of Medical Jurisprudence mentions in his lectures that in July 1880, there occurred in Welbeck, an extensive outbreak of diarrhœa, amongst more than 75 persons who had partaken of beef and ham sand wiches on the occasion of a timber auction sale on the estate of the Duke of Portland.

The disease appeared about 48 hours after taking the food. The symptoms were nausea, griping, languor, giddiness, fainting, purging, &c.

On P. M. examination enteritis and pneumonia, were found. Kidney substance contained a number of bacilli which were found in lungs, blood, pericardium &c. These bacilli were cultivated and when injected into animals produced the characteristic symptoms mentioned above.

B. Malariæ.

Klebs and Ptomasi Crudale described a bacillus, occurring in the Roman Campagna, which they cultivated in gelatine. The rods are about ·002 M.M. long; they grow in colonies. They grow also in albumen. They require O for their growth, according to M. Marchifava, they occur in blood of patients suffering from malaria.

Innoculation of rabbits with M. bacilli produced febrile disorder.

B. Lepræ.

A. Hensen found a large number of bacilli in the peculiar large leprosy cells of Virchow, which occur in the nodules of the nodular variety of leprosy. They occur in the form of minute rods and can be readily stained with fuschin or with Eosin-Hematoxylin. They are pointed at their ends and occur in masses within large leprosy cells In the anæsthetic variety they are found in the interstitial nerve tissue. Some are mobile, others are not. They don't exist in the blood, but occur and spread in lymphatic Bacillus of antharax, farcy glanders, we must pass over and come to B. Tuberculosis.

In all cases of tuberculosis in man, cattle, monkeys, of tuberculosis artificially produced (by inoculating with human or bovine tuberculosis matter) in cats, guinea-pigs and in spontaneous tuberculosis, Koch found in the fresh states and particularly after staining them with methylyne-blue, peculiar fine bacilli, some with oval bright spores, some smooth, others were of a beaded appearance.

They are best stained with fuschin. B. T. are found (in man suffering from tuberculosis) in sputum, in caseating scrofulus glands and in the caseous mass of the lungs.

The bacilli do not show any activity or mobility. They are capable of forming spores in the body owing to these spores, human physical sputum retains its virulence even after drying for considerable period. Koch cultivated these bacilli to several generations and inoculated animals and produced the typical disease. These pure bacilli, no matter how many times they have been transferred, no matter how far removed from their original breeding ground always produced the characteristic disease.

Some mycologists disagree as to the particular kind of the micro-organism as pointed out by Koch, but all agree to this that in tuberculosis, there exists a micro-organism, no matter whether it is a micro-coccus, or bacteria or bacillus.

The so-called bacillus of Cholera.

Recently Dr. Koch found coma bacilli in cholera cases. He found them in intestines. He failed to find in the blood, and Koch states that they are killed by drying in acids. Koch found them in the cholera ejecta; also he found them in the water of a tank in Bengal. He says that the persons who were affected with cholera are said to have drunk the water of the particular tank. Koch examined the water frequently and found them in abundance when cholera was rife, but gradually they begun to disappear from water and in proportion to their disappearance, cholera abated and vanished.

These organisms are curved, rod shaped, of almost uniform thickness, sometimes pointed at the extremities. Its length is about half that of B. Tuberculosis, thickness about the same. They vary in their curvature and length, some slightly curved, some are circular, some join together and form spirals. They move and divide by

fission. They are found also in putrefacting materials, in some diseases of the alimentary canal, in the mouth, cheese, &c.

Spirillum of relapsing fever.

It is found in the blood of patients suffering from relapsing fever. They disappear during the non-febrile period, but during the febrile period, they appear in large numbers. They are mobile and appear in spirals, they are observed prominently in dried blood and are easily stained with methyl-violet. H. V. Carter succeeded in producing in monkeys, this fever by inoculating them with blood of patients suffering from relapsing fever. Koch has met with similar results.

Now I am not going to enter into the discussion, whether these micro-organisms are the "vera" causa morbi or not. A vast literature has been devoted to the subject, but with no definite conclusion. This is still the burning question of the day.

Those who do not believe in germ theory reject with scorn antiseptic or aseptic method of treatment in surgical and medical diseases. I am not in a position to judge which side is right and which wrong, but leave you to draw your own conclusions, by putting some statistical proof before you.

The first record which I can find and it is a very striking one is a paper published by Sir Joseph Lister giving his results in Glasgow (Vide Lancet 1870.) In this article he describes the progress of his cases and the state of his wards in the Glasgow infirmary, before and after the introduction of aseptic surgery. He tells us that on account of the constant presence of infective diseases in that hospital (when he went to Glasgow) he had to diminish the number of beds in each ward and he states that infective diseases were so common, that he ordered internal administration of sulphites, as prophylactics.

In some of the other wards these diseases became at times, so prevalent that the wards had to be closed.

Mr. Lister gives the results of his statistics of the year 1864-1866 when anteseptic treatment was not adopted, in which the percentage of mortality is 46 (p.c.) and the main causa morbi being septicimia and pyæmia. In contrast to this, the mortality when aseptic treatment *was* adopted in the years 1867-68-69, came down to 15 percent. The causa-morbi in the latter case being shock and loss of blood. In only one case death resulted from pyæmia, also a case of erysipelas occurred, but not fatal.

Hospital gangrene too, occurred in one case, but not fatal.

The other points must be taken into consideration.

1st. The annual cleaning of the wards which had been necessary, was *not carried* out during the 3 years of aseptic treatment.

2ndly. The number of beds in each ward was increased.

Mr. Macnamara gives Glasgow Infirmary statistics in which Dr. Cameron pursued aseptic treatment and Dr. Morton non-aseptic one. The percentage of mortality in both treatments is as follows:

	1875.	76.	77..	78.
Aseptic.....	3·29	3·28	3·68	2·93
Non-aseptic....	7·83	6.93	5·13	3·96

The results, therefore from the above figure proves that under strictly aseptic or antiseptic treatment, the mortality was under strictly comparable circumstances much smaller than the ordinary one.

Sir Lister's statistics of Edinburgh hospital give similar, nay, better results, showing the advantages of aseptic treatment. Sir Lister lost only 10 patients in the King's hospital out of *207* persons operated.

The operations performed by Sir Lister who has given the above statistics were mostly major operations, which space won't permit to mention here. Volkmon's result of antiseptic treatment is 29 deaths in 570 major operations, amongst these 29 deaths, not one was due to blood-poisoning. He says as follows :

Into an infected hospital the aseptic method was used, without any other change being made in the arrangement of the institution, at once the infective diseases, which were attacking almost every patient, disappeared in the cases treated aseptically, only one case of pyæmia and 12 cases of erysipelas occurred during the course of 5 years, and all of these arising at the *very* commencement of the trial when the surgeon had not had sufficient experience of working of the method.

Nusbaum of Munich gives statistical proof of aseptic treatment.

In his hospital before the introduction of this method, pyæmia was rife, affecting almost all the cases of compound fracture, amputation, wounds, &c. Erysipelas was constantly present in the hospital.

Hospital gangrene increased from 26 to 50 and ultimately to 80 per cent (from 1872-73.)

Without any other change, strict aseptic treatment was adopted in all cases and then, he says, they experienced one surprise after another ; there was no more hospital gangrene a week or two previously 80 per cent. affected) pyæmia and erysipelas were observed in one or two cases and even these disappeared, as practice and skill were acquired; Nusbaum says "one might reply, pyæmia and hospital gangrene are diseases which often suddenly attack a hospital without any cause, and leave it suddenly, but think my friends that during the 16 years in which I have had the charge of the hospital, pyæmia has not been absent a single month, yet it suddenly disappeared on the aseptic method being introduced.

In 1880 Dr. Nussbaum in his report says " Since the introduction of this method, there is no instance of pyæmia, hospital gangrene or erysipelas among patients, and yet no change has been made, the wards, the furniture, the nursing of the patients and their number remain the same.

He says " The fate of a patient seriously wounded, is almost entirely in the hands of the surgeon who applies the first dressing" such is his experience for a long period of 5 years in the Munich Hospital in which infective diseases, prevailed Esmarch lost 25 patients out of 530 major operation cases by following anteseptic method.

Mr. Knowly Thornton gives an analysis of 300 cases of fatal ovariotomy the causa morbi being septic peritonitis, septicæmia &c. After the introduction of aseptic method his

percentage of mortality is reduced by half and he says, that it would have been still less had not putrefaction been present beforehand. owing to previous tapping of the cysts, by other surgeons, not aseptically. Sir Spencer Wells, the leading ovariotomist of the day gives details of 168 cases.

In the first 84 cases treated non-aseptically the percentage of mortality was 25 (percent.)

In the 2nd batch of 84 cases treated aseptically 6 only died and these 6 died when he was commencing to introduce the aseptic method and he says as follows :

"As I went on and became more and more accustomed to the method and details of antiseptic treatment and avoided mistakes and obtained the long run of 41 cases without a single death."

Ladies and gentlemen. I can cite and bring further statistical proofs but don't like to overburden and weary your energies but leave you to draw your own conclusions for adopting aseptic or antiseptic method.

One suggestion before we part.

Persevere in your microscopical study and observations.

Those of you who can afford to have a microscope with higher powers, viz. 1/7 and 1/12 inches, and oil immersion lenses &c., devote your spare time to it and if you discover any new micro-organism, publish your result to the world.

I am sure most of you if you discover any new germs or organisms, out of the deep gratitude we owe to our professors would name, your discoveries after them, or your friends, or your own worthy selves (if you think charity begins at home,) so that when we are in different parts of the world, it would remind us of the days passed together in this beloved alma-mater when we meet with,

Micrococcus Keessi or Ratani, Bacilli Brockmani or Branfooti or Scharliebi or Naileri or Bacterias Ramasawmi or Partasarathy or Spirilli Dasi or d'Abrewi.

PROCEEDINGS OF THE ORDINARY MEETING.

Continued from page 24th Journ: N. 8.

The fierce and war like nations which have in past times devastated the rich plains of India, and tyrannized over the defenceless people inhabiting them, have all been consumers of a more nourishing food than rice. It may be safely argued that if the people had been fed upon the simple diet of the inhabitants of the plains, these conquests would never have occured. The physical powers and moral courage necessary to the achievement of feats of valour and conquest have never yet been found in a people who live on grain dificient in nitrogen and eschew animal food.

The people that live only on vegetable food become fat, bloated and incapable of much exertion. This tendency is doubly increased by the amount of ghee and sweetmeats consumed. Decay of vital powers usually sets in early; men become grey-headed in early manhood; dyspepsia in its protean forms is a common malady. Furuncular diseases are very frequent among the middle aged, and often associated with diabetes. Diarrhæa, depending upon want of a due amount of nitrogenous nutriment in the food, is often met with, and cases of this kind are found after death to be marked by extensive ulceration of the mucous surfaces of the large intestines. General dropsy, and a tendency to serous effusions into the cavities of the pericardium, thorax and abdomen, are only the evidences, of an impoverished condition of the blood of a vital fluid deficient in reparative or plastic material. It might safely be predicted that a people, whose chief food is obtained from the vegetable kingdom alone, is not destined to achieve distinction or fame in the history of nations. Incapable of severe labour, or of the courage and physical capacity for resisting the aggressions of outward foes, or of carrying war into an enemy's country, they will probably remain in the physical condition which Macaulay so forcibly describes in his picture of the Bengalee. The habits of caste, and the customs of forefathers may however be put aside in the progressive devolopment of civilization, and if the consumers of the vegetable kingdom can be brought to understand that a due proportion of animal diet is essential to their well being, in eking out the supply of nitrogenous material in which their food is so deficient, the future history of such people may be widely different from the past.

I have had to pass lightly over many points that should have been dwelt on more at length. I trust, however, that what I have already said has been enough to draw attention to the importance of the subject. In the maintenance of our health, we have much more in our hands than we commonly suppose. Unfortunately for us, the evil effects of want of care are not in most instances immediately apparent. If we were only fully alive to them, much suffering would be prevented and many a valuable life would be prolonged—(*Applause*).

EXAMINATION QUESTIONS.

For the diploma of membership of the Royal College of Surgeons England.

SURGICAL ANATOMY AND THE PRINCIPLES AND PRACTICE OF SURGERY.

1. Name, in their respective relations, all the structures which are divided in amputation through the wrist-joint.

2. Give the relations of the posterior tibial artery, from its commencement to its bifurcation; and describe the operation of tying it in the middle third of its course.

3. What is enchondroma ? Describe its characters, and mention the structures in which it is developed.

4. What effects are likely to follow the lodgment of a foreign body in the iris ? Describe the treatment you would adopt for such an injury, and its consequences.

5. Mention the various complications of acute gonorrhœa, and describe the more prominent symptoms of each.

6. How is fracture of the base of the skull usually caused ? State and explain the symptoms which are regarded as characteristic of the injury.

PRINCIPLES AND PRACTICE OF MEDICINE.

1. What are the consequences, local and general, and what the diagnosti

signs, of the following varieties of heart disease.

a. Obstruction at aortic orifice;
b. Incompetence of aortic valve?
c. Obstruction at mitral orifice;
d. Incompetence of mitral valve?

2. How would you treat, medicinally, a case of phthisis;

a. With the object of improving the general health;
b. With the object of relieving cough;
c. With the object of arresting hæmoptysis;
d. With the object of checking diarrhœa? Give the doses, for an adult, of the various drugs you would employ in each case.

3. What are the various causes of obstruction of the œsophagus? How would you distinguish them clinically from one another?

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1. Objects of this Journal:—

1. To benefit by the knowledge and experience of present and especially of past students of the College.
2. To register cases of interest in the local hospitals and elsewhere.
3. To stimulate original inquiry and research.
4. To awaken a greater degree of professional interest.
5. To jealously guard the professional interest of members of the profession in general, and of the Association in particular.
6. To register the fortnightly meeting of the Association, and to publish the papers read, as far as advisable.

Payments to be made yearly or half-yearly strictly in advance.

2. All past students of the College and all medical practitioners are hereby earnestly requested to help The Journal by contribution of articles.
4. Subscription and donations are *earnestly solicited.* These will be thankfully accepted, and duly acknowledged. An *earnest appeal* is made to the profession at large and to all well-wishers for pecuniary encouragement.

4. Advertisements:—

Advertisements will be received from Chemists and Druggists, &c. For terms, &c., apply to Manager.

5. Rules:—

Copies of the rules of the Association be had on application with one anna price of the pamphlet and six pies for postage either to the Librarian of the College or to the Honorary Secretary to the Association.

All well-wishers will please make their annual or half-yearly remittance for the Journal to the Manager on receipt of this number.

The Manager begs to acknowledge with thanks the receipt of the following sums of money being the subscription for the Journal.

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Erratum.—Please read in the last Journal in the acknowledgement column *Mr. Dhurma Rajulu* instead of *Mr. Dhurma Ramanjulu.*

THE
MEDICAL COLLEGE JOURNAL.

"A WISE PHYSICIAN SKILLED OUR WOUNDS TO HEAL,
IS MORE THAN ARMIES TO THE PUBLIC WEAL."

MARCH 1887.

NIHIL SINE LABORE.

A REMINDER.

Our Subscribers are earnestly requested to remit arrears of payment due to the Journal at their earliest convenience.

A RETROSPECT.

"THE OLD ORDER CHANGETH YIELDING PLACE TO NEW."

More than fifty years ago a writer in the *Asiatic Journal* wrote as follows:—

"A gratifying report has appeared in the Madras papers of an examination lately held there, of the pupils of the Medical School of that Presidency. This school, it appears was recently started by Government for the instruction of apprentices in the Subordinate Medical Department. The pupils are between 25 and 30 in number about whom one half are East Indians; and with the exception of one Mussulman, the rest are Hindus—They have been studying only for three months; and their studies have been confined to the classification of Medicines, and the first Branch of Anatomy which treats of the bones. On this branch of medicine they were examined methodically and also in a still more satisfactory and practical way. In one part of the room stood a skeleton and on a table lay a collection of bones. From the latter the pupils were required to take any one that first came to hand and name it; show the character

by which they were able to distinguish it from the rest and then show its place in the skeleton. They sustained the examination in a most creditable manner. Their instructors are Dr. Mortimer and Dr. Harding."

What a change fifty years have wrought! That in significant Medical school has transformed itself into a colossal institution with a staff of distinguished Professors, chosen for their learning and ability. The above writer makes much of that examination which with its curriculum we at this distance of time, may, with pardonable pride, well afford to treat with a contemptuous smile. For fifteen years, however, the school led not an inglorious existence and it was in 1851 that it was raised to the *status* of a College. In 1855 the College had attained such a position, that the learned body of the Royal College of Surgeons of England considered it of sufficient importance as to "recognise" it. Thenceforth the students of this College have not only won fame and attained distinction amongst the pick of the colleges and schools of Great Britian, but have been selected to teach where they once received instruction. At the present time this College maintains its distinguished position, and there is not the shadow of fear that its lustre will ever grow dim. It represents all sorts and conditions of men, and its fame has attracted students from such distant parts as Calcutta and Lahore, Allahabad and Bombay. Of the Brahmans of this Presidency that class representing the highest type of Hindu, it must however, be said that it needed but a Western mind to infuse into them the truth which lay hid in their own books that to follow Susruta was not in compatible with holiness of mind, purity of body. Last but not least, we witness in our time the advent of a new era, which has thrown open the gates of knowledge to the opposite sex, Madras leading the van, and the rest of India bringing up the rear.

P. K. M.

ON A CASE OF CARIES OF LOWER JAW ASSOCIATED WITH CONGENITAL MAL FORMATIONS.

Voonoo Mangah, a Hindu male of stunted growth, aged 20 years, sought admission at the Local Fund Dispensary, Ganjam, for a chronic discharge of thin pus, from an opening over the body of lower jaw, on the left: of 6 months' standing.

On examining the lower jaw, a small opening was found over its body, on the left, guarded by a pinkish button granulation. The skin ½ inch all round the opening, was thin glazed and firmly adherent to bone; and on gentle probing the bone was reached with a grating feel followed by free bleeding. About six months ago, he had a small abscess over the diseased spot, the abscess burst and left an opening by which a small piece of bone was discharged. After the bone piece had come away the opening gradually contracted to its present size and the skin all round grew adherent to bone. No glands were affected. The case, as it stands alone, does not invite any particular clinical attention or professional interest, except, when dwelt upon, with

the following congenital mal-formations, the patient was endowed with. Each of his ears was represented by an irregular fold of skin devoid of fibro-cartilage, about the size of a quarter anna piece, without any usual auditory passage, the entrance in the latter being represented by a small opening, about the size of a Native ear-ring opening, situated at the upper part of the said fold of skin. The sense of hearing was much impaired by the smallness of the passage, and unless loudly addressed, there was generally no response, nose was abnormally flattened, partly by the nasal bones, articulating in front, at a very obtuse angle, and partly by the imperfect development of the fibro-cartilage of the nose by which its tip hanged to a teneb of the upper lip. Forehead only an inch and a half in breadth and sloped off towards Anterior Fontanelles; temporal regions were unusually compressed and eyes small and malar bones unusually prominent lower jaw was small, its body on either side being about 2 inches long and slightly arched, the concavity of the arch looking downwards, the Symphisis of Lower Jaw was unusually broad and prominent. Lower Jaw was mounted by teeth, imperfectly shaped and irregularly set, the lower incisors standing prominently outwards and forwards beyond the lower lip. His tongue was tied down to the floor of the mouth by a broad Frœnum, limiting its movements and allowing words being muttered half and half. The soft palate was represented by an angular cleft, the point of the angle being directed forwards. There were no Tonsils and no uvula. His food came off by the nostrils, whenever he swallowed it hurrily or in large quantity. Voice was nasal. His intellectual faculties were imperfectly developed and he generally looked idiotic. His parents were healthy except his mother who was very delicately constituted. And always suffered from chronic enlargement and suppuration of the cervical Lymphatic glands and consequently had an irregularly swollen neck. Has no more malformations and no brothers or sisters. The nature of malformations, with the co-existing Caries of lower jaw, and peculiar constitutional debility of patient's mother, as remarked by one of his friends, all these safely suffer us to study, in this miserable case, the intolerant evils imparted to the helpless offspring of mankind, who had once fallen victim to the operation of their invulnerable enemy, and mysterious agency, "the Strumus Diathesis" which tortures not only themselves, its immediate associates, but painfully suffers them to stare with anxiety, at their suffering offspring. This case also teaches, how the unhealthy scrofulous deposit sometimes evades the glandular structures, and affects osseous tissues a true Syphilitic deposit.

J. Venketasawmy Naidoo,
L. M. S.

Ganjam—March 1887.

CURRICULUM; &c., FOR THE TRIPLE QUALIFICATION OF SCOTLAND.

Preliminary Exam., in General Education may be passed at any of the recognised boards, and, with the exception

of mechanics, previous to commencing Medical Study. Mechanics must be passed prior to the First Professional.

Professional Study of not less than 45 months; this to include at least four Winter or three Winter and two Summer Sessions at a recognised Medical School, subsequent to registration as a student.

Candidates commencing prior to 16th Sept. 1886, are allowed to qualify after four Winter or three Winter and two Summer Sessions.

Lectures, &c. Six month's courses delivered in Scotland, with the exception of clinical Medicine or Surgery, must consist of at least 100 lectures; three month's courses must consist of at least 50.

Anatomy. One course, 6 months. Exceptions; R. C. S., Ed., and "Double," both require two Courses, or one Course of Anatomy and 18 month's Practical Anatomy.

Practical Anatomy. 12 months. Exception; R. C. P., Ed., repuires only 6 months.

Chemistry. One Course, 6 months.

Practical Chemistry. One course, 3 months.

Materia Medica. One course, 3 months.

Practical Pharmacy. 3 month's instruction from a medical man or a chemist, or atteendance at a Pharmacy class.

Physiology. One course, 6 months. This is only for the Triple Qualification; all the others require but 50 lectures.

Medicine. One course 6 months.

Clinical Medicine. One course of 6 months, or two of 3 months each.

For the "Double" Ed. A second 6 months of Medicine or of Chemical Medicine, at the option of the Candidate, is required.

Surgery. One course 6 months.

Clinical Surgery. One course of 6 months or two of 3 months each.

This applies only to the Triple Qualification and the Faculty.

For the "Double" Ed. And the L. R. C. S., Ed., a second six months of Surgery or of Clinical Surgery, at the option of the Candidate, is required.

For the L. R. C. P., Ed., only 3 months of Clinical Surgery are required.

Clinics must be attended during Hospital attendance.

Though never before in print, it is an open secret and a fact worth knowing, that six months' resident appointment at any Hospital is very properly accepted in lieu of a third course in Medicine or Surgery.

Midwifery and Deceases of Women and Children.

One course, 3 months.

The R. C. P., Ed., and the Faculty, Glasgow, do not stipulate for Diseases of "Women and Children."

Medical Jurisprundence. One course, 3 months.

Pathology. One course, months.

Attendance during 3 months on the Post Mortem Examination at a General Hospital will be accepted in lieu of this course.

Practical Midwifery. Six cases of labour. A registered Medical Practitioner's Certificate is accepted.

Hospital Attendance. 24 months at a General Hospital containing on an average at least 80 patients.

The R. C. P., Ed., requires that 12 of these months be spent in Medical wards.

Dispensary Attendance 6 months at a public Dispensary, or 6 months visiting Assistantship with a Registered Medical Practitioner.

The Faculty, Glasgow, does not require Dispensary attendance.

Vaccination, proficiency in Certificate from a Pubic Vaccinator recognised as a Teacher by the Privy Council.

Certificates are accepted by the R. C. P. Ed., from "a competent teacher;" for the "double Ed." And for the L. R. C. S., Ed., the teacher is simply required to be a Registered Practitioner.

The Faculty, Glasgow, does not state explicitly what it does want.

We would wish to draw the especial attention of students to the above Curriculum, which, it will be seen is much simpler and shorter than the "Double Qual." formerly required for entrance to the Service Examinations.

Ed.

EXTRACTS.

THE PHYSICS OF DIGESTION.

Dr. Brunton began by comparing the body to a cylindrical box through the centre of which runs a tube open at both ends, but not communicating with the cavity of the box. It is evident that anything put into the tube remains as much outside the box as if it were laid against the outer surface. Food when swallowed is still outside the body, and under certain circumstances remains so; it then simply falls, so to speak, from the mouth to the anus. In order that it may become absorbed, it is necessary, that it should be, not only in a state of minute sub-division, but for the most part in a state of solution.

The food is brought to a fluid state, partly by mechanical action, and partly by the chemical action of the gastric fluid. By the breaking down and fine sub-division of food, its solution is rendered more easy, and Dr. Brunton gives as an example the different rates of solubility of large crystals of salt and the finely powdered salt. which is provided for table use. This illustration further shows the influence of stirring and agitation in the rendering more rapid the process of solution. This, of course, points to the necessity of thorough mastication, and the mechanical influence of the vermicular moments in aiding solution. In the digestive process not only do the particles of the proteids and carbo-hydrates become separated from one another by the water, but it penetrates into the chemical molecules of which they are composed, so that a chemical change of hydration occurs, and the large chemical molecules of the proteids and carbo-hydrates split asunder into smaller and simpler ones. The molecules of albumen do not break down all at once into the smaller molecules to which they may be ultimately reduced by the act of digestion. They first break down into intermediate substances before they are finally converted into peptone. The molecule of starch breaks down first into the smaller molecules of dextrine, before it breaks down into sugar. The breaking down and emulsion of the fat globules is aided by a partial decomposition into glycerine and a fatty acid. The state of solution being reached, the food is in a condition to become

absorbed by the veins and lymphatics, the process depending upon its ability to pass through a membrane. But when the food has passed through this stage, there is another mechanical obstacle to its entrance into the internal nutritive system. All the blood from the stomach and intestines must pass through the portal vein before it can reach the general circulation, and as our forefathers recognised by the name they gave it, the "porta" or gate of the liver, that the hepatic tissue acts the part of the pendant porter of the gate, and turns back or destroys dangerous intruders. Poisons injected into the duodenum are absorbed into the protal vein, but they are removed from the blood by the secreting tissue of the liver, and poured back with the bile into the intestinal canal. Again they may undergo re-absorption, and round and round they may go in a circle from intestine to liver, and from liver to intestine again, without ever being able to pass into the general circulation, or produce any great effect upon heart, lung brain or kidneys.

The Physical question in relation to the internal economy of substances placed in the stomach, might probably be carried further than Dr. Brunton has indicated. Its importance lies less in relation to the treatment of indigestion, than to the general question of the method and amount of drug adminstration. It is the custom to give very large quantities of iron, lime and various insoluble salts by the mouth, without any regard to the physical difficulties, which stand in the way of their entering the internal economy and without reference to the extra and useless labour that may thus be thrown upon the digestive organs, especially the liver. The practical result of this is a class of patients who directly ascribe their illness to the excessive use of tonics. It is not difficult to imagine that such patients may be continually undergoing the useless circle of digestion, described by Dr. Brunton, that medical substances pass from intestine, to liver and liver to intestine, but are mechanically unable to reach the general circulation, and do the work for what they were intended. There is direct evidence to show that the amount of substances that can be absorbed is very small, and it follows that particles in exess of this is useless if not injurious.

Another indication we may gather from Dr. Brunton's remarks is the advisability of giving all insoluble drugs in a state of minute subdivision. This can be only accomplished satisfactorily by continued communication with some event, but fairly soluble substance. The neglect of this important method of aiding the solubility such substance is a clear proof of the need of a future study of the Physics of Digestion.

THE TREATMENT OF DIGESTIVE DISORDER.

This is the part of the Lettsomian Lectures to which the practitioner will naturally turn with most interest.

Dr. Brunton stands in the front rank of modern pharmacologists, and it is perhaps because we expect too much from him that we are disappointed. He tells us that nux vomica is one of the most useful of the "gastric tonics," that carminatives

dispense flatulence, and that charcoal, and sub-nitrate of bismuth act mechanically, that ethers and alcohols are closely allied to carminatives, and that "the regular action of the bowels must be maintained at all cost." In respect to hepatic stimulants Dr. Brunton reminds us that salicylate of soda increases the quantity and renders the bile more fluid, and Podulindiamin greatly increases the solids of the bile and that mercury may act as an antiseptic as well as a hepatic stimulant. Ammonia and chloride of ammonium have a powerful action on the liver. The alteratives though ill understood in the manner of their action must occupy an important place. Nitro-hydrochloric acid is useful in Oscalmia and depression of spirits. Diuretics are useful in some forms of indigestion. Bromide of potassium is useful in some cases of intermittent pulse, though Dr. Beghie used with success a mixture of 2 grains of powdered rhubarb, 10 grains of Sub-nitrate of Bismuth, 12 grains of nux vomica and 3 grains of compound cinnamon powder. If there be acidity, 10 grains of bi-carbonate of magnesia or soda may be added to it.

OBESITY:—An eminent engineer has sent to the Pall Mall Gazette a letter, refused insertion by the Lancet recording the great benefit he has received from the use of an exclusive diet of meat and hot water for the cure of obesity, associated with an uric acid diathesis. He says:—"The water was taken in four doses per day, at a temperature of from 130° to 150° Fahr., on an empty stomach, and at least one hour before a meal. The first I took at seven A. M., second at noon, third at five P.M., fourth at ten P. M., and a pint to a pint-and-a-quarter each time. Lean beefsteak, freed from fat, skin, and connective tissue, was recommended as the model food, and this formed 75 per cent. of all I ate during the 121 days, the remainder being plain boiled codfish and occasionally a few sticks of celery. During the whole time I did not have a bit of bread, potato, or any other vegetable, except a little pepper, mustard, and horse-radish as condiments. I was advised that I must eat at least 4 lbs. of beef per day, and as nearly as I can estimate my daily average of solid food through the course was 5 lbs. The result of this treatment is given as follows:—"Two years ago I weighed (dressed) 16 st. 4 lbs., and my figure was of tubby, aldermanic contour; I am now 13 st. 21 lb. My waist girth was 44½ in; it is now 35 in. I suffered from chronic hearthburn; I have had none of it for fifteen months. I went in daily fear of a painful kidney attack; I have not had a symptom of it since I began the hot water. I sleep better, and do both my mental and physical work more easily, and in fact, feel a much younger man than formerly. I have not lost a single day from my business since I started the treatment. If this system is the unscientific and irrational thing the doctors say, will they be good enough to explain how these results have come about?

TREATMENT OF CALCULOUS DISORDERS.

Dr. Murray drew attention, some years ago, to the fact that the continued use of soft water brought about in many instances the disintegration of small renal calculi. Since then soft or rain water has been extensively employed, not only for the solution of calculi, but also for the relief of dyspepsia associated with persistent deposits of urates and oxalate of lime crystals. In the country, with opportunities for the storage of rain water, there is no difficulty in procuring a sufficient supply of soft water for the purpose, but in large towns considerable difficulty has been experienced in obtaining soft water in quantity and also sufficiently fresh to be palatable—the distilled water sent out by chemists in gallon jars, which is generally resorted to, being apt to become stale and acquire an unpleasant flavour by keeping. This difficulty has been met by supplying distilled water in effervessing form by charging it, we believe, with carbonic acid gas. This renders the water brisk and palatable, without, as a rule, impairing its solvent action. Still there are some cases, notably those attended with persistent deposits of oxalate of lime in the urine, in which the ingestion of large quantities of water charged with carbonic acid is not advisable, and it would be a distinct advantage if, in addition to distilled water rendered sparkling with carbonic acid, we could procure a water simply charged with compressed air, whilst a water so charged, but with an additional volume of oxygen introduced, would often be a distinct advantage. Independently of its use as a solvent, it must be remembered that distilled water is one of the best and simplest diuretics, and that in a pleasant and palatable form it could be employed with benefit in many of those cases of dyspepsia in which the urine is highly concentrated, and which Murchison considered to be the result of lithæmia.

PUERPERAL FEVER.

In the Edinburgh Medical Journal is a paper by Dr. V. Sutugin, of St. Petersburgh, translated by Dr. Carrick, where, after reviewing the theories as to whether the poison of puerperal fever is chemical (of the ptomaine order) or whether suppurative micrococci play the chief part, he says the practitioner is justified in accepting the theory that puerperal fever is carried to the patient from without, and he must do his utmost to prevent the *contagium animatum*.

The lying-in room, airy and sunny, should be well cleaned, and, if there is any suspicion of poisen germs, as of diptheria or fever, be disinfected with chlorine or sulphur. The floor should be washed with 1-1000 sol. of Cor. Subl. The accoucheur should wear a linen apron, the nurse a washable dress.

The hands should be washed in 5-100 carbolic acid or 1-1000 Cor. Subl., the nails cleaned with a brush.

Nurses should be careful not to handle raw meat, or dress sores, or touch menstrual blood. After attendance on an infectious case, the hands should be washed on three occasions

an an antiseptic fluid, (viz., immeditely after the examination, on returning home, and prior to a new exploration); a change of dress and avoidance of gloves are absolutely necessary. It is imperative before undertaking a midwifery case, to abstain from attendance in the dissecting room or on patients with infectious disease. Instruments should be kept in the open and carried in a clean leather bag; before use they should be immersed in boiling water for a quarter of an hour and then washed with 10 per cent. solution of carbolic acid, sponges should be replaced by salicylized wadding. The patient's bed should be scrupulously clean, and amongst the poor only straw mattresses should be used; and there should be fresh straw with a freshly washed covering for each case. Just before labour a warm bath is of service, and the labia, pubes and perinæum should be washed and the vagina injected with antiseptic fluid, and again after the labour the washing but not the injection should be repeated, any abrasions or fissures at the vulva should be dusted with iodoform (gr. xx. at a time) using a piece of paper or a bone spoon. This dusting should be repeated at each washing for the first weak. The paper concludes with comparative results of the practice in his lying-in-hospital before and after the use of antiseptics. In the former course of 622 patients there was a mortality from sepsis of ·8 per cent.; in the latter course of 233 patients the mortality was 0 per cent. Although these figures are too small to settle the question, yet it may be safely asserted that a more strict application of antiseptics in midwifery has lesened the mortality of child bed for more than we could have excepted.

LIGAMENTS.—*Shorteuing the round, for correcting certain uterine displacements.*

Dr. Alexander, of Liverpool, described the operation at the Gynaecological Society. An incision was made upwards and outwards from the pubic spine, the subcutaneous fat was divided, till the aponeurosis of the external oblique muscle was reached. The external ring was then found, any little vessels were tied, and the round flesh-coloured ligament was seen with the genital branch of the genito-crural nerve on the surface; any bands were divided, and the ligament drawn upon; then the other side was similarly prepared. The uterus was then placed in position with the sound, and the ligaments pulled upon until they controlled that position. Each ligament was then stitched to both pillars of the ring with fine catgut-the ends of the ligaments cut off, and the remainder stitched into the wound by means of the sutures that close the incision; a drainage tube was inserted.

The tubes were removed on the second day. A uterine stem was used, and rest enforced. Dr. W. Duncan having operated four times was ultimately disappointed by the uteri returning to the vicious position after removal of the pessaries, and also think that the operation is not absolutely free from danger. Dr. Alexander replies that the operation will fail if the ovaries are adherent, and unless the pelvic partition composed of the uterus, broad and round ligaments can be erected, and maintained without constant tension on the round ligaments.

The tendency, therefore, to retroversion, or to retroflexion, must be destroyed by the use of a stem-pessary for as long as is required.

DECOMPOSITION IN TINNED MILK.

It would be superfluous in these days to enlarge on the utility of condensed milk and the necessity that it should be prepared and preserved in the best manner, and sold only of the best quality. Less liable to fermentative change than fresh cow's milk, and preferable, as being lighter to the majority of prepared foods, it is practically one of the essentials of infant life. Diarrhœa is well known to be one of the commonest and most fatal illness of childhood.

Among its known causes probably none is so usually effective as the souring of milk, the staple diet at this age. Such an accident is unfortunately only too common when a feeding bottle is managed by a careless nurse. Its worst consequences are assured where tinned milk actually becoming putrid from fermentation is bought and used by the poor and that this has happened we have proof in at least one case. At the Edmonton sessions last week a grocer was convicted of selling, at a nominal cost, condensed milk in tins, the very appearance of which indicated the process of decay within them. On opening some of these a spurt of gas and milk escaped, and the taste and smell of the contents were very disagreeable. The poisonous trash was being rapidly sold, especially for the use of children. There was evidence enough to show that the vendor was aware of the condition of the milk, and there can be no doubt of the justice of the penalty imposed upon him. In the circumstances we may be excused for alluding to the obivions caution conveyed by this incident, that purchasers particularly of this kind of food, should buy wisely rather than too cheaply.

THE FOOD OF MAN.

There is no doubt that man can exist on a vegetable diet. He can obtain from the plant world, digest, and assimilate those materials which are needful for the repair of his own tissues. The arts concerned in the preparation of food will also undoubtedly aid him in his conversion of vegetable into animal equivalents, and will supplement his powers by shortening considerably the period required for gastric digestion. Still, after all has been said, it must be allowed that the labor of the elimentary tract is better adjusted and the formation of sound tissue more assured by the use of mixed diet. If on the one hand we assert the proved value of Hydrocarbons in organic combusion not merely as heat producers but as sources of energy, in support of our use of vegetables, we must also maintain that meat which yields us most easily the formation and stimulant proteids can hardly be discarded. Our internal physical conformation, which is intermediate between that of the carnivora and herbivora should afford at least a suggestive clue in our choice of a diet.

THE LIVING TEMPLE.

Dr. Oliver Vendell Holmes.

Not in the world of light alone,
Where God has built his blazing throne
Nor yet alone in earth below,
With betted seas that come and go,
And endless isles of sunlit green,
Is all thy Maker's glory seen;
Look in upon thy wondrous frame,
External wisdom still the same.

The smooth, soft air with pulse-like waves
Flows murmuring through its hidden caves,
Whose streams of brightening purple rush,
Fired with a new and livelier blush,
While all their burden of decay
The ebbing current steals away,
And red with Nature's flame they start
From the warm fountains of the heart.

No rest that throbbing slave may ask,
For ever quivering o'er his task,
While far and wide a crimson jet
Leaps forth to fill the woven net
Which in unnumbered crossing tides
The food of burning life divides,
Then, kindling each decaying part,
Creeps back to find the throbbing heart.

But warmed with that unchanging flame
Behold the outward moving frame,
Its living marbles jointed strong
With glistening band and silvery thong,
And linked to reason's guiding reins
By myriad rings in trembling chains,
Each graven with the threaded zone,
Which claims it as the Master's own.

See how yon beam of seeming white
Is braided out of seven-hued light,
Yet in those lucid globes no ray
By any chance shall break astray.
Hark how the rolling surge of sound,
Arches and spirals circling round,
Wakes the hushed spirit through thine ear,
With music it is heaven to hear.

Then mark the cloven sphere that holds
All thought in its mysterious folds,
That feels sensations faintest thrill,
And flashes forth the Sovereign will;
Think on the stormy world that dwells,
Locked in its dim and chestering cells!
The lightening gleams of power it sheds
Along its hollow glassy threads!

O Father! Grant thy love divine
To make these mystic temple thine!
When wasting age and wearing strife
Have sapped the leaving walls of life,
When darkness gathers over all,
And the last tottering pillars fall,
Take the poor dust they mercy warms,
And mould it into heavenly forms.

THE TREATMENT OF INTUSSUSCEPTION.

By F. H. Elliott, M. D.

The condition known as intussusception is at all times so serious, and in so many cases fatal, that it is incumbent upon those who have had experiences similar to those recorded in The Lancet of Oct. 23rd by Dr. Chradle to place them on record. The following case occurred in private practice, and the facts are given from rough notes taken at the time.

On Sunday, Nov. 8th 1885, I was sent for to see the child (eight months old) of a friend. The child, it appeared, had been quite well until the previous day, when it had been sick, for which a dose of castor oil had been given, after which a little blood had been passed by way of the bowels. When I saw it on the Sunday morning there was sickness with frequent straining, and the passage of small quantities of blood and mucus. The case appeared at first to be one of Dysenteric Diarrhœa, produced probably by improper feeding, &c.; but on a second visit, however, the same day, I made a more careful examination, and, in addition to a sausage-like tumour, which could be distinctly felt in the left iliac region. I discovered the presence of the intussusception about three inches up the rectum most

fortunately, I was able to avail myself of the advice and assistance of my friend Dr. G. J. Poore, who on arrival confirmed the diagnosis. By this time, in addition to the above symptoms, the child was much exhausted, and evidently in a critical condition. We decided to see what could be done for its relief, and in this we received great assistance from the father, who behaved throughout with much self-restraint and judgment. Chloroform being administered the father held the child up by the legs, so that the force of gravity might be returned to account, and I gently inflated the bowle by means of an ordinary pair of bellows, whilst Dr. Poore kneaded the abdomen. After the lapse of a few minutes intestinal movement was audible, and on examination neither the sausage-like swelling in the iliac region nor the tumour in the rectum could be discovered, and in a short time after recovery from the chloroform it was evident that the general state of the child had considerably improved. By the next morning, however, all the signs and symptoms had returned, and the child was as bad as, indeed, worse than before.

Regarding it as a hopeless case, I did not propose to proceed further; but as a day or so passed without death resulting, I determined to repeat the operation. The inflation with the bellows this time had no effect. The tumour in the rectum did not move. I therefore fixed an india rubber tubing on to an ordinary funnel, and the child being inverted and the end of the tubing inserted in the bowel, had warm water poured from a considerable height, as recommenned by Dr. Day in his work on "Diseases of Children." This had the effect of displacing the intussusception, but not really overcoming it, as a swelling could still be detected an inch or so above the left iliac region; I therefore fixed the India rubber tubing on to the bellows, and passed it, well oiled, gently up the bowel until it met the obstruction. I then inflated, and in the course of a minute or so a sudden and general distension of the whole abdomen told me that the passage had been restored. The vomiting, tenesmus, &c., were almost at once relieved; milk with lime-water was retained by the stomach and quiet, refreshing sleep ensued. For five days, although no motion was passed, everything went well; but on the evening of the fifth day, the child suddenly began to shriek as if in great pain, and and the whole of the symptoms and physical signs of intussusception returned. I at once took the same steps to reduce it as before, and with success. The most minute care in diet was observed. The child was kept absolutely still on a nurse's lap night and day. No untoward symptoms appeared, and, to my delight, on the ninth day from the last operation, and the twenty-first from the original attack, a natural motion took place. I now hoped for the best, but was doomed to disappointment once more, as in four days, without any assignable cause, the intussusception had returned again. Once more I replaced it by the means previous adopted, although I began not unnaturally to regard it as a useless effort; this time, however, it kept back, although the general condition of the child was so critical that when four days later Dr. Poore again saw

it with me, we both concurred in telling the parents that we thought the chances of recovery extremely small. By the gentlest and most careful nursing in all, even the minutest, details, a gradual improvement occurred, and in two or three days another natural motion took place. A good deal of distension of the abdomen with pain both of which were relieved by painting the walls with extract of Belladonna and glycerine night and morning, remained for some few days, after which an uninterrupted recovery took place. At the date of writing this, more than a year after the events recorded, the child—a fine specimen of infantile humanity—is in the best of health, the functions are regular and natural, and above all, the action of the bowels is unimpeachable.

I think the above details show how clearly it is our duty to persevere in all such conditions, and how much we may expect from mechanical means, carefully conducted, in reducing what may appear almost hopeless cases of intussusception.

A MIRROR OF HOSPITAL PRACTICE.

A CASE OF REGURGITANT MITRAL DISEASE.

(Under the Care of Brigade-Surgeon Jas. Keess.)

Reported by Mr. G. Rama Rau.

A patient aged 40 years was admitted for melœna and certain dyspeptic symptoms with a history of dyspepsia of 5 years' duration and of having vomitted blood on 2 occasions.

His general condition on admission was very weak, partially anœmic with following signs and symptoms—displacement of the apex beat of the heart to the left mammary line; a weak impulse of the heart, a distinct epigastric pulsation, an increase in the area of cardiac dulness, a systolic bruit heard loudest in the left 3rd intercostal space close to the sternum, an accentuation of the pulmonary second sound, a small soft, frequent pulse, the sphygmographic tracing of which shows a weak upstroke and an absence of the aortic notch and dicrotic wave and symptoms of general venous congestion, such as, an increase in the area of hepatic dulness to the extent of about an inch below the margin of the right costal arch, loss of appetite, sour eructations pain in the pit of the stomach, hard tarry-looking stools.

Diagnosis.—mitral regurgitation probably due to the enlargement of the mitral orifice consequent on the dilatation of the whole ventricular cavity on account of the flabby ventricular walls yielding to blood-pressure.

Treatment.

R. acid : sulphuric : dil	:	m 20
Tr. opii		m 15
Extract : Ergotæ liquidi		½ dr.
Aquam		1 oz.

(Sig.) to be given 3 times a day.

As the patient was very weak 3 oz. of arrack were ordered—milk diet. The hemorrhage from the bowels became gradually less, on the 4th day of his admission it stopped entirely. Accordingly the following mixture was ordered with a view to improve the condition of his blood, to

improve nutrition of the heart, and to give tone to the heart and nervous system.

R. Tr. Ferri Perchloridi m 15
Tr. Digitalis m 10
Tr. Nucis Vomicæ m 10
Aquam 1 oz.

(Sig.) to be given 3 times a day.

Under this treatment the dyspeptic symptoms gradually disappeared pulse became stronger, and the general condition showed signs of improvement.

A CASE OF AORTIC OBSTRUCTION.

(Under the care of Brigade Surgeon Jas. Keess.)

Reported by Mr. G. Rama Rau.

A patient aged 55 years was admitted on the 31st of October for an attack of diarrhœa and consequent exhaustion.

History.—He had an attack of severe pains in all the joints about 20 years age, about 3 years back a sudden attack of unconciousness excited by exposure to sun and followed by paralysis of right half of the body which disappeared in about 20 days after appropriate treatment. He has, since then, been subject to giddiness which passed into actual fainting on 2 or 3 occasions, frequent attacks of diarrhœa and vomiting with occasional discharge of blood in his stools and vomits; eh cough for the last 3 years.

His condition on admission was weak, and exhausted and dull-looking with the abdomen somewhat puffy, feet and legs slightly adematous. On examination the beat of the heart's apex can neither be seen nor felt, there is a diffuse thrill above the left nipple. Heart's sounds are weak, there is a systolic bruit best heard at the base, faintly so over the carotids. Pulse, small, soft, about 86 per minute. Tongue is coated white, appetite impaired, there is occasional vomiting and diarrhæa with thin feculent bloody stools. Area of hepatic dulness extends to about an inch below the margin of the right costal arch, slight serous effusion into the peritoneum.

Treatment.—As the diarrhœa was exhausting the patient's strength the following mixture was ordered.

Rs. Tr. Opii m 15
Acid : sulphuric : dil : m 20
Aquam 1 oz.

(Sig.) to be given after each motion.

Spongiopiline sprinkled over with a solution of Nitro-Hydrochloric acid (1 part of Acid Nitro-Hydrochloric dil to 5 parts of water) to be applied to the hepatic region.

4th November. Diarrhoea is less, stools devoid of blood-tinge. Patient looks much brighter, pulse fairly strong.

Treatment

Tr. Ferri Perchloridi m 15
Tr. Digitalis m 10
Tr. Nucis vomicæ m 10
Aquam 1 oz.

(Sig.) to be given 3 times a day.

The patient is still in the hospital under treatment.

Since discharged.

87

REPORTED BY Mr. JAMES CANNOR.

ANEURYSM OF THE ARCH OF THE AORTA.

A native man was admitted into the General Hospital with a history that he is a ryot by calling and that he has very hard work. He is a well-built man with a good blood condition but his arteries are slightly rigid.

On Inspection.—There is a pulsating tumour on the left side of the sternum which has caused erosion of the bony framework between the 3rd rib and the clavicle. It is spheroidal in shape and the skin over it is tense and smooth. It pulsates synchronously with the systole of the heart and can be seen expanding laterally with each systole.

On palpation.—The tumour is hard resisting and elastic and the impulse is more forcible than that felt at the apex and *on percursion* there is marked dulness.

On auscultation.—No murmur is heard but there is accentuation of the aortic second sound. The pressure symptoms are almost absent there is no cough no dyspnœa nor dysphagia, no pain along the spine but there is a dull pain over the front part of the chest.

There is disturbance of the vasomotor system the left pupil being contracted. The sight is not impaired and the pupil is still sensible to light but not to the same extent as the less-effected pupil. The patient has left facial paralysis.

There is slight postponement of the left radial pulse and the sphygmograph shows that both pulse traces are affected. The aneurysm from its position modifying the blood waves entering the Innominate artery and the left Subclavian. In both pulse curves the force and volume are seen to be lessened; the sloping line of ascent in the left tracing shows how the sac obstructs the flow of blood into the left subclavian and the same feature is seen in a less degree in the right pulse. The dicrotism is lessened on both sides though much more so on the left, some of the rebound of the blood column reaching the right pulse but the sac interrupts it on its way to the left. The decided changes in the form of the left tracing, in the oblique line of ascent, the loss of the summit wave and the obliteration of the dicrotism point to the aneurysm being so placed as to obstruct the free flow of blood into the left subsclavian. About 6 weeks after admission the patient had a sudden rise in temperature to 103° in the evening, on the following day it again rose to 103° and on the third evening it rose to 102°, and on the 4th day he had no fever as quinine was given. From these rises in temperature it is probable that the inflammatory blood led to the deposit of coagula of fibrin within the sac which has now shrunk.

Treatment.—Rest in bed with a limited dietary and full doses of Iodide of Potassium (90 grains daily). Belladonna pigment and Ergotine were applied locally.

Prognosis.—A man is no younger than his arteries, however well and hale the patient may be in other respects, his life to be measured by the condition of his arteries: rupture of the aneurysm may blot out his existence with fearful rapidity. But the sac may continue to shrink till it is completely obliterated.

About 3 weeks ago the patient left hospital on his own accord with the sac considerably shrunk and almost on a level with the chest.

PROCEEDINGS OF THE STUDENTS' ASSOCIATION.

At an ordinary meeting of the association which met at the main theatre when there who present many Members of the association, students of the College. Brigade Surgeon Dr. J. Keess the Peesident took the chair on the occasion. The Secretary having read the minutes of the preceding meeting. The chairman called upon Mr. M. Sreenevasa Row to read his paper on the "Motor Centres of the Brain and the Mechanism of the will."

Mr. Sreenivasa Row rose and addressed thus :—

LADIES AND GENTLEMAN.

Feeling deeply as I do the responsibility I have incurred in undertaking to address you to-night, I desire to express my regret that I cannot, instead, share with you the pleasure of listening to an abler man than myself. As I have taken for my subject "The mechanism of will" it might properly be asked "what has a medical man to do with Psychology." To which I would answer "everything." Till recently, many diseases of the brain were considered to be beyond the domain of surgery. But science properly so called has brought them within a measurable distance of the knife and therefore a step nearer towards their cure.

To many of you the title I have chosen may seem too comprehensive. But until we are ready to admit a new terminology we must employ the old, though there may be coupled therewith the risk of expressing more than we desire. Thus in speaking about the mechanism of the will and of the brain I do not intend to discuss the existence of the so-called freedom of the will or the source of our consciousness and voluntary power.

I shall rather describe to you the general plan of the mechanism, which conveys information to our brain the thinking organ 2ndly, the arrangement of those parts in it which are concerned with voluntary phenomena and finally I will seek to show that the consciousness of our existing as single beings but at the same time knowing that we possess a double nervous system is due to the fact that pure volition is dependant entirely on the exercise of that attention which connotes the idea of singleness; consequently, that it is impossible to carry out two totally difierent ideas at one and the same time when the attention must of course be fully engaged upon each.

The nervous system in its simplest form consists of a sensitive cell on the surface of the body, connected by means of a sensory nerve with an internal automatic central nervous cell, which in turn is connected by means of a motor nerve with the muscular fibre cell. When two or more central nervous cells occur together a further differentiation occurs into cells which though still susceptible of being influenced from without are more especially restricted to automatic action and into cells which should forego their automatism for the sake of being more efficient in modifying sensory impulses with a view of transmitting them into motor impulses and so of giving rise to appropriate movements. This differentiation into automatic and reflex cells is clearly manifested by the brain and spinal cord.

Embedded in the tissues all over the body or highly specialised and grouped together in separate organs such as the eye and the ear, we find a large number of nerve-endings (*i e.*) small lumps of protoplasm from which a nerve fibre leads away to the brain or to the spinal cord. These nerve-endings are designed for the reception of the different kinds of vibrations by which nervous energy presents itself to us. Pressure on the end of a nerve fibre in a Pacionian body causes a stream of nerve energy to travel through the spinal cord to the brain and so we become conscious of something happening to the finger. A something falling on the retina excites sensory impulses and these passing up the optic nerve to certain parts of the brain, produce changes in certain cerebral structures and thus give rise to what we call a sensation of light. It is this transformation of nervous energy into heat, light, pressure, &c., which should alone be considered a sensation irrespective of consciousness. And in fact we habitually say we feel a sensation. Feeling is the conscious disturbance of a sensory centre on the surface of the brain and in short feeling is the conscious perception of sensations. Now the nerve fibre which conveys the energy of sensation is a round thread of protoplasm which in all probability connects the nerve-ending with the sensory corpuscle in the spinal cord. These nerve fibres which run in nerves are white whereas you know that protoplasm is grey. They are white, because each is insulated from its fellow by a white sheath of fatty substance just as we protect telegraphic wires by coating. It is not stretching analogy too far to say that nerve force may probably escape unless properly insulated. In consequence of the fibres being covered with these white sheathes they form what is called the white matter of the brain, while the nerve centres are greyish and form what is called the grey matter of the brain, so that the grey matter receives and records messages conveyed to it by the white insulated fibres. From the sensory corpuscle which is the small mass of protoplasm provided with branches connecting it with neighbouring corpuscles, the nerve energy if adequate passes along a junction thread of protoplasin to a much larger corpuscle which is called the motor corpuscle, and the energy of which when tolerated by the sensory impulses is capable of exciting muscles into active contraction. These two corpuscles form what is called a nerve-centre. Not only are the motor corpuscles fewer as well as larger than the sensory ones but also the nerve fibres which go out of them are larger too. In fact it would seem as if we had another close analogy to electrical phenomena, for here when we want a sudden discharge of a considerable quantity of nerve force we find to hand a large accumulator mechanism and a large conductor the resistance of which may justly be supposed to be low. Finally the motor nerve fibre ends in a protoplasmic mass which is firmly united to a muscular fibre which enables it

to contract and so cause the movement of one or more muscles. Now with this idea of a general plan on which the whole nervous system is constructed, you will understand that muscular action or movement will occur in proportion first to the intensity of stimulation of the sensory corpuscle and the resistance in different channels. When a simple flow through the whole apparatus occurs it is called a simple reflex action. To recapitulate; theoretically speaking we find a nerve-centre to consist of a sensory corpuscle and a motor corpuscle, both these being united by junction threads or commisures. To such a centre comes sensations or impressions from the nerve endings and from such a centre go out impulses which set the muscles in action. I have dwelt thus at length on this most elementary point because it appears to me that we are perhaps drifting towards the quicksands of spontancity and disregarding the facts of every day life which show that every cycle of nerve action is a disturbance of the sensory side as well as of the more active agency. Did we in fact admit the possibility of the motor corpuscle acting *perse* and in the absence of sensory stimulation we should be placed in the position of believing that an effect could be produced in the absence of a cause. For these reasons such a centre has been termed kinasthetic or sensori-motor, and such centres exist in large quantities in the spinal cord and they perform for us the lower functions of our lives without arousing our consciousness.

But now coming to the brain, although I am anxious to maintain the idea just enunciated, that when discussing the abstract side of its functions we should remember the sensori-motor arrangement of the ideal centre I shall have to show you directly that the sides, viz., the sensory and motor in the brain are separated by a wide interval and that in consequence we have got into the habits of referring to the groups of sensory and motor corpuscles in the brain as distinct centres. I trust you will not confuse these expressions and that you will understand, although they may be anatomically separated and only connected by commisural threads, that functionally they are closely correlated. In consequence of the bilateral symmetry of our bodies we possess a double brain, a practically symmetrical arrangement of two intimately connected halves or hemispheres which as you know are concerned with opposite sides of the body, for the right hemisphere moves the left limbs and vice versa. For my purpose it will be sufficient if we regard the brain as composed of two great collections of grey matter or nerve corpuscles, which are connected with sensory nerve-endings with muscles and intimately with one another. I will now leave these generalisations and explain at once the great advance in our knowledge of the brain that has been made during the last decade. The remarkable discovery that the cortex or surface of the brain contained centres which governed definite groups of muscles was first made by the German observers Hitzec and Fritsch. Their results were however incomplete and it was reserved for Prof. Ferrier to produce a masterly demonstration of the existence and exact position of these centres and to found an entirely

new scheme of cerebral Physiology. The cortex of the brain though convoluted in a complex manner, fortunately shows great constancy in the arrangement of its convolutions and we may readily grasp the main features of the same without much trouble. From this model of an adult human brain, you will see that its outer surface or cortex is deeply fissured by a groove running backward just below its middle which grove is called "the Fissure of Sylvius" named after a distinguished mediæval anatomist. This fissure if carried upward would almost divide the brain into a motor half in front and a sensory half behind. Of equal practical importance is another deep fissure which runs at an open angle to the last and which is called the fissure of Rolando, Rolando being another pioneer of cerebral topography, Now it is around this fissure of Rolando that the motor side of the centres for voluntary movement is situated and when this portion of the cortex is irritated by gentle electric current a constant movement follows according to the part stimulated. Because of their upward direction the convolutions bounding the fissure of Rolando are called respectively the ascending frontal and ascending parietal convolutions. Now at the lowest end of the fissure of Rolando we find motor areas for the movement of both sides of the face that it is to say that as regards this particular piece of cortex it has the power of moving not only its regular side of the face but also the other—that in fact both sides of the face move by impulses from it. Higher up we find an area for the movement of the opposite side of the face only. Above these centres for the face we find that the next is for the upper limb and especially the common movement of grasping, indeed the only forward movement which the elbow is capable of, viz., flexion. The grasping movement, the bringing of an object near to us is the commonest movement by far and we find that this centre is mainly concerned in it. Behind the fissure of Rolando Dr. Ferrier placed the centres for the fingers. Above the arm area is a portion of the cortex which moves the lower limb only and in front of this again is an area for the consonant action of the opposite arm and leg.

Thus we have mapped out those portions of the centre which regulate the movements of the limbs. So far I have omitted mention of the muscles of the trunk, viz., those which move the shoulders and hips and which bend and straighten the back. Dr. Ferrier had shown that there existed on the outer surface of the cortex a small area for the movement of the head from side to side. Prof. Schafer and Prof. Horsley have found that the large trunk muscles have special areas for their movement ranged along the margin of the hemisphere and dipping over into the longitudinal fissure. Thus all the muscles of the body are accounted for and I will draw special attention to the fact that they are arranged in the order from below upwards of face, arm, leg and trunk. The consideration of this very definite arrangement led Dr. Lauder Brunton to make the ingenious suggestion that it followed as a necessary result of the progressive evolution of our faculties. For premising in the first place from well known broad generalisations that the highest centre physically speak-

ing is also the highest functionally and most recent in acquirement, we find that the lowest is the face and then we remember that in the lowest animals food is simply grasped with their mouth. It is scarcely necessary for me to repeat the notorious confession that our faculties are arranged for the purpose of obtaining food as the primary object of what is called bare existence. Proceeding upward in the scale of evolution we next find animals which can grasp their prey and convey it to the mouth and so we find next to the face area evolved that for the arm, And soon the next step would be the development of the legs to run after the prey and here is the leg centre. While finally the trunk muscles are dragged in to help the limbs more effectually. To my mind this idea receives overwhelming support from the consideration of the fact that the higher our centres are the more they require education; the infant for instance in a few days shapes its face quite correctly to produce the food inspiring cell, yet takes months or years to educate the upper limbs to aid it in the same laudable enterprise. Finally what terrible probation some aristocratic people in England are said to pass through at the hands of their dancing masters before their trunk muscles will bend into the bow of politeness. Now let us return to the lower end of the fissure of Rolando, to the areas for the movements of the face. It was long ago pointed out by Dare and Prof. Broca that when this portion of the brain immediately in front of the face area was destroyed, the person lost the power of articulate speech or was only capable of uttering interjections. In fact this small portion of the *left* side of our brains about 1½ sq. inches, is the only apparatus for expressing our thoughts by articulate sounds.

The corresponding portion on the right side cannot talk as it were. This remarkable state of things is reversed in left-handed people. In these the right hemisphere predominates and so we find that when this portion was diseased there followed Aphsaia, While however the right side customarily says nothing it can be taught to do so in young people though not in the aged. Before leaving these motor areas let me repeat that the only truly bilaterally acting areas are those for the lower facial and throat muscles. This is an important fact for the idea has recently been propounded that both sides of the body are represented in each motor region of each hemisphere. In support of the contention that this is not in accordance with clinical fact a case has been cited of a man who suffered fronm destruction of the fibres leading from one motor area. There was a puncture in the brain which caused hœmorrhage beneath the fissure of Rolando and the motor convolutions in front and behind it. There was the cortical grey matter but the fibres leading down to the muscles were all destroyed. When this patient was asked to move his left arm or leg he was prefectly conscious and made an effort to do so but no movements followed. Now if both sides of the body are represented in each hemisphere it seems to be that in such a case, a little practice would enable the other hemisphere to do the work but all clinical facts say that once destroyed the loss is never re-

covered. Looking back at the surface of the brain you notice that I have only accounted for but a small portion of the cortex. Dr. Ferrier was the first to show that the portion of the cortex which perceived the sensation of light was this part and is therefore called the visual centre or area. From recent researches it would appear that we must place it on the supra-marginal lobule and the angular gyrus. Before it, on the superior tempore-sphenoidal convolution, is situated the centre for hearing. Microscopical investigation shows that the sensorial portion of the cortex is very dificient in large corpuscles and is correspondingly rich in small cells whereas in the motor region of the cortex the large corpuscles predominate. These several beliefs are justified by the following facts. In the first place the movements produced by the action of these motor centres are always the same for the same centre; consequently it has one thing to do, only one idea as it were. Thus for instance bending of the arm; this action can only vary in degree for the elbow will not permit of other movements. Hence we may took upon it as one idea. Where one idea only is involved there are but few corpuscles. When we receive a sensation a multitude of ideas crowd into our mind. One idea then rapidly calls up another and so we find anatomically that there is a corresponding much greater number and complication of nerve corpuscles.

To sum up, I believe we are justified in asserting that when in the nervoussystem a considerable intensity of nervous energy is required *e. g.*, for the contraction of muscles, we find a few large corpuscles and fibres provided and that where numerous ideas have to be functionalised, then numerous small corpuscles are arranged for the purpose. But now the special interest attaching to the sensory perciptive areas is that they unlike the motor are as tend to be related to both sides of the body. With our habit of constantly focussing the two eyes on one object, it will strike you at once that habitually we can only be attentively conscious of one object at a time since both eyes an engaged in looking at it and you know we cannot as a matter of fact look at two things at once. Hence I take it that both sensory perceptive centres are always fully occupied with the same object at the same momeut and that therefore we have complete bilateral representation of both sides of the body in each hemisphere.

As a furtber consequence such sensory perceptive area will register the idea that engaged it. In other words both centres will remember the same thing. Thus it happens that each sensory area can perform the duty of the other and therefore it is a matter of comparative indifference whether one is destroyed or not, aud as a matter of fact when this happens we find that the person or animal recognises objects as they actually are and in fact has no doubt as to their nature. The anatomical reason for this peculiarity as for instance in the case of sight is that the optic nerves cross one another in going to each hemisphere and thus each sensory centre represents half of each eyeball. Now let me consider the hinder and front ends of the brain. At the outset I must admit that all our knowledge concerning them is very hypo-

thetical in the absence of positive experimental results. This much we may say that they are probably the seats of intellectual thought for many reasons which I have no time to detail. Further we know that these intellectuel areas are dependant for this activity entirely on the sensory perceptive areas, for the dictum that there is no consciousness in the absence of sensory stimulation seems to be very well established. When we wish to encourage that natural loss of consciousness which we call sleep, we do all we can to deprive our senses and organs, of any stimulation. Thus we keep ourselves at a constant temperature, shut off all light and abolish all noises if we can. But a most valuable observation was made a few years ago by Dr. Stromupel of Leipzig who had under his care a youth the subject of a disease of the brain which while destroying the function of one eye and ear besides the sensibility to touch over the whole body, still left him when awake quite conscious and able to understand by using his remaining eye and ear for social intercourse. Now when these were carefully closed he became unconscious immediately, in fact slept, and slept till he was aroused again or awoke naturally. Hence the higher functions of the brain are absolutely dependant upon the reception of energy form the sense-perceptive areas.

But my only point with reference to the part of the brain is to attempt to determine how far they are connected with the motor centres in the performance of a voluntary act. With the mechanism of choice and deliberate action I have nothing to do, but there can be no doubt that the part of the brain concerned in that process of the mind is directly connected with the motor region. The mere sight of an object causes a strain of energy to travel through our sense are as expanding as it goes by following the widening sensory paths and at the same time we feel our intellect learns that new ideas are rising up and finally expand into the process of deliberate thought. Then come impulses to action and these follow a converse path to the receptive one, the nerve energy being concentrated more and more until eliminated in the discharge of the motor corpuscles. What I have hastily sketched is the outline of the process of an attentive or voluntary act. I say "attentive" as the proper criterion of the voluntary nature of an act is not the mere effort that is required to perform it but is the degree to which the attention is involved. The popular view of the volitional character of an action being decided by the effort to keep the action sustained, is surely incomplete for we are not seeking our consciousness of an effort but we try to discover the sensation of the effort. Our sense of effort only comes when the will has acted and that same sense is no doubt largely due to the information which the struggling muscle sends to the brain and possibly is a conscious appreciation of how much energy this this motor corpuscle is giving out. Now to give you an example. I see this book and decide to open it and do so. Now this was a distinct voulntary act but the voluntary part of it was not the effort made but it was the deliberate decision to cause the movement. In this whole process we say and say rightly that our attention

is involved so long as we are deliberating over the object that as soon as another object is brought to us, our attention is distracted or turned ac side. All writers are agreed that our attention cannot be divided, that we really attend only to one thing at once. This is so obivious as not to require experimental demonstration, but I have led up to this point as I now wish to refer to the third part of my subject, viz., the question as to whether we have a really double nervous system or not. By way of Preface let me repeat that although we may have a sub-conscjousness of objects and acts, that sub-concious state is true antomatism and that such antomatic acts are in no sense voluntary until the attention has been concentrated upon them, *e. g.* again I open this book, because I desire to read a certain portion and I keep it open whiie I attend to what I am saying to you, my action of keeping the book open is only present to my mind in a subordinate degree and does not require my deliberate attention or thought and therefore I repeat is not a voluntary action, in fact it can be carried out perfectly well by the lower sensori-motor route which only now and then sends up a message to say it is doing its duty, in the same way as a sentry calls out intervals "All's well."

In consequence of the obvious fact that we have two nerve organs, each more or less complete, some writers have imagined that we have two minds. The evidence on which this notion rests, that the 2 halves of the brain might occasionally work independently of one another at the same moment, was of two kinds. In the first place it was asserted that we could do two different things at once and secondly evidence was produced of people acting and thinking as if they had two minds. The problem stated in Physiological terms is as follows. Can one mortor region perform an act of volition while at the same time another motor area is also engaged in a different act of volition? Consider for a moment the passage of nervous impulses through the brain that would have to occur. At the outset we find that the sensory perceptive centres would have to be engaged with two different ideas at once. But Lewes showed long ago that introspection tells us that this is impossible and that "consciousness is a seriated change of feelings" he might have said Ideas. And again we know that when two streams of energy of like character meet one another they mutually arrest each other's progress by reason of interfering with the vibratory waves. That this actually occurs, has been shown by an experiment divised by Prof. Horsley. An ambidextrous person accustomed to draw with both hands was asked to describe on a flat surface, a triangle and a circle, at the same time and it was found that he was able to draw only confused figures either a circular triangle or a triangular circle. Now the course of events in such an experiment appears to be somewhat as follows. The idea of a triangle and circle having been presented to the intellect by the sensory centres, the voluntary effort to reproduce these is determined upon. If we had a dual mind and if each hemisphere was capable of acting *per se* then we should have each intellectual area sending a message to its own motor area with the result

that the two figures would be distinct and correct and not fused. The other evidence that I referred to above as being adduced in favour of the independent action of the two hemispheres is from the account of such cases as the following. Prof. Ball of Paris records the instance of a young man who one morning found himself addressed by name and yet he could not see his interlocutor. He replied however and a conversation followed in the course of which his ghostly visitor informed him that his name was M. Gabbage. After this occurrence he frequently heard M. Gabbage speaking to him. Unfortunately this M. Gabbage was always recommending him to perform very otrageous acts such as to give an overdose of chlorodyne to a friend's child, and to jump out of a second floor window. This led the patient being kept under observation and it was found that he was suffering from a one-sided hallucination. Similar cases have been recorded in which disease of one sensory preceptive area has produced unilateral hallucination. I cannot see that these cases support the notion of the duality of the mind. On the countrary they go to show that while as a rule the sensory preceptive areas are simultaneously engaged upon one object, it is still possible for one only to be stimulated and for the mind to conclude that the information it recives in this unusual way must be supernatural and at any rate proceeding from one side of the body. To conclude I have tried to show that as a rule both cerebral hemispheres are engaged at once in receiving and considering one idea. That under no circumstances can two ideas either be considered or acted on attentively at the same moment. That therefore the brain is a single instrument. The ideas of our being single individuals is due entirely to this single action of the brain. Laycock showed that the ego was the sense of our experience. But our experience means first our perception of ideas transmitted and elaborated by the sensory paths of the brain and secondly our consciousness of the acts we perform. If now these things are always single the idea of the ego surely must be single.

The Manager begs to acknowledge with thanks the receipt of the following sums of money being the subscription for the Journal.

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Erratum.—Please read in the last Journal in the acknowledgment column *Mr. Dhurma Rajulu* instead of *Mr. Dhurma Ramanjulu.*

THE MEDICAL COLLEGE JOURNAL.

"A WISE PHYSICIAN SKILLED OUR WOUNDS TO HEAL,

IS MORE THAN ARMIES TO THE PUBLIC WEAL."

APRIL 1887.

NIHIL SINE LABORE.

TO OUR SUBSCRIBERS.

The Medical College Journal has just completed the first year of its existence. While fully alive to the many defects and shortcomings that have unavoidably crept into our work during the past year, we beg to take this opportunity of acknowledging with thanks the kind help and sympathy we have, nevertheless, received at the hands of our subscribers.

With the continued patronage of our friends in Madras, as well as in the Mofussil and with the hearty co-operation of the past and present students of this college whose name the journal bears, we propose in subsequent issues to register more thoroughly than we have been able to do till now, all cases of interest that occur in the General Hospital here, and to publish important extracts from various medical journals. But this undertaking of the Students' Association, being as all are aware, no commercial enterprise but a pure labour of love it is earnestly hoped that all those who in some capacity or other have reason to feel an interest in the Medical College or in its *alumni*, will afford us all possible help and encouragement and that the thus extended circle of subscribers will further save us from anxiety and trouble by favouring us with remittances strictly in advance.

THE NEW B. Sc. DEGREE.

In the columns of this journal will be found the correspondence upon the proposal by Dr. Sibthorpe, as to the advisability or not of instituting a Degree or License in Science, as a necessary qualification for those medical men who, in India, seek posts as Health Officers to Municipalities and Local Fund Bodies. We presume it is not limited to medical men, but that all who go through a certain minimum of subjects, such as Chemistry Hygiene &c., would be entitled to compete for the degree or license. The proposal before the Senate was not in the form of a substantive motion, but in a letter, as if the proposer himself were not quite sure of the opinion held by the other representatives of the medical fraternity and took this subtle form of guaging it rather than suffering defeat otherwise. And well he did so, for no other medical man seemed to think that the present was an opportune time for creating this new degree.

Dr. Sibthorpe based his reasons on the following grounds :—

1. The need of more extended knowledge in certain subjects such as Chemistry, Botany Physics, Hygiene &c., being felt by most Universities in England, leading to the establishment by them of the degree of B. Sc. is a reason why Madras, feeling the same need, should follow suit.

2. The knowledge by a few of such subjects would tend, by example and precept to the better health of the surrounding population.

On the other hand, the reasons advanced against the creation of a separate degree may be summarised as follows :—

Dr. Bidie, by statistics shewed, that even in those Universities in England which granted such diplomas the proportion of persons who qualify in the special subjects for B. Sc. is very small, shewing that the *need* of such a special degree was slight: how much less, so, therefore, in India. By *need* we imply, of course a barring of candidates for certain appointments for want of such a diploma. As to the second reason he very hotly contested that the possession of such a diploma would not serve the ends intended but would make the happy possessors, perhaps, more vain-glorious and arrogant than before, because it would represent in the minds of such, who from their infancy have been led by precept and example, to flagrantly violate such laws of health, of which they possess but a theoretical knowledge and which, by their early training, it would be hopeless and perhaps impossible for them to practise, but an empty title, representing but the cramming of certain subjects. What the mass of the population of India wanted, he went on further to say, was, a more extended practical knowledge, by instruction in elementary schools upwards, of the laws of health, so that by the gradual leaven of such instruction the whole of the people may, in time, perhaps not for a generation, be permeated with a knowledge of the absolute necessity of them. We have given Dr. Bidie's views above, because the rest of the medical men, each in his own way coincided with him. Most said the proposal was *premature*. A side issue was also raised as to the capability of the local College possessing the necessary apparatus and *material* for teaching the necessary subjects; but that is a very small matter, and easily settled: given the demand, and the supply will be duly forth-coming. In this connection. *i.e.*, reviewing the opinion of the medical gentlemen in the Senate, we were particularly struck with the recorded opinion of one of them, who boldly affirmed, that the possession of such a diploma, so far from being a blessing, would be a curse to the happy possessor, as (and here comes the inexplicable reason) from the way Government dispensed its patronage to those who did not possess such qualifications, the possession of such a diploma would be of doubtful advantage! We wonder what could have induced this otherwise shrewd observer to have made such a statement.

Upon a careful review of the various statements, some curt, some extended, and from a long acquaintance with the habits and disposition of the natives, we unhesitatingly endorse all that was said by the Surgeon General. If, by so doing, we may seem to be casting a slur upon the whole native population, all we can do is to express our sorrow. This question of instituting a diploma of B. Sc. is and should be regarded in quite a different light as a corresponding degree in Arts, &c., because the latter are but guages of the possession of certain theoretical knowledge. The refusal, therefore is tantamount to an appeal to the mass of the people who for generations, have, by precept and example been led to violate the laws of health, to amend their ways of living. It asks them to care, not only for their own health but the health of their fellow creatures. It asks them to inculcate in the minds of youths in whom alone such good seed can be sown, the germs of true knowledge and if by the gradual effect of the knowledge of such laws the whole mass of the population should, as it were, rise up and say. "We know the laws of health, we are anxious to follow them, send us some teachers to live amongst us, to shew us, day by day and hour by hour when we go wrong," then and then only will it be necessary and wise to institute the new diploma of B. Sc.

CORRESPONDENCE ON THE SUBJECT OF DEGREES IN STATE MEDICINE IN THE UNIVERSITY OF MADRAS.

The following are the papers relating to the subject of Sanitary Science :—

To the Registrar of the University of Madras.

Sir,—I have the honor to forward you a set of rules that I, in connection with Surgeon-Major Mac Nally, M.D., have drawn up regarding degrees of Bachelor and Doctor of Science in Public Health, which I wish you to lay before the Syndicate for consideration. The question whether degrees should be instituted or simply certificates granted in this branch of medicine will be settled by the Senate. I have drawn up these rules for degrees somewhat on the lines laid down for similar degrees granted by the University of Edinburgh. The rules can be easily modified to suit an examina-

tion for a certificate. Surgeon-General Cornish was strongly in favour of such examinations being instituted in the University; most of the Universities and of the Licensing Medical Bodies in Great Britain grant degrees, diplomas, or certificates for this class of special knowledge. I attach an abstract showing the class of examinations held by several of these Bodies. Men qualified in this particular branch of Medical Science would be of great use in spreading and applying the rules of Sanitary Science in Southern India. Such a degree or certificate would be a special qualification for any Medical man seeking an appointment as Health Officer of a Municipality or District.

C. SIBTHORPE,
F. M. U.

Proposed rules regrading a Degree of Bachelor of Science in Public Health in the University of Madras.

1. Candidates must have passed the examination of M. B. or the L.M. and S of this or some other recognised University. All Medical Practitioners registered under the law existing in Great Britain are eligible for this examination and will be granted the certificate referred to in rule 9.

2. The examination for the degree of B. Sc, in Public Health shall be held in Madras once a year commencing on the 3rd Monday in July. * * *

3. Candidates must produce certificates of having attended the following courses; General Pathology one winter course; Hygiene one winter course; Analytical Chemistry a practical course of not less than three months; Sanitary Engineering one course; Mensuration one course; Mechanical drawing one course.

Doctor of Science in Public Health.—A Bachelor of Science in Public Health may after the lapse of one year, proceed to the degree of Doctor on producing evidence that he has been engaged in practical sanitation since he received the degree of B. Sc, and on producing a thesis on some subject embraced in the Department of Public Health. Every such thesis must be certified by the candidate to have been composed by himself. No thesis will be approved of by the Medical Faculty which does not contain either the result of original observation on some subject embraced in the examination for B Sc, in Public Health or else a full digest and critical exposition of the opinions and researches of others on the subject selected by the candidate accompanied by precise references to the publications quoted. * * *

From Surgeon-General G Bidie, M. B., C. I. E., President of the Faculty of Medicine.

To the Members of the Faculty of Medicine in the Madras University.

SIRS,—I have the honor to forward enclosed letter together with a set of rules from Surgeon-Major C. Sibthorpe, in which he proposes to institute academical degrees or a license in Hygiene.

Although highly estimating Hygiene and strongly inpressed with its importance in this country, I am of opinion that it would be premature for the University to grant either a degree or license, more especially as the scheme of Technical Education for this Presidency provides for an examination and certificate of qualification in Hygiene. The test instituted in the Technical Education scheme

will in my opinion meet the practical wants of the country for years to come, as it will probably induce the native practitioners of the L M S standard, locally educated Civil Engineers and men aspiring to be Sanitary Inspectors to qualify and these are the sort of agents, now wanted throughout the Presidency. I am contemplating the subject from a practical point of view and as I have seen a good deal of the country and know its sanitary wants I have ventured thus freely to lay my views before the Members of the Faculty.

I am of opinion that this proposal is premature, more especially as the Madras Government shew a marked preference for those who lack such special qualification.

A. PORTER.

I quite agree with Surgeon-General Bidie in his opinion on this subject.

MOHIDIN SHERIFF.

The Science of Public Health is the Science which embraces the most difficult and complicated but most important study of the various and numerous influences that operate upon people whether to promote their material well-being or deterioration, and which aims at the prevention of disease, pain, suffering and death by the removal of their avoidable causes. If a more systematic cultivation, extension and diffusion of the knowledge of the true laws of life and health could be encouraged and accomplished by all possible means and if a practical and thorough application of such a knowledge could be effected by the introduction and enforcement of a more perfect system of Hygienic rules, what an invaluable boon would it prove to the suffering humanity! And what an immense amount of disease, suffering and premature and painful death from preventible causes would be avoided! The Science of Public Health or what is called State Medicine is now-a-days, very justly, attracting much of public attention, and it is acknowledged on all hands that one of the most important functions of a Government is to have a watchful care over the health of the people and to duly regulate all matters which concern their health. Hence an urgent and growing want is keenly felt for duly and thoroughly qualified officers who could undertake and satisfactorily discharge the most arduous and responsible function of attending to and promoting public health. Such officers are not to be cooked up for the occasion, and they are not to be picked up at random as chance may point to them from among ordinary medical men who may have heard a course of lectures on Hygiene, or read a book on that subject and passed some kind of examination in it. They should, on the ccutrary, be men specially and thoroughly qualified for their important office by having received a sufficiently long and systematic course of instruction both theoretical and practical in the Science and Art of Hygiene, and in all its allied departments of knowledge, such as General Pathology, Vital Statistics, Sanitary Law and Sanitary Engineering. Is it not therefore highly desirable and important to take early steps to make proper provision to meet this urgent and growing demand for thoroughly qualified Sanitary officers for our large and increasingly crowded towns and rural districts? All careful ob-

servers and experienced and thinking men among the medical profession are more or less painfully aware of the imperfections and uncertainties of their curative medical art, and of its inadequacy to fulfil in a satisfactory manner, much that it professes and undertakes to accomplish. The perfection or improvement of curative Medicine, certainly bears no proportion to its antiquity. But what is called Preventive Medicine or Sanitary Science of modern times, though as yet in its infancy and very imperfectly studied, cultivated and practised has already achieved most signal and important results in, promoting public as well as individual health, and the good results that it has already accomplished must be considered almost insignificant when compared to what it seems destined to achieve in the future,as more and more practical attention and justice are accorded to it. Such being the relative or comparative importance between Preventive and Curative Medicine, is it not highly important and desirable that every possible inducement and encouragement should be afforded for promoting a more thorough and systematic study and cultivation of Preventive Medicine or Sanitary Science including all its allied departments of knowledge? Would it be too much if any University patronage and degrees and honors should be conferred upon proficiency in such an important and practically useful department of knowledge while some comparatively less important but more showy branches of knowledge have been deemed worthy of such honorable distinctions?

W. E. Danakoti Raju.

The question to be considered is this :—"Have we the means at Madras for practically training men up to the standard proposed"?—I have no hesitation in saying that we have not. From what I know, several years must elapse before the Medical or any other College will be fitted up with properly equipped Laboratories of Hygiene and Pathology. Before the University can think of instituting degrees in Public Health, facilities should exist here, as they do in Europe, for teaching Hygiene practically, as is done, for instance, at University College, London, where the Professor gives demonstrations on Sanitary appliances, Testing of drains, soil-pipes, &c., and where the Hygienic Loboratory is open for instruction in the methods of analysis of water, air, food, soils, &c. When Madras is equally far advanced, the University may then consider the proposed scheme. Whenever that time arrives, I hope the time-table will be recast. I shall only refer to the practical examination in Chemistry, Physics and the use of the microscope on Friday from 10 to 1. To be of any real use, the examination should extend over several days. While sympathising with the efforts to advance the cause of Public Health, I feel that the time is not ripe for the institution of a degree in Sanitary Science.

Jas. Keess,
Prin., Madras Medical College.

I must say that I consider the sooner the University establishes such an examination as proposed the better. I do not think it should drive men holding its degrees to the board of examiners of Technical education. The subjects embraced under

he name of State Medicine have een considered important enough by ll the Universities in Great Britain o take up and institute examination n. There is no doubt some truth in hat Brigade-Surgeon Keess advance s, but I am of opinion that the Medical College in Madras is quite as vell equipped as many of the smaller Medical schools now working in Great Britain.

C. Sibthorpe.

I agree with Dr. Sibthorpe's remarke as above. I cannot see any reason why the degree should not be nstituted, even supposing that perfect laboratories for practical work lo not at present exist. The fact hat such a degree has been instituted by the University will oblige the Medical College to develope its resources in order to meet the requirements of the University.

E. F. Drake-Brockman, f.r.c.s.

I certainly do not think that any certificate given by the Board of Technical Education would carry the same weight as a degree in State Medicine given by the University, or that the proceedings of this Board should affect the creation of such a degree in the University. Should the University announce that it is prepared to grant such degrees in State Medicine as are now granted in other Universities no doubt a great impetus to the progress of Sanitary Science will be given, and the Medical Schools will be obliged to provide the requisite laboratories, museums and instruction.

A. M. Branfoot.

Dr. Bidie takes a practical view of the question, and, as regards the actual wants of the country, I quite agree with him in thinking that the Government examinations in Hygiene will attract a much larger number of candidates and be of more immediate use to the people than a higher examination in the same subject instituted by the University. But I think there is scope for both. The University Examination is intended to be a more advanced test than the Government one; and, being restricted to graduates in Medicine (or to licentiates of British Colleges), this high qualification in Sanitary Science would only be sought by better educated men than those for whom the Government Examinations are intended. I think it would be practically restricted to the M. B. and some exceptional men among the L. M. S. graduates. That few Candidates would seek such a special qualification is certain—in Great Britain only 200 medical men, 175 of whom are resident in the United Kingdom, possess at the present time such qualifications—but this consideration has not deterred all the British Universities and many Medical Corporations from instituting degrees or certificates in Sanitary Science, and such degrees or certificates are now legally registrable under the Medical Act of 1886. I cannot quite agree with Dr. Keess in thinking that we have not in Madras the means for practically training men up to the standard proposed. Having not long ago, gone through a course of hygienic laboratory work at the University College and the Parkes' Museum of Hygiene in London and also lately worked in the Hygienic laboratory at Netley, and having personally examined the teaching facilities at those institutions,

as well as at Cambridge University and some other schools, I am in a position to speak with some authority on the subject. There would be little difficulty in providing for the requisite special training in chemical and microscopic work in the chemical laboratory of the Medical College or in the laboratory of the Chemical Examiner. In either of these places as good accommodation could be provided as exists at any of the above mentioned English schools. Dr. Keess points out a fault—evidently I think a mistake—in the time-table of the proposed examination which gives only three hours for the practical examinations. It seems as though '2 to 5' had been accidentally omitted from the time-table. *Six* hours would give ample time for the necessary examinations, and there can be no adequate reason for extending them over several days.

CHAS. MCNALLY,
S. Sc. C. Cambridge.

While recognising the practical side of the question taken by Dr. Bidie I. fully sympathise with Dr. Bidthorpe's proposal; and if, as it would be, the examination test was made a severe one and thoroughly practical in its bearing, there is no reason why men should not come to light capable of doing thoroughly sound sanitary work, well equipped for grappling with the numerous sanitary problems which remain to be solved in India.

The Examination should in my opinion certainly include and provide for a knowledge of Bacteriology in relation to air and water, analysis, infective diseases, &c., &c., and the laboratory teaching of this now recognised branch of Sanitary Science be based on the methods of study employed by the advanced German School. The cost of providing a Bacteriological laboratory such as was fitted up at the International Health Exhibition in 1884 with a complete set of "culture" apparatus, &c., would be comparatively trifling.

E. THURSTON.

I quite agree with Dr. McNally, viz: that there is probably scope for both the Technical Education scheme and for the proposed University degree in Hygiene. While the Technical Education diploma will probably meet the requirements of the majority of graduates turned out by the Medical College, yet there are surely some who are desirous of specializing in the subject and who would gladly avail themselves of the higher degree. Facilities for teaching the subject as thoroughly and as practically as in many of the British Medical Schools, could be readily enough instituted in Madras and without a heavy expenditure.

J. R. HENDERSON.

I fail to understand why the University should not arrange to examine candidates in "Hygiene." It is acknowledged on all hands that the subject is of great importance so that if facilities do not exist in Madras for teaching it, it will surely be a move in the right direction to do everything which will tend to secure efficient arrangements. I am well acquainted with the Hygiene laboratory at University College, London, and I do not think it would be difficult to establish a similar one here.

A. G. BOURNE.

From Surgeon-General G. Bidie, M.B., C.I.E., President of the Faculty of Medicine.

To the Registrar, Madras University.

SIR,—In returning the enclosed papers relative to the establishment in the University of a degree in Public Health, I have the honor to submit the following remarks to the Syndicate. At present in Great Britain 12 out of the 15 bodies granting degrees on licenses in Medicine also give a diploma or certificate in Public Health. In the case of the English Universities, Oxford, Cambridge and London respectively give a certificate and, Durham a license. In Scotland the Edinburgh University grants the degrees of Bachelor and Doctor of Science in Public Health, and Glasgow a certificate of qualification. In Ireland both the Dublin and Royal University grant a diploma in Public Health. It appears to me therefore that it would be somewhat premature for the Madras University to undertake to grant a Bachelor's and Doctor's degree in Public Health, seeing that the majority of the home Universities do not aspire to anything beyond a certificate or simple license. The temerity of the present proposal as to the status of the degree is further accentuated when we contemplate the fact, so strongly insisted upon by the late Principal of the Medical College, Dr. Keess, viz., that we have not the means in Madras of practically training men up to the proposed standard, an opinion which I beg to endorse. Apparently the first academical body to give such a qualification was Trinity College, Dublin, as it commenced as early as 1871 to grant its diploma in State Medicine and the following table * * * shows the number of sanitary qualifications granted yearly in the United Kingdom by the several licensing bodies, since that date.

Of the persons who received these qualifications 24 belonged to the Indian Medical Service, 13 to the Army Medical Department while 5 were from Australia, 3 from India and 4 from other foreign parts. It thus appears that for 16 years only 199 graduates in medicine resident in Great Britain sought a special qualification in sanitation. This gives an average of about 12 per annum, a number which does not imply that a public health diploma is deemed a very needful qualification at home although there are now so many sanitary appointments in England. It appears therefore that to institute at present a degree in Public Health in the Madras University would be premature, and merely ministering to that intense craving for academical qualifications, irrespective of their practical value, which possesses the native mind. I have no doubt that if such a degree were to find a place in the Calendar we should soon have plenty of graduates, men choke full of theories and book lore, but who from their early surrounding and associations would be personally apathetic to stinks, squalor and muck; and have no personal knowledge from early training of the use of latriness and urinals or of the supreme value of fresh air and the domestic filter. The few real sanitarians who are required in India, for administrative purposes are and must be supplied from Europe, and speaking as a practical Sanitary offic-

er of some experience I can only say, that we do not want vapouring doctrinaires but efficient Sanitary Inspectors, men with a keen nose for bad smell, and sharp eye for matter in the wrong place. The scheme of technical education now in force will for years to come provide the sort of men we realy want and whom we can efficiently train in the country, so that we do not want a University degree in Sanitation. If the proposal to have a health degree should ever come hereafter to be seriously discussed I shall be obliged to criticise Mr. Sibthorpe's scheme as it is in my opinion faulty in various respects.

From Brigade-Surgeon C. Sibthorpe, Fort.

To the Registrar of the University of Madras.

SIR,—Regarding the question of the establishment of an examination and degree in the science of Public Health (State Medicine) by the University of Madras I wish you to lay the following remarks before the Syndicate of the University. In December 1884 Surgeon-General Cornish C. I. E., at the time President of the Medical Faculty of the University circulated a memorandum to the Medical Fellows of the University in which he stated that he considered the time ripe for the institution of such an examination by the Madras University giving his reasons in full, and asking them to record their views. Brigade-Surgeons Keess, Porter, Drs. Moideen Sheriff, S. B. Danakoti Raju, Surgeon-Majors Macrae, Drake-Brock,man and I recorded our opinions in favour of the proposition. In January 1885 Surgeon-General Cornish appointed a committee consisting of Brigade-Surgeon Kees, Surgeon-Majors Macrae, Drake-Brockman and myself for the purpose of considering the preposition and also to prepare draft bye-laws for the consideration of the Medical Faculty and eventual submission to the Senate. This Commitee never met and I find on the papers submitted to it the following by Brigade-Surgeon Keess "I saw Surgeon-General Furnell on the 7th May 1885 with reference to the proposal regarding the institution of a degree in State Medicine and was directed by that officer to postpone all action until the next cold weather." No further steps were taken and all these papers are now in the hands-Brigade Surgeon Porter, who will, doubtless, if asked submit them for the information ef the Senate. In September 1885, in conjunction with Surgeon-Major Mc Nally I drew up a scheme for such an examination and before leaving for Burmah submitted it to the Senate. On my return I wrote to the Registrar asking him for an answer to my letter and he told me it had been sent at the time to the President of the Medical Faculty (Surgeon-General Furnell) who had not sent any answer. Surgeon-General Furnell having left the country, Registrar asked me to submit another copy of my letter which I did on the 2nd September 1886. The month after, I again left for Burmah and on my return in November I found the proposal was in the process of circulation; as yet I have not received the final dnswer regarding it.

My principal reason for writing this letter is to call the attention of the Senate to Surgeon-General Cornish's proposition and to the fact that it was fully supported by some of the Fellows whom I know have voted against the present proposition.

From the Registrar, Madras University. N. P. To Brigade-Surgeon C. Sibthorpe, Fort.

Sir,— I have the honor to forward for your information and that of Dr. Mc Nally who is acting with you in the matter, all the correspondence relating to your joint proposal to institute a special degree in Sanitary science in the Madras University, and to request you will return it to this office when you no longer require it. You will observe that your original letter has been circulated to the Members of the Medical Faculty, all of whom, including the President, have expressed opinions, favourable or otherwise on the proposed degree, and also that the file contains the correspondence relating to a similar suggestion made by yourself a few years ago, concerning which you wrote me a week or two back. The Syndicate after duly considering the matter, have arrived at the conclusion that the subject is one of a strictly professional character, and they cannot therefore advantageously take action therein, but are of opinion that yourself and Dr. McNally being Fellows of the University, might formulate your views and bring them before the Senate in the shape in which you wish to see them adopted. I shall have great pleasure in placing any proposals you may wish to make on the subject before the Senate at the earliest opportunity.

W. H. Wilson Registrar.

APPENDIX A.

Memorandum.

I wish to take the opinion of the Medical Faculty on the question whether the time is not ripe for the institution of an examination in State Medicine by the Madras University, and whether steps should not be taken by the Medical Faculty, to recommend to the Senate the propriety of instituting such a qualification. So far as I can ascertain, nearly every examining body in Great Britain, has already laid down regulations for examinations in State Medicine, and any medical man desirous of fulfilling the duties of a Public Health official under local authorities is required to show his competency for such duties, by obtaining the certificate of State Medicine of one of the examining bodies. In India, recent legislation in regard to local Government will in due course cause a demand for Medical Officers who are capable of undertaking Sanitary work and at present our local graduates and licentiates have no means of showing their special proficiency in regard to the duties of a Health Officer. It seems desirable that the University, as the authorized corporation for granting degrees, in this portion of the British Empire, should not be behind the Medical corporations and Universities at home, in affording facilities to its graduates for qualifying as Public Health officials. I am myself of opinion that the time has come for making a move in this direction, and if the members of the Faculty generally agree with me, I propose that the Syndicate be addressed on the subject. I would con-

fine the examination in State Medicine, entirely to graduates or licentiates of the University, or to persons possessing similar qualifications from other Universities, leaving it optional with the graduates or licentiates to appear for this special test. The regulations of the Cambridge, London, Durham and Dublin Universities show a sufficiently comprehensive scheme of examination, and if the Medical Faculty decide on recommending the question to the Senate, I would ask a small committee of the Faculty to prepare a scheme of examination suitable to the circumstances and requirements of Public health officers in India, for discussion by the Members of the Faculty before submission to the Senate. Members of the Faculty of Medicine will oblige the undersigned by recording their views on the proposition now submitted.

W. R. CORNISH.

President of the Faculty of Medicine.

The Precident's proposal to institute an examination in State Medicine is a good one.

The examination should be open to candidates who hold medical degrees of the Madras or any other University and to those who hold licenses from colleges in the United Kingdom.

I have read the regulations under which candidates obtain in Great Britain the qualification in Public Health, and, I think, that, with some modification, they could be made applicable to candidates desirous of obtaining a similar qualification in this country.

JAS. KEESS,

I concur Member, Medical Faculty.

A. P. *Agreed.*

Do. M. S. W. M.

The proposition is a most important and necessary one.

W. E. D.

I think a Committee should be appointed to report on the proposed examination and to draw up a scheme.

C. S.

I concur in the opinion expressed by the President of the Faculty of Medicine.

E. F. D. B.

The President, Medical Faculty, Madras University, has the honor to request that the following gentlemen, Brigade-Surgeon J. Keess, M. D. Surgeon-Major C. Sibthorpe, W. Macrae Surg. Major E. F. Drake-Brockman, will form themselves into a Committee for the purpose of considering the preposition made by the President in his Memorandum, dated 11th December 1884 to propose to the Senate the establishment of a degree in State Medicine, and also to prepare draft bye-laws in reference to the necessary qualification of candidates and of the Examinations needed for such a degree.

2. The report of the Committee will be laid before a meeting of the Medical Faculty, for adoption, before submitting the proposition for the sanction of the University.

January 16th 1885. W. R. CORNISH.

SURGICAL CASES OF INTEREST.

UNDER THE CARE OF BRIGADE SURGEON C. SIBTHORPE, SENIOR SURGEON-GENERAL'HOSPITAL.)

Case No. I.—Adenona of the left parotid gland—cured.

Murugesan, a healthy Hindu ryot aged twenty two years was admitted on the 22nd January 1887 for a solid tumour in the left parotid region.

About two years and a half ago, he noticed behind the left angle of the lower jaw, a small swelling of the size of a nut, hard, painless and freely moveable. This has been steadily growing ever since. No history nor sign of constitutional disturbance.

Condition on admission.—Situated on the left side of the face is a hard circumscribed tumour of a triangular outline and of the size of a small cocoanut.

Apex.—Corresponds to a point near the anterior termination of the helix of the left ear.

Base.—Extends from the middle of the lower border of the body of the lower jaw (left side) to the posterior margin of the Stermo-mastoid which appears to terminate on the under surface of the tumour.

Sides.—Lines drawn from the apex to the ends of the base line.

The surface is almost smooth and presents a fluctuating area towards its upper part. The lobe of the ear is pushed away from its normal position and lies across the middle of the posterior limit of the tumour. There is a very firm cicatrix on its surface, the result of an incision made by a barber a year ago. The tumour bled very freely but soon after healed up. He thinks that the tumour has grown more rapidly since. There is a small enlarged gland below, but unconnected with it. There is no interference with mastication or deglution and all the muscles of the face are in working order. The mouth can be opened to the extent of only an inch and a half.

The tumour was enucleated on the morning of the 28th under strict antiseptic precautions and the wound dressed after Sir Joseph Lister's method. The tumour was found intimately connected with the periosteum of the lower jaw, portion of which was left exposed.

The seventh pair of nerves must have been removed in part with the tumour. The tumour was encapsuled and had a glistening appearance on section. It consisted of a firm stroma of fibrous tissue full of soft material which when squeezed out and examined under the microscope was found to consist of uniform circular nucleated cells rather larger than white blood corpuscles.

He received well from the effects of chloroform. But as there was considerable oozing of blood, the primary dressings were removed by the Resident Surgeon during the day.

It was again dressed the next morning after Lister's method and found to do remarkable well. The left side of his face was paralysed. Most of the incisions appeared to have healed by the first intention.

On the 1st of February there was a slight rise of temperature to 100·2° Fahr. and one corner of the wound commenced to suppurate. On the

4th February, the dressing was changed to irrigation every third hour with a solution of the perchloride of mercury (1 in 2000 parts). The wound gradually healed. He was discharged cured on the 2" March.

Case No. II. Cancer of neck (Epithelioid)—cured.

Papu Reddi, a healthy ryot aged sixty-five years, was admitted on the 28th January 1887, for an ulcerated tumour behind and below the right ear.

About nine months ago, he noticed a small firm, and freely moveable tumour behind the right angle of the lower jaw which after three months burst, and formed an ulcer, and has been rapidly growing larger. No family history of tumours. No history nor sign of constitutional syphilis.

Condition on Admission.—There is an ulcerated nearly painless, moveable tumour of an irregularly quadrilateral outline in the right cerricofacial region. It is bounded by lines connecting the following four points :—

1. Half an inch below the tip of the mastoid process.

2. The right angle of the lower jaw.

3. Middle of the anterior margin of the trapezius.

4. Half an inch to the outside of the posterior median line of the neck.

The surface presents elevations and depressions discharging healthy pus. It bleeds freely on any slight injury. The edges are hardened and strongly everted. The skin and subcutaneous tissue to the extent of three quarters of an inch surrounding are indurated as from infiltration. The right submaxillary and cervical glands are enlarged. He does not show any sign of cachive expect that his body is covered with numerous patches of *tinea tonsurans*.

On the fifth Febuary, he was operated on. A circular incision was first made into the skin and subcutaneous tissue about an inch from the base of the tumour which was afterwards dissected out. The glands near the posterior margin of the sterno-mastoid, were found infiltrated with the growth and were consequently removed.

The sheath of the internal jugular vein to which some glands were found attached was exposed to view. Another incision was then made commencing from the lower part of the circular one, as far down as the root of the neck; the skin on either side dissected away and some small glands removed. The whole wound was then swabbed with Chloride of zinc lotion (40 grains. to the ounce.) A piece of guttapercha, and a pad of lint soaked in corrosive sublimate lotion were then placed over it and oakum-bandaged over all. He stood the operation very well. The dressing was changed once during the day on account of bleeding. There was never any constitutional disturbance after the operation. The wound remained aseptic all along and healed satisfactorily under the same dressing.

Boils appeared on various parts of the body but were treated successfully by the external application of belladonna plasters and internal administration of the sulphide of calcium. He was discharged cured on the 2nd April.

NEW INSTRUCTIONS TO PUBLIC VACCINATORS.

The new "instructions for Vaccinators under contract" have now been issued by the Local Government Board, London. The order embodying them is dated February 28th, 1887, and is come into operation on March 15th. They supersede those prescribed by the order in Council July 29th, 1871, and are printed below in full, the new or altered matter being shown by Italics and foot-notes for the convenience of our readers.

(1) Except so far as any immediate danger of small-pox may require, vaccinate only subjects who are in in good health. As regards infants, ascertain that there is not any febrile state, nor any irritation of the bowels, nor any unhealthy state of skin, especially no chafing or eczema behind the ears, or in the groin, or elsewhere in folds of skin. Do not, except of necessity, vaccinate in cases where there has been recent exposure to the infection of measles or scarlatina, nor where erysipelas is prevailing in or about the place of residence.

(2) In all ordinary cases of primary vaccination, make such insertions of lymph. (*a*) as will produce at least four separate good sized vesicles or groups of vesicles, not less than half-an-inch from one another. The total area of vesiculation on the same day in the week following the vaccination should be not less than half-square inch.

(3) Direct that care be taken for keeping the vesicles uninjured during their progress, and for avoiding afterwards the premature removal of the crusts. Do not use any needless means of "protection" or of "dressing" to a vaccinated arm; but if in a particular case you find reason for means of "protection" or of "dressing," define the material and the manner of use of the appliance best adapted to the case, avoiding all such as cannot readily be destroyed and replaced wherever they become soiled.

(4) Enter all cases in your register on the day when you vaccinate them, and with all particulars required in the register up to and including the column headed "Initials of persons performing the Operation." (*b*) Enter the results on the day of Inspection. Each of those entries must be attested by the initials of the person who inspects the case. In cases of primary Vaccination, register as "successful" only those cases in which the normal vaccine vesicle has been produced, case of re-vaccination register as "successful" only those cases in which either vesicles, normal or modified, or papules surrounded by areolæ have resulted. When any operation (whether vaccination or re-vaccination has to be repeated owing to want of success in the first instance, it should be entered as a fresh case in the register.

(5) Endeavour to maintain in your district such a succession of cases as will enable you to vaccinate with liquid lymph directly from arm to arm at each of your contract attendances; and do not, under ordinary circumstances, adopt any other method of vaccinating. To provide against emergencies, always have in reserve some stored lymph; either dry on ivory

points, thickly charged and constantly well protected from damp; or liquid, in fine, short, uniformly capillary (not bulbed) tubes, hermetically sealed at both extremities. Lymph, successfully preserved by either of these methods may be used without definite restrictions as to time. With all stored lymph caution is necessary, lest in time it have become inert or otherwise unfit for use (c).

(6) Consider yourself strictly responsible for the quality of whatever lymph you use or furnish for vaccination. Never either use or furnish lymph which has in it any, even the slightest, admixture of blood. In storing lymph, be careful to keep separate the charges obtained from different subjects, and to fix to each set of charges the name, or the number in your register of the subject from whom the lymph was derived. Keep such note of all supplies of lymph which you use or furnish as will always enable you to identify the origin of the lymph. Do not employ lymph supplied by any person who does not keep exact record of its source.

(7) Never take lymph from cases of re-vaccination. Take lymph only from subjects who are in good health and, as far as you can ascertain, of healthy parentage, preferring children whose families are known to you, and who have elder brothers or sisters of undoubted healthiness.

Always carefully examine the subject as to any existing skin disease, and especially as to any signs of hereditary syphilis. Do not take lymph from children who have any sort of sore at or about the anus. Take lymph only from well-characterised, uninjured vesicles. Take it (d) at the stage when the vesicles are fully formed and plump. Do not take it from a vesicle around which there is any conspicuous commencement of areola (e). Open the vesicles with scrupulous care to avoid drawing blood. Take no limph which, as it issues from the vesicle, is not perfectly clear and transparent, or which is thin and watery. From a well-formed vesicle of ordinary size (f), do not, except under circumstances of necessity, take more lymph than will suffice for the immediate vaccination of five subjects, or for the charging of seven ivory points, or for the filling of these capillary tubes; and from larger or smaller vesicles, take only in like proportion to their size.

Never squeeze or scrape or drain any vesicle, and do not use lymph that has run down the skin. Be careful never to transfer blood from the subject you vaccinate to the subject from whom you take the lymph.

(8) Scrupulously observe in your inspection every sign which tests the efficiency and purity of your lymph. Note any case wherein the vaccine vesicle is unduly hastened or otherwise irregular in its development, or wherein any undue local irritation arises, and if similar results ensue in other cases vaccinated with the same lymph, desist at once from employing it. Consider that your lymph ought to be changed if your cases, at the usual time of inspection on the day week after vaccination, show any conspicuous areolæ round their vesicles (g).

(9) Keep in good condition the lancets or other instruments which you use for vaccinating and do not use them for any other purpose whatever (h). When you vaccinate, have water and a napkin at your side, with which invariably to cleanse your instrument after one operation before proceeding to another. Never use an ivory point or capillary tube a second time either for the conveyance or for the storage of lymph, but when points or tubes have once been charged with lymph and put to their proper use, do not fail to break or otherwise destroy them.

(a) "Insertions of lymph" has been substituted for "punctures."

(b) This is only a modification of wording.

(c) The following part of the old instruction has been omitted. "If, in order to vaccinate with recent liquid lymph, you convery it from case to case otherwise than in hermetically-sealed capillary tubes, do not ever let more than eight hours intervene before it is used."

(d) The superseded instructions contained this qualification, "as may be done in all regular cases on the day week after vaccination."

(e) In the old instructions the phrase ran thus: "but when there is no perceptible commencement of areola."

(f) The old instructions had the following "From such a vesicle as vaccination by puncture commonly produces, do not under ordinary circumstances, take more lymph," &c.

(g) This originally stood thus: "have not as a rule, their vesicles entirely free from areolæ."

(h) "Other surgical operations" in the old instructions.

EXTRACTS.

SYPHILIS AND MARRIAGE.

This most important subject is constantly coming before our profession, and it is well that we should have some reliable postulates on which to form the opinion we give.

After a careful scrutiny of a number of cases, which I have watched with grave anxiety, I have drawn up the following rules for my own guidance.

a. I forbid marriage in any case where syphilis in any stage is evident.

b. I permit marriage in the subjects of syphilis who will pass through the following tests:—

I. They shall have been treated for nine months by mercury.

II. They shall have been treated from the termination of the mercurial course for nine months longer by the red iodide of mercury.

III. After such treatment they shall have remained free from any objective evidence of syphilis for two years.

Treatment.—The soft chancre or pus sore should be washed well in a solution of borax, 1 drachm to a pint of water twice a day, after which the face of the ulcer is to be mopped dry with a piece of lint, and the following dressing powder freely used:—

Ex. Iodoform, z ij.	Ol. Sanitas. uj. iv.
Acid gallic, z i.	Mix.

PHAGEDÆNIC CHANCRE.

When of the most pronounced type it must be treated by laying open the prepuce, and applying the acid nitrate of mercury to the whole of the sore, after which the patient must be kept in a warm bath night and day until a healing attempt becomes evident (the bath will have to be continued for, at least 100 hours). Twenty grains of iodide of potassium and 20 drops of laudanum must also be given every four hours.

Indurated chancre, or Initial Lesion of Syphilis, requires very simple local

treatment. A dusting powder made with equal parts of calomel, oxide of zinc and calamine answers as well as anything and is easily applied.

LAPAROTOMY IN PERITONITIS.

Surgeons are largely recognising the fact that beyond its greater extent and the important structures with which it is related, the peritoneum does not differ from other serous membranes. Removing inflammatory products from the pleural cavity, the pericardium and joints, has been so successful that one may ask, Why not apply the same laws of treatment to the peritoneum? Diffuse peritonitis, the result of extravasation of the contents of any portion of the intestinal canal, the escape of pus from an abscess, or the introduction of any foreign body into its cavity is so fatal, and all known treatment, besides abdominal section so useless, that this appears to be the only rational method of procedure. At the meeting of the Royal Med. and Chir. Society, March 10, 1885, Mr. Tannes initiated a discussion on this subject by giving the history of a case where laparotomy was performed, the abdominal cavity washed out, and a drain provided in a woman the subject of diffuse peritonitis, resulting from the escape of pus from the pelvis into the peritoneal cavity. Mr. Howard Marsh gave a somewhat similar case, and in each the treatment was successful.

Other cases were related, and there was a general consensus of opinion that this will be the treatment of the future.

Oberst, of Halle, has also given remarkable cases, teaching the same lesson.

GASTROTOMY.—Many cases of gastrotomy have been performed both in England and in Germany. Recent methods of treatment have done much to reduce the mortality. It is still a matter of doubt and controversy whether gastrotomy should be performed in cancer of the æsophagus, or funnel—shaped œsophageal tubes used. LaGeauge, in a recent number of the Revue de Chieurrgie, argues strongly against gastrotomy in these cases.

Gastrotomy may be performed in cancer or stenosis of the pharynx, for divulsion in atresia of either opening of the stomach, where such a procedure is called for, for the removal of foreign bodies from the stomach, as in the following case, related by Billeotte, in which he performed gastrotomy, for the removal from the stomach of a set of false teeth, which had been swallowed. The history is remarkable for the fact that the teeth could not be found, although nearly the whole of the stomach was drawn out at the wound; he also introduced his hand into the abdominal cavity and explored the whole of it, ultimately finding the teeth in the posterior part of the stomach, where it was bound down by the gastro-pleric omentum. The patient did well. C. Macnamara recommends that in gastrotomy, when the stomach has been found and drawn out of the abdominal wound, it should be held by dressing forceps, the blades of which are covered with drainage tube, and should then be transfixed with hare-lip pins, one placed parallel to the other about three quarters of an inch apart and so fixed to the wound. An opening in the stomach should be made on the third day. The advantages are that the stomach is securely fixed, and the ease and dexterity with which it is done. Annals of Surgery Vol. I. page 341.

NOTES.

MR. KARNEY IN THE COMMISSIONED SERVICE.—It is a source of great gratification to us to be able to announce in the columns of this journal that Mr. W. Karney who was till the middle of last year an L. M. and S. student of this college, having passed the examination for the Triple Qualification as second in the list, has now succeeded in entering the Commissioned Medical Service. It is expected that after a six months' training in Netley Hospital, he will be sent out to India. We sincerely hope that Mr. Karney's success will serve as a great encouragement to the promising youths of the College.

CHANGES IN THE COLLEGE.—We are glad to note that Dr. Edgar Thurston, Fellow of the Royal Microscopical Society, and Superintendent of the Government Central Museum has been by a happy selection, appointed as lecturer on Comparative Anatony, to the M.B. Students of the College. This office was formerly held by Dr. Keess, the retired principal. We have further to state that owing to the return of Surgeon-Major W. R. Browne M.D. to his permanent appointment at Ootacamund, Surgeon Maurice Henry Smith has been appointed to act as Professor of Materia Medica and Pharmacy and Second Surgeon to the General Hospital, during the absence of Surgeon J. Maitland on leave.

A SAD DEATH.—We have to record with very great regret, the sudden death at Raichur of Dr. P. J. Boon, Civil Surgeon, Coconada on his way to Madras whereto he was proceeding for the sake of his health.

Madras Medical College,
25th April 1887.

PROPOSAL TO ESTABLISH UNIVERSITY DEGREES IN STATE MEDICINE.

To

THE EDITOR OF "THE MEDICAL COLLEGE JOURNAL."

SIR,

The question of establishing degrees in State Medicine in the University of Madras will shortly receive the consideration of the Senate. While this proposal has met with the unqualified approval of most of the members of the Medical Faculty, a few gentlemen including the Surgeon-General appear to view it with considerable disfavour. Now an unprejudiced examination of the correspondence on the subject leads me to believe that the controversy has not been conductedon a common ground. The supporters of the proposal take a strictly consistent view of the case and urge that this University, in recognition of its present advanced educational status ought to confer degrees in State Medicine and thus stimulate a systematic study of Sanitary Science, a study admitted on all hands to be one of vital significance to the best interests of this country. The opponents of the scheme, on the other hand take their stand on totally a

different ground. Their arguments are the following :—

1. There are no facilities in Madras for training men up to the standard proposed.

2. The Madras Government shews a marked preference for those who lack such special qualifications.

3. The Board of Technical education to be shortly organized will meet all the practical wants of the country.

4. This proposal will only minister to the native craving for mere University honours irrespective of their practical value; and the natives will always be personally apathetic to stinks, squalor and muck, the impression left by early surroundings being too strong to be effaced by any amount of healthy training in after life.

These, I need hardly say, are points which legislators for an examining institution such as the Madras University is, ought never to recognize.

Returning to the several objections *seriatim*.

1. If, in spite of Dr. MacHally's authentic statement, some persist in holding that nowhere in Madras are there sufficient facilities for sanitary instructions, such as a laboratory, museum, and efficient teaching staff, I cannot understand what they mean by opposing this scheme, which is *the* agency above all others for inducing the College to provide the necessary laboratory, museum and instruction.

2. In the absence of properly qualified sanitary officers, any such statement must needs be primature; and there is no reason to presume that, when such men have been helped into existence by the proposed method, they will not be largely availed of by Government.

3. This objection is sufficiently well answered by Dr. Branfoot thus,—"I do not think that any certificate given by the Board of Technical Education would carry the same weight as a degree in State Medicine or that *the proceedings of this Board should affect the creation of such a degree in the University.*" (The italics are my own.)

4. Leaving out of account the general remarks Dr. Bidie is pleased to pass on the character and habits of the natives as a whole, it is enough to say that the practical instruction comprehended under Dr. Sibthorpe's scheme would, if properly conducted dissipate his charge and that, with reference to the second part of his statement, it is *prima facie* false and uncomplimentary to presume that even after four or five years of systematic instruction in Hospital and College and after practical training in a Hygiene laboratory, natives will still be personally apathetic to stinks, squalor, and muck whatever their early life and habits might have been. Therefore, in praying for its adoption I beg to express my belief that this proposal will satisfy in us, students a healthy craving for the cultivation of a liberal study of hygiene in all its branches and that by acquiring a systematic knowledge of sanitary or preventive medicine, we shall fulfil the medical man's mission i.e., mitigating the ailments of human kind, in by far the most economical manner. I have another reason to welcome this scheme, and that is, it will enlarge the sphere of our usefulness and give profitable occupation to many of us who shall find Government service difficult to secure and private practice hard and precarious.

N. S.

PROCEEDINGS

OF THE

STUDENTS' ASSOCIATION.

We publish below the continuation of the valedictory address delivered by Mr. N. Subramhanya Aiyar, M.A.,

on the 12th June 1886, a portion of which appeared in No. 7 Journal :—

It is indeed creditable to us that so far as the regular work of the association has gone, we have done an amount of progress that may be described as being respectably satisfactory.

But when we look a little more deeply for the substantial steps that have been made under the auspices of the association, we find that the establishment of a medical magazine takes a leading place. Knowing as we do that all journals, magazines, newspapers, periodicals of all kinds, nay, written communication of every description are intended to serve the important object of making a permanent record of the systematic as well as isolated efforts thatmay be made from time to time by any department of human society, and of constituting a medium of mental intercourse between parallel assemblies of intelligent men knowing as we all do this fact, it is unnecessary and will be but an uncalled—for repetition of a well understood platitude if I stop to shew in express language how a purely medical journal started under the auspices of a society of students, under the patronage and direction of some of the masters of our science, must serve its own proper function in the economy of human labour. That such a medical organ besides being an object of paramount importance is most deciedly a desideratum of vital significance to the intelligent prosecution of medical work is sufficiently well established and needs no proof at my hands. All that I need remark is that the founders of this journal have by one act provided for the work of mutual edification, for the authentic publication of the quantity and quality of medical work practised in this presidency, for the material advancement of the interests of our profession and for the healthy evolution of the intellectual capacities of the students by demanding their co-operation, and have by these means deserved the lasting gratitude of the unprejudiced medical public.

While so much credit is due to the suggestiveness that has ushered in this journal for public acceptance, we must on no account lose sight of the fact that a considerable amount of willing merit and serious earnestness of purpose has yet to be brought to bear on its successful prosecution in the future.

Now, gentlemen having understood what the uses of our journal are, and having sufficiently convinced ourselves how the conscientious bestowal on our part of a respectable share of anxious attention is so intimately bound up with as to form part and parcel of our duty as students of this college and as promising members of the medical profession, may I be allowed to ask you individually and collectively, in the name of this association, in the name of this college in the name of everything that is entitled to your respect, to feel a responsible sense of duty, a sacred consciousness of being bound by ties of professional love to contribute your share towards sustaining this piece of medical journalism and remember, my friends, that on the manner in which each student accepts the allotment of journalistic work that falls to his share, on the extent of *responsible* interest he takes in its good reputation

and on the amount of solicitous attention he bestows towards its progress, must needs depend the general *prestige* of this medical college. But in the meanwhile should a question arise, what necessity is there for this association and its journal, what tangible benefit they can secure for the progress of the profession, in the presence of a mighty British medical association and its Madras branch, I can only reply, by expressing a hope in the words of Dr. Farquarson that while there are important associations which so faithfully reflect the progress of modern medicine "yet our little bark may float peacefully by the side of more richly laden vessels without being entirely submerged by their waves."

Such, then, are the exact position and relation of our journal.

Now with a view to the healthy management of the regular work of the association and to the satisfactory progress of the journal that the association has taken in hand, permit me to recommend for your considertion a few suggestions which offer themselves to my mind as being most expedient.

I. In the first place let us look at the constitution of our society. It is customary in all public assemblies charged with the performanceofexecutive functions to elect from among the members a number of gentlemen to form the managing committee. The exact duties of a member of such committee are to feel a conscientious sense of direct and personal responsibility for the satisfactory management of the society's work, and to exert himself in its cause more than others and to make such earnest suggestions to the general body as his observation and study of the society and its position dictate to him as being favourable to its further advancement. And that body of members alone would be a managing committee in the strict sense of the phrase, which evince so much energetic interest as to place assurance in other's minds that even the members of the general body may fall away without prejudice to its interests. These being the onerous duties of a representative executive body such as the managing committee is, is it not a dangerous mistake for us to make, if we regard it as an honorary institution maintained to serve as a reservoir of titles and honors which we may draw upon whenever we choose to compliment a member, after the fashion for instance of the Order of the Star of India. Let not these words be taken as implying any offence or disparagement to the labours of our present committee. My object in introducing this topic was simply to stimulate our labours by reminding the association that the journalism that we have just now undertaken has extended the field of our labours and demand from the society, from the managing committee in particular, an extra quantity of contributory and other work. I would therefore suggest as a safe measure that the managing committee be regarded as a sort of working committee, that it be a sort of volunteer corps willing to enlist the services of any member desirous of putting in active work, care of course being taken that the managing committee continues to remain as a manageable committee.

II. Let us next view the working

of the association with reference to our medical journal. This periodical being purely an institution of our association, it is only proper that the internal constitution of the association should contain some definite provision for meting out a regular supply of aid to the editor of the journal. Regularity and certainty of contributory help will, in my opinion, be secured only by means of a special arrangement planned with due reference to its requirements. It occurs to me as being least open to objection that the society, at any rate the working portion of it should run itself into a number of working sections whose duty it will be to furnish full reports of important cases that may come under their repective observation and even dissertations if possible. We may have two sections to represent the two surgical wards, two for the medical, one for the Lying-in-Hospital, a fifth for the Opthalmic Hospital and the student in attendance on the Surgeon Dentist may be asked to inform in cases of dentistry. Each of these sub-committees or sections may have a corresponding or executive officesr or secretary whose duty it will to collect contributions from the members of that section and forward it to the general secretary or to the editor direct. In addition to the articles with which the editor will of course favour the journal, one professor of the college or any other doctor may be asked at a time to honor each number of the journal with a dissertation of his own. Again this journal has got and may exercise a legitinate claim on the labours of the past students who owe their professional education to this college and who, I dare say, will gladly come forward with a hearty response to the requirements of this journal.

The arrangements I have herein suggested, have of course the appearance of a machinery complicate in its details. But I firmly believe that if steadily attended to for some time even in the teeth of some initial inconvenience, they will in the long run facilitate the progress of the society so far as to convert it into a sort of automatic engine. If you like to understand the rationale of the arrangements, please pause for a moment, and review the wide array of sentient existence ranging from the humblest animalcule which require the microscope to reveal, to the highest man that the animal kingdom presents to our observation; and study the various adaptations of morphological structure to changes of physiological function as development progresses from a lower to a higher type; and what do you find? What law lies at the bottom and forms the ruling secret of the marvellous perfection of the almighty's work? Is it not the grand law of the physiological division of labour? If it is so, then I say that in making these remarks my mind's attention to this great fact of nature was strongly fixed.

If in the course of this address, I have injudiciously employed any unnecessarily strong language, evinced any presuming spirit or assumed any imperious airs of authority or dogmatism, I sincerely beg to be pardoned. But please give me the credit of accepting this assurance from me that however I may have expressed myself, I have all along been actuated in every

syllable of my remarks by sentiments of pure love and esteem for you my friends for mine the Hindu nation and for India, my country and lastly for that divine principle of truth, and that if have ever *spoken* strongly, it is simply because I *felt* strongly.

Now, Gentlemen, I am at the close of my exceedingly short address. It only remains for me as a student of medicine, as a lover of human nature and as a respecter of greatness of mind and earnestness of purpose in whomsoever it may be found, to offer my sincerest thanks to the gentlemen concerned in the inauguration of the association. to those who have helped to sustain it, the members of the managing committee, to the secretary, and to Dr. Nailer the editor who himself a loving student of this college has showed an admirable amount of zeal and devotion in the cause of the society and of its journal, and lastly not least to Dr. Keess our president, not on my account alone, but on behalf of the asscciation which I have just now had the honor of addressing.

Now, Mr. Chairman and gentlemen, please allow me to thank you most heartily for the patient hearing you have given me to-night.

NOTICE TO SUBSCRIBERS.

The Manager of this Journal desires to intimate to the Subscribers that with this issue the year's numbers have been completed. He therefore requests all those who have so generously supported him, in his endeavours the past during twelvemonth will continue to do so and remit, without delay, the coming year's subscription. This is all the more needed as it is hoped, if funds are available to increase the size of the journal, but this cannot be done, until he gets an accurate return of subscribers for the coming year. He hopes no offence will be taken if he takes it for granted that those from whom no letters are received may be counted as subscribers for the current year and he trusts they will recommend his journal to their friends and thus increase the number of his patrons.

* Acknowledgment of remittances for the past month will appear in the next issue.