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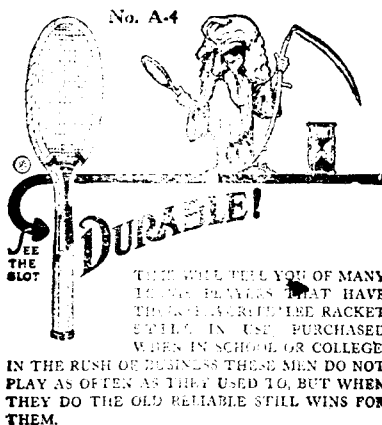
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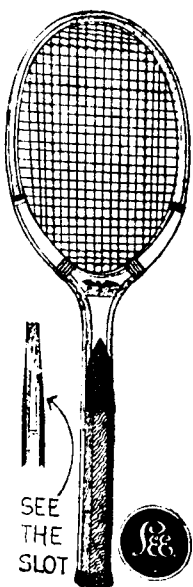
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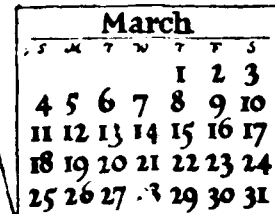
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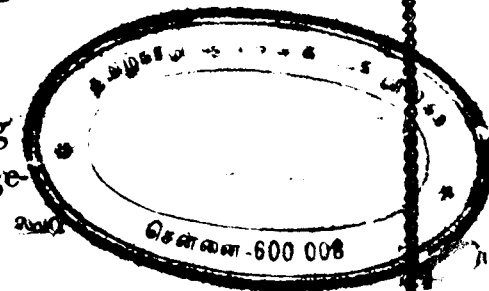
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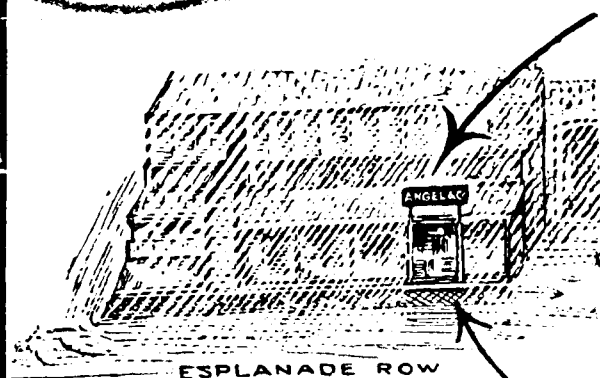
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Vol. VIII No. 1.

August, 1928.

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THE WINNERS OF THE TRAVANCORE SHIELD
1927-28.



THE MADRAS Medical College Magazine

Vol. VIII

AUGUST

No. 1

On Relationship of Certain Diseases, WITH SPECIAL REFERENCE TO THE NEUROPATHIC DIATHESIS.

BY LIEUTENANT COLONEL G. E. MALCOMSON, I. M. S.
M. R. C. P. (LONDON) M. D. (LONDON) D. P. H. (LONDON.)

*Professor of Medicine, Medical College, Madras
and First Physician, Government General Hospital, Madras.*

Dr. Robert Hutchinson has well said "It is written that there abideth Faith, Hope, Charity, these three, but the greatest of these is Charity—and so in Medicine we have Diagnosis which is a matter of faith; Prognosis which is a question of hope; and Treatment which is only too often an affair of Charity; but the greatest of them is Diagnosis. For, without accurate diagnosis it is impossible to forecast the course and outcome of a disease or to treat it satisfactorily. Indeed as someone has truly said 'The first part of treatment is diagnosis, the second diagnosis, and the third diagnosis'."

But I would go a step further and say that there is a greater even than Diagnosis, and that is Etiology. For, without a knowledge of Etiology an accurate diagnosis

is impossible. Thus it is not a sufficient diagnosis to say that a patient has got 'Aortic Regurgitation'. A more complete one would be 'Syphilitic Endocarditis of the aortic valves with Regurgitation', in other words the diagnosis is incomplete unless the cause of the lesion is indicated.

It has recently been recognised in Medicine that certain conditions which are commonly regarded as disease entities are merely the reaction of the body to numerous and different disturbances which reactions tend to assume a specific pattern. Thus the familiar blood picture of Pernicious Anæmia is certainly not invariably due to the same cause and may be spoken of as a Pattern Reaction. Similarly Subacute Combined Degeneration of the Cord, frequently a complication of Pernicious Anæmia may be due to many diverse underlying causes, and is therefore itself a Pattern Reaction, and not an accurate or ultimate diagnosis in itself. Such instances may be multiplied almost indefinitely, and in the course of this article it will be suggested that Epilepsy is another example of a Pattern Reaction and that the diagnosis of Idiopathic Epilepsy is not therefore a strictly accurate or complete one. With these introductory remarks I will now introduce the theme indicated by the title of this paper.

Starting from the group of diseases known as vaso-motor neuroses we find Raynaud's disease and Angio-neurotic oedema occupying prominent places. Both these diseases are hereditary and occur in families with neuropathic diatheses, and are therefore akin to epilepsy, asthma, migraine, hysteria and neurasthenia. I have seen two cases of Angio-neurotic oedema recently, both of which occurred in highly neurotic individuals, of which one at least gave a mental family history.

In the above mentioned diseases perhaps the most prominent etiological factor is that of hyper-sensitiveness to certain (usually) protein substances which is found exquisitely developed in Asthma; this characteristic links Asthma to Urticaria where a similar hypersensitiveness can often be demonstrated in a well developed form. In fact it is not uncommon as in serum anaphylaxis, to find asthmatic symptoms and urticaria coincident in the same patient. Urticaria is in itself frequently a familial complaint and the sufferers therefrom or their relatives not infrequently are subject to Asthma and Hay-fever.

The conditions underlying Epilepsy and Migraine are more obscure. Of the pathogenesis of Migraine little is known for certain; children who have suffered from Cyclical vomiting sometimes develop into migranous subjects; cyclical vomiting in children is accompanied by an acidosis, with the presence of "acetone bodies" in the urine, but whether this is an essential feature or merely a starvation acidosis is uncertain. At any rate so far as I know there is no evidence of acidosis in Migraine but the condition in cyclical vomiting may be tentatively accepted as evidence of metabolic disturbance. There are many theories to explain the causation of the migranous attacks. These may be enumerated somewhat as follows:—

1. *Arterial spasm.*—This is suggested by the pallor which occurs in migraine as in epilepsy. If we accept the findings of Forbes and Wolff that the cerebral arteries are under vaso-motor control, this will explain the varying nature of the attacks, headache at one time, aphasia at another, teichopsia without headache at another time. It will not however explain the lasting ophthalmoplegia which occasionally but rarely occurs during a migranous seizure.

2. *Migraine* is due to a functional disorder of the cerebral cortex leading to an exaggerated cortical discharge, indetical in nature but different in position from that of epilepsy. As will be seen later, arterial spasm has also been suggested as a cause of epilepsy; this then does not of necessity exclude arterial spasm. The visual hallucinations are easily explainable by this theory; it also forms a ready explanation of the alternation of epilepsy and migraine in the same subject. The headache and vomiting are not so easily understood and the theory entirely fails to explain the ophthalmoplegia which sometimes occurs.

3. *Spitzner's theory* is of importance because it is based on actual post mortem findings. Spitzner had a series of migrainous patients who left their bodies for him to examine after death. He found that all the brains of these had a local hydrocephalus on the affected side. He assumed periodic turgescence of the choroid plexus of the lateral ventricle which blocked the foramen of Monro and caused dilatation of the lateral ventricle. This explains sudden death in the middle of an attack, which however is very rare; it explains oculomotor paralysis in the middle of the most intense headache. (Diplopia is occasionally produced due to paralysis of the third or sixth nerve or both either due to the nerves being pressed against the edge of the Tentorium cerebelli on the same side or being stretched on the opposite side).

4. *Collier's theory* goes a little further than Spitzner and assumes that migraine is an oedematous condition of the brain; patients with regular fits frequently complain of unilateral swelling of the tongue which replaces the fit. Again Asthma and Angio-Neurotic Oedema are paroxysmal events, in both we get oedema, the result of anaphylactic phenomena. Why should the

brain escape from anaphylactic oedema? And in the course of years by unilateral displacement why should not the unilateral hydrocephalus of Spitzner be produced? Quincke considers Idiopathic internal hydrocephalus to be an anaphylactic phenomenon similar to angio-neurotic oedema. Gordon Holmes has, I believe, independently come to the conclusion that local oedema is responsible for the phenomena of migraine.

It is therefore not impossible that migraine may be a manifestation of anaphylaxis like Asthma, urticaria and angio-neurotic oedema and possibly intermittent hydrarthrosis and the relationship of these diseases may be referred to an hereditary sensitisation to certain foreign proteins or other substances. Before considering the etiology of epilepsy one must bear in mind two considerations:—

I. The number of conditions which will produce convulsions indistinguishable from what is usually described as an epileptic fit, are numerous. To mention a few we have

- (a) Metabolic disturbances in childhood especially, such as tetany and rickets.
- (b) The poison of infectious fevers in children.
- (c) Chronic poisoning by Alcohol, lead and many other substances.
- (d) The poisons of uraemia, eclampsia and cholaemia.
- (e) Circulatory conditions as hyperpiesia and Stokes-Adam's Syndrome.
- (f) Lesions of the central nervous system such as congenital brain disease, hereditary degenerative processes, tumour, syphilis, meningitis, encephalitis, disseminated sclerosis and so on.

A glance at the above formidable list will at once

suggest the questions "May there not be many more unrecognised causes of seizure which are now classed as idiopathic epilepsy?" "Are not the phenomena of epilepsy more probably symptoms-complex of many underlying conditions, in fact a Pattern Reaction like subacute combined degeneration or psoriasis?" "Would it not be better to discard the term Idiopathic Epilepsy and substitute, (as I believed suggested by Kinner Wilson,) "Epilepsy of unknown origin," for those cases for whom no underlying cause can be discovered?"

2. The phenomena in epilepsy are by no means always identical. In fact they are of almost infinite variety. To enumerate a few:—

- (a) The ordinary seizure or grand mal of general convulsion.
- (b) Loss of consciousness with slight spasm.
- (c) Loss of consciousness with falling but no spasm.
- (d) Simple loss of consciousness without spasm or falling.
- (e) Psychic fits of fear or terror of seeming to be somewhere else.
- (f) Visual fits of blindness, hemianopia or flashes of light.
- (g) Epileptic automatism during which the patient may commit indecent or criminal acts.

It is no part of this paper to discuss the mechanism of "fits" in the wider sense, that is of Epileptic seizures, be they motor, sensory, psychic, visceral or mixed—but it is necessary to mention three of the theories formulated to explain their production.

1. *The "Irritative" theory*—the original one suggested by the effects of Electric stimulation of the cortex and the findings in Jacksonian Epilepsy.

2. *The "Release" theory*—that the initial cause of

the seizure is an arrest of cortical function causing a withdrawal of control of the higher over the lower centres so that the latter are able to discharge excessively.

3. *The "Explosive" theory*—that a seizure arises as a widespread change in brain tissue, not dependent on spread of nerve impulses, but upon some metabolic disorder such as anaphylaxis, alkalosis etc.

Now what are the theories which have been suggested to account for the phenomena of epilepsy? The common hypotheses may be classified as physiological or psychological.

1. *Physiological theories*—there are at least four of these and it will be seen at once that they are not mutually exclusive. They are:—

- (a) *Cortical instability*—this assumes that the cortical cells are unstable and their normal regulated action is under certain circumstances or exciting causes precipitated into an explosive discharge of nervous energy.
- (b) *Vaso motor disturbance*—postulating a local constriction with anaemia interfering with the inhibiting function of the cortex and hence causing the spasm by a release phenomenon.
- (c) *Toxic influences*—the evidence for these then is as follows:—
 - (i) Convulsive seizures occur in toxic states as Uræmia.
 - (ii) The blood of an epileptic during a convulsion has been known to produce convulsions when injected into animals.
 - (iii) The toxicity of the urine is decreased just before the fit and increased after it.
 - (iv) Epilepsy has been relieved by removal of septic foci and by desensitisation by Peptone Injection,

(v) Fatty degeneration of the heart is a constant feature in fatal cases of status epilepticus.

(d) *Intravascular clotting*—Antimortem clotting has been demonstrated in the brain of epileptic patients by Turner, probably due to local anoxaemia.

2. *Psychological theories*—These are various but assume that the epileptic Phenomena are emotional dispersals, the result of repressed conflicts. They do not require discussion here.

We have now considered several of the diseases which are apt to occur in families with the neuropathic diathesis. Are we in a position to say what the connecting link between these diseases is? I think the most prominent factor which is more or less present in all these conditions is the anaphylactic one, that of hypersensitiveness to a foreign protein or allied substance. But what is actually transmitted from parent to offspring in these cases urgently demands study and investigation. No doubt in cases of Asthma the hyper-susceptibility to a given protein is transmissible but in Asthma itself a hyper-susceptibility to a food protein in early life may be replaced or overshadowed by hyper-susceptibility to a bacterial protein in after years. And it would be idle to assert that such a susceptibility is demonstrable in anything but a small minority of cases of migraine or epilepsy. Nor can a want of balance between the sympathetic or parasympathetic be seriously considered as a satisfactory explanation; the attempt to classify asthmatics into sympathetico-tonics and vago-tonics has not met with success and in allied conditions such a classification is even more futile. To state that the underlying factor in this group is vaso-motor instability means nothing unless we are able to define what the nature of the instability is;

furthermore, Hysteria and various forms of permanent insanity which occur in neuropathic families cannot even find an incomplete explanation in the vagaries of the sympathetic system.

Perhaps the ultimate solution will come from the Bio-Chemist for, it seems, not only possible but probable that not only urticaria, angio-neurotic oedema and asthma are the results of exogenous or endogenous intoxication but migraine and some forms of epilepsy are like manifestations of toxæmia.

As regards the psycho-neuroses and the psychoses we have substantial evidence of the influence of toxic agents here, the mental phenomena associated with puberty, pregnancy, the climacteric, with myxoedema, ex-opthalmic goitre and gout and a host of other conditions are all toxic in origin as are the permanent insanities of chronic alcoholism, of the syphilitic poison and of pellagra.

To sum up, the connecting link between the various diseases of the neuropathic diathesis remains still to be elucidated. This paper has attempted to emphasise the suggestion that metabolic aberration may form the transmitted factor; it has been prepared at short notice and no attempt has been made to discuss the subject fully and in all its aspects. Such a discussion would lead to almost infinite ramifications and would be the subject for a volume. One possible ramification which occurs to me at the moment is that of the aetiology of gout. Gout is a disease with very powerful hereditary tendencies and a mass of evidence has been produced notably by Llewellyn Jones. Llewellyn to show that in gouty subjects there is a tendency to cellular sensitisation which is the pathological basis of the diseases and that the gouty paroxysm is evoked by the corresponding protein or antigen whether animal, vegetable or bacterial. If this evidence receives

general confirmation, we have in gout a recognised metabolic irregularity with an undoubted hereditary transmission which disorder is precipitated by anaphylactic shock.

Such a discussion must embrace the whole subject of constitution in relation to disease including the views of Hurst on the constitutional bases underlying the hypersthenic and hyposthenic gastric diatheses, achylia gastrica pernicious anaemia, gall stones, diabetes, nephritis and phosphoturia. The anthropometric measurements of Draper in relation to human diseases must likewise receive full consideration; and finally the researches of Garrod on Alcaptonuria and other "Inborn errors of Metabolism" are of inestimable importance in this question.

Cancer Cheek

BY DR. KANAKASABESAN M. S.

Third Surgeon Govt. General Hospital, Madras.

The admission of a very large number of cases of cheek cancer into the wards every year has led me to ponder over some common features of the disease and an attempt is made here to put down some of my observations from statistics available from cases admitted into the 3rd Surgeon's wards from April 1924—Dec. 1927.

During this period 57 cases were admitted out of which 43 were on the left side and the usual site of onset appears to be in the crypt formed by the reflection of the mucous membrane from the alveolar margin of the lower jaw on to the cheek. Even here there appears to be a greater frequency of onset near the first molar tooth. An enquiry into the habits of these patients reveals that every one of them is in the habit of chewing betel-leaves with areca nuts and lime, and keeping a quid of tobacco in the mouth—the usual place of its retention being in the pouch of mucous membrane between the muco-periosteum lining the root of the first molar tooth and the mucous membrane of the cheek adjoining. Even though it has been generally recognised by Madras Medical men that the chewing habit predisposes to the development of cheek cancer I am not aware of any detailed enquiry into the exact nature of the real ingredient which acts as the irritant. Some one suggests that it is the lime that is responsible for the chronic irritation while others consider that the tobacco is the real irritant. When one considers that the habit of chewing is almost universal amongst the South Indians, while only compara-

tively a small percentage of betel chewers keep a quid of tobacco in their mouth and that the majority of the people suffering from cheek cancers are in the habit of keeping a quid of tobacco it is obvious that neither the betel nor the lime is the chief irritant but rather the tobacco or some compound formed by the chemical interaction of its juice with the betel juice. It is not really the habit of chewing that is probably responsible for the chronic irritation, but the constant pressure of the irritant betel-nut-lime-tobacco-mixture which is kept stowed away in the mouth cavity practically all the hours of the day when the patients are awake and not eating or doing anything special. As a matter of fact such people are in the habit of speaking and doing their work with this lump in situ. There is another curious feature to note, that while the habit of chewing betel with tobacco is common in several districts of the Madras presidency, the occurrence of cases of cancer cheek appears to be decidedly more common in the districts of Malabar, Travancore, and Coimbatore—the greatest incidence being amongst the Malabaris. As most of these tobacco chewers keep their quid of tobacco on their left side, the greater preponderance of left sided cancer cases is easily explained. Can it be that there is some other factor intermediary which is responsible for the greater incidence in these special districts? Probably the Malabar tobacco is different in quality from the tobacco available in the Eastern coastal districts. I have frequently heard tobacco chewers praising the superiority of Malabar tobacco over other brands. Is there any peculiarity in the soil that is responsible for this difference in quality or could it be any soil contamination which permits of, and fosters the growth of micro-organisms? Apparently there seem to be some endemic districts—the so-called

cancer districts—probably also cancer houses which require a further investigation and detailed enquiry. It is likely that tobacco grown in such areas may be the mechanical means of carrying the infection to a place which is also kept constantly ready by the very vehicle of infection. I am inclined to think that the sharp edges of the coarsely ground areca nuts frequently traumatise the mucosa and these minute tears or loss of continuity in the mucosa frequently heal and frequently break down again. Thus a seat of election, a place of lowered resistance, in fact a healed scar is there, and this when it is constantly irritated by the contact of betel-nut-lime-tobacco-lump offers the most suitable soil where the seed of infection when sown will flourish into a luxuriant new growth. I have also noticed that almost all the patients belong to the working class, and the immunity enjoyed by the rich would appear to be due to the fact that their social life interferes with continuous chewing and thereby, the mucosa of the mouth cavity enjoys periodical rest.

While the common seat of origin is opposite the alveolar margin of the lower jaw a very small percentage of cases start on the corresponding side opposite the upper jaw also. Probably this difference is due to the individual's peculiarity of keeping the quid of tobacco in the other place.

From this site of onset, it spreads in all directions in a characteristic centrifugal manner; thus at a very early stage by surface extension the hollow between the cheek and the alveolus is involved, the mucosa over the alveolar margin becomes infiltrated and spread takes place anteriorly towards the mid-line and posteriorly towards the anterior faucial pillars; simultaneously the infiltration of the deeper layers at the site of origin takes place with the result that the Buccinator and Masseter muscles are

involved and so mastication becomes difficult and painful, and there is inability to open the mouth freely. With the exception of a very small percentage of cases, most of the patients do not seek for treatment till this stage is reached and by now it is common to find enlargement of the sub-maxillary group of lymphatic glands—particularly “the middle gland of Stahr” which lies on the Facial artery as it turns over the mandible. This could be easily palpated and rolled over the margin of the jaw. Very soon the surface extensions involve the faucial pillars and there is the invasion of the lower jaw commencing from the muco-periosteum of the root sockets. The cheek becomes fixed to the jaw, the tumefaction in the cheek increases, the glandular enlargement becomes more extensive, the sub-parotid and upper deep cervical glands also become involved, the enlargement of the gland becoming stony hard and fixed to the lower margin of the mandible.

Unfortunately far too many cases are only first seen by the Surgeon at this stage; some from ignorance on the part of the patient, and a few from mistaken diagnosis as to the nature of the ulcer when the patients consult a doctor for treatment. If only in every case of an ulcer of the cheek in a patient past middle age and who is addicted to chewing tobacco the Surgeon will take a section of the margin of the ulcer and send it for pathological report many a human life could be prolonged if not saved, much human suffering mitigated, and many mutilating operations avoided. The final picture of the disease is an extremely hideous fungating cauli-flower-like mass protruding through the cheek and weeping an offensive blood-stained discharge with extensive induration and tumefaction in the neck due to glandular metastases. The poor sufferer unable to eat

or to speak, sleepless from constant pain, leads a miserable life all too conscious of his impending fate and passes rapidly on to his end.

Treatment

Excepting in the very early stages the condition is not amenable to radical operative treatment. When there is involvement of the faucial pillars, extensive invasion of a large segment of the lower jaw on the affected side, when the other lower jaw is also affected and when both the upper and lower jaws on the same side are also involved, when more than one chain of lymphatic glands are palpably enlarged, when the enlarged glands have become stony hard and fixed to the mandible or when these have broken down, radical cure by operative measures is entirely out of question; and until recently the most that could be done for such cases has been to attend to the teeth, keeping the mouth cavity clean by gargles, any protruding mass being covered by antiseptic dressings, and the administration of opium to relieve the pain. Occasionally one is tempted to remove as much of the growth as possible by the Diathermic knife if necessary after splitting the cheek, with the result that a large gap in the cheek is left, and after a few days apparent satisfactory healing a rapid recurrence takes place in a most luxuriant manner. Recently in such apparently inoperable cases, I have buried radium needles into the growth encircling the mass by a number of needles so arranged that the growing margin will be exposed to the greatest intensity of the radium emanations, while the comparatively less malignant centre will have enough radium to kill the degenerate cells there to be found. It is premature to draw any conclusion so far; but I have reasons to hope that it is doing

good atleast in as much as there is marked relief of pain and there is slight shrinking of the growth. I have used 50 mg. of radium sulphate disposed in seven or eight needles, and leaving them in, for about 72 hours.

I have appended below some of my available statistics of cases in S 3 wards from April 24—Dec. 27.

Total number treated	57
Males.....	34
Females.....	23
Right side.....	14
Left side.....	43

Duration

Less than two months.....	13
2—4 months.....	15
4—6 " 	9
6—12 " 	10
Operable.....	18
Inoperable.....	39
Lymphatic metastases present.....	28
Lower jaw involved in.....	27
Upper " 	9
Fauces involved in.....	8

Age incidence

Below 20 =	1
20—30 =	6
30—40 =	13
40—50 =	16
50—60 =	16
Above 60 =	1

Treatment

Complete excision	14
Partial excision with Diathermic knife	10
Deep X-ray therapy	3

I am unable to give any statistics as regards their ultimate condition as we are unable to follow up the cases after treatment.

Government X-Ray Institute, Madras.

It is not generally realised that only about $1/200,000,000$ th part of the total radiation from the Sun reaches the Earth and that only $2/5$ ths of this passes through our atmosphere. Pacini states that of the radiations from Sunlight 80% are infra-red, 13% are Light and 7% are Ultra-violet. These percentages vary according to the seasons and time of day and, also, to some extent, to the Altitude, the maximum range of the spectrum being found in the month of July and the maximum intensity at about 1 p. m.

Historical.—The Sun's Rays have been used as a curative Agent in disease in ages past, there being evidence



that the ancient Egyptians, the Greeks and the Romans used Sun Baths.

During the middle ages the medicinal value of these Radiations was lost sight of and it was not until the 18th Century that a revival came about, when Fanre treated Ulcers by exposure to the Sun's Rays, in 1774. From then until 1815 such treatment was localised but in that year Loebel advised general exposure, except in Haemoptysis.

All the literature on Helio-therapy pay tribute to Arnold Reckie who, although not a Medical man, greatly advanced "the cause", in the middle of the 19th Century, by opening a Clinic at Veldes, in Austria, where he treated patients by fresh air and Sunlight. Much to the surprise of the medical profession, his patients did not die but, on the contrary, a large number were cured of their ills!

Dr. Rollier, in his valuable book "Heliotherapy", gives interesting accounts of all these early workers with the Sun's Rays, concluding with "Bernhard of Samaden, who, in 1902, having been impressed by the absence of putrefaction in meat exposed to the Sun in a high mountain atmosphere, treated a large operation wound by exposure of the affected part to the Sun; the result was so satisfactory that he was led to extend the application of Sunlight to tuberculous lesions." In 1903 Dr. Rollier opened, in the dry atmosphere of Leysin, the first Clinic for the systematised treatment of Surgical Tuberculosis by the brilliant Alpine Sunlight and, unlike Bernhard, advocated the general Sun-bath as distinct from the local application of the Sun's Rays. He has obtained wonderful results and his work has become world-famous. In 1910 he opened a Hostel at Cirgnat near Leysin, where children, considered to be predisposed to Tuberculosis, continue their education in ideal surroundings. At the same time a working settlement for cases of Surgical

Tuberculosis and a farm colony for convalescents were also started.

Rollier having obtained such good results with the Sun's Rays the question naturally arises "why cannot we in Madras, where we have an abundance of Sunshine, do the same?" The objection, so far as Madras is concerned, is the great heat, for in tropical climates it is possible to have too much of a good thing, and a direct exposure to the Sun means the risk of death by Sunstroke. "The brown skin of the Indian is the natural protection against Rays so strong that they may kill before they cure". Therefore, in tropical climates and in countries where but little Sunshine is obtained, especially in the Winter months, an artificial source of light is used with, if anything, better results than those obtained from Sunlight, for as Dr. Francis Humphris points out in his book on "Artificial Sunlight and its Therapeutic Uses"— "There are many rays in the solar spectrum which are not needed for therapeutic use and many in fact which are a drawback comparable with the deficiencies in crude drugs. If we wish to give a patient a drug to relieve pain do we gather a handful of poppies, make a decoction of this and order a mouthful to be taken at intervals? Or do we prescribe a hyperdemic injection of Morphine, an accurate dose of exactly that part of the poppy that is desired?" With artificial Sunlight apparatus we obtain an intense Ultra-violet Radiation which can be scientifically measured and repeated at any time. It has been computed by Dorno that the intensity of Ultra-violet Light, as compared with the radiation emitted by the Sun, is as follows:—

at 40 inches distance 3.7 fold of the Sun's strength			
at 28	"	6.1	" "
at 20	"	12.2	" "

Other than the Sun, the sources from which we obtain Ultra-violet Rays are Electrical, using open Arc Lamps with ordinary Carbons, specially cored Carbons or Tungsten Electrodes, and Mercury Vapour Lamps with Quartz burners. These lamps are proving very efficient weapons against disease and are now being installed everywhere; in some places as adjuvants to the natural Sunlight Treatment and in others superceding this natural source of Ultra-violet Radiation.

At Alton and Hayling Island, in England, Sir Henry Gauvain, following the methods of Rollier is doing excellent work, but on account of the vagaries of the English climate, also uses Mercury, Carbons, Iron and Tungsten Arcs.

Professor Finsen was the first scientist to give treatment by artificially produced Radiations and, in 1893, published his results of such by the rays from a special Carbon Arc Lamp—now worldwide—known as the "Finsen Light". Her late Majesty Queen Alexandra took a great interest in the work of her fellow countryman and introduced the Finsen Light to the London Hospital, in 1900, when she presented the first set of apparatus to what became a very important centre for Light Treatment, where Dr. Sequeira obtained splendid results, especially in Lupus. It may be of interest to study the physical and chemical properties of Ultra-violet Light, before we proceed to discuss its value in Treatment.

Physical.—We have already referred to the visible spectrum. As will be seen in the diagram this forms but a minute portion of a much greater spectrum which comprises, in the order given, the Wireless waves, Heat Rays, Ordinary Light, Ultra-violet Rays, X-Rays and the Gamma Rays from Radium. These differ one from the other in their wave lengths from crest to crest, beginning

with the Hertzian waves, which may be miles in length, down to the Gamma Rays, the wave lengths of which are so small that to express them even in millimetres would be cumbersome, as they measure something like ten thousand millionths of a centimetre.

As shewn in Mr. Schall's Diagram we measure wave lengths in Kilometres, metres and centimetres until we come to visible Light and from there we bring into use another expression, the Angstrom Unit, which is one hundred millionth of a centimetre long (1 A. U. = 1×10^{-8} c. m.); occasionally a unit, which is ten times as large, known as a millimicron, is used, and is shown as "u".

The presence of Ultra-violet Rays can be detected in many ways the most popular one being in Photography where the silver chloride on the film or printing paper is "changed" by N. V. R. and we secure photographs. The Rays also cause certain substances to fluoresce—this is best seen in the screening Room of an X-Ray Department where a very soft X-Ray Tube gives a similar phenomenon on a screen composed of Platino-cyanide of Barium Crystals. Ultra-violet radiation may be studied by a spectroscope in which the prisms and lenses should be of quartz, as ordinary glass absorb all the waves of short wave length. Rays of a wave length lower than 1700 A. are absorbed by the air.

There are a number of instruments for measuring the intensity of Ultra-violet Radiation from any source—some of these are chemical and others Electrical. The Electrical method is based on the fact that if metals and other substances are bombarded with Rays of a certain wave length Electrons are given off. Electrons consist of small particles of negative Electricity which can be weighed and measured, being equal to about one 1900th part of the Hydrogen atom. They rotate round a central

particle called a proton, which is a positive nucleus; the differing number and arrangement of these Electrons produce the atoms of the various Elements, which remain Electrically neutral while the protons and Electrons are equal.

Every substance has what may be termed a critical wave length, below which Electrons are dislodged from the position occupied in the atomic orbit. When this happens the Electron either flies out into space or takes up its position on an orbit more distant from the centre of the atom, the energy of the "wave" being partly or wholly absorbed by the Electron.

Conversely when an Electron flies from space or from an outer orbit and takes a position on one of the inner orbits it gives up the energy and produces radiation of a wave length dependent on the velocity of the Electron. The first change is termed "absorption" and the second change, "Emission of Radiation", while the interplay of all this energy is called the Photo Electric effect. (Schall)

All metals are photo-electric and, also, many non-metallic substances, such as Paraffin, sulphur, etc.

Absorption of Ultra-violet Radiation.—Most substances are more or less opaque to these Radiations and become increasingly so as the wave length decreases.

Nitrogen is quite transparent, so is Hydrogen but Ozone absorbs the Rays and it is held that the Oxygen in air causes it to be opaque to all radiations shorter than 1850 A. U. Dust, smoke and water vapour all absorb a great amount of Ultra-violet Radiation. Some solutions like, peptone, amino benzoic acid and Phenylalanine are impenetrable. Blood absorbs radiations shorter than 4500 A. U. Hasselbalch found that the intensity of a Radiation of 4000 A. U. was reduced to one half by a

layer of skin 0.12 m. m. thick. One m. m. thickness of skin absorbs Rays shorter than 3600 A. U.

Considering all the radiations shewn in the sketch of the spectrum, it will be found that, so far as the human body is concerned, the latter is transparent to the Wireless waves; it partly absorbs the infra-red rays and absorbs to a greater degree the red rays of "Light". As we proceed down the scale to the Ultra-violet Radiation the absorption increases until we reach the 'Soft' X-Rays after which the absorption decreases as the wave length decreases. Thus with a 'Soft' X-Ray Tube we can get a violent reaction of the skin while with a 'hard' Tube and a suitable filter, which cuts off all but the shorter wave lengths, we get no reaction, with the same exposure. Therefore, the longer Ultra-violet Radiation are used for constitutional treatment and the shorter wave lengths, these approaching the lengths of soft X-Rays, are used for local conditions in which we require a skin or surface reaction.

The different glasses vary in their power of absorption. Luckiesh in his book on "Ultra-Violet Radiation" gives the following Table for the various glasses, 2 m. m. thick.

Type	Limit of absorption
Common glass	2950 A.
Light brown	2950 A.
Extra Light Flint	2980 A.
Medium brown	3000 A.
Light Flint	3050 A.
Medium Flint	3150 A.
Extra Dense Flint	3350 A.
Schotts Heavy Flint	3400 A.

Ordinary window glass absorbs radiation below 3300 A. but F. E. Lamplough, M. A., has invented a new glass

called "Vitaglass" which transmits Rays up to 2750 Å. It is thus transparent to all the Ultra-violet Radiation in Sunlight and, as the new glass costs less than the cheapest plate glass, it is in great demand for windows in Hospitals, Nurseries, Schools etc.

Reflection.—Ultra-violet Radiation may be reflected by many substances, being partly absorbed in the process. Snow reflects the Radiations very well and this accounts for snow blindness. It will be seen in all the photographs of Dr. Rolliers patients at Leysin that they wear the same glasses, when out in the snow, as those we supply in our Artificial Sunlight Department, to protect the eyes from Ultra-violet Radiation.

The chemical properties of Ultra-violet Radiation are many and include the following.---

Chlorine, Bromine, Iodine and Oxygen are set free from their components by the action of Ultra-violet Radiation.

Pacini advises the joint use of Hydrogen Peroxide and Ultra-violet Radiation for the sterilisation of mucosal surfaces.

Solutions of starch may be hydrolised to maltose and dextrin; and solutions of Inulin to Glucose and Lævulose by Ultra-violet Radiation.

Diastase in solution is decomposed by wave lengths shorter than 3022 Å.

Proteins are rendered less soluble when exposed to Ultra-violet Radiation.

Amylase and invertase, the Enzymes of Malt and Yeast, are destroyed by Ultra-violet Radiation.

These rays also destroy the toxicity of strophanthus compounds and quickly render harmless the venom of the Cobra, but have much less effect on Antivenomous serums.

Ultra-violet Radiation will nullify the antitryptic effect of human blood.

Formic acid is formed when a mixture of carbon-dioxide and ammonia is radiated by a mercury vapour lamp.

According to Russell & Russell, from whose work on Ultra-violet Radiation the above was compiled, a firm of Leather manufacturers at Worms employ 2500 mercury vapour lamps, the radiations from which greatly improve the quality of patent leather. These Rays are also used to test the fastness of dyestuffs which were formerly sent to be kept in the tropics for about two years. A very short exposure to an artificial Sunlight will be a sufficient test.

Biological Action.—Ultra-violet Radiation has a marked effect on living cells the most noticeable being the pigmentation (sunburn) of the skin which has been irradiated; this is not visible immediately, there being a latent period which varies with each patient, followed by Erythema. There is almost invariably a fall in the blood pressure.

Rollier has stated that the best masseur is Sunlight. It is certain that the tropic condition of the skin improves under the rays, as do also the underlying muscles, flabby and wasted limbs becoming strong and firm.

The general health is benefited and the metabolism quickened, Ultra-violet Radiation assisting in the formation of the anti-bodies in the blood, thus raising the immunising power of the body. Lesions away from the irradiated part are affected beneficially.

It has been found that exposure to these Rays counteracts the diarrhoea and bronchitis which usually goes with Rickets. Ultra-violet Radiation has an analgesic effect, acute pain being often relieved after one sitting.

Bacteria.—Ultra-violet Radiations have a bactericidal effect, the Rays most active being those between 2960 A. and 2100 A. Water may be sterilised by Ultra-violet Radiation and Pacini tells us that "if live Bacteria are added to water which has been sterilised by Ultra-violet Radiation, within one hour practically 90% of the organisms are killed; the action is called the residual effect."

Secretions and toxins of Organisms are destroyed by these Rays, the organisms themselves being killed first.

Ultra-violet Radiation Action on the Cardio-Vascular System.—Irradiation of the body causes dilatation of the surface capillaries which results in a lowering of the blood pressure. The general health of the patient improves and headache is relieved. In heart lesions the lowering of the blood pressure lessens the work of the heart.

The Effect on the Blood.—It has been found that normal blood absorbs rays with wave lengths less than 4500 A. As a result of Radiation Russell & Russell found an increase in the number of erythrocytes from 4,300,000 to 5,725,000 in one case, in three weeks. The haemoglobin increased from 70 to 90 per cent in the same time.

Lymphocytosis caused by Ultra-violet Radiation appear to be due to wave lengths shorter than 3300 A. Longer wave lengths than these cause Leucopenia.

The number of the blood platelets in the blood are increased by radiation and there is also an increase in the Calcium content of the blood, with an increased concentration of inorganic phosphorus. Experiments have proved that Rats kept in darkness and fed on Ricket producing diet can be prevented from contracting Rickets by a Two minute daily exposure with the mercury vapour lamp, at a distance of three feet. A similar dose given

to a baby will double the inorganic phosphorus in its blood, in two weeks.

Metabolism.—The effect of the Radiation on Metabolism is shewn by an increase in the carbondioxide expired and by deeper and slower inspirations

The stomach contents after irradiation of the body, showed a decrease in the acid content. Microbic infection of the intestine is also decreased, this checking chronic diarrhoea. The pains of most gastric lesions are relieved after Ultra-violet Radiation of the body.

Exposure to Ultra-violet Rays produce a feeling of exhilaration and cheerfulness and improves the mental condition.

Apparatus for artificial sunlight consists of two Electrodes connected to the opposite poles of an Electric supply; these electrodes may be of carbon or tungsten or carbons having a core composed of a nickel salt. These electrodes are made to touch and then separated, the current forming an arc of white flame across the gap; the flame is caused by electrons shooting across from the negative to the positive electrode. Part of the arc is Light, and part is Ultra-violet Radiation, there is also some infra red radiation. Another source of Ultra-violet Radiation consists of a mercury vapour lamp, which is a quartz tube containing a small quantity of mercury with the electric wire connections sealed into either end of the Tube. The arc is formed by causing the mercury to run from one end to the other of the Tube.

Different electrodes give different wave lengths and it has been found that:—

Pure carbon produces a good deal of heat rays, the visible rays of Light, and Ultra-violet Radiation down to 2500 A. U.

Nickel Cored Carbons give radiation which practi-

cally ends at 3000 A. U. These rays are similar to natural Sunlight.

The Radiation from Tungsten Cored Electrodes goes well into the short wave lengths of the Ultra-violet Radiation region.

Pure tungsten gives Rays down to 2200 A. U.

(Dr. Turrell of Oxford first advocated the use of Tungsten)

The mercury vapour lamp gives practically no heat rays; the radiation produced is discontinuous but is intense between 2500 A. U. to 2700 A. U.

The intensity of the radiation of all these depends on the Electric current supplied to the Electrodes—for instance, 30 amperes would produce twice the effect of 15 amps.

In the Madras X-Ray Institute we have all the above types of apparatus, the open arc lamps being used for constitutional treatment and the mercury vapour for local or skin reactions.

The dosage is dependant on (1) the length of exposure (2) the strength of the current and (3) the distance between the patient and the lamp. Number 3 is affected by the Rule that the reaction varies inversely as the square of the distance.

Ultra-violet Radiation is often used as a complement of X-Ray Treatment.

Treatment.—Conditions cured or benefitted by Ultra-violet Radiation are too numerous to mention in detail in this paper. Briefly, all skin lesions may be treated with success, as may all Rheumatic conditions. In Neurasthenia Ultra-violet Radiation is valuable as in all depressed states of health, both physical and mental, the result of exposure is stimulation and a sense of well being. In severe cases Ultra-violet Radiation in combination with Diathermy obtains remarkable results.

Ultra-violet Radiation exposure in cases of hyper-acidity relieves this condition very quickly. The pain of a gastric ulcer also sometimes clears up as quickly as when a hypodermic injection of morphine has been given. Similar exposures are useful in Cirrhosis of the Liver or in congestion of that organ and aids in the relief of chronic inflammation of the gall bladder.

What appears a paradox is the effect of Ultra-violet Radiation on very fat and very thin people. The thin patient puts on weight and the fat patient loses weight. Increased oxidation is the cause in both cases for in the former the muscles increase in bulk and thus in weight—while in the fat patient the same oxidation causes the fat to be better consumed, resulting in a loss in weight.

Nephritis and Prostatitis are two conditions in which good results have been obtained with Ultra-violet Radiation, especially in combination with Diathermy.

Relief in Cystitis is obtained by an exposure over the lower abdominal region.

In Gynaecology, the good results from Ultra-violet Radiation have been proved. These Radiation often have a remarkable effect on the Endocrine and Sexual glands and Humphris points out that "it is due to this fact that in the Southern countries of Europe, with a light rich in Ultra-violet Radiation, menstruation appears in girls at an earlier age than in the Northern Temperate Climates; also within the Arctic Circle, during the polar night, in the native women menstruation frequently ceases, reappearing only after the Sun has returned".

In Bronchial Asthma, Radiation, as a complement to local treatment, is a great aid.

Ultra-violet Radiation does good work in cases of Osteomalacia, stimulating ossification.

Burroughs, in the Lancet, reports very good results

in suppurative conditions of the Ear and in middle ear deafness. In Hay Fever, Sinus infections and Nose and Throat conditions and in Pyorrhoea, Ultra-violet Radiations have been used with success.

In Tuberculosis Humphris and others point out that "the counsel of perfection is to send the patient to a high altitude for treatment by Heliotherapy, and that it must be premised as an article of faith that every case of Tuberculosis should be treated with Ultra-violet Radiation whether this be derived from the Sun or an Electric Arc Lamp". In surgical Tuberculosis, what appear to be miracles have been brought about by Ultra-violet Radiation. Cases of Pott's disease, Tubercular joints with discharging sinuses, after years of illness, begin to improve after the first or second exposure.

Rickets is a disease which is most amenable to Radiation Treatment.

It is in Child Welfare Centres that remarkable results have been obtained from the introduction of Artificial Sunlight apparatus. Children gain weight, sleep and eat better and give less trouble to the mother.

Radiation of the mother produces a better milk supply which is continued for a longer period than is usual in such patients.

In Madras lack of accommodation has not permitted the full use of all the Light Treatment apparatus we have but in the new temporary rooms now about to be taken over arrangements have been made for six cubicles for Radiant Heat and Light Treatment.

In 1927 over 10,000 sittings were given in these treatments—the Ultra-violet Radiation being used with successful results in cases of Eczema, Lupus, T. P. Lungs (early), Chronic Tubercular Peritonitis, Tubercular glands, Sycosis etc.

A Case of Acute Polyserosites

mening purulent infiltration at the base. The corresponding lung on the opposite side showed marked congestion at the base showing an earlier phase, but there was little effusion into the pleura. The pericardium on the other hand was distended with about 3 ounces of yellow fluid. The visceral pericardium was healthy but there were a few flakes of lymph in the fluid indicating a commencing pericarditis with effusion by spread of continuity from the pleura. The abdominal cavity also showed well marked evidence of peritonitis. The diaphragmatic surface of the Liver and Spleen were covered by flakes of lymph. The diaphragm itself was dull opaque and swollen. The peritoneal cavity contained about one pint of yellow fluid which was thick and curdy towards the pelvis. The coils of gut were glued together by coagulated lymph. The spleen was enlarged and showed malarial pigmentation which was also well marked in the Liver. Pneumococci in numbers were found in smears from the fluid in all situations.

An explanation is needed for applying the term "polyserosites" for what is evidently an inflammatory spread from the pleura to the pericardium and the peritoneum. The term has been applied to a varying series of cases of chronic peritonitis associated with effusions into the pleura and pericardium going under various names such as Concato's disease and Pick's disease. The Italian authors Corraza, Concato and others first applied the title of polyserosites or polyorrhomenites to inflammatory effusions whether acute or chronic when occurring in more than two serous membranes. Taylor holds that "we must guard ourselves from regarding this condition as a separate disease....It obviously represents a common grouping of pathological conditions of sufficient frequency to require attention....We may compare

A case of acute Polyserosites

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A. M. a young adult aged about 35 years was admitted to the medical wards of the General Hospital on 26-6-28 with a history of fever and cough and pain in the chest of a week's duration. This was followed by general anasarca. (He had suffered from malaria 3 months before in Penang).

On admission he had an area of complete dullness over the left lung extending up to the level of the 4th rib with an area of hyper-resonance over the right lung particularly at the apex. The breath sounds were diminished over the left lung though a few rhonchi could be heard. Some muffling of the heart sounds was also noticed. There were no parasites in the blood but there was slight leucocytosis. There was no albumin in the urine to account for the anasarca. On aspiration serous fluid was drawn out from the left pleura. Cultures proved sterile. Distention of the abdomen became more apparent, the patient rapidly grew worse and died on 30-6-28.

The autopsy showed well marked pleuritic effusion in the left side of the chest. The parietal pleura was covered by a thick shaggy coat of lymph about 1/3" in depth. The left lung was retracted towards the apex, the visceral pleura was dull, opaque and showed points of haemorrhage. The whole of the base was covered by a thick sheet of fibrin. The effused fluid was thin yellowish in colour and cloudy with tags of fibrin floating about. The left lung was in a stage of grey hepatization with com-

A Case of Acute Polyserosites

encing purulent infiltration at the base. The corresponding lung on the opposite side showed marked congestion at the base showing an earlier phase, but there was little effusion into the pleura. The pericardium on the other hand was distended with about 3 ounces of yellow fluid. The visceral pericardium was healthy but there were a few flakes of lymph in the fluid indicating a commencing pericarditis with effusion by spread of continuity from the pleura. The abdominal cavity also showed well marked evidence of peritonitis. The diaphragmatic surface of the

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the name to the name polyarthrites....Polyorrhomenites may be acute or sub-acute or chronic and the causes of these varieties are likely to be different”.

It is interesting to note that in this case the peritonites would appear to be spread by direct continuity from the pleura since inflammatory signs in the diaphragm were in evidence besides acute perihepatites and perisplenites. Pneumococcal peritonites generally manifests itself first in the peritoneum though the primary focus is elsewhere. The age of incidence in this is also unusual since the disease usually appears in children and very young adults.

—“My grateful thanks are due to Lt. Col. J. M. Skinner for permission to report this case.”

Reference:—Tayler, Sir F. British Medical Journal 1900 Vol. II 1692.

The Causation and Treatment of Præcordial Pain

M. K. KRISHNA MENON, M. B. B. S.

(Demonstrator in Physiology; Madras Medical College.)

No originality is claimed in what follows but I venture to write about this subject inasmuch as I had the opportunity of dealing with a few interesting cases of cardiac pain while a House-Physician in the General Hospital. At the very outset I must mention that I am much indebted to Dr. T. K. Menon, the Honorary Physician for the help he gave me in proper clinical study and rational therapy.

Præcordial pain is very vague and includes in its scope:—

1. Pain due to affection of structures other than heart and pericardium as intercostal neuralgia, Herpes Zoster, Rheumatic Myositis, pleurisy, vertebral caries etc.
2. The cardiac crisis of Tabes Dorsalis (very rare.)
3. Involvement of the pericardium (acute pericarditis.)
4. Pain due to functional affection of the Heart—the Pseudo-anginas.
5. Simple cardiac pain associated with cardiac and vascular disease as in
 - (a) Coronary arteritis.
 - (b) Coronary Thrombosis.
 - (c) Aortic disease.
 - (d) Aneurysmal formations.
 - (e) Hyperpiesia (Clifford Allbutt.)
 - (f) Simple cardiac exhaustion (D. A. H. of DaCosta.)
 - (g) Sometimes in Paroxysmal Tachycardia.

6. True Angina Pectoris.

We shall consider each affection in further detail. It is a matter of common experience in the wards to meet with patients complaining of pain in the heart. The case, on closer examination, shows that the pain is connected with the chest wall and has got nothing in common with the heart. The usual methods of examination of the heart indicates that everything is normal. Some of them may complain of pain along the course of the intercostal nerves. Others may have a distinct catch at the side and fever, and on auscultation a distinct pleuritic rub may be heard. Treatment, of course, for these conditions depends upon the particular nature of the malady.

Next coming to the cardiac crisis of Locomotor ataxy—this is a very rare entity. Tabes itself or any other variety of Neurosyphilis is rare in this country. However, in cases where it is suspected the usual symptoms are paroxysmal attacks of prae-cordial pain, palpitation and sometimes irregularities of the heart. There may be acute tenderness over the skin of the chest during an attack. The condition is by no means difficult to diagnose provided a systematic examination is made. Indubitable signs of Tabes Dorsalis are present as muscular Hypotonia, Lost jerks, Argyll-Robertson phenomena, Lightning pain, the characteristic loss of vibration sense and cutaneous anæsthesia without any wasting of muscles in the leg. Regarding the treatment specific treatment should be vigorously carried out and symptomatic regimen for the lightning pain, sphincteric disturbances etc.

We next consider cardiac pain due to acute pericarditis. This may appear in the wake of any acute infectious disease, Rheumatic Fever, or in Chronic Renal disease. There is fever, rapid pulse, severe pain over the

precordium increased by pressure or movement. Auscultation reveals the characteristic double friction sound. Treatment of the condition consists in treating the primary condition as Salicylate therapy for acute Rheumatism etc. Locally ice may be applied over the precardium or some believe in hot poultices. Strict rest in bed is enjoined. Light liquid diet is given and the bowels are kept open. Some cases may require morphia to allay the pain and distress.

Let us next consider pain due to functional affections. In this group we intend to discuss the pseudo-anginas. The pseudo-anginas may be of the neurotic by variety or of the toxic variety. Some are accounted for by Hysteria and Neurasthenia. Others are attributed to excessive smoking (tobacco-heart), to indulgence in tea or coffee or gastric flatulence. There is a paroxysmal attack of pain in the region of the heart. Patients complain of a feeling of distension in the chest. Palpitation and shortness of breath may accompany the clinical picture.

Treatment—Reassure the patient and encourage her (I remember two cases in Victoria ward where psychotherapy and anti-hysterical treatment went a great way to cure the malady). Review the etiology of the condition and adopt appropriate measures.

Cases of simple cardiac pain must next be dealt with. These are as a rule associated with cardio-vascular disease. In connection with the co-existence of valvular disease, we have been taught how much less frequent cardiac pain is in mitral than in aortic cases. I have seen that cardiac discomfort that may or may not amount to actual pain is common enough in mitral cases. The cases with simple cardiac pain which I had the opportunity to study were:—

1. a case of Syphilitic aortitis with distinct aortic dilatation.

(Name—Kuppusawmy Sastry age 40 Havelock Ward.)

This patient died suddenly as sometimes occurs with these aortic cases.

2. a case of double mitral with engorged right heart and signs of cardiac failure. (Kuppusawmy aged 17 Maitland Ward)

Gives a history of antecedent fever with Rigor which was probably acute rheumatic fever.

3. Two cases of Hyperpiesia. (one was a police constable).

4. A case of Aortic Regurgitation in a boy of 14 (Havelock Ward)

This patient also died suddenly one day. He was not under our care.

5. A few other cases of mitral disease.

The important point that I want to emphasise in this connection is that in most of these cases certain distinctly painful spots could be made out on exploring the anterior surface of the chest. The diagnosis of these cases, as a rule, offers little difficulty. The valvular lesions are easily made out by the characteristic murmurs. In aortic disease the heart is enlarged (Cor Bovinum); the associated anaemia, the diastolic murmur and the characteristic Corrigan's pulse serve to differentiate it from chronic adhesive pericarditis. Aortic dilatation and coronary arteritis are generally associated with chronic interstitial myocarditis and syphilis may be the causative factor. Cases of simple Hyperpiesia may be associated with diffuse arterio-capillary fibrosis. In these cases search must be made for any source of chronic intoxication.

Treatment is sometimes difficult. Warm poultices over the heart may do good. Case No. 2 mentioned

above was very rebellious to treatment. Belladonna plaster was no good. Mustard plaster over the heart proved to be of no use. Patient was still complaining of great pain over the heart. Leeching of the Liver was done twice. (Liver was enlarged and tender) Leeching of the præcordium was instituted. And internally the following mixture was administered.

Soda Salicylas dr. I

Soda Bicarb dr. I

Aqua Camphor ad oz III

oz I tds. (not much use)

He was also getting I dr. of Tr. Digitalis and dr. VI infusion Digitalis per day in another mixture along with glucose and brandy. For the cardiac pain next we tried the following mixture and there was great relief

Pot. Bromide gr. 30

Pot. Iodide gr. 20

Liquor. Muph. Hydrochlor m XV

Tr. Cannabis Indica m XX

Syrup Auranti oz II

Aqua oz IV

oz I every 6th Hr.

Along with leeching of the pericardium some benefit accrued from this treatment.

Next we come to the important variety of cardiac pain—Argina pectoris. This denotes a paroxysmal attack of pain in the region of the heart with a tendency to radiate in certain directions. The patient often feels that his chest is constricted as if in a vice.

Pathogenesis.—This had been for long problematical. Post-mortem examination in some of these cases has shown a distinct narrowing of the coronary arteries, arterial disease and fibroid changes in the myocardium. Some of the theories that were upheld were:—

1. That Angina Pectoris consists in the distension of an enfeebled ventricle.

2. That A.P. is only an intermittent claudication of the heart due to a temporary myocardial Ischaemia. It may be noted in this connection that the exciting causes inducing the attack are physical exertion and emotional excitement. And it is quite possible that the necessary amount of blood is not supplied to the myocardium through a narrowed coronary artery and hence a myocardial exhaustion ensues.

3. That it is a vaso motor neurosis.

The most generally accepted view, at the present day, is that of Sir James Mackenzie. He holds that A.P. is an expression of cardiac exhaustion and also an expression of a susceptible nervous system. He regards the acute pain to be due to a viscerosensory reflex, the sense of constriction as a visceromotor reflex giving rise to spasm of the intercostal muscles.

The diagnosis of the condition is made from the symptoms that form a typical clinical picture. The site of the pain and its tendency to radiate up to the left shoulder and down to the arm on its ulnar side, the paroxysmal nature of the pain, the feeling of constriction within the chest and a sense of pending dissolution which the unfortunate victim experiences are sufficient to clinch the diagnosis. There are evidences of cardiovascular disease and sometimes super-normal Blood-pressure.

Condition must be differentiated from:—

1. Pseudo—Angina.
2. Aneurysm.
3. Pleurodynia.
4. Acute pleurisy.
5. Cervico-Brachial Neuritis.

Treatment is directed to:—

1. To relieve the paroxysm.

2. to prevent the recurrence of paroxysms.

To relieve the paroxysm the most efficacious remedy is Amyl Nitras in halations (glass capsules 2-5 m.) liquor Trinitrini 1-5 m. may be given in a little water. A draught of carminative mixture may be given to relieve the flatulent distension of the stomach. A hot drink is supposed to be very good.

To prevent the recurrence of paroxysms the underlying cause must be found out. Rest must be enjoined or exertion within moderate limits. In persons under 40, sometimes cardiac syphilis manifests itself in form of A.P. In this connection an eminent physician has warned us that in the treatment of cardiac syphilis reliance must be placed upon a gradual administration of Hg. & KI than on a vigorous regimen of arsenical injections. The sudden changes that may be produced in the heart in the latter case may be productive of thrombotic processes and embolism with disastrous consequences.

Potassium iodide may be exhibited to reduce the accompanying high blood-pressure.

Correspondence

Sir,

The new University regulations are said to have been introduced to improve the efficiency of Students and to bring the Madras Course in line with that of the London University. But, sadly, the students' aspect of the case has been greatly missed. A few of the points which interest us may be mentioned.

1. The period of stay in the College has been increased by 6 months though the period of study of the preliminary scientific subjects has been reduced by that period. Most of us during that course are doing scientific subjects identical with what we did in the Intermediate classes.

2. We are denied the privilege of going up to a higher class as provisional students appearing for the same examination later whilst keeping terms in the higher class.

3. Under the present arrangements we are not posted to any definite wards in our fourth and final years and as such we are not allowed to be in charge of cases. We feel we are nobody's children and have not the facilities for examining and discussing cases under the immediate guidance of the Medical Officers.

The clinics now given in the wards are obviously for the third year students and as such are not of much use for us, *senior students*, who have to appear for the University Examinations.

4. To crown all, with the new regrouping of terms we lose what vacation we had before and have to remain here during the hottest days of the year.

I trust, Sir, you will take up our cause and do what you can to redress our grievances.

I remain, sir, (and sign for obvious reasons).

A Senior Student.

[I am commenting on this letter in the editorial.—E D].

Editorial

It is our rule not to publish unsigned letters but we are making an exception to the letter from a student who signs as such for 'obvious reasons,' as it raises important and topical issues. We have not been able to find out the *obvious* in this case but a little advice we will offer. His name on the letter, (though not meant for publication) would have got for it a higher regard.

* * * *

Regarding the points raised by him let us deal with them one by one. True, the course has been raised by six months, these being devoted to preliminary scientific subjects, and the student cuts the ground from under his own arguments when he mentions that the subjects have been covered in his Intermediate course. These subjects have not been dealt with and with the same detail by the students of the various groups in the Inter; but the preliminary training they had, helps in shortening this course and helps the college in giving these a medical turn. At least, that is the view of the *experts*. We have all along been of opinion that an intensive course in any subject is undesirable and we are supported in this by that august body which now controls our destinies—the General Medical Council of Great Britain. Such is the effect of a short canter in the 6 month period allotted. One solution there is, and this we have raised all along, i.e., provide a distinct medical preliminary scientific group in the Intermediate and restrict the course in the Medical Colleges to purely professional subjects, admitting to Medical College only those candidates who have taken this group for their intermediate.

* * *

We cannot see eye to eye with the proposition to permit students to go up provisionally to the higher class. With one eye on the examination and another on the attendance register and an attempt to appear interested in the teaching in the provisional classes these students come up without that desirable ground-work. It is only in the interests of the students that they be given facilities for undivided attention to their work and it is for this that these provisional promotions have been stopped. With the alternative courses which begin after each examination the period of stay, which after all is the main theme of complaint, is reducible to a minimum.

* * *

But when we come to the latter half of the letter we feel in perfect agreement with the student and regret that we cannot congratulate the authorities on the arrangements made for the education of the senior students.

Under the new regime it is only the third year students who get individual clinical instruction under various teachers. Now it does not require any imagination to realise the progress made by them in the early part of this course. Sans pathology, sans therapeutics, without even elementary ideas of medicine or surgery they are detailed to work in the wards and the best part of their clinical clerking and dressing time is spent in learning the rudiments of these. How much can they be profited by their ward course? Advanced clinics they cannot have with these students—and after all it is for their benefit that ward teaching as it stands at present has to be conducted—the perambulating and unattached senior students do neither find any interest in the wards nor any profit. The fourth years practically spend all their time in wandering through the various departments of the

hospital and the final years to use the student's expression 'nobody's children' go about like stray sheep. The clinical lectures to a big medley of students are for them nothing but gramophone entertainments and occasions to pick up individual idiosyncracies of their probable examiners. We are constrained to observe that the hospital courses especially for examination-going students have practically taken on the trend of the College lectures and that the *Medical education* has become *Medical Dictation*. And all this, to bring the medical education in line with that of the London University!!

We have to congratulate the professor of therapeutics in getting his students at a time when they can take an appreciable interest in the subject and bringing his subject in close liaison with medicine and the professor of Midwifery in insisting that the students posted for clinical teaching under him should have completed their theoretical course before being posted for clinical work. We wish such a thing were possible in the case of other subjects but we admit that there are practical difficulties in attaining this object. These could however be minimised if some modifications are made in the arrangements for the clinical courses.

What we would like to see is that the junior students are given a preliminary training in clinical medicine and surgery under wholtime teachers before being posted as clerks or dressers under different physicians:—The clerking could be undertaken with great profit by senior students and these students could work in rotation under all the staff of the hospital. The clinical lectures could be reduced in number and more attention devoted to ward work. A closer co-operation in teaching between

the various physicians or the various surgeons would prevent overlapping of clinical teaching and enable the maintenance of harmonious dovetailing. We do not propose to go into details here but only wish to suggest some methods by which a high standard of medical instruction may be maintained and the difficulties of the students reduced to a minimum.

We have received a copy of the Annual Report and statistics of the Govt. General Hospital Madras for the year 1927.

The get up and arrangement of matter reflects great credit on the authors of the report. There has been an attempt to improve on the old stereotyped methods of presenting the Report. The professional reports are becoming more instructive.

We note with pleasure that the superintendent has been showing an extraordinary business-like aptitude in overcoming difficulties and having the reorganisation of the Hospital on a definitely sound basis. We congratulate him on his energetic administration.

But we cannot wonder whether he is not too ambitious if he wants the hospital to be self-contained even to the extent of preparing its own tinctures.

We offer our hearty congratulations to Lt. Col. E.W.C. Bradfield C.I.E., O.B.E., I.M.S., on the well merited distinction of C.I.E., recently conferred on him. The Govt. has done justice to itself by thus honouring an officer who has done and is doing so much to reorganise the General Hospital. The energetic colonel is doing to General Hospital what General Giffard did to transform the old homely Government Maternity Hospital into the

most up to date Hospital and clinic for diseases of women and children. We are certain, given the opportunity, Col. Bradfield will undoubtedly entitle himself and the college of which he is one of the honoured Staff to still higher honours in the near future. We wish him all luck.

Another instance of Official recognition of hard work and true devotion to duty, comes in the shape of the elevation of Dr. B. T. Krishnan to the grade of Professor in the College. His recent appointment as Professor of Physiology at Madras, has been a most happy one and has pleased everybody. In spite of his apparent youth, he is mature in experience and we feel sure that by his future labours he would bring credit not only to himself but also to the younger generation of Madras scientists of whom we consider him a bright example.

We are happy to chronicle that at last the ice has been broken and a feat hitherto considered impossible has actually been carried out viz., the success of Drs. Sabesan and Viswanath Menon in the recent M. S. Degree Examination. Many attempts had previously been made but the University kept up a very high standard and it was felt all round that under the conditions of Madras this degree would never be captured by any one. The trick having been once performed, optimism prevails in the mind of the intending candidates and we expect, with the passing of time an increasing demand for the grant of this coveted Distinction—which may well claim to be one of the best medical qualifications obtainable anywhere in India.

We must congratulate Drs. Srinivasalu Naidu, Venkata-

subba Row, Shadagopan and Arunachalam on their success in the M.D. Degree Examination of April last. We hope they will add more laurels to the name of our college by further successes in their professional career.

Our heartfelt condolences are due to the bereaved family of the late Col. M. N. Chaudhuri, I. M. S., who was the Professor of Pathology in our College and Supdt. of the General Hospital till a few months ago. Col. Chaudhuri although a Bengali by birth and training spent the best years of his life in the service of Madras and we came to look upon him as one of ourselves. He had many good qualities of head and heart, chief among which might be mentioned a bon homie which attached everyone with whom he came in contact. He had the distinction of acting as the Surgeon General of the Province prior to his retirement a short time ago and when he left us, he had hopes, after a short sojourn in Europe, of returning to India to practise his profession. His sudden death at Mussoorie removes from our midst a lovable and experienced member of our Profession.

Members of the College Association are aware that for some considerable time strenuous attempts have been made to re-constitute the management of the College Athletic Club and bring it into line with those progressive institutions elsewhere. To this effect they passed a resolution more than a year ago and requested the Principal, their President, to arrange for the transfer of the management to the Association. This matter has been under consideration by the College staff for a long time and we are glad to note that, at long last, the matter did come up for discussion at the meeting of the College Council held on the 20th inst. The existing constitution allows four seats out of nine to the students themselves, the remaining five being reserved for the Professors or Asst. Professors. At the meeting above referred to, the constitution was altered as below :—

There will be 8 members only five of whom will be Students and 3, Professors or Asst. Professors. The Student's seats consist of a Captain each for Tennis, Cricket, Foot-ball and Hockey as well as a Secretary of

the Athletic Club to be elected by the Madras Medical College Association at their Annual General Meeting. The three seats for the staff are: one President, one Vice-President and one Treasurer, to be elected by the College Council.

The altered constitution having been passed the following members of the staff were elected to the above 3 seats,

President—Major K. G. Pandalai I. M. S.

Vice-President—Capt. P. N. Basu I. M. S.

Treasurer—Capt. M. Subba Rao.

The election of the student secretary for sports was held on the 27th July and Mr. K. S. Ramaswami was elected.

It is perhaps a matter for general gratification that this question has been solved, although after much delay, to the satisfaction of all and the Editor hopes that the changed regime will usher in a new Era of increased activity and success in matters Athletic in the College. He hopes to see the fields throbbing with activity in the evenings, to see Medical Champions winning every trophy possible in inter-Collegiate tournaments and to see the fair name of the Madras Medical College shine brighter than ever as the leading College in the Metropolis.

* * *

One further question intimately affecting the comfort of our students still remains unsolved—This is the question of a Common Room. This question is almost ten years old and has been repeatedly brought before the attention of our readers by the management of this Journal. We have explored every available avenue for getting a rapid solution of our difficulties; but we have learned at last that without large funds success is impossible. We repeat, therefore, our oft repeated cry to the authorities for the provision of decent common and retiring rooms for the students without which our College could not claim to be a modern Institution in the strict sense of the expression.

What is Your Name?

Nothing is more exciting than to ask the out-patient in a Moffussil dispensary the simple question of "What is your name?" The larger institutions in the city employ clerks to ascertain the sobriquet of their numerous out-patients and I should think, the good fellows, since they have all the fun, should everyday laugh fit to split their sides and grow fat betimes. If you are that kind of person to whom the morning in a Moffussil dispensary or a third rate hospital, opens out with dismal dreariness, well, you might put down this all important detail of the Nominal Register with monotony and misery. But if you are beguiled into the humour of it, just for once, it is ten to one, that you like it and you will find your inquiry opening out a line of research that will amply recompense the trouble.

Here is mine.

Not all persons have yet risen to the necessity of having a name. Stern utilitarian logic decrees that except for Birth-certificates and kindred legalities, there is no hurry why a baby under one year should be handicapped with having to bear a name. So, babies under one year have no name, unless the doting parents have been wrangling at it about the Newcomer and have agreed as to its sex, the presents at the christening and the God-parents to be. But the baby of the Hospital class with its snuffles and its scabies, its enteritis and eczema, with its liver and its lean shanks, is always paraded innominate. If you should press the mother or the father, they will hesitate a bit and ask you apologetically to pass it in her or his name. And baffled, you put down as So and so's child.

But ingenuity goes a little further in some cases. The parents have a crescendo of improvised names which are in reality no names at all. If a man has three kids, he will, when asked, give their names. As *Chinna Payyan*, *Peria Payyan*, *Nadu Payyan*. This in reality means only, *The Little Boy*, *The Big Boy*, *The middling Boy*. Another person will run the whole series through with slight alterations as *Chinna Ponnu*, *Peria Ponnu*, *Nadu Ponnu*, which literally means *The Little Girl*, *The Big Girl*, *The Middling Girl*. And so on, with the substitution of *Thambi*, *Annan*, *Pillai*, *Sami*, *Ayya*, for the male children and the substitution of *Pottai*, *Atha*, *Akka*, *Amma*, *Ayye*, for the females. It gets on your nerves, this lack of invention on the part of parents, who are enormously fecund as far as the race is concerned who yet so slavishly call their children *the First*, *the Second* and *the Middling*, with but the barest change of suffix in the interest of sex. Nothing could be more matter of fact, not even the naming of the numerous streets of New York.

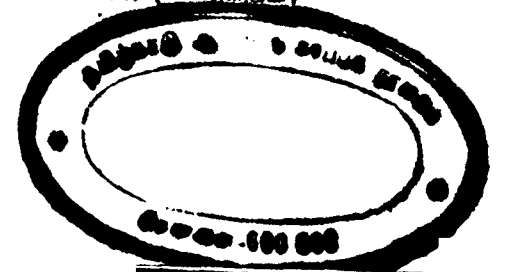
This numerical nomenclature has its limitations. When it comes to *Nadu-payyan* or *Nadu-pottai*, we know the third in the series has been reached. And no father in this age of Eugenics and Contraception, would betray himself with his, *fifth* and *sixth Payyan* or *Pottai*, and lay himself open to the charge of being so carelessly prolific. So he starts giving curious appellations to the penultimate progeny. It would be a *Mannangati* (மண்ணங்கட்டி), literally "a lump of sod" or a *Kuppachi* (குப்பச்சி) literally "dry rubbish" and if you asked, why this derisive epithet, out would come the reply "A lump of sod, do I care for this, for who wanted another Kid". The more poetically inclined parent call their fifth and sixth Kids "*Full*" *Sampooranam* (சம்பூரணம்) "*Over Full*" "*Pari-pooranam*," (பரிபூரணம்) as though they wanted to stop

the rush of babies into the house. Others put on the air of counterfeit glee and style their unwanted babies as *Anandam* (ஆனந்தம்) (joy) *Paramandam* (பரமான்ந்தம்) (More Joy) and *Brahamanandam* (பிரமான்ந்தம்) (joy supreme) while all the time, their faces read guilty as much as to say *Done it again, Another* and *yet another*.

The discerning doctor then knows he is dealing with a family which has been more prolific than prudent. And you know, the minimum of three years between each conception is the limit for proper lactation, leisure and the lengthy education of the little one into a robust toddler. Neglect of various kinds and degrees, conspires to invest the baby with some characteristic and parents who never really were prepared to receive him and so in no great hurry to name him, have their attention drawn to these peculiarities so that they might work out a name.

Thus comes *Thoppulan* (தொப்புளான்) the fellow with an umbilical hernia. Dirty scissors at confinement, septic umbilical stump, the weak yielding scar, manufacture *Thoppulans* by the dozen in rural parts. Then comes the *Vavuthan* (வவுத்தான்) the fellow with a tummy, he was noted for it in infancy for sure. He may have had an idiopathic dilatation of the colon, an enormous stomach, an enlarged liver or spleen, as his infantile accomplishments and even if he got over them, he doubtless continues as *Vavuthan* for the rest of his incarnation. Then comes *Mookan* (மூக்கன்) the fellow with the nose and snuffles; *Nondi* (நொண்டி) the one with a limp, *Vellayan* (வெள்ளையன்) another with the white spots, or *Ammavasai* (அமாவாசை) the one who was ushered into this world on the New Moon day or who equalled in pigment its Midnight hue. Then comes the *Oolai kadan* (ஊலைக்காதன்) the sufferer from chronic otorrhœa, recognisable at distance to the organ of smell, and *Pee olukki* (பி ஒலுக்கி)

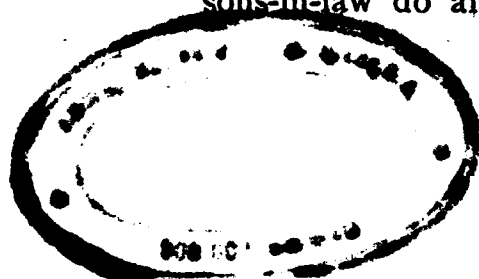
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the fellow who had incontinence of faeces, and *Choriyan* (சொறியன்) the fellow with inveterate eczema, and *Kona pillai* (கொணப்பிள்ளை) the child with Talipes, or infantile paralysis with contracture and *Pallan* (பல்லன்) literally the man with a noteworthy dentition. There are the numerous *Nettayans* (நெட்டயன்), the tall, *Kuttayan* (குட்டயன்) the short, and *Kattayan* (கட்டயன்) the stunted and *Pottayans* (பொட்டயன்) the blind. These names are in essence a short biographical sketch and for the doctor they are an appealing formula of previous history.

Now the scene changes and the doctor is to ask the names of his middle class clients. There comes the little girl, barely ten, who drawls and feels like making love to you, the moment you ask her name. At home, all the guests and the bigger relations always start a friendly chat with these young skits by asking them their names. She feels justly pleased that you are going to be nice and hence she is blustering out her name in sweet confusion, probably dropping her bottle on the floor. She does not know the rudeness of the Nominal Register and that your interest in her name vanishes the moment you hear it.

Then you come across a scene of terrible consultation all round. You just ask somebody her name. Perhaps her name is the same as her mother-in-law's and she is forbidden to take the name of her mother-in-law in vain. She asks her fellow-patients or her chaperone, or whoever it is, if such things could be disclosed with propriety and if the opinion around is progressive, she risks its utterance in an inaudible squeak. If it is the wife coming for a bottle of medicine to her husband, no power on earth will prevail upon her to disclose his name, unless she be alone or not watched by her fellow-patients. Rustic sons-in-law do also pay this doubtful homage to their



father's-in-law much to the chagrin of the medico with whom time presses.

Now and again, inventiveness, goes a step further. These women find a small kid and bribe him with sweets or a quarter of an anna, to accompany them to the Hospital just to give their names to the Doctor! This is the apotheosis of sentiment if you please! But here is a finding of patient research and so no use burking it. Often the Purdha ladies have a child spokesman; of three to four summers, at the head of a deputation and the farce goes further when the leader starts retailing symptoms with his childish babble, all the while the heavily curtained ladies blinking demurely behind their veils. Laugh and you give the whole show away. So you prescribe with tight-pursed lips and the urchin will have earned his coin.

Occasionally there comes in the country yokel with his mouth full of *pan* and he will get the wind up the moment you ask him his name. He is sure it is for giving information to the police. You gently assuage his fears and then he would give his name in full detail as *Raman* Son of *Govindan*, with legal gusts and not infrequently the individual will try to wither you into scorn by adding that he is the third cousin of the "*Ki-mu*" of his village (கி.மு.) meaning thereby that he is no ordinary person in his hamlet and you who have so casually asked for his name, had better chew that fact.

In refreshing contrast, come the children from the local school. You just ask the name of one of them and he explodes "*C.G.S. Neelakantan*" and makes you feel as though you have pulled the trigger of a repeating pistol. He is alert, too, and if you mistakenly put down his age at 10, he will peer over your shoulder and exclaim "Sir, I am only 9 years and 7 months". If you brush him aside with a "That's all right" he will feel inwardly let

down. He is probably a cub or a boy-scout and so the next morning he will bring the whole pack of young cubs of his totem and chaperoning the younger kids would categorically repeat their initials, names, ages, etc., and ask you to syringe their ears. You come across genuine hustlers from the school-world to whom to have the run of the Hospital is sheer delight and having to tell their names with pomp and ceremony an unalloyed pleasure.

But then you don't want to be hustled. You ask with a melancholy refrain "what is in a name?"

There is nothing in it, except you have got to enter it in the nominal Register and there is any amount of fun if you only look for it.

C. S. S. SARMA.

"What shall I do?"

Once upon a time I was a student of this College; that is to say, I passed out last March. The statement may seem a wee bit drunken, but a graduate, a fresh, full-fledged, is likely to be drunken: especially a medico; if not with wine at least with bran...no! no, at least with success. The day after the results were out, and when my hand and back were fairly inflamed with the hand-shake of equality, and the pat-on-the back of smiling superiority, I found myself sitting on a high stool—we once had a typewriter in the house—swinging my legs. The old old thought—at least 20 more like me would have thought the same old thought that day—came to my mind, and kept knocking about in it like a butterfly in a bottle. "What shall I do?"

The idea originated when I as a young lad with pig-tail and caste-mark—oh dash that caste-mark; it has come to be the ruin of me; it is really a caste-mar—heard I had my S. S. L. certificate registered to my address;

What shall I do? Join arts?, Join vet? Join Royapuram? Chuck it all?. . . . what shall I do?

Join Arts I did.

And then the memorable day when all undergrads rushed to the Post office, and by tips and threats tore somebody's paper open and met with varied news inside. I for one was one of those whose hearts danced within their bosom as they careered madly homewards—I don't quite remember now if I walked very fast or ran very slow to break the news to the old folks.

And then the same old question :—

"What shall I do?"

And again across my view passed in single file all the Colleges open to undergrads, with their fancied curricula, their imaginary hostels, and the future prospects, which last column was invariably left blank or with a red cross as a sort of danger signal to enterprising inters.

Well in any case, there is no harm applying for all; and as likely as not some shot may bring down a bird; with the result that I had a personal interview with the agricultural board—who I daresay were pleased with my bencolic build for I was one of the chosen many and a taste of organic salts, and a dash of Homer, old English and what not, until at last like a storm-tossed vessel heading for port I glided into the red walled compound with the ever-open iron gates where a watch man is supposed to be. Luckily for me I escaped a kick from a wounded horse, and an eyesore from looking through a field telescope. Well, well here I am.

This is not our calender, but our magazine—it looks more like a university calender I am afraid! So I won't discuss our plan of work, text books and time tables and professors and physical instruction, though such a theme would be highly interesting—but will briefly repeat: I have waded through it all—some swam across with glorious strokes; whilst others, luckily, reached the bank—the other bank I mean, though some beat back indeed—before the third gurggle; still others, I grieve to say, were enveloped in the mire.

Now that I have passed out—it looks like rousing ones own saxophone into action, dosen't it?—The problem of the ages, shall I say the main idea in life, it crops up "what shall I do?"

I remember a friend of mine when selected for the Agricultural College was asked by one on the board, "what

will you do when you pass out? As likely as not you won't get a job!"

To which my optimistic friend had the prompt reply:—

"Join the Law College Sir!"

Well Sirs; I still can join the same institution though I hope I won't have to.

—BY THE AUTHOR OF "INAUGURAL STRUTTINGS"

Keep it up

The weary miles seem lengthened out
The way-farer plods on in pain
Hungry, athirst and sore of foot
Alone his goal he has to gain
Bear up Brother! and keep it up,
By Each step nearer! keep it up!

* * * * *
Failure again! Three times in all
And yet unlucky lad! he was ploughed.
They turn from him those near and dear
Find faults with him, complain aloud
Kindle thy lamp! and keep it up.
Open thy book! and keep it up.

* * * * *
Beside the bed the night nurse sat
With sleepless eyes and bated breath.
Poor man! his life was ebbing fast
Anon! She will be watching Death
Courage Sister! and keep it up.
Though Death is near she will keep it up.

* * * * *
In all life's toil, in all life's pain
Do not we hear it again and again?
Our hearts within our bosoms boom,
The same moral:—"Away with gloom!"
Lubb-dup
"Keep-'t up."

BY "INAUGURAL"

U. T. C. Notes

Our S. S. I's parade their uniforms with medals; now our officers also have a chance of parading with titles! It is with very great pleasure that we note that the title, O. B. E. has been conferred upon Capn. Candeth, Adjutant, 5th M. U. I. C. We congratulate him and hope the other officers will follow suit.

* * * * *
Duty has called Capn. Kini forth with the result that we have lost our beloved O. C. In describing him we ought to say, "Veni, Vidi, Vice." He endeared himself to one and all of us. He had the kindness that should characterise a Medical practitioner and the sternness that should be the watchword of an O. C; and, above all, he was every inch a gentleman of a rare type. Though far in body, we are near in spirit. We wish him god-speed and good-luck.

* * * * *
We missed our "Kruschen" when Capn. Kini left us. With very great reluctance—reluctance because he was frightfully busy—Capn. M. S. Rau agreed to be our O. C. It would be impossible to choose a better. We hope that, in spite of the fact that he can spare us very little time, he will give us "Beecham's Pills" if not "Kruschen's." We N. C. O's and men wish to assure him that we will lighten his work as far as possible.

* * * * *
Lieut. Krishna Menon, Medical officer of the Battalion has tendered his resignation for reasons of his own.

We thank him for all that he has done to us and wish him all that is good in life.

* * * * *

S. S. I. Draper is to be sent to Nagpur to start a U.T.C., where, soon there will be a prototype of our own. Will readers please remember that there is only one M.U.T.C. and that in Madras and not in Nagpur? Cheerio! Draper,

* * * * *

C. S. M. Velayudham Pillai has been kicked out of our company for no fault of his, excepting that he has finished his course. Of course, nothing prevents him from coming back to us as our O. C. In him we have lost the glory of our company and the envy of others. He exhibited a gentleness which would have challenged that of a lady; he had the diplomacy of a statesman and a spirit to work for its own sake. Good-bye till we meet, old chap!

* * * * *

On the College Sports-day the company was asked to do 'Police-duty.' The College thought it fit to entrust it to us instead of to mercenaries. We feel now, that, though we may not acquit ourselves creditably in Harley Street, we may comfortably settle down in the Police-lines smoking our hookas and solving the puzzling bus-problem. They say we did our work well; but—oh! let us not blow our own trumpets: for good vine needs no bush.

* * * * *

It is with great pleasure we note that most of the prize winners in the college and inter college sports are, or, were, members of the U. T. C.

* * * * *

We have again won the Miniature Cup for shooting. It has been with us from the time of its advent and we

trust it will be with us for ever. We hope our N. C. O's and men will be more regular in going to the range than they have been in the past.

* * * * *

The company social was a great success; so it is said. The C. S. M. and R. S. M. assisted by the other N. C. O's and men got up the entertainment. We take this opportunity of thanking Mr. F. G. Natesan for helping us stage 'Pizzarro'. There were several songs—vocal and instrumental—comic recitations etc. The chaps deserve the V. C. don't they? We thank our guests for honouring us with their presence and hope that the college as a whole, will respond to our invitations in future.

Appended is a cast of the characters in "Pizzarro".

Pizzarro	Pte.	J. A. S. Masilamani.
Alonzo	L/Cpl.	C. R. Paul.
Rolla and } Orizombo }	Cpl.	P. R. Kuppuswami.
Elveira	Pte.	A. S. Ramachandran.
Lascasas	Sjt.	Kalamegham.
Peruvian solidiers.	Cpl.	Gnanaolivu.
	Pte.	Ganapathisundaram.
	Pte.	Krishnamoorthy Rao.
	Pte.	Rangachari.

* * * * *

There are some vacancies in the company. Only spartans need apply.

P. R. KUPPUSWAMI.

Sports

Reviewing our activities in the field of sports we note with a certain amount of agreeable surprise that inspite of the apparent lethargy evinced by some of our men we still can count on a few achievements. In the Inter-Collegiate tournaments our College has secured the football Cup and the Travancore Shield has come back to us once more.

* * *

It was indeed a neck to neck race with the 'Xians till we finally won the Atheletic trophy. Running level with them in the matter of points till the last item on the card, it was the last event—the tug of war—that settled the issue, in our favour. Hurrah! for the 'hearty and hefty "heave" that got us the Shield!

* * *

Without meaning any disparagement to others who contributed to the success, mention might be made of Mr. P.M. Chockalingam who finished first in the open mile. We are sorry we have to bid goodbye to him and Mr. B. Narayanaswamy both of whom we can ill afford to lose. Yet we hope others will follow their lead and try to put up a good fight to retain the trophy.

* * *

Our foot-ball team it must be said to its credit, did have the patience and enthusiasm, unlike our hockey team, to pull through the whole series of matches and come out successful in the end. Our hockey team might with profit take a lesson from them, for they have shown what co-operation, perseverance and regular practice can achieve. Our cricket team, once the supreme amongst

Sports

63

the College teams as testified by the fact that the dust that settled on the Pennyquick trophy deposited in our College office in the year 1919 was undisturbed till 1926, had to relinquish the trophy last year, in spite of the fact that the team was still led by the same distinguished cricketeer of our College Mr. Bhandhari. This year, the team cannot count on his yoeman services as his term in the College is over. And yet another gap in the team, difficult to fill up, has been created in the loss to the College of the brilliant and daring bat and versatile player Mr. C. L. H. Shunker who has left for England for further studies there. Though obviously up against great odds we hope the team will regain its old form and will meet with greater success this year.

* * *

Elected as Sub-secretary for tennis for a second time, with all the likelihood of the honour being continued for a third year too, Mr. Chandra Rao was responsible for the thoroughness and smoothness with which the tennis activities of the College were carried out last year. He was able to run with great eclat our College inter-class tennis tournament, which was a greater success last year than in the previous years. Not a little of the success was due to the interest taken in, and patronage extended to the tournament by the members of the staff of our College and Hospital. We trust a still larger number of members of the staff will sportingly compete in the tournament that is to come on this year and help to make it a success. Coming to the finals in both singles and doubles in the inter-collegiate tennis tournament, we lost both the cups. Will the College be fortunate enough to get the tennis cup this year at least?

* * *

This review will be incomplete—as incomplete as the play of Hamlet without the Prince of Denmark in it—if mention is not made of the pleasantest day of the year in the sporting life of the college—the College Sports Day. It is the day, when the college sports secretary's energies are taxed to the extreme and the fact that last year's sports day was such a great success is due to the untiring energy and unbounded enthusiasm of our secretary Captain M. S. Rao.

K. S. RAMASWAMI.

Medical College Association Notes

The first business meeting of our College Association was held on Thursday the 12th of July. Major K. G. Pandalai I.M.S., presided. The following representatives for the Association and Magazine Committee were elected for the year.

Vice Presidents.

Major K. G. Pandalai, F.R. C.S., I.M.S.

Dr. B. T. Krishnan, M.B., B.S.

Mr. G. W. Roberts *Asst. Secretary.*

„ M. Sitarama Rao *Representative.* V year.

„ S. Rajagopalan do. IV do.

„ J. Eapen do. III do.

„ Philip do. II do.

„ Titus do. I do.

„ Booth do. *Military Student.*

Miss. Achamamba do. *Lady Student.*

Magazine Committee.

Dr. S. Mannadi Nair, M.B., B.S., PH. D., *President.*

Dr. M. R. Guruswamy Mudaliar, B.A., M.D.C.M.,
General Editor.

Dr. T. Bhaskara Menon, M.B., M.R.C.P. (LON.),
Associate Editor.

J. A. S. Masilamani }
M. C. George } *Student Editors.*

R. Lakshmanan }
G. W. Roberts } *Ex-Officio Members.*

The impending departure of Dr. Lakshmanaswamy Mudaliar for Europe has deprived the Association of the services of one of its popular vice-presidents. We wish him a happy voyage and a pleasant sojourn out there in

Final M. B. & B. S. Examination—(contd).**PART I**

Register number and name of candidate.

279 Kalamagam, R.	312 Ramachandra Kamath, V.
282 Krishnaswami, T. N.	316* Rangachari, V.
284 Kumara Pillai, V.	318 Sambasivan, K.
291 Mahadevan, M. N.	321 Siva Ayyar, S. V.
293 Meadappa, T. B.	325 Srinivasan, E. C.
295 Narasimha Rao, K.	327 Sriramulu, G.
301 Oommen, Sosa P.	328 Subbaraman, A. N.
303 Padmanabha Panikkar, T. G.	334 Sundaram, T. P.
304 Parthasarathi, G.	335 Sundaram, V. K.
305 Parthasarathi, K.	336 Sundaram Ayyar, R.
307 Raghava Rao, D.	337 Vaidyanathan, P.
308 Raghavendracharya, P.	339 Vasudevan Nambissan, T.
309 Raghavendra Nayak, P.	

Final M. B. & B. S. Examination.

MEDICAL COLLEGE, MADRAS.

PART I.

Register number and name of candidate.

344 Aiyaswami, T. V.	378 Lakshminarayana, T.
345 Alankaram, S.	380 Mammen, Anna T.
347 Arumugam Pillai, K.	383 Masilamani, J. A. S.
351 Chokkalingam, R. V.	387 Natesan, K. S.
352 Durairaj, G.	393 Philip, Sosa C.
353 Ganapathisundaram, S. N.	397 Rajagopala Ayyar, S. N.
355 Gnanaolivu, J. K.	398 Ramachandran, A. S.
356 Gnanasvaran, S.	401 Sambasiva Rao, M.
357 Govinda Menon, K.	406 Sankaran, C.
358 Govindankutti Menon, I.	407 Sankaran, N. S.
360 Govinda Rao, P.	409 Sankaranarayana Unnithan, S.
368 Joseph, P. M.	411 Sebastian, A. P.
369 Joseph Ross, B.	413 Sitarama Rao, M.
372 Kanthamani, D.	415 Srinivasan, C.
373 Kesava Menon, C.	416 Sundaram, N.
375 Krishnamurti Rao, S.	419 Swaminathan, P.
377 Lakshmanan, R.	426 Verghese, Anna K.

PART II.

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

FIRST CLASS.		
Rank	Register number and name of candidate	Subject in which distinction gained.
1	475 Padmanabha Menon, C.K.	Medicine
2	455 Krishnaswami, K.G.	

SECOND CLASS.

1	477 Paramesvaran, M. V.	11	469 Muhammad Shafuiddin, Mekhri.
2	481 Pichumani, S.	12	533 Williams, Marjorie nee Johnson.
3	461 Lasrado, A. F.		434 Anantachari, M. D.
4	520 Umapati, A.		448 Hariharan, V. S.
5	437 Bappu, K.		473 Narayan Prabhu, M.
6	516 Thayumanaswami, V. R.		476 Padmanabhan, R. V.
7	526 Venkatakrishnayya, T. D.		485 Rajaratnam, T. P.
8	470 Nagendran, R.		515 Sundaram, T. K.
9	460 Lakshminarayana Rao, K.		523 Varghese, M. C.
10	531 Vinayaka Rao, G.		

Third L. M. & S. Examination.

The following is the list of successful candidates who
appeared for the whole examination:—

MEDICAL COLLEGE, MADRAS.

Register number and name of candidate.

271 Gnanvadelu, T.	289 Madhava Menon, K.V.
286 Kuppuswami, P. R.	

The following is the list of successful candidates who
appeared for Materia Medica only:—

MEDICAL COLLEGE, MADRAS.

Register number and name of candidate.

*254 Achyuthan Menon, P.	*302 Padmanabhan Nambiyar, K. T.
*255 Achyutan Nayar, M.	*320 Shankar Rao, A.
*259 Booth, A. H.	*326 Srinivasulu Reddi, N.
*233 Cama, Freany, A.	*329 Subrahmanya Ayyar, K.
*265 Damodaran Nambiyar.	*330 Subrahmanya Ayyar, V.
*281 Krishnaswami, N.	*331 Subrahmanyam, M. K.
*285 Kuppuswami, M.	*342 Venkatasubrahmanyam, V.
*290 Madhava Menon, P.	*243 Vittappa Kamath, M.
*292 Martinus, Shelagh A.	

Final L. M. & S. Examination.

MEDICAL COLLEGE, MADRAS.

PART I.

Register number and name of candidate.

346 Arul, E. J. (a)	†390 Nemraja Alva, K.
†348 Balakrishna Menon, K.	†391 Nilakanta Nambiyar, M. P.
†349 Chacko, Mariam W.	†394 Purayya, Accamma, C.
†350 Chandra Rao, K.	†395 Radhakrishnan, C.
†354 George, M. C.	†396 Raghavan, R.
†359 Govindarajulu, V.	†402 Ranganathan, A.
†373 Jagannadharaju, M.	403 Ranganathan, T. K. (a)
367 Johnson, A. S. (a)	†405 Samuel, Mariam, P.
†371 Kanniyappan K. G.	†408 Sankararama Ayyar, R.
†374 Kondalarayudu, K.	†412 Shripada Rao, M.
†379 Madhavan Nayar, K.	†420 Sundarayya Chetti, V.
†384 Mathew, M. I.	†421 Syed Muhammad Khan Sahib.
†385 Narayanan Nayar, V. R.	†424 Venkatarangam, M. P.
†386 Narayanaswami, A.	†427 Verghese, Rachel, M.
†388 Natesan, N.	†423 Virayya, P.
†389 Natesan, P.	

(a) Obtained exemption in Jurisprudence for M. B.

PART II

Register number and name of candidate	Subjects in which exemption is obtained for M. B.
436 Bamford Irene, M.—	Medicine.
459 Kuriyan, K. T.—	
462 Madhab Patnaik, R.—	Medicine.
463 Madhavan Nambiyar, K.—	Medicine.
512 Subramanyan, N.	Medicine and Midwifery

* Obtained passing marks required for the Third M. B. & B. S. Examination.

† Obtained passing marks required for the Part I of the Final M. B. & B. S. Degree Examination.

The following candidates, who appeared for the Final M. B. & B. S. Degree Examinations, have qualified for a pass in the corresponding examination for the L. M. & S. Degree :—

PART I.

361 Itty, Sarah P.—Jurisprudence.

PART II.

446 Gopalan, S.—Surgery	492 Sambandam, K. M.—Medicine and Midwifery
450 Joseph, T. J.—Medicine and Surgery.	493 Satur Dorathy, M.—Medicine and Surgery.
451 Kalyani Amma, M.—Medicine.	499 Seshadri, T. R.—Medicine.
452 Kamalamma, B.—Surgery.	501 Seshadrinathan, N.—Medicine and Midwifery.
456 Krishnaswami, S. V.—Medicine and Surgery.	517 Thimma Reddi, G.—Medicine and Surgery.
474 Narayanaswami, B.—Medicine and Surgery.	519 Tyagarajan, M. V.—Medicine.
479 Paul Sarah, J.—Medicine and Midwifery.	521 Vadamalayan, P. do
482 Rajagopalan, V.—do	

B. S. Sc. Degree Examination.

PART I.

Register number and name of candidate.

534 Asthagiri, A. A.	547 Ramaswami, S.
535 Bhasker Rao, R.	550 Rangachari, T. E.
537 Chandramouli Sastri, A.	552 Sambamurti, R.
538 George, P. V.	553 Sriramulu, B.
541 Mahadevan, V. S.	554 Subbaraman, A. K.
542 Masilamani, S. E. D.	557 Sundaram, R.
543 Narayanan, N.	559 Vaidyanathan, C. V.
544 Natarajan, N.	561 Visvanathan, D. K.

PART II.

SECOND CLASS.

Register number and name of candidate.

534 Asthagiri, A. A.	553 Sriramulu, B.
542 Masilamani, S. E. D.	554 Subbaraman, A. K.
544 Natarajan, N.	561 Visvanathan, D. K.
552 Sambamurti, R.	562 Gopalan, M.

M. D. Degree Examination.

BRANCH III.

Register number and name of candidates.

563 Srinivasulu Nayudu, Alandur.

BRANCH IV.

564 Arunachalam, P.
567 Satakopan, Tindivanam.
568 Venkatasubba Rao, Seringapatam.

M. S. Degree Examination.

Register number and name of candidate.

569 Kanakasabhesan, Daivasikhamani.
572 Visvanathan, C. P.

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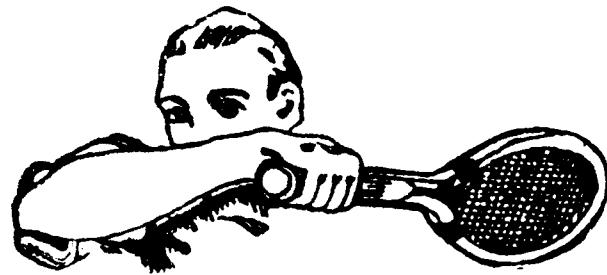
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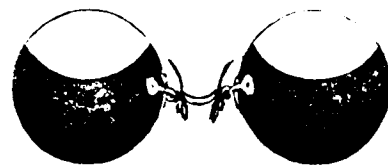
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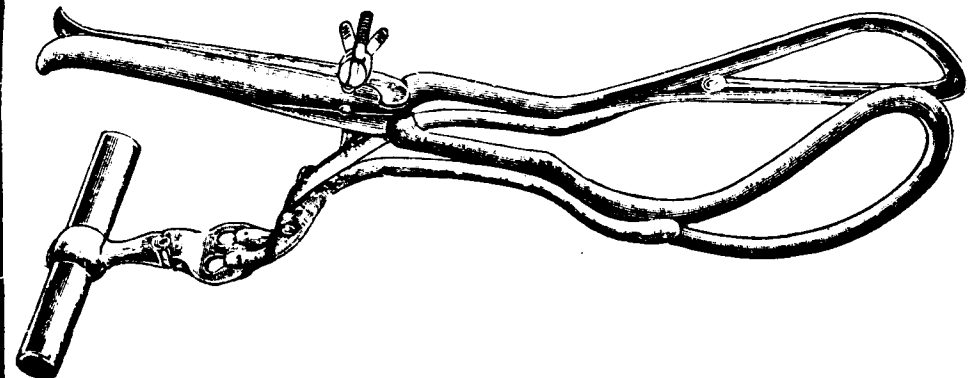
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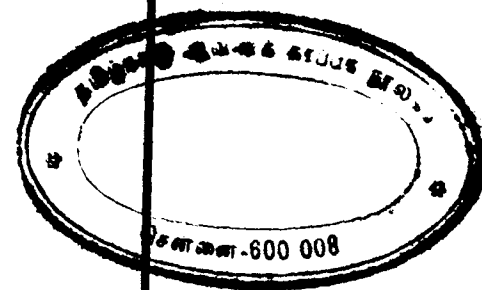
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