BULLETIN

OF THE

SOUTH INDIAN MEDICAL ASSOCIATION.

NOVEMBER 1934.

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We regret very much to announce the death of one of our past vice-presidents, Dr. M. S. Krishnamurty Iyer. Dr. Krishnamurty Iyer graduated from the Madras Medical College and commenced his service in the Madras Medical Department. During his short tenure here he showed his mark as a sanitarian and for his services during the plague and cholera campaigns was awarded a gold medal. From the Madras Service he was translated as Sanitary Commissioner to the Government of Travancore where his work for the improvement of Sanitation, especially among the rural population, is still a by-sword. After retirement 12 years ago from the Travancore Service, he settled down in Madras and has since then devoted himself entirely to the advancement of the Medical Profession of South India. Till his death he was joint Editor of the "Medical Practitioner" and conducted the Bulletin of the Neo Malthusian League of Madras. Recently he was returned unopposed to the Madras Medical Council to represent the graduate constituency. Among his manifold activities may be mentioned his interest in charitable dispensaries and in that connection he was honorary medical adviser to the Ramakrishna free dispensary. Though warned sometime back to be careful about his health and to retire from active life, his indomitable spirit and zeal for work precluded him from doing so and after a busy morning he died suddenly of acute heart failure. In him Madras has lost a distinguished citizen and the medical profession an idealist who set to practice what he preached.

May his soul rest in peace.

Diagnosis of Leprosy.

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Only a brief dealing of the subject is possible. I am going to say just the very important things and finish. Leprosy—a disease of antiquity—dates as far back as 1500 B.C. Just now, it is making its presence felt at an alarmingly rapid rate. The greater practice of being on the lookout for lepers—I am referring to the various centres of propaganda work—serves as an eye-opener to the great commonness of the disease. As is said regarding like fell diseases, early diagnosis certainly means a great deal in the successful arrest of the malady. As is well known, there is not yet anything like a cure for the disease.

The long incubation period, the insidious onset, the protean manifestation and various other factors, make the possibility of early diagnosis very difficult indeed.

Leprosy is divided into skin, nerve and mixed types. The division is arbitrary but seems to emphasise the predominent features of the case. Strictly speaking, all leprosy is mixed. Anaesthesia is the criterion by which the case is classed as a nerve type. To denote the definite stage of the disease recourse is had to the following nominations: N_1, N_2, N_3 and C_1, C_2 and C_3 for the nerve and skin types respectively. An N_3 case will be an advanced nerve type with anaesthesia, wasting of Hypothenar eminences, contractures and perforating ulcers. One or more of these chracteristics may be absent. A C_3 case will denote an advanced skin type with Erythematous patches, definite nodulations and facis approaching the leonine type. The line of demarcation between an N_1 and N_2 and a C_1 and C_2 cases is very vague. I am quite in favour of calling all cases that are not N_3 or C_3, as N_2 or C_2. Nerve and skin involvements are inversely proportional. Nerve lesions are associated with comparative paucity of the bacilli. The more superficial the lesion, the more chronic, the fewer the bacilli and the greater the chances for nerve manifestations.

Before dealing with the differential diagnosis I will try and say just the salient points about this disease which will serve as a guide and help us to spot it from the crowd of resemblin; maladies that flesh is heir to.

Prodromata, marked, but not pathognomonic are irregular rises of temperature, rigor, epistaxis, lassitude, drowsiness, diarrhoea and profuse sweating history of epistaxis and recurrent attacks of fever are fairly constant entities.

The onset may be heralded by trophic blisters of the hands and feet sometimes. In these cases the preliminary symptoms have been very probably missed. The onset may be the sequence of some acute or chronic diseases like enteric or syphilis, certain period of general systemic disturbances entailing extra strain seem to favour the onset. Thus leprosy is more likely to manifest itself during puberty, child birth or menopause in women.

The first evidence of the disease is the primary exanthem—the leprotic patch. A typical patch, starts as an area of depigmentation. At the centre of this, there appears an erythematous spot. The latter spreads out clearing up at the centre. Thus, the patch consists of a central non-pigmented area, surrounded by an erythematous ring, which in turn is enveloped by a non-pigmented area.

The central non-pigmented part is invariably anaesthetic. The other areas show either paraesthesia or hyperaesthesia. The shiny look of the patch is pathognomonic.

Sites of election.—Earliest sites of infiltration supranasal region and nasolabial fold. The pinna of the ear a very common site is supposed to be involved owing to the part being pressed upon while sleeping on the side and the consequent block in the circulation. Scalp almost never involved—palms and soles less frequently. The following regions are immune to lesions:—the subpectoral creases, the midline of the back; posterior inferior auricular area; orbital side of the nose; axillae; the inframammary fold in women; the inter-digital surface and the perenium. Lesions of the central nervous system very rare. Lesions of special interest are in the corium, mucous membrane and nerves.

The typical early cases and the advanced cases are sufficiently characteristic and it is impossible to make a mistake.

The two chief factors enabling us to clinch the diagnosis are: (1) Anaesthesia to superficial touch and (2) finding of the supra bacilli. The other signs and symptoms only help as adjuvants towards arriving at a diagnosis. These two factors may or may not be positive in the same patient. A patch definitely anaesthetic is bacilli free and a patch giving positive puncture result is not anaesthetic.

The best method of testing for anaesthesia is—ask the patient to close his or her eyes and using a *kuchi* with a bit of cotton wool attached, touch the various doubtful spots and ask the patient to point out exactly the place touched. Dealing with children it is rather difficult to carry out this procedure.

The other chief factor—the finding of the bacilli, could be done by examining either the nasal smear or a puncture or a clipping.

A nasal smear is taken by means of a scraper. This is just a hollow scoop with a long handle. The mucous membrane of the septum about $\frac{3}{4}$th of an inch from the external margin is the area scraped. The scraping should not cause any bleeding, of course in cases where that area is quite crusted due to ulceration, even the mere touch is enough to start the bleeding. The scraped matter is put on a slide, spread out, fixed and stained. The habit of administering potassium iodide one or two days before taking the nasal smear is not quite in favour now. Nasal smear results are not sufficiently constant to serve as definite guide towards clinching the diagnosis. This is less reliable than the results obtained from puncture.

A *puncture* from a nodule or from an Erythematous margin of the pinna is done with a clean sterile pin. The prick has to be quite deep as the infector is in the corium. The blood is received on the slide—a sort of thick drop. This must be dehaemoglobinised before staining. The latter process help to remove the extraneous red cells and dissolve the extra haemoglobin and gives us a comparatively clear slide. This is carried out for all practical purposes by just putting a drop or two of water over the thick drop—and letting it stay on for a short-time—the slide being slightly shaken in the meantime. The slide is dried and stained.

A *clipping* is best taken from the lobule of the ear Here again it should not be deep enough to cause any bleeding. The cut surface of the

clipped bit is rubbed on the slide—so as to get a smear. The latter fixed and stained.

The nasal smear, the blood puncture and the slide from the clipping are all stained by the same method. Ziehl Neelsen's acid fast staining. Another method of diagnosis not often followed now is the inducement of a blister and the examination of the contained fluid for the bacilli. CO_2 snow is used for producing the blister.

The appearance of the bacilli varies according to the phase of the disease and forms a valuable indication of the phase through which the lesion is passing and of the manner in which the disease is progressing.

Quiescent Phase —Uniformly staining nods, straight or slightly curved from 1-8 in length and found in bundles.

Reactionary Phase.—Morphologically altered. Parts of the rods do not take the stain and various forms are produced—Fragmentation.

Bac. leprae closely resembles T.B. Some considered those two as one (McLeod), others, thought that it was just another variety of Lepra Bacilli. The close relation to T.B. is made more impressive—by Park and Williams—by the fact that leprosy reacts both locally and generally to an infection of Tuberculin in the same manner as tuberculosis but to a somewhat less extent. To remind you about the points of difference in the microscopical appearance of both—L.B. (1) Occurs in bunches. (2) Larger No. (3) Straight or less curved. (4) Sites found. (5) More easily decolorised by acids. (6) Less easily decolorised by alcohol.

L. B. is distinguished from the Sapraphytic acid fastbacilli like the Smegma B. by the greater power of retaining basic dyes especially when alcohol is used. There is difference of opinion regarding the bacilli being intra or intercellular. Stalwarts in the subject support 'either'. They are both, Innoculation into guinea pigs will elucidate matters definitely.

Leprosy is a Bacillaemia. The Bacilli are found in blood only at certain times chiefly during times of reaction when tissues are broken.

Other symptoms that help towards diagnosis are :

A long History. almost a constant factor. The shiny, depigmented, non-hairy, non-scaly (in the majority of cases), non-itchy, anaesthetic patch, vaguely margined, labels leprosy sufficiently distinctly and definitely. But all patches are not characteristic. Some patches are scaly. Some hyperaesthetic. In some cases get keratosis and parakeratosis. The latter particularly in the palms and soles.

Anhydrosis is present in some cases marked in the extremities.

Thickening of Nerves.—The common palpable nerves examined are. *The ulnar* at the phase where it passes in the groove in the olecranon. The *common peroneal* at the place where it winds round the lateral aspect of the neck of the fibula and the *great auricular* as it crosses the neck obliquely from below upwards and backwards. The affected nerves are thickened—cordy or sometimes nodular. At times they are tender. This is best elicited in the case of the ulnar—the palpation at the bend of the elbow causing a tingling right through the forearm and some of the fingers. In acute cases with neuritis one could hardly touch the nerve. It is interesting to note in some cases

the thickening of the nerve on the opposite side to which the patch is situated. The nerve on the sameside being unaffected.

Sedimentation Test.—This has some value as an aid to diagnosis taken in conjunction with the other laboratory and clinical findings. In the test, the breaking down of tissues is said to be the motive force at the bottom. This process is abundantly at work in disease like leprosy. It is certainly a correct index of the degree of resistance of the patient. A slow rate denoting a high resistance.

Differential Diagnosis.—I am mentioning the salient points about the more important diseases taken into consideration. They could be compared with leprosy. It pays everytime to exclude leprosy in all cases of generalised Scabies and Fungus.

Fungus.—A patch of fungus with the short period of duration is definitely margined, depigmented or Erythematous, markedly scaly, itchy, not anaesthetic. Scraping may give a good slide of fungus specially in the case of Tærnia versicolor. Some patches give trouble, specially in children. A patch not scaly, itchy now and then of fairly long duration does occur sometimes with nerves unaffected. In these cases it is the look of the patch that decides matters and the fate of the patient entirely depends on the arbitrary decision of the specialist. In case of children the benefit of the doubt is always given in favour of fungus. The patient is kept under observation for one or two months, some ointment for the fungus being used in the meantime. In such cases it could be taken for granted that the nasal smear and puncture results will be negative.

Seborrhœic Dermatitis. Some books miss this altogether while considering the differential diagnosis. In my opinion this is one of the conditions very liable to be mistaken. I have known of two definite cases—where one was mistaken for the other. The greasy appearance in this condition is pathogonomic. The condition is itchy. Pityriasis Capitis (Dandruff) the supposed active agent for this condition is present in the majority of the cases. Of course the differentiating points of leprosy help us to exclude this disease.

Syphilis.—Often coexits and sometimes gives good deal of trouble. *History.*—The comparatively quicker course, shorter duration, want of the characteristic leonine facies, absence of thickened nerve presence of reagin in blood and positive Kahn are factors helping towards diagnosis. Syphilis affecting the palms and soles require special mention. They are very liable to be passed off for leprosy. There is a certain amount of depigmentation at the margins of the Syphilitic palm or sole simulating a patch of leprosy. The appearance in the majority of cases is due more to the comparative hyperpigmentation of the palm or sole rather than to any actual depigmentation. Palmar Syphilids is more commonly unilateral. The annular Syphilids in the form of circles or segments of a circle, hyperpigmented more usually, though a very characteristic lesion of syphilis, may after a perfunctory examination be diagonised as leprosy. The History if reliable.—The want of anaesthesia and of course the positive serum test then will decide matters.

Psoriasis.—Early patches, at the sites of election—dorsum of elbow and knee, (head often affected), itchy sometimes, with the silvery white scales and when these are removed revealing the characteristic Bulkley's membrane with the punctiform haemorrhagic spots are characteristic

enough. The old patch untreated or partly treated that is liable to be mistaken. The want of anaesthesia and occasional itchiness added to the want of other leprosy signs, help us to arrive at a diagnosis.

Urticaria.—Sometimes very liable to be mistaken for an acute onset of the skin type. Short duration, the marked itching, dermatographia if present, the rapid recovery and the absence of prodromata help towards diagnosis. In such an acute onset of leprosy the nasal smear and the skin puncture will abound in bacilli.

Erysipelas.—The definitely margined patch with a short duration, with the absence of the chief leprosy signs. Erysepelas is a common complication of leprosy.

Syringomyelia.—Sometimes troublesome. The two chief points differentiating it from leprosy are the absence of anaesthesia to superficial touch, and absence of thickened peripheral nerves. In Syringomyelia the anaesthesia is more extensive and predominant in the extremities. Get trophic disturbances in skin, muscles and articulations and spastic Paraplegia. In Syringomyelia the affection is unilatral and facial paralysis very rare and when present is central in origin—while in leprosy the affection is invariably bilateral, facial paralysis common and of peripheral origin. A symptom of considerable diagnostic value where the ulnar nerve is involved, is hyperaesthesia followed by loss of sensibility beginning at the tip of little finger and spreading from there to adjacent fingers.

Morvan's disease or the analgesic whitlow (I have not seen any case) must be excluded by the want of the chief leprosy sign. Leprosy advanced enough to have an analgesic whitlow like that, will surely give other obvious clues to help us towards its identity.

Dermal Leishmaniasis: the patches look different. History of long fever perhaps an enlarged spleen and absence of leprosy signs help the diagnosis.

Ainhum.—Through a rare disease and almost an entity by itself may very probably at first sight he mistaken for leprosy. This disease of obscure origin affects the small toe mostly. Starts as a furrow in the digito-plantar fold. The epidermis is thickened. The furrow deepens a regular fibrous tissue ring being formed. In advanced cases the toe is just held by a thin pedicle There is no anaesthesia

Lupus Vulgaris and Lupus Erythematosus should not be troublesome. The indolent, prominently margined patch of long duration not anaesthetic forms a very typical picture. I am yet to see patches of Lupus Erythematosus situated other than in the usual batwing area—on either side of the nose. The scaly, sometimes erythimatous or very slightly depigmented, itchy or irritative patch occurring in that characteristic, contour is a fairly unmistakable picture. Much reliance could not be placed on the tuberculin test, for this may be positive in either. It must be remembered that Lupus Erythematosus could occur without a tubercular basis.

Leucoderma.—I am sure could be omitted altogether with impunity while dealing with the differential diagnosis. The name of white leprosy is a gross misnomer. The complete loss of pigment in the affected patches and the absence of the chief leprosy signs mark it out easily.

Other things that need just mentioning are perripheral neuritis, progressive muscular atrophy Milium, Sarcoids, and fissured eczema.

Having diagnosed the patient as a leper it is always necessary to examine him completely. The diagnosis of the accompanying defects richly contributes towards the successful control of the chief complaint. Things like tuberculosis, syphilis gastro-intestinal diseases, etc., must be spotted out and course of treatment adopted accordingly.

In diagnosing a patient with Hansen infection, it will be required sometimes to say whether he is infective or non-infective and result of the nasal smear and puncture are the two criteria we go by. An individual, whose nasal smear and puncture results are both negative, is certified as a non injective stage of Hansen infection.

The Appeal of Quackery to the Nervous Invalid.

WALTER C. ALVAREZ, M.D.

Nervous persons, chronic invalids, and so-called incurables supply most of the income of the 7,650 osteopaths, 16,000 chiropractors, 2,500 naturopaths and allied practitioners, and 10,000 Christian Science and New Thought healers now in the United States. According to L. S. Reed, who recently analyzed the situation for the Committee on the Costs of Medical Care, these 36,000 persons collect each year about $ 125,000,000.

Some of my readers doubtless wonder at times why these people continue to thrive, especially in the face of repressive legislation. Why in most states do they succeed in tearing a hole through every legal fence that is built between them and their prey, and why in every state that I know of are the so called religious cults of healing absolutely untouchable by the legislature? So far as I can see there can be only one answer to these questions and this is that these people cater to some need or belief long since implanted in the human heart. Apparently, since the beginning of time, there have always been two types of healers in the community: one the student, the user of herbs, the setter of bones, the practitioner of surgery, the inheritor and user of every bit of real medical knowledge gathered through the centuries, and the other the ignorant witch doctor or priestly healer who treats disease by incantation, hocus-pocus, and the casting out of demons. From the one group we have as a lineal descendant the modern physician who employs every useful drug, every therapeutic device, and every operation ever discovered, from prehistoric times up to the present; from the other group have come in unbroken line all those who heal by faith or by systems based on faith.

Old superstitions are slow to die. One thinks of astrology and alchemy as delusions of the Middle Ages but to-day Evangeline Adams gets fifty dollars for a horoscope, and the president of Germany recently lost heavily in a company organized to make gold out of base metal.

One of the leading advertising firms in America has just published a book based on years of researeh into the results obtained from the expenditure of many millions of dollars in their business. The author's main theme is that any copy not written in language understandable by a child of thirteen years will go over the heads of so large a fraction of the people in these United States that it doesn't pay to write it: certainly it will not bring results. It would seen obvious then that quackery must continue to thrive, perhaps for centuries, and especially in those communities, in which a large part of the population is made up of well-to-do

but particularly ignorant and credulous people.

Some of these persons will go to the quack, attracted by his advertising and by the idea that here is the latest thing in medicine. An insurance company once asked a man in a small town to send them a medical certificate of illness. He wrote back apologetically to say that since there was no chiropractor in town he had had to go to a regular physician and he hoped that this behaviour would be overlooked or condoned! Other persons go to the Chinese herb doctor or the Kickapoo Indian because they think the ancients or the uncivilized had some secrets of healing not yet known to the moderns.

Others again for a time will flock by thousands to some long-haired man who will say a few words, or touch them on face or hand or foot. They have the idea that God has in some way ordained him as a natural healer.

Many others go to the quack or to the healer because they are against regular medicine and all its works. Some inherited strong antagonisms from their parents; others acquired them through reading the journals of Bernarr Mc-Fadden and his ilk, while others acquired them after some unfortunate experience with a regular practitioner. To these groups belong the antivivisectionists and the antivaccinationists. In any legislative fight they love to combine with the faith healers, the cultists, and the vendors of patent medicine to strike a blow at the "great medical trust."

Other fairly intelligent persons of radical tendencies fail to see that the examination and licensure of physicians, if properly done would protect the public from injury by scoundrels and ignoramuses. To these mistaken people the quack who cannot pass an examination promptly becomes an underdog or a person who is being persecuted by the "medical trust," and accordingly they rush to his relief with special laws and exemptions. Strange to say, university towns commonly are hot-beds of quackery. Too often the professor thinks that because he knows a lot about mathematics or history or greek, he automatically knows a lot about medicine and diet and vaccines and serums.

Then there is the large group of choronic invalids some intelligent and many ignorant, but all discouraged and desperate enough to try anything. These go to the quack because regular physicians, oftentimes the best in the land, have failed to make a clearcut diagnosis, have failed to give or even to promise any relief, have failed to do anything in the line of treatment, and have, perhaps, failed even to show interest, understanding, and sympathy.

Many of the sick insist on a positive diagnosis; they want an unequivocal promise of cure; they want something that at least looks like attention and treatment at frequent intervals they want small charges within reach of their purse, and some of them want a doctor who can be counted on not to suggest an operation.

Many fairly intelligent persons enter the office of the irregular practitioner without faith, but desperate enough to try anything once. Others, unacquainted with the fact that there are such men as trained orthopedists in the medical profession, go to an osteopath for the treatment of myositis or arthritis and get better attention and relief than they can get from the average physician who thinks only of giving sodium salicylate or aspirin, or or of removing teeth or tonsils. Naturally they are grateful, and all would be well if later they did not go to the beloved osteopath with the early symptoms of carcinoma of the stomach or pernicious anæmia, diseases about wlfich he knows nothing.

The nervous woman often takes up Christian Science at the behest of friends or because she seeks escape from fears and phobias, from a bad prognosis, or from the need for an operation. If she succeeds in accepting the teachings of Mrs. Eddy and if negation really triumphs over fear, she finds peace and freedom; she does what physicians have for years begged her to do, and she doubtless tends to gain happiness and health.

A woman will often for a time swear by the quack because in the first place, he has convinced her that at last the cause of the trouble is found: the cause that all of the physicians overlooked. Moreover she has now the promise of a cure and this serves to buoy her up. She is happy because the new practitioner is interested in her case. He sees her every day or every other day; he has time to talk to her; he uses words that are within her comprehension, and he expounds ideas about disease which sound reasonable because they fit well with her inherited body of beliefs.

Still better, he *does something* for her at each visit. He kneads and rubs and manipulates; he applies electricity or ultraviolet light, or he washes out her colon and waxes enthusiastic with her over the amount of mucus removed.

Because he collected his fee in advance she is able to go to him whenever she desires without worry about money. If at first she is disappointed at her failure to see much improvement she is remined that the complete cure was promised only by the end of six months.

Perhaps she has been impressed by the quack's advertisements or by the splender of his office, his electrical equipment and his other stage properties. Furthermore, if she has gone a head against the advice of relatives and friends, she is never going to admit, if she can help it, that she was "stung." Patients will commonly complain bitterly about the behaviour of some of their physicians but they rarely will say anything prejudicial to the quacks whom they have employed. Almost always these men are spoken of as friends who did the best they could according to their lights, and if they didn't cure the cancer of the lip and if they did let it get down into the neck, at least "they were wonderfully efficient in relieving the pain between the shoulders." He who has paid heavily for his whistle must needs blow it loudly.

The nervous woman will always swear by her favourite quack if he possesses, as often he must if he is to succeed at all that indefinable something that enables some men to lead their fellows, to command them, and to heal them. For innumerable persons, not only with functional but also with organic troubles, comfort and hope in illness depend on the finding of this particular personality in the physician. Given this power, the healer can commonly dispense with all knowledge of disease and its treatment. The quack is tremendously helped also by his lack of reserve when it comes to diagnosis and promise of cure. Thus I may be morally certain that an aphonia is hysterical, but if the slightest doubt creeps into my speech or my behaviour with the patient I will fail to cure her: I will be handicapped by a scientific spirit and concern over my reputation for truthfulness, but the quack will not be so inhibited.

What can the medical profession learn from all this? In the first place I think we can say that all those physicians who hate and despise nervous patients, who don't care to be bothered by them, who cannot find it in their hearts to sympathize with

them, and who will not take time to study their lives and their problems and to lead them out of their muddles must not attempt to handle them and must never complain when they go elsewhere, even to the quacks. Those big healthy physicians who do not know what nerves are and who cannot believe that the sufferings of the fatigued and the weak and the psychopathic are real should stick to the type of practice that they can do well, among the injured and the aimed and among those afflicted with definite organic disease.

The next thing that we physician should do more often is to make a definite, clear cut and positive diagnosis. Instead of hinting that the trouble may arise in teeth or tonsils, in ovary or uterus, appendix, galbladder. enteroptosis, or adhesions let us more often, *after making a careful physical, roetgenologis, and laboratory diagnosis, say*: "Your trouble is primarily or wholly due to constitutional inadequacy or to combinations of this with psychopathy, fatigue, nervous tension, worry, unhappiness, insomnia, and poor habits of living and eating." (Obviously the meaning of these terms will have to be explained in detail and in simple words.) Often we must have the wisdom and the strength to say that even if the patient should have chronic appendicitis or adhesions or cholecystitis or entereptosis or a retraverted uterus or amebiasis, these things cannot possibly account for the prostration, the melancholia, the inability to become adjusted in the community, and the inability to keep at work.

The most difficult art that the physician has to learn is that of making friendly contact with these people; of convincing them of his faith in them and the reality of their sufferings; of communicating his sympathy to them; of explaining in simple words and with simple parables the situation as he sees it, and of convincing them that it is useless to go on searching for a quick cure by medicine or surgery.

Often he must explain the nature of constitutional inadequacy, and, without offending or discouraging too much, he must point out that "the conquest of Fate is not always by struggling against it but through acquiescence" (Trudeau). These people must act much as do the tuberculous, who find health only as, for a time, or forever, they give up ambitions and learn to live within their means of strength.

The physician should be optimistic to the extent of pointing out that much of the best and finest work of the word has been done by physical weaklings who suffered much. Often he can point to the case of Darwin, who could never work more than a few hours a day but who thereby accomplished enough to remould the thought of his generation.

If a physician hasn't the special knowledge in a certain field of medicine that will enable him to assure the patient that the disease complained of is functional in type, then it will help greatly to call a sane and conservative consultant. Thus, although I may be almost certain that I am dealing with a cardiac or a sexual or pelvic neurosis I rarely commit myself until I have consulted with a cardiologist, a urologist or a gynæcologist. The greatest business-getter for the quacks is now and always has been the physician who, with insufficient knowledge, and after an incomplete examination, makes the wrong prognosis, and what is much worse, the wrong prognosis. Every time a physician tells a well-to-do patient with functional troubles that he will die if he doesn't immediately submit to an operation, some quack

stands to gain a fortune or some group of divine healers is enabled to build a larger temple.

It should be obvious to anyone that frail nervous patients who have been ailing for years are not going to be made over in a few minutes or days. Often it takes hours, or weeks even to dig out of them an intelligible story, one that will enable the physician to understand the problems of heredity and environment well enough so that he can give suitable and practical advice.

And obviously it is useless in most cases to give advice and then send the patient forth to work out his own salvation. How can we expect a poorly endowed or an injured and poorly working brain, unaided, to discipline and help itself? For weeks or months the patient will need help from the outside and he must be made to return at frequent intervals for observation, encouragement, and continued psychotherapy. Often he would refuse to pay for psychotherapy alone and hence this must be combined with some vehicle such as physiotherapy, heliotherapy, or hypodermic injections of sodium cacodylate. These measures are helpful in themselves but often their main value consists in bringing the patient back repeatedly under the influence of the physician. They are helpful also in keeping the patient busy and out of the hands of the quack during the period in which rest, better sleep, and better hygiene can get in their good work.

Not infrequently we physicians would do well to follow the strategy of the irregular practitioner and to promise a cure only after several months of treatment.

I have long felt that our failure to cure or even help many cases of nervous disease is due to the fact that our methods are now similar to those used 100 years ago in the fight against tuberculosis. To-day we say to the man or woman with a few rales in the lungs. "Give up work, go to a sanatorium for a year or two and you will almost certainly get well." We physicians should be doing the same thing with many nervous wrecks but as yet as we have not learned what can be done in this way; we do not know when sanatorium treatment is absolutely necessary, and we are not sure what the results would be if we were to insist on it. Worse yet, the necessary sanatoriums are not yet available. It is difficult enough to find a good one for well-to-do nervous or psychopathic patients, and it is impossible to find one for a poor patient. Society has built many asylums and hospitals for the insane but as yet it has barely noticed the problem of the human wrecks who are to be found in the twilight zones between the sane and insane and the employable and unemployable.

Twenty-five years ago, working in a free clinic, I used to stand baffled and helpless before the problem presented by tuberculosis in a poor man or woman. To-day society has come to our help in the matter of this disease and we can put such patients at rest in institutions equipped for their care and manned by experts. Perhaps some day society will come to the help also of the constitutionally inadequate, the neurotic, the mildly psychopathic, and the poorly adjusted, and then we physicians will obtain better therapeutic results. My only fear is that if society should every attempt really to care for these many inadequate persons those of us who are healthy and able to work and pay taxes would never be able to supply the necessary funds.

I doubt if we can hope, in the next few generations, to see much abatement in the human desire for quackery. All that we physicians can do is to stop *driving* patients to the quack by showing them a lack of interest and sympathy.

I have pointed out some of the ways in which we might profit by studying the technic of the irregular practitioner. Perhaps we could run him out of business if we could cure all of the sick who come to us; but we cannot yet do this, and neither can he. He gains his reputation in the case of patients healed by the great *vis medicatrix naurae*, but so, often, do we and hence we cannot complain.

There is one place in which scientific physicians might well emulate the quack and this is in maintaining a more impressive and better equipped office. How on earth can an intelligent, neat, orderly-mined patient expect to be cured when she is ushered into a dirty unswept room with ancient furniture and a small amount of rusty equipment? And what is she to think of a man who goes about with dirty fingernails and a badly-frayed collar and who leaves on his desk a large pile of medical journals twill in their wrappers?

Finally, we must do our bit in improving methods of education until faith in quackery and hocus-pocus will become impossible. To-day we tend to close the open and avid minds of little children with dogmas and positive statements; in school we teach them to memorize and worship statements made in text-books designed to conform to the prejudices of the more ignorant of school boards, in college we often supply them with teachers who have never caught the true spirit of science, and then we complain because, for the rest of their days, they do not base their behaviour on an openminded, dispassionate analysis of facts and expert opinions.

The world is till waiting for a group of specialists trained to handle the problems of the neurotic, the psychopathic and the constitutionally inadequate patient, with or without organic disease. The psychiatrist is interested in the actually insane, and the neurologist is interested in patients with brain tumors and nerve degenerations; what we need is a group of practitioners who, to begin with, are generously endowed with gifts of leadership, intelligence, friendliness, kindliness, sympathy, understanding, and good judgment. Next they must be well grounded in all branches of medicine in order that they will not become lopsided and faddish, and finally they must have training in psychiatry, neurology, and social service.

I fear that in addition to patients' fees they will have to receive some financial reward from the community because they can care for only a small number of patients a day, and most of these will be too poor to pay adequately for the service rendered. Incidentally, what right has society to take as a matter of course the physician's age-long willingness to assume the care of human derelicts without expectation of pay or even public thanks or exemption from taxation? It is this sort of thing that has ennobled our profession, but the economics of practice is changing. Once a physician sat in his study at home and in a few minutes gave an opinion and a prescription. Now he sits in a down town office and he and several assistants spend hours in making a diagnosis. The process costs much money, and soon, if physicians are going to earn a decent living, the community must in some way assume at least part of the expense of medical care given gratis or at greatly reduced rates to those many poor people who are too refined, too well educated, and too proud to go to the free dispensary or to the country hospital.

Summary.

Quackery persists and is strongly entrenched to-day, first, because it fits

in with many of man's inherited beliefs and desires, and second, because the intelligence of the average man and woman in the country is low. The various motives which take men and women to the quack have been analyzed, and places have been pointed out in which regular practitioners of medicine might learn from the irregulars. It is suggested that a new type of practitioner is needed and new sanatoriums designed to take care of nervous and psychopathic patients.

MINNESOTA MEDICINE,
February 1933.

Comparison between ordinary Cow's milk in its natural state and Milk Powder prepared by the "Roller" Process.

BY Dr. JOHN CAMPBELL

(of the New Health Society).

In normal mammals the milk of the female is always a perfect food for her offspring both in regard to digestibility and the provision of the necessary food factors for the growth of the nursling, and the former consideration is most important in the artificial feeding of infants. The preliminary to the gastric digestion of milk is the coagulation by rennin, the curd being afterwards peptonised by the correlated action of HCl. and pepsin. The time period and completeness of peptonisation—assuming the gastric digesting factors are normal—mainly depend on the area presented for hydrolytic action. The rennin curd of human milk being pin-head and flocculent in its character exhibits a very extensive surface for gastric solution, and thus presents no digestive difficulty on account of any coarse physical character of the curd. Cow's milk, on the other hand, coagulates into large solid clots which present only a very limited surface for peptonisation and in this respect it differs profoundly from breast milk. The coarse curdling of cow's milk under the action of rennin is a great drawback, and militates greatly against its suitability for infant feeding. Pediatricians have for many years studied the problem with a view to minimising the defect. Cereal foods are often employed for this food, but there is the objection that their use in this relation adds starch to the diet, a substance which is foreign to breast milk and which is not capable of digestion until late in the nursing period. Citrate of soda has also been used, but this salt acts injuriously on the vitamin C content, and by the actual prevention of gastric rennin coagulation transfers the whole of the digestion of the milk to the small bowel.

In the calf, this coarse character in the cow's milk is adequately dealt with by the preliminary curdling and physical reduction in the first three stomachs presenting the curd to the fourth or true stomach in an easily peptonisable condition, but in the human gastric system consisting of one organ only—the stomach—no such preliminary reduction of the formed curd takes place and its initial coarse character presents considerable difficulty to complete peptonisation within the interim feeding period.

The employment of milk powder prepared by the Cow & Gate Roller process completely solves this problem as the process so modifies the Phospho-caseinogen that the rennin curd of the reconstituted milk approximates to that of breast milk, in its fine flocculent character, and recent digestive experiments have proved that the rennin curd of roller powder is peptonised just as easily and quickly as that of human milk. Therefore, when this milk powder forms the basis of the infant's artificial diet there is no need

to have recourse to unscientific additions to achieve greater digestibility.

One of the outstanding advantages of roller milk powder is the high standard of bacteriological purity, and the absolute safety with regard to milk borne disease. Raw milk is commonly a carrier of disease, not only of bovine tuberculosis but of various fevers and enteritis, and this especially applies to the milk supplied in tropical countries in relation to epidemic infections.

Roller milk powder is on the other hand sterile to all pathogenic germs and is a perfect protection to the infant against the transference of the tubercle bacillus or specific epidemic disease. This in itself is of overwhelming moment in the artificial feeding of infants, and justifies the use of roller milk powder to the total exclusion of all other systems involving the use of raw milk.

Another advantage of roller milk powder over raw milk lies in the character of the rennin curd of the reconstituted milk. This is fine and flocculent and closely approximates to that of breast milk. The following references to this important dietetic property will be interesting.

"Chemical experience very clearly proves that milks dried by the roller process do not cause the same obvious disturbance of digestion as fresh cow's milk. Hence with cylinder dried milks there are no violent gastric reactions to detract from its popularity". (Feeding of Infants and Children by Eric Pritchard, M.D.)

The use of roller milk powder in lieu of raw milk is therefore entirely to the advantage of the nursling, and if universally adopted, would wipe out thousands of deaths and much suffering from bovine tuberculosis and epidemic disease.

When artificial feeding of infants is followed, the choice of Roller Powder ensures the full vitaminic complement of the original fresh milk from which it was powdered, with the added advantages referred to in the foregoing remarks.

ASSOCIATION NOTES.

The Trichinoply District Medical Association.

A monthly meeting of the above Association was held on Saturday the 29th September, 1934, at 5 P.M., in the Government Headquarter's Hospital, Trichinopoly when about 36 members were present. Dr. Edward Paul Mathuram was "At Home" to the members. In the absence of Dr. C. E. R. Norman, the President, Dr. N. Balammal, M.B.B.S., presided.

Dr. K. R. N. Chary, M.B.B.S., proposed and Dr. Raghavan, the Secretary, seconded the following resolution which was passed unanimously.

"This Association requests the Commissioner of the Trichinopoly Municipality to suitably combat the dust menace which is a great danger to the public health of the inhabitants by watering the roads twice morning and evening and thus conduce to the sanitary improvment of the Town".

(2) It also brings to the notice of the Commissioner the baneful influence of vending openly sweet-meats and other articles of diet without suitable Hygienic safeguards against infection and contamination".

(3) This resolution be communicated to the Commissioner and press.

Then there was demonstration of cases.

Dr. Narasimhalu Naidu of Sirugannoor, demonstrated a case of chronic

middle ear disease in a boy aged 18 who has discharge from the ear since birth. The peculiarity in this case was an anterior cervical gland which was soft, swollen and suppurating.

Dr. V. Subramanyam, Honorary Dental Surgeon, demonstrated a case of a small boy aged about 12 suffering from cyclic vomiting due to acetonuria and who improved remarkably well under glucose and insulin. Dr. S. Padmanabha Sarma, M.B.C.M., D.M.O., gave his experiences of acetonuria, particularly in children and impressed on the need of examining the urine in intractable cases of restlessness and vomiting in children.

Dr. R. Gopalan, House Physician, demonstrated a case of Peptic Ulcer in an old woman of about 60 who was improving very well under medical treatment, chiefly alkalies.

Dr. R. Kalamegham, M.B.B.S., and Dr. S. Padmanabha Sarma explained the danger of administering sodium bicarbonate promiscuously and said that after neutralising the acid, it stimulated more secretion of HCl and said bismuth and calcium carbonate were the ideal antacids.

Dr. R. Sambhasivan, M.B.B.S., demonstrated a case of Haemophilia. This patient who had a serious accident involving face injuries during infancy recovered normally then. Even last year when he was operated upon for a Haematoma on the right calf muscle recovered naturally. But when a similar Haemotoma was operated upon at the same place about a fortnight back bleeding started immediately and could not be controlled by vigorous treatment with lot of calcium lactate by mouth, Hæmostatic serum, calcium chloride injection and application of local styptics such as zinc-chloride, Tr.-Ferri Perchlor, etc., but suddenly stopped after a fortnight without any apparent specific treatment.

Dr. M. R. Bhat of Pulivalam demonstrated a case which he had treated a year back for Scoliosis and T.P. by fixation, Sodium Morrhuate aud Sulpharsenol injection and which now showed a recurrence of all the troubles.

There was interesting discussion after demonstration of the case.

The meeting then terminated with a vote of thanks proposed by the Secretary Dr. P. A. S. Raghavan, to the Host, the President, and the Lecturers of the evening.

REVIEW.

The Antiseptic, July 1934.

The July issue of the *Antiseptic* is a special number devoted to pediatrics and is replete with the problems concerning the Pediatrician in various forms. Among the various subjects dealt with a few may be mentioned. Thesurvey of infantile biliary cirrhosis, ihe management of naughty children, observations on pediatric practice, surgical emergencies deserve special mention. It is not every Journal in India that is able to command the services of such an array of contributors, each eminent in his own line. The *Antiseptic* has always maintained a reputation as one of the foremost medical journals in India and this special number, as usual, is in keeping with this reputation. We congratulate its editors on the Pediatrics issue and commend this volume to every practitioner interested in the subject.

The Dr. B. S. Shroff Memorial Gold Medal

OF THE

BOMBAY MEDICAL UNION.

The following subject has been selected by the Bombay Medical Union for competitive thesis for the above Prize for 1934:—

"OLD AND NEW REMEDIES IN THE TREATMENT OF MALARIA."

The award will be in the form of a Gold Medal called the DR. B. S. SHROFF MEMORIAL GOLD MEDAL OF THE BOMBAY MEDICAL UNION.

The competitor must be (i) a duly qualified member of the Medical Profession holding a degree or degrees and diplomas from Indian and other Universities created by statute, or (ii) a duly qualified member of the Medical Profession holding the diploma of Membership of the College of Physicians and Surgeons of Bombay.

The thesis must be sent in six typed copies so as to reach the Honorary Secretaries, Bombay Medical Union, Blavatsky Lodge Building, French Bridge, Chowpatty, Bombay, on or before the 2nd January 1935, the latest.

The thesis should be designated by a motto instead of the writer's name, and should be accompanied by a sealed cover containing the name of the writer and his Post Office Address.

The name of the Prize, the year of competition, the subject of the thesis and the writer's motto should be superscribed on the cover.

No study or essay that has been published in the medical press or elsewhere will be considered eligible for the Prize, and no contribution offered in one year will be accepted in any subsequent year unless if includes evidence of further work.

The accepted thesis shall be the property of the Bombay Medical Union.

All other thesis shall be returned if not accepted provided the return postage expenses are paid in advance by the writer.

In the award of the Prize to the successful candidate, the decision of the Committee, shall be final.

SORAB. J. POPAT, M.B., B.S.,

M. B. THAKORE, M.B., F.R.C.S.E.,

Hon. Secretaries,

BOMBAY MEDICAL UNION