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MARCH — 28-3

April — 28-4.

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The Antiseptic

A Monthly Medical Journal

Edited by

Dr. U. Rama Rau & U. Krishna Rau, M.B., B.S.

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MARCH, 1931

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EDITED BY

Dr. U. RAMA RAU & U. KRISHNA RAU, M.B., B.S.

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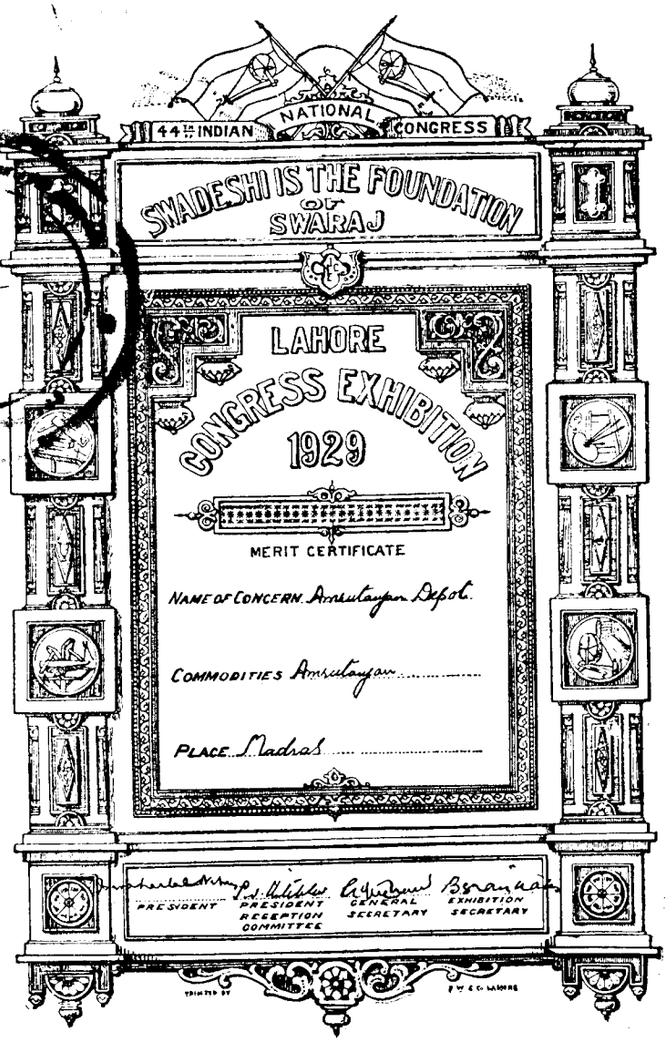

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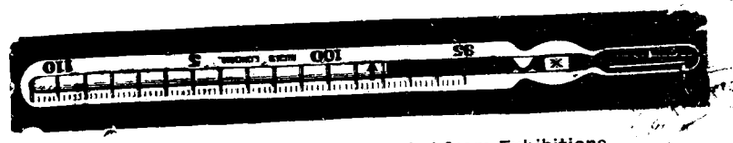

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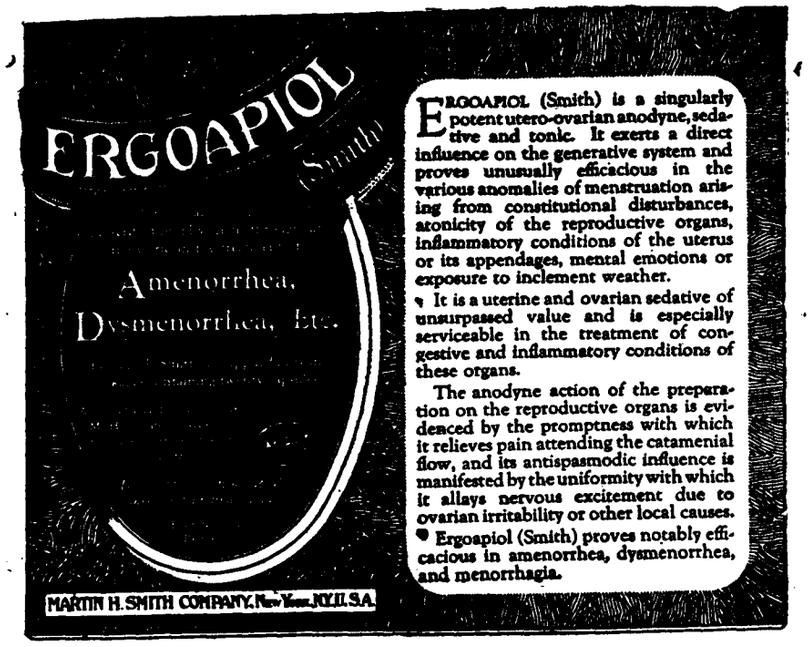

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This Special issue is about twice the size of the regular issue of the journal and contains the following articles.

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Aetiology of Senile Cataract by Dr. Ram Kishan Handa, B.Sc. M.B.B.S., Sir Gangaram Free Hospital, Lahore.

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Gonorrhœal Ophthalmia by Dr. J. C. Basu Chowdhary L.S.M.F. Formerly House Surgeon, Thomson Eye Hospital, Agra, now Medical Officer I/c. of St. John's School Dispy., Agra.

Ocluar manifestations in Syphilis by Dr. G. Zachariah. B.A., L.R.C.P., (Lon.) M.R.C.S., (Eng). D.O.M.S., (London), Hon. Ophthalmic Surgeon. Govt. Royapuram Hospital, Madras.

Surgical Treatment of Vertigo and Tinnitus by opening the Saccus Endolymphaticus. By Professor George Portmann, University of Bordeaux.

Some Common Diseases of the Ear by Dr. S. V. Nathan, L.M.P. Madras.

Suppurative Inflammation of the accessory sinuses of the nose by Dr. H. B. Mylvaganam, F.R.C.S,, (Eng.) Bangalore.

Notes on the ocular manifestations of the affections of the Para Nasal Sinuses by Dr. J. M. Damany, M.B.,B.S.,F.R,F.P.S.G., D. L. O. (Lond.), D. O. (Oxon), D.O.M.S. (Lond.), Hon. Aural Surgeon, G. T. Hospital, Bombay,

Nasal Discharge and its treatment by Dr. Kali Gati Banerjee, Suri, Birbhum, Bengal.

Some Vagaries of the Common Cold by Major A. K. Nandi, M. B., Burdwan.

The Surgical Removal of Tonsils and Control of Hæmorrhage by Dr. P. V. Cherian M.B., D.L.O., F.R.C.S.E., Ear, Nose and Throat Surgeon, General Hospital, Madras.

Surgical treatment of the affections of the Pharynx and Fauces by Dr. Suresh Chandra Das Gupta, L.M.S., Senior Surgeon and offg. Chief Medical Officer, Bir Hospital, Nepal.

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Original articles

ACRODERMATITIS ATROPHICANS, AS A TROPHESY IN DISSEMINATED SCLEROSIS.*

BY

PROFESSOR L. BENEDEK AND EUGENE DE THURZO.

Atrophic disorders are rare in disseminated sclerosis, so rare indeed, that in *Lewandowskis* "Handbook of Neurology" *O.Marburg* is quoted as saying "they are not worth mentioning." Even muscular atrophy is of rare occurrence, while atrophic disorders of other organs belong to the class of curiosities. For example the dental caries described by Wagner V. Jauregg.

H. Oppenheim (2) makes mention of a cataract on the right eye. *Lachman* likewise reports atrophy of the teeth in connection with diss. sclerosis. In recent times *Brojlowski* made special study of nutritional disorders in cases of inflammation of spine medulla and diss. sclea., gathering material from 100 cases of myelitis, 100 encephalomyelitis, 18 spondylitis and seven other nervous ailments and among them he found atrophic disorders of the passive tissues in the form of decubitus in 5 cases of myelitis, 2 encephalomyelitis

*From the Clinic of Neurology and psychiatry of the Tisza Istvan University in Debrecen.

1. Jahrbuch f. Psychiatrie u. Neur. 1910, 31, 446.
2. Jahresbericht f. Neur u. Psych. 1916. XIV.

and 5 of spyndylitis. In only four out of 65 cases of diss. scler, he noted atrophic disorders in the form of decubitus.

J. A. Ormerod (3) describes skin gangrene. Other disorders of the vegetative nerve system are equally infrequent. *Muller* (6) and *Bruns* noted bloodvessel paralysis and local sweating. *Cassirer* (7) reports erythromelalgia, *Raymond and Guevara* (8) oedema. *S. Bikeles* (9) a slight hemiparesis connected with halfsided differences of bodily temperature. *H. Oppenheim*, too, remembers having noticed cases of vasomotoric disorders on the patient's skin which was alternately paling and reddening as the temperature rose or fell. These tokens frequently appear in hoopform, corresponding to certain metamera. *Curshman* describes Basedow symptoms and *in another case* secretion of milk without pregnancy. *M. Rose* (10) also mentioned diabetes of the pontin focus. *Tibor* (11) observed sympathetic paralysis of the neck and also the presence of vasomotor signs.

As to the pathogeny of trophic disorders caused by organic ailments of the cerebro-spinal axis the theories, treating of the primary and secondary nature of neuronic dystrophia, are fairly familiar. Trophic disorders lacking general symptoms indicate the presence of some special troubles (*Samuel*) such as ganglion cells and leading fibres. It is certain that troubles of the centripetal and of blood-circulation promote the visible tokens of dystrophia. As centers of spinal atrophy we may consider only the so-called sympathetic centers out of all the parts of the spinal gray substance. The tractus intermediolateral cells act in this sense, according to *Langley-Laignel, Lavastin, Collins, Onuf, Brucepirie, Lewandowski* and others. *Jacobson* (12) describes three well differentiated nucleus columns: of these the first, the *nucleus sympathicus lateralis superior and cornu lat* extend backward upon the *formatio reticularis* and continues somewhat towards and within the gray substance between the proximate end of the eighth neck and second lumbar segments corresponding to the point of the *tractus intermediolateralis.* Often it may be divided in two parts: the *apicalis* and *prae-angularis.* The second, *nucleus sympathicus lateralis inferior* or *sacral* extends from the second sacral

3. The brain 1907. V. 30 P. 337.
4. Zeitschr f. d. g. Neur. u. Psych. Bd. 12.
6. Die Mult. scler. des Gehirns u. Rukenmarks Jena, 1904.
7. Monatschr. f. Neur. u. Psych. 17.139 Die Mult. Scler. Leipzig.
8. L'Encephale 2 p. 225, 1907.
9. Neurol. Zbl. 35.670.
10. Zeitschr. F. F. Kl. ' Med 1907. 55.
11. Neur Zeutr. 1918.
12. L. Jokebsohu. Neur. Zeutralbl. 1908/9.

segment approximately, almost to the lower juncture and backwards reaches almost to the gelatinous substance. The third nucleus sympathicus medialis or lumbosacral, is located on the forward edge of the medial zone of the first cornu, between the second lumbar and fourth sacral segments. The trophic channels in the spinal marrow are not isolated. Diverse experimental results have long ago led to the conclusion that the intermediary action of the vasomotoric and sympathetic fibres is not sufficient to explain the nutritive troubles of the tissues. (See *Langelaan* and others.)

Where specific trophic nerves and centers are present hypertrophia, atrophia and dystrophia will follow upon their alterative. *Vulpian* explains trophic troubles with the reduced effectuality of the central nerve system.

Bowing also mentions specific trophic nerve fibres and centres. According to his theory the trophic troubles of the skin, the connecting tissues under it as well as the trophesy of the bones, is due mostly to the impaired action of these nerve fibres. Trophic disorders appear in cases of peripheric injury of nerves of the sympathetic cells, the spinal marrow and the brain. According to the latter author the trophic spinal centres are situated in the middle part of the gray substance and in the side cornua. In the brain the *corpus subthalamicus* is the centre. As an explanation of trophic disturbances caused by neurogenic troubles, the case recently described by *Bornstein* is of special interest. To the passive organs are to be classed the skin and its appendages, the bones and beside the muscles the membrane of the tongue. *Bornstein* gives an account of trophic disorders of the mucous membrane and in four cases notes fur on the right side of the tongue. He opines trophic troubles to be developed from the cortex of the brain, this being a case of focus corticalis. In such cases the lower ridge of the central gyrus was probably irritated.

In four cases of diss. sclerosis *Brusilowski* (13) notes advanced decubitus, the alterative being found level with the lumbar segments of the spinal marrow. According to *Brusilowski* the trophic troubles are caused by the desintegration of the *nucleus symp. lat. superior* lying on the same level. Distressed sympathetic cells seem to him the certain reason for advancing decubitus. He also found gliamotous plaques in the lateral cornu of the upper lumbar segment and noted trophic disorders in myelitis. The alterative extended to D 8—L 2 placing the maximum alteration between D 12—L2. In this altitude of the segment the *cornua lateralia* were also alterated. In another case of myelitis there were two "plaques," one from D-4-D-5, *the other from LI-L2.*

(13) Revue Neur. 1924 I. 4. 490.

There is no doubt, however, that the dropping out of the centripetal impulses may sometimes detrimentally effect the nutritive condition of some tissues.

In regard to nutrition some authors differentiate between active and passive tissues. Thus *Bechterew* points out that in regard to nutrition active tissues may suffer from three troubles. Degenerative atrophia will be caused directly by the dropping out of those centripetal impulses which are linked to the activity of the tissues. *Bechterew* also speaks of vasoreflectoric atrophia which is caused by disorder of the vasomotor reflexes. Decay through inactivity forms the third group.

As to passive tissues only vasoreflector atrophia is to be considered, according to B. It was also he who, as far back as 1905, has called attention that vasomotoric reflexes have a prominent part in the regular nutrition of the tissues.

Below we report a rare case of skin dystrophia in one of our patients who suffered from disseminated scelerosis with decubitus, in which form of nerve trouble, as above illustrated, trophesy so seldom occurs. Aside from the contention in regard to the pathogenesis of trophic disorders its singleness makes our observations of special value. This is the case.

T. J., 39 years of age, female, according to her anamnesis there was no inherited transmission. Her sickness started 10 years ago. Soon she began to reel in walking and became incapable of following a somewhat narrower footpath. This trouble steadily increased until two years later a foot pavement I and 1/2 meter wide proved too narrow for her to walk on. In latter years she began to feel pains in the region of her waist, especially while walking. High degree of feebleness as a consequence of which she is unable to remain standing in one spot. The feebleness steadily increased so that for 4 years she cannot walk at all. Whenever she tries to walk, she collapses in the knees. Has a frequent feeling of chill in the feet. During last year she could not stand up at all, and was unable to move her limbs. Is somewhat emaciated. Appetite bad. Often obstipates. Menstruation regular.

Present condition.—She is a little meagre, has some degenerative signs. First tone of the heart is throbbing, and above aorta short systolic noise. Tight abdominal walls which hinder examination by touch. Slightly meteoristic. In the knees—and in a lesser degree—in the ankles of both lower limbs bending contractura. Adductor spasm in high degree. In the straight abdominal muscles as well as in the diagonal ones and, in a smaller degree in the sacrospinal ones, rigorous spasm which fixes the position of the trunk in a slightly oblique attitude. The circumference of the thigh 15 cm. above the knees, is 30·5 on the left and 34 on the right side. Below the lower part, parallel with the lower edge of the tuberous tibia 14 cm. on the left, and 25 cm. on the right. 15 cm. from the lower pole downward from the tibia : left side 23, right side 23. Right above the ankle bone : left side 20·5 right side 20. Slight eniscoria. Left pupilla wider than the right. Light and accommodative reaction sustained. Looking sideways, nystagmus. Brain nerves show no other derangement. Muscle tonus of limbs increased. Knee reflexes obtainable on the right, but not on the left side, on account of contraction.

Upon trial to produce Achilles reflex foot clonus is observable on both sides. Frequently Babinski position of both feet. Trying to obtain sole reflexes Babinski Sypmtoms appear plainly followed by spontaneous clonus. Oppenheim, Cordon and Schaeffer symptoms are obtainable on both sides. Rib-arch and abdominal reflex not obtainable. Experiments on the nose with fingertip, results in intensive trembling of intontion. Examination of the sensitive circle shows deviation in the lower limbs only. On being touched with a pencil brush anaesthesia is observable from about two inches above the ankle and extending all over the sole and heel to about the middle half of the malleolus. A stronger touch of the brush produces hypasthesia all over the area mentioned. On the medical surface of the foothead up to its central part rather slight hyperaesthesia. In the same region the right foot hyperaesthesia is stronger. In the area of anaesthesia she feels a needleprick slighter on the left side. Sense of pain and heat shows no deviation.

While under the effect of chlor—aethil we straightened out the contraction of the knee and hip muscles and put the leg in splints. After the removal of the splints next day the contraction again appeared at once. After an injection of one milligram of scopolaninum hydrobromicum the spasm showed no diminution at all. Urine examination showed the reaction of albumen and pus as well as of the blood and sugar to be negative. Uribilinogen slightly positive.

Examination of the blood serum : *wass.* with three antigens negative, Sachs-Georgi and III Meinicke also negative. Examination of lumbar juncture shows no pleocytosis. The liquor is water clear. Lumbar puncture in lying position produces a medium lively flow of drops. Pandy *Nonne-Apelt, Ross-Jones* tests negative. Weichbroat t. ±. Schellak t. × Wari-0·5 negative. Colloidal gold test 122 110 000 000, bicoloral mastix t. 354 421 100 000. Thus, the liquor shows isolated dropping of colloid tests, the so-called "*Dissociatio colloido-cytoglobulini.*" As a result of radiographia with lipiodol the lipiodol descendens injected into the cysterna magna by suboccipital puncture, located in the deepest spot of the spine in the conus. After a subsequent injection of lipiodol ascendens the latter located itself on the base of the brain, and partly on the area of subarachnoidealis. Consequently radiographia showed no passage disorder whatsoever.

Electrical examination of the patient with Farad. current in the neurodirect way showed but slight deviation from the normal. A somewhat stronger current was needed to produce twitches on the right side. Irritation of single nerves and muscles with galvanic current showed the following comparison between the two sides: Femoral nerves, right side c.c.c.* 4 Ma, left side 8-10 Ma. Nervus peroneus : right side c.c.c. 7 Ma, left side 3 Ma Vasti lateralis muscle: right side c.c.c. 5 Ma, left side 4 Ma. Musc. extensor hallucis longus : right side c.c.c. 8-10 Ma, left side 8-10 Ma. Musc. extensor hallucis brevis : right side c.c.c. 8 Ma. left side 3 Ma. These observations prove that electrical examination showed but quantitative divergences, more especially on the right side.

In the course of illness the patient felt pains around the waist and mostly in the left hip. Treatment with injected intravenal typhotoxin, ten injections, ranging from 5 to 35 million germs in quantity, with high fever reaction, produced no improvement in the condition of the patient. The trophesy changes of both of the

* Cathoel Closing Contracture.

patient's lower limbs are, according to dermatologic diagnosis, (*Gideon Doczy*) described below. (See Figure below.)

The skin of both feet moderately swollen, oedema in small degree. The toes a little cool. On the entire surface of the II. III. and IV. toes of the right, and the I. medial and V. lateral of the left pronounced diffus atrophia, in the others the skin design looks blurred in spots of from 1½ to 2¼ cm. in size. The colour of the skin of the toes is livid red, with here and there partly flaky and partly scaly abrasions on the extention sides from 2½ to 4 cm. in size, grayish brown, in some places necrotic callosis. The open spaces between the tips of the toes and the distal edge of the nails have disappeared. (See *Alfoldy's* observations in D. m. w. 1918 Page 878.)

All toe nails except that of the little toe of the right foot show more or less pronounced onychogryphosis. Here and there, under the nails, subungual hyperkeratoric masses from the size of a pea to that of a hazelnut which spread to the flexion side of the distal juncture of the I-IV. of the left and I-II. fingers of the right foot, in the form of grayish brown callosis. The subungual hyperkeratoric nails have lost their sheen and bulge forward. On the left heel is a dark blue tissued growth which is about the size of half a hen egg, bulging out hemispherically, infiltrated on the edges, fluctuating in the middle, here and there on the edges discharging a

brownish red, pusy secretion mixed with detritus, on the medial edges dark, blue tissued necrosis. The entire surface of the heel is infiltrated, low degree of hyperkeratosis, in places rhaga and thin abrasions.

On the fore and upper part of the left knee region is a decubitus as large as a child's palm, hyperpigmented, sharp rimmed base infiltrated on the edges, uneven tissued and its center covered with dark hued, pusy, necrotic detritus.

Corresponding to the right *trochanter major* is a growth of about 1 and ½ cm. in size, infiltrated base, round about hyperaemia and covered with dry scurf which, when removed, leaves a necrotic, pusy decubitus. Corresponding to the sacrococcygeal juncture is a 4 c.c. large, sharp rimmed decubitus, moderately infiltrated, pusy center, on the edges slightly hypergranulated.

DERMATOLOGIC DIAGNOSIS.

Acrodermatitis atrophy caus. decubitus.

The above discribed skin dystrophia seems to show the trophic influence of the central nerve system upon the soft parts of the limbs. *Marplus*[14] correctly remarks that in this respect the practitioner of a clinic commands a larger field for practical experience than the physiologist who negates this effect on the nerve system. (See *Lewy Fraenckel* and *E. Juster.*[15])

Granting trophic function to be in the sympathetic column of the spinal marrow and trying to localise in segments the trophoplasms showing on the skin of the feet, we should have to suppose the focal necrosis responding to the above described *acrodermatitis atrophicans pedum* to be located on the level of the V. lumbalis and I. sacralis segments of the spinal marrow.

Still, pathologically the necrosis cannot be accounted for in this simple way. We think it much more likely that assuming a plurality of foci alongside the spinal marrow, the affected trophic innervation will appear in neurogen dystrophic form in the peripheric zone or zones of those foci the tissue resistance of which is being attacked by still other aiding factors. It is not surprising, therefore, that on the basis of our observations the gravest skin necrosis is on the farthest longitudinal part of the paretic limbs. Owing to reduced movability the idle and wasted muscles cannot aid the blood circulation of the soft parts. The trouble of circulation is most pronounced in the peripheric parts. (In paraparetic cases occasionally oedema.) For the same reason is the loss of

14. Wien kl, W. 1927 No. 9-10
15. Rev. Franc. de venereol. A. 2 Nr. 5. p. 277-290 et. Nr. 7/8 p. 438.

sensibility greater in the peripheric parts of the limbs. This opinion of ours is supported by those observations which demonstrate the thorough action unity of *the trophic apparatus.*

The impairment of the parts of the peripheric limbs started the diffuse trophic troubles which extended over the entire limb.

On the battle field, in 1916, one of us found an Italian soldier suffering from a serious waste of the subcutaneous binding tissues and bones of the left hand and lower arm, as a consequence of a shrapnel wound on the middle finger of the left hand. (See Benedek, "A sympathicus tan mai allasa" Monographia. In Hungarian, Kolozsvar, 1918.)

The socalled vasomotoric muscle which *Luzatto, Oppenheim, Sudeck, Cassirer, Phelps* and others have written about are well known, while *Sternberg* (16) on the basis of his experiences on the battle field asserts that the defect of some single peripheric trophic fibres will deleteriously affect the entire trophic system. Our case seems to evidence that the paratypus of sacrodermatitis will injuriously operate upon the spinal sympathetic innervation. Nor can we dismiss the thought that in cases of disseminated sclerosis where the spinal marrow is so often attacked, trophic disorders do not appear more frequently for the reason that the gliomatous foci do not, or only very rarely, extend beyond the limit of the white substance and gray cornua.

Falkiewicz (17) recently emphasised the existence of a virus in *disseminated* sclerosis with a peculiar affinity to the medullary sheath of the conducting fibres like those toxins which assume periaxial neutritis of the peripheric nerves. We wish to remark, however, that the isolated data to be found in medical journals suffice to reach a fair conclusion as to the nature of segmented sympathetic innervation.

It may be possible, too, that some spot of the skin and soft parts is pluri-segmentally inervated, as *O. Weiss* (18) has indicated in his experiences with respect to muscle fibres.

Nor may we disregard the possibility that the infectioso-*toxic factor* supposed in diss. sclerosis may attack that part of the trophic apparatus which is located beyond the axis of the cerebral spine.

In *Henschen's* case, inflammed degeneration of the peripheric nerves appeared near the disseminated spinal foci when diss-

16. W. Kl. Wooh. 31. 833. 1915.

17. Zur Pathogenese der mult. Skerose. Ein Beitrag zur Frage der Herdbildung bei dieser. Arb. a. d. neurol. Inst. d. Wiener Univer. Bd. 28. S. 172-196. 1926.

sclerosis developed after diphtheria (19). *Straehuber* (20) also describes the disorders of peripheric nerve branches in diss. sclerosis.

Equally well known are also the observations on herpes zoster regarding the affection of the *truncus sympathicus* and rr. communicantes. The case of C. C. *Bolten* (21) was made atypical by peripheric neuritis.

The participation in the spasm of the abdominal walls and sacrospinal muscles which is so rare in cases of diss. scler. makes the case all the more interesting. In one case of *O. Marburg* (22) the spasm of the abdominal muscles reached the highest point.

Beside typho-toxic treatment we employ physical and hydrotherapia. In addition, on account of the serious spastic paraparesis as well as the spasm of the abdominal walls, and mostly because the spastic componenes in front obstruct easy treatment, *Foerster's* "rhizektomia posterior" would be justifiable. However, since on account of the contractura of the knee joint the resection of the roots of the D_2—D_5 and S. would be advisable and furthermore, because of the spasm of the abdominal and sacrospinal muscle the resection of the DF -D_{12} would be justified, the performing of the Foerster operation is to be considered.

The sensibil irritations react on the inervatio visceralis. In relation to this the decisions of *Marplus* and *Kreidl*, of *Kehrer*, *Muller* and others are well known. The sympathetic nerve fabrics to be taken into consideration here are located within the space of the splanchnicus major (5-9 thorac segm.) and the splanchnicus minor (10-12 thorac. segm.)

It is our opinion that in cases of extended muscle rigidity, chordotomia, recommended by *Schpiller*, promises some advantages. In our clinic we have had the latter operation performed on patients of different characters. We may, therefore, recommend it in the cases mentioned above.

Chronic disorders of spinal organs will not infrequently cause freakishly located vegetative troubles. This is demonstrated by the case of a patient who is at present being treated at our clinic for Friedreich ataxia hereditaria. The above delineated skin surface, a space of about 4 cm. under the left nipple, as also the outer and inner surface of the hands are intensely sudoriferous.

The sure symptoms of Friedreich diagnosis are: The typical Friedreich-foot deformation with equinovarus bearing, frequently

19. Neur. Ztbl. 1899 S. 452.

20. Zieglers Beitraege 1903 Bd. 33 S. 409.

21. Genees. gids. 3. 48. 1129.

22. Handb. d. Neur, 11. Bd. Spez. Neur. 1. S. 919.

dull, semi-explosive speech, locomotoric inco-ordination, the tremor and ataxia attending the movements of the upper and lower limbs, a slight interosseous decay on both hands, pronounced Babinski on both sides, Rosselimo, crossed adductor reflex, knee and adductor colonus, "*ballottement du pied*," reduced abdominal reflexes, the absence of the upper part of the mediopublicalis reflex, unobtainable ribarch reflex.

SMALLPOX AND VACCINATION IN INDIA*

BY

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Smallpox:—It is a highly contagious and infectious disease running a definite course with the typical rash, well-known to the profession.

Etiology:—The disease has been doing havoc in India and China for centuries before Christ. Whether it began in India first or in China is a disputable point. These two countries being so closely connected contracted the disease one from the other.

That, in India, it used to carry away children by thousands every year is apparent by the fact that in the vicinity of every good village you find a temple of "Sheetla" or a place dedicated to the Goddess. People were so much afraid of it that they used to worship the Goddess before hand to ward off the epidemic, or during an epidemic to appease her anger, for removing the existing calamity.

The Goddess is represented by a human female figure riding on an ass with four hands. On one hand she has got a red cloth, in the other a pitcher of water, in the third a broom-stick; and in the fourth a "Abhoy Mudra". The symbols denote that according to the belief of the Hindus five things are beneficial during an attack of Smallpox.

(1) Ass's milk. (2) red light and red clothes. (3) cold and plenty of water to the patient (4) cleanliness.

The "Mudra" denotes "prayers to God".

These five things are necessary for the cure of a patient.

In the sixth century, it prevailed in the whole of Asia, and at the time of the crusades became wide spread.

* Specially contributed to the "Antiseptic".

In the sixteenth century, it was carried to America by the Spaniards in India. Sheetla denotes all kinds of eruptic fever and were differentiated as:—

(1) Bari Mata—Smallpox.

(2) Chothi Mata.

(3) Hasni Khelni Mata—abortive type and so on.

It was in the seventeenth century that Sydenham differentiated Measles from Smallpox.

Age;—This disease attacks people of all ages but children are especially susceptible.

The foetus in utero may be attacked through its mother; newly born children are sometimes seen with pocks and sometimes with typical scars.

Sex:—Males and females are equally affected. But the females are afraid of the disease more as it robs them of that sword or magic staff with which they rule the world i.e., beauty; it disfigures their faces badly.

Race:—It makes no colour distinction, affects the white and the black alike. However it is said that dark coloured people especially Negroes are especially susceptible to it.

Recent prevalence:—In India it is still widely prevalent. In the United Provinces alone, the disease is responsible for seven or eight thousand deaths every year.

A statement of deaths from smallpox in three or four years in United Provinces will show that with all the vaccination in the Province, United Provinces alone lose a large number of its sons and daughters every year due to the disease. Deaths alone do not show and denote other calamaties brought to the nation by the disease.

Thousands are saved at the sacrifice of their good and beautiful face, thousands lose their eyesight; opacity of cornea, resulting in partial loss of vision is the fate of the thousands.

The question of its causative agent is still far from settled. In 1892 Guarnievi described a parasitic protozoan called cytoryctes variolae which has been believed to be the specific micro-organism by some; while others believe that cytoryctes of Guarnievi is not an organism at all but it is re-action product of the cell.

The cytoryctes are sometimes found to contain a minute, coccoid, blue stained (Geemsa) corpuscle in group, and they are commonly supposed to be the cause of the disease. Other bodies have been given out to be the causative agent of variola and vaccinia by the American writers.

They are very small, round, sharply defined, coccus like objects which divide directly. On many of these bodies one can see a very delicate filamentous process. Frequently the bodies are found in pairs which are united by a filament. This appearance is even more striking with dark illumination. The two bodies seem to dance about, approaching and receding from one another.

Smallpox is the most highly contagious of all infectious diseases and spread through every known medium of communication.

(1) By contact which may be direct or indirect.

(2) The contagion may be carried by clothes and bedding.

(3) Aerial communication of virus can occur for a considerable distance exceeding a mile.

Clothings and rags may retain the infectivity for considerable periods of time, chiefly when kept away from Sun and light. Transmission by flies and domestic animals is a possibility. Corpses of those that have died of smallpox can transmit the disease.

The infectivity of smallpox is slight in its onset, but increases as it runs its course; the infectivity is very great when the scales are separating.

Symptoms:—The disease has been described into three forms

(1) Variola Vera (a) Discrete (b) confluent.

(2) Variola hamorrhagica.

(3) Varioliod.

The signs and symptoms of these are so well described in the Medical Literature that I do not want to waste your time by repetition. I only wish to point out that the initial rash is very rare among the Indians.

However, there is one form which is not well recognised by the Western authors, but which was recognised by the orients and described by the Indians in the Vedic books. This type is Gastro-intestinal type.

Gestro-intestinal type:—In this type, after the initial fever, there is little or no eruption on the body but vesicles occur in the mouth, pharynx, larynx, stomach and the intestine. These vesicles result into ulcers.

The child cannot digest anything; there is extreme prostration; the disease generally ends fatally.

Besides the above the Indians believe that occasionally there is no eruption externally but eruption occurs on all the internal organs of the body i. e., in brain, liver, spleen etc. This type always ends in death.

In autopsy occasionally you find small abscesses in the liver, which goes to prove the above.

The Indians are really so much afraid of the above forms that they are pleased when the pocks have appeared in sufficient good number on the body and they say " Mata na darshan de diya " i.e., the Goddess has blessed us by her appearance.

Diagnosis:—The disease is so regular in its course and the eruption so typical, that it does not require much discussion. However the diagnosis is difficult in its prodromal stage before the appearance of the eruption and may be confounded with Scarlet fever, measles, cerebro-spinal fever, typhoid fever etc.

Osler says that during an epidemic, the initial chill, the headache, backache and the vomiting should always put the Physician on guard. *Diagnosis may be made from the above disease as follows*:—

In *scarlatina* with rash absent or missed.

Condition of the tongue cervical lymph glands, tonsils, nose discharges, injection of soft palate circumoral pallor, history of vomiting and sore throat, backache absent or slight.

Measles:—There is coryza, photophobia, lacrymation koplik's spot, backache absent or slight.

Cerebro spinal fever:—Retraction of head, rigidity of the neck, muscles. Kernig's sign, possible presence of the bacillus in the nasal discharge or in the fluid obtained by lumbar puncture.

Typhoid fever:—Gradual rise of temperature of onset "step ascent on chart (b) early epistaxis or deafness not common (c) Widal re-action no (d) tympanitis (e) condition of tongue, spleen and stool. (*Sajous's Cyclopedia of Practical Medicine*).

Prognosis:—It differs greatly in different forms. In varioloid prognosis is always good. In Variola Vera of non-confluent type—it is fairly good. In confluent type—it is serious.

In haemorrhagica type—it is bad. In internal types as mentioned by the Indians in the literature—it is generally fatal.

Treatment:—No drug is yet known in the East or the West which can modify the course of the disease.

On the other hand the Indians are very much afraid of giving any drug thinking that by giving drug the Goddess may get angry and may not bless them with her appearance; this means that the eruption may not fully occur and the disease may be changed into internal form described above which generally ends fatally.

However, certain drugs are beneficial in allaying the symptoms accompanying the disease.

When the initial fever is high, ice bag to the head and hot water bottles to the legs may be required to reduce the temperature. In intense itching, cold applications, or various inunctions containing Phenol are useful.

Stimulants may be necessary in collapse condition. Dry Plaster of Paris should be used and is the best application for diminishing the suppuration and mitigating the subsequent pitting as well as for allaying the intense itching and overcoming the loathsome odour. A mixture of 10 parts of Iodine and 90 of glycerine has been advised to shorten the pustular stage (Sajous's Cyclopaedia of Medicine).

A form of treatment by the use of light filtered through red glass has been mentioned from time to time to prevent suppuration. This supports the Indian idea of red clothes and red light being beneficial in smallpox cases, as represented above.

I personally suggest the use of Kaoline internally in the case of ulcers in the mouth etc.

During the stage of scale formation, the patient should daily be wrapped in a bed sheet soaked in weak carbolic lotion 1 in 160 or 200 for 15 or 20 minutes. The process will make all the scales which are in the process of separating stick to the wet sheet and easily removed. Then the sheet should be boiled for half an hour. By this means, you will prevent scales falling to the ground and sticking to other clothes, and this prevents the spread of the disease.

I have found Creta preparata with opium 1 in 120 very useful as a dusting powder in allaying the itching.

Prophylaxis:—This is the most important and chiefly vaccination which subject I want to deal in this paper more in detail.

(1) Isolation:—This is very essential to prevent the spread of the disease. In India, the highly contagious nature of the disease was known centuries before Christ. They also knew the use of Isolation. In those times when religion had its full sway over the human mind, and everything presented before the public in the garb of religion, was observed with scrutiny and care, it was given out by the wise of the olden times that the disease is a Goddess who takes possession of a child and person suffering from it.

The person was separated, kept in a clean, well ventilated room. Nobody outside the house was allowed to visit the patient; children were not allowed to come near the room, and it was

given out to them that if they will go near the room the Goddess will take possession of them.

The inhabitants were not allowed to join any feast or any ceremony during the period and this prevented their communication with outsiders. Inmates were not allowed to enter the room with dirty clothes. Flowers having good smell were kept near the bed, and scents as dhup etc., were burnt in the room to purify the air. The dhobi, barber and outsiders were prohibited from attending the members of the family.

The scales were removed with mustard and turmeric and burnt. Till all the scales were removed the children were not allowed to mix with their playmates. At the junction of the street leading to an infected building a triangular pit was dug and puja performed there to warn the people that the inmates of a particular house are infected. This was more or less perfect isolation and was strictly observed.

But with the loosening of the religious hold over the human mind in India, the strict observation of the isolation rules are not carried out and in the present time in India when religion has lost its firm hold, and science and nature have not yet so far advanced in the country that they might take the place of religion, isolation is very imperfectly observed.

Inoculation:—Since the vaccination has come in force, inoculation is losing its ground and has entirely become unknown at present, except in certain countries. It is still followed by natives of Nigeria, Nubia and Senegal. It was known to the Indians and the Chinese centurise before Christ. The man observed that those who were fortunate enough to recover from smallpox, were more or less free from the 2nd attack. This led him to observation and thinking and inoculation was the result.

Inoculation was prevalent in certain parts of India chiefly Bengal up to the begining of the eighteenth century. Holwell speaking of 1767 gives a detailed account of the practice of inoculation in Bengal." Inoculation is professionally performed by a particular tribe of Brahmans called Basant Chikitsak. These tour all over the Province and appear a few weeks before the usual return of the disease about February and begin inoculation in March.

Before operation certain strict regimen is enjoined and all the inhabitants of a village had to abstain for a month from fish, milk and ghee. The Brahmins go from house to house inoculating. Males are inoculated on upper arm and females on shoulders. They rub the inoculation area with a piece of cloth make scratches take out a small pledget of cotton charged with the variolous

matter which they moisten with two or three drops of the Ganges water and apply it to the wound and fix a slight bandage. The cotton used for inoculation is charged with variolous matter from the inoculated pustules of the preceding year. They never inoculated with matter from a case of the natural disease.

Early in the morning succeeding the operation cold water is ordered to be thrown over the patient and to be repeated every morning and evening till the fever comes on the 7th day. (Page 17th, Clinical Society Magazine).

But unfortunately afterwards it was entrusted to people of lower classes and not well versed in the process. The result was that the disease spread like fire.

The method of inoculation was also introduced into England about 1721 and popularised by Lady Marry Montegu.

Other methods of inoculation were also carried out in other parts of the world and consisted of snuffing up the nostrils with moist or dry pustular matter from mild cases of smallpox. The method was carried on in China. Africans used to give their children plums containing smallpox scales to eat.

Vaccination:—This term is applied to a procedure through which by inoculating human subjects with lymph from the vesicle of heifers or of human subjects suffering from Cowpox (vaccimia) they are rendered more or less immune to smallpox.

Humanised lymph is no longer used owing to the danger of tansmitting disease, Syphilis in particular.

With the discovery of vaccination, inoculation fell behind and gradually died out.

History:—Dr. Jenner's name will live in the world as the saviour of the millions of life throughout the world. He was the first man who discovered the process in 1798 and brought it into practice. His attention was drawn to the simple words of a dairy maid "I cannot take Small-pox because I have had cowpox" which made him think and resulted in the discovery of vaccination.

He learnt that milkers had frequently pustular eruptions on their hands, contracted from cows having similar eruptions on udders. He further observed that those that had suffered from cowpox, escaped smallpox even when directly exposed to the disease. He conceived that there was a possibility of establishing the same protection by artificially transferring the infection from kine to man. In 1796 he successfully vaccinated an 8 year old boy with material taken from pustule on the hand of a dairy maid. The boy developed typical "Vaccinia", and later on when

Jenner inoculated him with matter from a smallpox pustule, no disease followed, and no sensible effect was produced.

Jenner's method of vaccinating people from material taken chiefly from the cowpox pustule continued for half a century or more.

It was afterwards found that instead of using vaccine directly from the original cowpox pustule or indirectly by transferring such matter from arm to arm, it was possible to vaccinate calves with purified virus of smallpox and from this source to obtain an abundance of potent vaccine.

This source of getting the lymph for vaccination is at present in vogue.

In India, vaccination was introduced in 1801 by the then Governor of Bombay.

In 1854, the Government of India introduced the Bombay system of vaccination in the United Provinces and vaccinators were appointed in every Tahsil or Municipality.

It was on the 9th of July 1880 that vaccination was made compulsory by the Imperial Act No 13 of 1880.

Meerut and Benares were the first to come under this Act.

Up to 1895 vaccination was carried on almost entirely from arm to arm.

It was only in 1900, the Government Bovine Lymph Depot was established at Patwa Dangar.

Technique:—That employed by the War Department and commonly advocated in India is as follows;—

The area chiefly chosen is the left arm about the deltoid. It is cleansed with soap and water then alcohol; dried with cotton in gauze; abrasions made by scrapping and scratching on the selected area, three being made about 1" apart with a sterile vaccination scalpel; then dressed with sterilized Gauze. Dressing changed as often as necessary to keep it clean and in good condition. If primary vaccination fails, the process is repeated in a reasonable time.

The inner and posterior aspect of the arm is recommended as the best site for vaccination where there is objection to conspicuous scars.

The above mentioned method is carried out by vaccinators in India but all aseptic precautions are entirely neglected; in public no washing of the area with soap and water is carried out except in exceptions, the ill-effect of which I am going to discuss afterwards.

(2) The most commonly employed method in the United States is (1) to cleanse the skin of the left arm about the deltoid preferably with alcohol and express the contents of the cappillary tube on the cleansed area. The latter is then scratched with a sterilised needle through the vaccine not sufficiently deep to draw blood. The side of the needle is then placed over the scratches and the vaccine fluid rubbed in. The slight wound is then dressed aseptically. Vaccination shield ought to be generally avoided; aspetic dressing for a few days in the beginning is sufficient. If a shield is used it should be removed every day and the skin washed gently in water that has been boiled and with a clean towel.

Acupuncture Method:—This method was introduced by H.W. Hill (1916). It aims to do away with the older methods, all of which facilitate infection of the wounds. In this method, the arm is washed with soap and water then with alcohol and finally with Ether. A small drop of vaccine is deposited on the clean surface. The Vaccinator's hand closed on the arm from behind, so as to show the skin tight in front and a carefully aseptic-ised sewing needle point held slantingly nearly parallel with the skin, is pressed against the skin through the drop of vaccine. Then it is that 1/1000 of an inch of the point sticks through the upper layer of the skin carrying the vaccine with it. The needle is at once withdrawn and another puncture exactly like the first is made close beside it, until six punctures are made in the space of 1/10 of a square inch or less.

The whole process takes about 15 seconds. At once with a bit of sterilized Gauze the surface vaccine is removed and the sleeves drawn down. (*Sajou's Encyclopedia of Medicine*). Tincture Iodine was the antiseptic suggested by some to be applied on the selected area before vaccination. But it was soon found out that the antiseptic was too strong and there were so much unsuccessful vaccination after its use that it had to be given up.

Vaccinia or Symptoms:—After vaccination, nothing occurs for 3 or 4 days. If the operation is successful, inflamed spots appear on the 3rd or 4th day at the site of vaccination, which soon become papular. By the fifth day, vesicles are formed which slowly increase in size and become depressed at their centres. By the eighth day, vesicles are fully developed and surrounded by inflammation area. From this time, the contents become increasingly cloudy and the vesicles collapse by the 10th or 12th day, a brownish scale is formed. This after a time separates leaving a depressed scar which at first is livid but in time becomes dull white in colour.

To examine a patient on the 7th or 8th day is very important to see whether the true pocks have developed or not, otherwise it is very likely to give very erroneous result as will be mentioned by me afterwards in the paper. Development of true pocks at the site of vaccination, is the true criterion of a sucessful vaccination; a scar simply at the site is not at all a true sign of a successful vaccination.

Revaccination in India:—It is not common in India, but successfully carried out in Germany and France. Successful vaccination once does not afford sufficient immunity for life. For sufficient immunity it is found that a man should be vaccinated thrice in life.

Risks of Vaccination:—are the greatest in India. In India vaccination is carried out by unqualified men of no great education, entirely ignorant of the Medical Science and efficacy of asepsis.

The result is that secondary infection occurs in 90% of cases.

The following diseases are likely to occur as complications of vaccination.

(1) *Syphilis*:—It was more likely when vaccination was carried arm to arm. But now, owing to the use of calf vaccine, there is little or no risk.

But in India, the risk is not lessened at all. In practice vaccinators go about the villages; no preliminary washing of the arms is done. After vaccinating on a child or person, they vaccinate other children one by one without in any way sterilising the lancet. Hence the danger of transmitting the disease in India is still as great as it was before.

(2) *Dermatitis*:—It is due to scratching of the irritating scab, and infecting the area.

(3) *Tetanus*:—It has very occasionally been reported, especially in hot climate.

(4) *Erysipelas*:—Septic infection, and cellulitis: they generally occur in India; ulcers due to septic infection are very common; and septic infection to a certain or greater extent is almost a rule than an exception in India. I have seen village children, with inflammed and painful arms all septic, taking months to cure in a good number of cases.

(5) Tuberculosis and leprosy are also the possible sequalae but there are little or no definite proofs on the point.

(6) Encephalitis vaccinal is also one of the sequalae, in certain countries as the result of vaccination. The condition observed has occured in Holland 1 out of 4628 and in England 1 in 48,823 vaccinations. The matter was investigatad by vaccination committee who came to the conclusion that the vaccinia virus

was not the sole cause of encephalitis lethargica nevertheless it played some part in its causation, due probably to the interaction of the lethargica or some unknown virus harboured by the vaccinated person. It has been observed that if vaccination occurs within one year encephalitis is almost negligible and in secondary vaccinations it does not occur.

First vaccination should generally be carried on before 6 months, 2nd vaccination between 6th to 7th year of life and the 3rd about the 14th and 15th.

In India where the risks of vaccination are the greatest and really do occur, they are really never reported. The vaccinators are not acquainted with signs and symptoms of the diseases likely to occur after vaccination, and rarely observe and report the risks if any.

Efficacy of Vaccination:—The evidence that vaccination practically prevents smallpox at the present time is overwhelming. Countries that are most efficiently vaccinated suffer least from the *scourge*. To give an example, Germany where vaccination is obligatory and efficiently carried out has been free from the disease for more than 40 years while the adjacent nations are never free.

Systematic vaccination by the Surgeons of the United States Army in 6 provinces of the Philippines having an approximate population of one million reduced the annual smallpox mortality from 6000 to nothing.

If any event in human affairs has been demonstrated beyond a reasonable doubt, it is the great benefit to be derived from timely efficient and skilful vaccination against smallpox. In India, the fact is proved to a certain extent.

In 1869, mortality per million was about 2000.

In 1878 it was about		1700
In 1889	Do	700
In 1900	Do	400
In 1905	Do	200

The total number of fresh vaccinations in British India has increased from 50 lakhs in 1877 to about 90 lakhs in 1907.

The total mortality was

In 1868-1877	about 5 lakhs.
1878-1887	6 lakhs and 70 thousands.
1888-1897	3 lakhs and 5 thousands.
1898-1907	80 thousands.

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1908–1917	21 thousands.
1925	9373
1926	12020
1927	7894

From the above it is clear that vaccination has taken a great part in lowering the deaths in India from smallpox but its efficacy is not so apparent in India as in Germany and other Western countries where vaccination is obligatory and carried out with efficacy. What are the causes of this that while on the other hand in Germany, vaccination has succeeded to extirpate the disease from its bounds for the last forty years, it has only succeeded to reduce the death rate of smallpox in India and that is all. In India epedemics still occur nearly every year, and thousands of people are still carried away by the disease.

I think it is incumbent on the Medical men in India to find out the causes which prevent vaccination from affording its full efficacy and try to remove or modify those causes.

The defects in the system of vaccination in India are as follows:—

1. The first and the foremost defect is that in India vaccinations are performed by unqualified men of little or no education; they do not know the efficacy of sterilisation or of cleanliness. In practice, no aseptic measures are observed; even preliminary washing of arms with soap and water is never carried out in villages except in exceptional cases, no kind of antiseptic as alcohol or ether ever used; the lancet is never boiled or sterilised in any way, after vaccinating one person or child, others are vaccinated without any kind of sterilisation of the lancet after each vaccination. These vaccinators have not the knowledge of the risks or the diseases that are likely to occur after vaccination. They have no eyes to see them if they are occurring. They do not know how to help a child medically if any bad signs or symptoms have appeared.

The men who have no knowledge of the medical science or have capacity to learn anything, are trained for a few months under vaccinators who are themselves unqualified and of the bad type, and employed for the work. What can you expect from such a bad lot but imperfection and inefficiency?

It is rather surprising that in India such type of vaccinators are at all tolerated to carry on the work.

The results of the above are:—

(a) Secondary infection occurs in 90% of cases in the villages, ulceration goes on for months, child suffers a great deal more than it is necessary. The result of this is that even those that have got

faith in vaccination, know that to save a child from smallpox vaccination is essential, fear to have their children vaccinated on account of the suffering and trouble that generally follow or accompany vaccination.

The consequence of the above is that a good number of children are saved even from first vaccination, vaccinators often tipped for the purpose.

(b) Another defect of giving secondary infection is that in my opinion, a good number of cases that are passed and reported as successful are really unsuccessful. It requires investigation and I hope a committee may be appointed to investigate into the matter which is described as follows :—

The idea has been brought to my mind that if secondary infection is introduced along the virus vaccine as it necessarily must occur in the cases of vaccination in India, where no kind of cleanliness or aseptic measures are adopted, pyogenic germs have got a deteriorating effect on the virus vaccine. The consequence is that true pock never or even mildly develops, while boils due to pyogenic germs develop at the site of vaccination.

These give rise to the ulcers and result in a big scar which is taken as a sign of successful vaccination.

The above further weakens the faith of the public as a good number of cases who are reported as successful and who ought to have been free from smallpox for a number of years at least, develop the disease.

(c) The third defect of employing such vaccinators is that the risks and diseases accompanying or following vaccination are never attended and not even properly reported.

(d) On account of want of qualified vaccinators, no progress can be done in its technique in India. Except one technique, no progress or modification has ever been or can ever be suggested in India.

Isadore Dyer holds that the vaccination injury should stop at the vesicle, that the pustule is only a sign of local infection and hence should be prevented. Therefore he advises breaking the vesicle, and treating the vesicular lesion antiseptically, and suppuration will thus be prevented. Such a method prevents glandular enlargements, erythemas and other eruptions. Albert and Holden found that the best antiseptic measure after opening the vesicle was to apply Tincture of Iodine to it as soon as possible after the latter had formed, and repeat the application 2 or 3 days later.

By this method, they succeeded in either preventing pustule formation or so limiting it that the several pustules which formed

do not coalesce. As a result, the vesicles will soon dry up and form a small dry scab. In not one of 116 cases so treated was there secondary infection with pus producing bacteria, whereas in those not so treated about 30% were secondarily infected. The above difference in the technique or other improvements are impossible in India as long as the better qualified vaccinators are not appointed.

2. The second defect lies in that re-vaccination is seldom carried out. It is essential and might be made compulsory.

RECOMMENDATIONS

1. Vaccinators with medical qualifications may be appointed in all Municipalities.

In District Board areas, if medical qualified vaccinators cannot be appointed on account of want of funds, better qualified men may be appointed.

These men should get a training in some rcognised institution for six months, they should be trained in the technique of vaccination, they should have thorough knowledge and efficacy of sepsis, they should also know the sign and symptoms of the disease that are likely to follow vaccination. These vaccinators should also have sufficient knowledge of such common diseases as cholera, plague as they are often employed anti measures against these diseases in epidemics.

2. Re-vaccination should be made compulsory.

1st vaccination should generally be done within 1st year.

2nd	do	do	do	between 5th and 7 year.
3rd	do	do	do	between 14th and 16th year.

If the vaccination is not successful child should be re-vaccinated at once. After each sufficient vaccination, a certificate of a successful vaccination be issued to the persons or the parents by the Health Department or the Medical man vaccinating the person.

On admission to the school a copy of certificate or certificates of having been vaccinated successfully should be required by the Educational Department according to the age i.e. if the child is below 6 a copy of having been successfully vaccinated once be required. If the boy is of over 7 copies of certificates of having successfully vaccinated twice be required and so on. The same procedure be followed in cases of candidates entering any Government service. As generally in all cases, the candidates will be over 18, they should produce certificates of having been vaccinated successfully three times.

3. Bye-laws should be passed by the Municipalities and the District Boards that if a case occurs in a house the information should always be given in the case of Municipal area to the Health Officer or Municipal Office and in the case of Villages to the Village Choukidar or at the Thana (Police Station) to which the village is attached. The village Choukidar will at once send the information to the District Medical Officer of Health who will at once arrange for (1) the isolation of the child in the house as far as practicable. The child should never be separated from the parents or relations. The relatives or parents should be given particular instruction to look after the child or person suffering from the disease. (2) All the contacts should at once be re-vaccinated.

4. Difference in technique as suggested by Isadore Dyer that vaccination injury should stop at the vesicle formation, and should not be allowed to go on to pustule formation, be experimented in certain municipalities by fully qualified medical men employed as vaccinator, or District Medical Officer of Health or Assistant District Medical Officer of Health and if successful, the technique be changed; and the vaccinators instructed to the changed technique.

5. As I have pointed out above that the true criterion of successful vaccination is the pocks that develop after vaccination and not the scar, as scar can also occur after ulceration,—every person or child vaccinated should be seen on the 7th or 8th day, and the result noted whether true pocks have developed at the site of vaccination or not. They should see the person or the child again between the 13th and 14th to observe whether the scale is separating or has separated. They should also note whether secondary infection has occured or not.

6. Vaccinators should be supplied with a register with the following headings and they be asked to fill it in accurately.

Serial No.

Name, Father's Name & Village
Age
Caste H.M.C. & O.
Male
Female
Male Child
Female Child
Date of Vaccination
Whether the true pocks have developed or not
Vaccinators should note signs, and symptoms of any trouble or disease the child is found suffering or being seen on the 7th, 8th—the date of 1st visit of vaccinator.
Whether scale is nicely formed, is separating or whether secondary ulcer infection has occurred on seeing the child on 13th and 14th day.
The date of second visit to the child.
Vaccinator should note any outward symptoms or signs the child is found suffering at the time of the second visit.
1st, 2nd or 3rd vaccination,
Additional remarks.

EXTERNAL OTITIS*

BY

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External Otitis or inflammation of the external ear is one of the commonest ear affections met with in general practice, probably because the severe pain associated with this condition (which is often out of all proportion to the extent of inflamed surface), invariably makes the sufferer seek early relief. The external ear consists of (1) the auricle or Pinna with its cartilaginous skeleton and (2) the external acoustic meatus, which is cartilaginous in its outer third and bony in its inner two-thirds. The severe pain associated with inflammations of this region is explained by (1) the close adherence of the skin lining to the subjacent perichondrium and periosteum and (2) rich nerve supply viz., auricular branches from the vagus, facial, Inferior Maxillary and Cervical plexus. It is also richly supplied with blood vessels through the auricular branches of the temporal, occipital and external carotid, and the lymphatics drain into (1) parotid lymph glands in front of the tragus (2) external jugular glands below and (3) posterior auricular glands behind.

Though erysipelas, eczema, erythema etc., can in a way be termed inflammations of the outer ear, still for clinical and pathological reasons it is not advisable to include these under one common name. Under the heading Otitis externa, I wish to confine myself to local or general inflammations of the external ear, the result of injury either mechanical or chemical.

Aetiology.—The *predisposing* causes are either (1) *Constitutional*—any condition which lowers the vitality, as diabetes, anaemias, generalised furunculosis, especially in the hot months, focal sepsis etc. Internal administration of Potassium Bromide for a lengthy period is said to have a similar effect.—or

(2) *Local.*—Conditions which irritate the meatal wall e.g., Impacted wax, fungus, foreign bodies, discharge from the tympanum etc.

The actual *exciting* causes are (1) a breach of the epidermal lining caused by scratching to relieve the itching and (2) Sepsis—for which there is no dearth in the canal, in these cases. The periodical instillations of oil into the ear, and the liberal use of the

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*Specially contributed to the Antiseptic.

ear-pick, adorning every bunch of keys, are often of great help in starting the inflammatory process.

Pathology.—The inflammation may be localised or diffuse. When *localised,* it manifests itself as a furuncle due to infection of the hair-follicles or sebaceous glands, or inflammatory reaction of variable severity subjacent to and surrounding the impacted wax, fungus, foreign body etc. The furuncle may develop in the superficial layers of the skin or it may be deeply seated. Several furuncles may be present at the same time and there is a great tendency to recurrence. The *diffuse* variety is often secondary to chronic middle ear suppuration, or associated with several furuncles, or deep seated infection. The lymphatic areas, previously mentioned, are painful and tender, depending upon the site and extent of inflammation.

Signs and Symptoms.—Pain is the most prominent symptom and though it may be trivial in some cases, it is more often very intense. Movements of the jaw, pressure on the tragus, manipulation of the auricle are all intensely painful in the severer cases. When a furuncle is situated in the anterior or inferior wall of the meatus, movements of the jaw and pressure on the tragus considerably aggravate the pain and in addition there may be swelling of the lower eye-lid, which if present, is characteristic of furunculosis in this position, contrasting with zygomatic mastoiditis, where there is often swelling in the upper eye-lid. When the boils are situated in the posterior wall, especially near the bony meatus, the auricle may become erect with appearance of oedema or cellulitis over the mastoid process. Especially in the diffuse external otitis, the meatus becomes very much narrowed owing to the swelling of its walls, accumulation of surface epithelium and inflammatory exudate; the tissues about the tragus, angle of the jaw, mastoid process and even the lower eye-lid are swollen and congested, pain is intense and any manipulation rendered impossible. The drum membrane of course cannot be seen and there may be a moderate degree of fever also. The degree of deafness present depends on the amount of obstruction and is more marked in diffuse external otitis with occlusion of the canal. Usually however it is not so great as in middle-ear suppurations.

Diagnosis.—In the *mild cases* where the pain and swelling of the canal are not so great as to prevent an otoscopic examination, the diagnosis is generally easy. Superficial furuncles can be made out as small, red, circumscribed and very tender swellings on the skin of the meatus. When they are more deeply seated, the swelling is more diffuse and generally of the same colour as

the rest of the meatus. Similarly external otitis, accompanying impacted wax or fungus growth can be easily seen.

In *severe cases*, especially when the inflammation affects the posterior wall close to the bony meatus, the auricle may become erect, and oedema or cellulitis may appear over the mastoid process. If this is also associated with discharge from the ear, the diagnosis from mastoiditis may become a very difficult matter. An otoscopic examination cannot be made on account of the occlusion of the canal by the inflammatory swelling and the severe pain. In making a differential diagnosis between external otitis with cellulitis in the retro-auricular groove on the one hand, and acute suppurative otitis media with mastoiditis on the other hand the following considerations will be very useful.

(1) *Nature of the discharge.*—The discharge in furunculosis is thick and scanty, while in otitis media, it is more profuse and muco purulent.

(2) *Nature of the Pain.*—In acute otitis media the pain is aggravated by conditions which raise the intra-tympanic pressure as sneezing for instance, while in external otitis it is aggravated, by pressure in the tragus, movements of the jaw or manipulation of the auricle.

(3) *Tenderness.*—In furunculosis the tenderness is chiefly elicited by touching the auricle or meatus whereas in mastoiditis this is absent or less marked. Tenderness on pressure over the mastoid is absent in external otitis if care is taken to avoid the area of cellulitis.

(4) The *Retro-auricular* groove is often obliterated in external otitis, whereas it is present in mastoiditis. *Hearing* is usually better in furunculosis of external canal.

(5) *Proof-puncture.*—If on puncturing the retro-auricular swelling with hypodermic needle and syringe, pus is obtained on withdrawing the piston almost immediately after the skin has been pierced, the case is one of external otitis. If on the other hand, the needle has to be pierced till the bone is reached the case is one of mastoiditis.

(6) *History.*—A history of recent cold, or acute rhino-phryngitis is more in favour of acute otitis media than mastoiditis.

(7) *Inflation of the middle ear.*—During politzerisation a whistling or bubbling sound may be produced in otitis media pointing to a perforation of the drum head.

(8) *Radiography.*—A good radiogram of the affected side may show well developed air cells in the mastoid, in external

otitis, whereas in mastoiditis, the area may be cloudy with blurring of the outlines of the mastoid air cells.

It must not be forgotten however that external otitis and mastoiditis may be present in the same ear. There will remain however a few cases where the differential diagnosis will be extremely difficult, and if so, it is safer to treat it as mastoiditis.

Treatment :—The treatment of external otitis naturally resolves itself into (1) Local and (2) Constitutional.

Local.—In cases of external otitis associated with local causes as impacted wax, fungus etc., attempts should be made to remove these at the earliest opportunity. In the mild cases, when an inflammation is not severe, these can be softened by repeated instillations of hydrogen-peroxide and removed by dexterous syringing with warm Boric lotion. The removal can also be aided by gently breaking up the mass between the blades of a pair of angular aural forceps. In passing I wish to mention that the growth of the fungus Aspergillus is much more common in India, than is believed or recognised. When a mass resembling wet newspaper, and covered with many black or yellow specks is syringed out of the meatus, parasitic otitis should be suspected. The diagnosis can be confirmed under the microscope when the characteristic mycelium, spores etc. may be seen. It is also characterised by the fact that it tends to grow again quickly after its removal, and in the early stages presents the appearance of a thin layer of flour scattered over the surface. Therefore, in treating this condition, the ear should be daily painted with some strong parasiticide, for a long time after the removal of the fungus. A two percent solution of salicylic acid in 90 % alcohol answers the purpose admirably.

In cases of furunculosis of the meatus, when the inflammation has not actually gone on to pus formation, palliative measures are often useful. 10 % Icthyol in 5 % carbolised glycerine should be applied to the canal with strips of gauze. This should be assisted by dry heat, preferably radiant heat, and de-congestive measures as leechs, either live or artificial, applied over the tragus or mastoid. The hot water bag or bottle is usually of no service, as the pain is often intense, and no pressure whatsoever can be borne against the ear. Radiant heat applied by means of a Sollux lamp or any other suitable lamp, through an opening cut in a card board shield, forms the most convenient method of application of dry heat. The hot air-douch is also useful. It is always inadvisable to use moist heat, as the relief of pain by its use is only temporary probably because, wax or epithelial debris in the canal swelles up with moisture and causes recurrence of pain after its use. Leeches

are very useful in relieving the congestion and pain and their use should not be considered old-fashiened, for I have seen cases where their use has aborted severe inflammations of the external ear with cellulitis and oedema, which in the ordinary course of of events would have required incisions.

An alternative method of treatment is the use of thin strips of gauze saturated with rectified spirits, inserted into the meatus and covered with perforated water proof tissue. From time to time the water proof tissue is removed and alcohol dropped on to the gauze, which should be changed every 24 hours.

If the pain is not relieved by these palliative measures, operative treatment should not be delayed. In the case of a furuncle it should be deeply incised from within outwards with a suitable knife, and in cases of diffuse inflammation multiple linear incisions should be made in the swollen meatal walls. General anasthesia, ethyl chloride or chloroform, is necessary, preferably chloroform, on account of its better after effect. Few patients, I daresay, will refuse operative treatment after having undergone the intense agony for a few hours, and the relief too is instantaneous. Application of radiant heat, should be continued after the operation. Pus is not always present during the incision, but the free haemorrhage relieves the congestion present. Care should be taken not to injure the periosteum during incision. The after treatment consists in cleaning out the canal daily with hydrogen peroxide, and lightly packing the meatus with gauze soaked in Ichthyol in carbolised glycerin. In external otitis due to chronic middle-ear suppuration, the auricle is often eczematous. This eczematous condition responds promptly to the application of white precipitate ointment, along with the routine treatment.

Prevention of the recurrence:—Consists in, (1) painting the canal with 1 in 2000 solution of corrosive sublimate in alcohol for several days after subsidence of the inflammation (2) attending to the general health and (3) injections of a course of vaccines (preferably autogenous). The patient should always be warned against the use of oil instillations into the ear, and using ear pricks or sticks as a means of relieving itching.

Cases & Comments

TREATMENT OF ERYSIPELAS WITH MAG. SULPHAS

BY

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I have read in your esteemed journal a few articles relating to the treatment of erysipelas and especially with Mag. sulphas. I have adopted the treatment in some cases and I am giving my experience on one particular case.

A patient came to me in the month of November 1930 with a small abscess on the left cheek. I made an incision and opened the abscess and dressed it with Lysol Gauze. He came to me the next day and the wound was dressed as usual. He pleaded inability to go to my dispensary the next day as he had to go to some other place. So I gave him a piece of gauze soaked in Tr. Iodine and some Boric acid and asked him to wash the wound with Boric lotion and dress it with the gauze. He came to me the fourth day with a history of fever and pain in the left nostril.

Condition of the patient.—The temperature was 104°, tongue coated, complained of severe headache.

Local condition.—The ulcer was not showing any signs of repair. The pain and rash began in the left nostril and extended up to the cheek. The Pinna of the left ear was similarly affected with rash and the appearance looked like a nodular leprotic patch. The rash was characteristic of vivid rosy red colour, disappearing on pressure and accompanied by a sensation of stiffness and pain on pressure.

The rash continued to advance more or less rapidly with a continuous slightly raised margin to the face, then to the frontal aspect of the scalp then to the perietal regions of the scalp and progressing to the nape of the neck.

As it spread to new regions it faded away from those already involved, leaving a slight brownish stain and a fine brawny

desquamation. Fever continued for about a week ranging from 104° to 101°.

TREATMENT

Local.—On the first day I applied Icthyol and Belladona mixed in glycerine to the affected parts. Seeing not much improvement, I began to apply pieces of gauze soaked in saturated solution of mag. sulph. and bandage the part. A few ounces of saturated solution of mag. sulph. were left with the patient to be poured over the gauze drop by drop as the gauze dried up.

Marvellous improvement appeared both in the local and general condition. Pain subsided, oedema lessened, temperature began to fall, the patient had sleep at nights and there was not much delerium as it is generally with cases of Erysipelas of the scalp.

General Treatment.—The following mixture was prescribed to be taken internally.

℞

Tr. Ferri perchloride ʒi
Liq. Arsenicalis Hydroch mxx
Liq. Strychnine Hydroch. mxx
Spts. Vinigalli ʒvi
Mist. Quinine Sulphatis ad. ℥vi (Strength 5 gr. to ℥i)
¼th part to be taken every 4 hours.

One peculiar feature of the case was that the pulse of the patient was very slow and weak. The nature of the pulse was not quite consistent with the general condition of the patient. So stimulants had to be given to the patient.

With the above methods of treatment the patient had an uneventful recovery.

[Points to note.—(1) The typical onset of the disease and the characteristic rash. (2) The extreme slow pulse. (3) amenability to the treatment with mag. sulph. (4) uneventful recovery.]

A FEW TIPS ON THE TECHNIQUE OF HYDROCELE OPERATIONS

BY

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Hydrocele is so common in certain parts of United Provinces and its operation so commonly performed by nearly every surgeon that it is almost impossible to suggest anything new about the operation. And in suggesting the following tips in the technique, I do not mean that I am suggesting anything new. I am more or less certain that suggestions are known and actually practised by several operators. But as the points are not mentioned in surgical books and so not publicly known, I am venturing to give them out for the use of those few to whom they are not known.

There are two chief points about the success of the operation. There should be no suppuration after the operation. In connection with the above, no doubt, the procedure for an operation under aseptic precaution is well known to the profession. With all this sometimes one finds to one's great disappointment that the hydrocele operation with all the care has suppurated and requires interference.

In all such cases haemorrahage inside the scrotum is the chief cause. So all the bleeding points during the operation, however negligible they might appear to be at the time of the operation, should be carefully dealt with.

But there is nothing new in the above; nearly all the Surgical works emphasize the point. There is another way of controlling the haemorrhage. Prevention is always better than cure. One should try not to cut or interfere with any vessel or vein of the name, during operation. This can easily be done by cutting nearly all the layers of the sac leaving only the Tunica Vaginalis, and then separating this with the finger or with the back of the knife all round chiefly at the point of the incision.

Now you can easily see the vessels shining through the Tunica Vaginalis, and while cutting threugh the Tunica Vaginalis, can easily avoid the vessels by cutting a little away from the running vessel or vessels.

2. Another important point in the operation is that there should not be reversion of hydrocele on the radically operated hydrocele.

This is generally done by everting the sac and stitching the two layers of the sac on the back of the testis generally with one stitch.

But there can be another tip in connection with the above. While making an incision in the tunica make the incision as small as possible, only sufficiently large to squeeze out the testicle through the incision.

These will as a rule prevent the sac from again assuming its original position whether the sac is stitched or not.

No doubt, stitching along with above procedure will doubly ensure the success of the operation.

A CASE OF GONORRHOEA OF THE RECTUM IN A WOMAN

BY

H. KARNIK, L.C.P.S.

Civil Hospital, Sawantvadi.

This is said to be a rather rare disease and hence I beg to bring it to the notice of your various readers with a hope of learning something more from our more experienced brothers and sisters.

A woman came to me for the treatment of pain in the rectum, made worse by bowel movements, with discharge of pus, tissues mucous and blood, and pruritis. She was being treated by various practitioners for Piles etc. and also for pain in joints, weakness and such other constitutional symptoms.

While I was going through the long history of the patient I was told that she was having some vaginal discharge also, so I inquired of the husband of the woman as to whether he had any gonorrhoea, who admitted of his being exposed to the infection.

The woman consented to a thorough vaginal and rectal examination. The following was the rectal condition. The rectal mucus membrane was inflamed and oedematous, easily bleeding, and also there was some muco-purulent discharge a smear was taken from the discharges for bacteriological examination.

Vaginal examination—The whole vagina inflamed and swollen; slight prolapses of the cervix: the whole part was oedematous; and also there was some muco-purulent discharges; a smear was also taken from the vaginal discharges.

Provisionally I began to treat the case for gonorrhoea of both vagina and rectum, thinking that the rectal condition was due to contamination from the Vulvo-vaginal discharge.

The diagnosis was afterwards confirmed by a Bacteriologist who gave his opinion that a good deal of gonococci were found in both the slides.

The following was the treatment adopted:—

Internally.

℞

Hexamine	gs. xv.
Calcii Lactate	grs. xx.
Divided into two powders.	
Sig. one Pr. t.d.s. in honey.	
Sodii Bromide	gr. 30
Ol. Sandal Flava	ʒiv
Copaiba	ʒi
Liq. Potassi	ʒi
Spt. etheris Nit.	ʒi
Tr. hyoscyanus	ʒi
Tr. Buchu.	ʒi
Ol. cinamoni	mm vi
Syrup Aurantii	ʒvi
M.F.T. Emulsions	ʒvi

Sig. one dessert spoonful T. D. S. after-food.

NON-SPECIFC PROTEIN THERAPY.

Injection of milk.—The milk is prepared as follows—milk is allowed to stand in a boiling water jacket for 10-15 ms. A clean, boiled Test-Tube filled 3 parts with milk stopped with flamed cotton wool in the usual way and stood in a steriliser or small enamelled basin of water brought to the boiling point and boiled for 10 ms. and all cream removed was injected.

4 c.c.	1st day.
5 c.c.	4th day.
8 c.c,	7th day.
10 c.c.	10th day.

There was marked reaction and fever. The patient had to be put in bed for 24 hours. There was a marked exacerbation of discharge 24 hours after the first injection, but improvement soon followed. The above mentioned mixture and powders were continued for 15 days and the above mentioned course of injections was given for 10 days and the patient was found completely cured.

This is a second case in which I have tried non-specific protein therapy with success and I wish to request all brethren to publish their results to enable us all to fix at our line of treatment in such cases.

INTRAVENOUS QUININE IN MALARIA

BY

NABADWIP CHANDRA DUTTA,

Sub-Assistant Surgeon, Kajuricherra P. O., Sylhet District.

Although much has been written by those more experienced than I about the treatment of malaria yet I venture to write a few notes on the success of my treatment by intravenous injections.

In the villages and estates of Sylhet and Assam malaria is still prevalent among all classes in spite of the routine oral administration of quinine and its alkaloids.

After administering quinine and its alkaloidal preparations orally in my practice for some time, both as a prophylactic and antidote, I became dissatisfied with the results, and decided to try intravenous injections. Although this method is not new, my technic differs slightly from that usually described in textbooks. Instead of using about 15 c.c. of fluid as usually advised I used only 2 c.c. for 5 grs. of quinine and 4 c.c. for 10 grs. as in the following prescriptions, and gave the injections very slowly.

For adults.

℞

1st Dose.	Acid	Quinine Bihydrochlor	grs. 5
		Sod. Chlorid	grs. 3
		Aq. distill.	c.c. 2

℞

2nd Dose.	Acid	Quinine Bihydrochlor	grs. 10
		Sod. Chlorid	grs. 5
		Aq. distill.	c.c. 4

For children.

℞

1st Dose.	Acid	Quinine Bihydrochlor	grs. 2
		Sod. Chlorid.	grs. 2
		Aq. distill.	c.c. 2

℞

2nd Dose.	Acid Quinine Bihydrochlor	grs. 3
	Sod. Chlorid.	grs. 3
	Aq. distill.	c.c. 4

Eleven cases were treated with quinine dissolved in plain distilled water without the saline and the results were just as satisfactory.

The doses were repeated twice weekly as required, and when the temperature was controlled a quiniue and iron tonic was given.

Of course, microscopic diagnosis should be made whenever possible, and the blood again examined after treatment and all the usual precautions as to asepsis must be taken in giving the injection.

The following shows the number of cases treated recently.

Estate.	Adults.	Children.	Remarks.
Burmacherra.	16	5	
Udnacherra.	18	...	All successful.
Kajuricherra.	125	...	
	159	5	

The cases treated were of both malignant and benign tertian types, and after the first injection in each case there was decided improvement. At the time of injection there were no symptoms of collapse, syncope, or damage to the veins, but all the patients were known to be tolerant to quinine.

In conclusion I must remark that the success of my experiments is in a large measure due to the kindness of my visiting Medical Officer who has at all times given me much friendly advice and encouragement, and I am thankful and grateful to him.

Medical Men's Success in their Career.

"Lancet" endorses the following outlook on the part of the Editors of the "Antiseptic', as practical.

"The medical profession in their dealings with the lay public, have a hard time in convincing them of the benefits of fresh air, pure water, nutritious food, good exercise, sound sleep and a host of other things which are indispensable not only to cure them of their maladies but also to prevent them from contracting fresh ailments. The lay public consequently require to be educated too in matters of health and hygiene if the medical profession should claim absolute success in their career."

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It tells the very things which Medical Men want their patients to know. It promotes confidence and understanding between them and their patients. "Health" is in short their representative, the ideal magazine for their waiting room tables.

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Feeding for Longevity.

Apples for Dysentery.

Health News & Notes.

Review.

Short articles of about 2000 words from you are also welcome.

The Antiseptic

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RHEUMATOID ARTHRITIS.

There are probably few conditions of which opinions regarding aetiology have changed so radically and so frequently as in the case of Rheumatoid Arthritis. Fifty years ago it was supposed to be a manifestation of gout, the so-called 'Rheumatic gout'. Some ten years later it was closely linked to tuberculosis; later still it was held to be a neurosis. Of recent years, a rheumatic diathesis has been postulated as the fundamental cause of the disease and this is now returning to favour after having been ousted by a theory of a microbic origin. From time to time attention has been focussed on the ductless glands, but the part they play, if any, has not as yet been seriously investigated.

The earliest pathological change seen is in the synovial membrane and capsule which exhibit engorgement of vessels, hypertrophy of villi and oedema. The cartilage soon suffers beginning at the periphery where a vascular sheet of granulation tissue spreads from the synovial membrane over the articular surfaces and invades them. The cartilage is further more attached from its deep surface by an extension of vascular connective tissue from the cancellous bone. The articular cartilages are eventually destroyed and the granulation tissues of opposite bones come into contact. A further step leads to fusion of these two layers with fibrous, and later, bony ankylosis. The bone also becomes rarefied partly due to direct decalcification and partly due to the

absorption of the osseous network. The controlling muscles of the affected joints exhibit loss of bulk and later fibrosis with adhesions to joint capsules and bone; in advanced cases, large tracts of muscles are found to be converted into dense fibrous tissue.

The clinical picture of a typical case of Rheumatoid arthritis is very clear. The disease is often seen in women usually between the ages of twenty and fortyfive with one or more relatives having a rheumatic history and having a history of unstable health upto the attack. In males, the disease sets in at an earlier age and follows a more relentless course. Some exciting cause like childbirth, influenza, tonsillitis etc. may start the symptoms which lead to definite diagnosis. The first symptom is pain in the feet early in the morning and located in wrist or finger joints. This stiffness, which may also be felt in the neck wears off and recurs every day. Finally definite swellings make their appearance in the finger joints which later on persist. The wrist, ankle, shoulder, elbow and kneejoints are most affected, the hips and spine seldom. The muscular system is also extensively affected; wasting is a prominent sign. Twitchings, cramps and even localised fibrillations are all present. Abnormalities of the digestive system are also evident. The skin is profoundly altered in every case. A waxy pale skin with superimposed pigmented patches and a clammy palm are characteristic of the rheumatoid patient. Atrophy of the skin on the joint itself is very prominent. Circulatory disorders and nervous involvements complete a picture that is fairly complete and which can never be forgotten when once seen.

Patients suffering from Rheumatoid Arthritis take one of two courses. In some after a variable interval of several years the disease dies out. Tachycardia, tremors, muscular twitchings disappear and tendon reflexes become sluggish and weight is regained. In others emaciation is more marked but the other signs of activity disappear leaving a body distorted by muscular atrophy and extensive contractures and resulting in permanent crippling.

The consideration of the treatment of Rheumatoid arthritis resolves itself into a management of its main stages; namely, the period of prodromal symptoms before permanent joint changes have developed; the stage of full activity and the final stage in which the disease is waning or even extinct, but in which the patient suffers from the residual contractures and emaciation.

In the first stage the patient presents signs of hyperthyroidism together with an unhealthy skin, pigmentation, low blood pressure, tender muscles and probably small enlargements of one or more

finger joints. The treatment is, therefore, indicated for the constitutional abnormalities rather than for the joints. A nutritious diet with less of carbohydrates and a plentiful supply of green vegetables, fresh fruits and codliver oil will do good. Elimination of all sepsis is essential. The teeth, tonsils, sinuses of skull, maxillary antra, intestinal infection, gall bladder and appendix have all to be thoroughly examined. Locally heliotherapy and ultra violet rays, thermal baths and massage have all done good. Spa treatment, though not available in India, has been of great use in England and the continent. This treatment has been of use in three ways. In the first place there is the internal administration of waters. Secondly, the regulation of diet, exercise, sleep, aided by the suggestion of healing which these establishments inspire. Thirdly there is the effect of various chemical substances dissolved or held in suspension in these natural waters. The use of drugs is indicated largely for the relief of symptoms rather than for any direct effect upon the disease itself. Veramon, aspirin, medinal. Allonol and the bromides are used for relieving pain. Constipation will yield to Vichy water, paraffin sulphur. Iodine is also very valuable.

In the second stage of the disease one's attention is drawn to the limbs, which present swollen and painful joints, wasted muscles and commencing deformity. Tachycardia, low blood pressure, pigmentation etc. are now more prominent and the patient is usually too ill to do more than lie in bed, At this stage prevention of contractures is of great importance. The affected joints must be mobilised by the use of splints to relieve pain and spasm, The splints however must be applied with due regard to the actual position of the limbs in order to prevent development of abnomal postures, contractures and deformities. Drugs and local application and diets are the same as those used in the first stage. Ionization is widely used but it is very doubtful if it is of any benefit. Massage to be useful has to be done very carefully. It is held that any movement whilst the disease is active is to be avoided on account of the possibility of restarting local inflammation.

In the third stage mental and physical exhaustion is the classical picture. Of drugs to be used at this stage, Iron and Arsenic are the most useful on account of the secondary anaemia. Thyroid extract is also useful in those individuals with low temperatures, pulse rates and who have loss of hair, brittle nails, scaly skin. Massage, thermal baths are also other general methods found useful. Non-specific protein therapy is especially useful in this stage in those cases where there is a low degree of activity. Among the things tried are peptones intraveinously (2 min of a 10%

Sol. every other day increased by 2 mms. up to 25 mms.) and B. Typhosus vaccine intraveinously (50 millions every third day up to six injections). Manipulative treatment with the object of correcting any deformity present or restoring movement is also done at this stage. This together with the use of extension splints are probably the greatest advances in the treatment of Rheumatoid arthritis. (For a detailed description of these two measures we would refer our readers to the excellent work on the subject of Chronic Arthritis by A. H. Douthwaite). It is at this stage perhaps that Psychotherapy will be of great use. The failure of all treatment carried on till the disease reaches this stage will make the patient pessimistic and it is here that all encouragement and co-operation is needed to produce good results.

Medical News and Notes

BY

COL. PROF. FROILANO DE MELLO, NOVAGOA.

On the classification of dysenteric bacilli G. Pacheco and C. Rodrigues (*Compt Rend Soc Biol. CIII 1930 page 1324.26*)

Groupe I. mannite O, maltose O, Indol O, Serologically independent *type Shiga,*

Groupe II. Mannite O, Maltose O, Indol+, Serologically independent *type Schmitz*

Groupe III. Indol+Differentiation by the absorption of agglutinines into:

(a) Mannite O, Maltose+*type Saigon;* (*b*) mannite+, maltose O, arabinose O-*typeHissRussel*; (*c*) Mannite+Maltose+Arabinose+ *type Flex*ner.

Groupe IV. Indol O, lactose + serologically independent *type E. de Kruse.*

The Americam commission included the dysenteric baccilli in the genus *Eberthella*; the authors create a new genus named *Dysenterigenes* syn. *Shigella* Castellani 1919 *pro-parte*, *Eberthella* Committee S.A.B, 1920 *pro-parte.*

Annual Review of Dermatology and Syphiligraphy A. Dupont (*Revue belge des Sciences medicales* 11-2-1930 (Febr.)

Concerning therapy:

Sezary and Worms state that intraveinous injections of bromides, prescribed against pruriginous infections, are strongly leucopenic and their action is not only on nervous system but by colloido clasic schok. Hence a new way open to researchers: do the topic reductor provoke general reactions on organism? The pommades with goudroline at 5% decrease the leucocyte rate by 1 to 5000; the oil of cade gives a diminution of 1 to 2000, both on normal and on diseased persons. Curious to note: those who have been under antianaphilactic treatment (ingestion of peptone, intraveinous bromotherapy) do not show such leucopeny and gather very small results from those topic medications.

Sodium hyposulphite is strongly advocated as antitoxic, specially by French authors in accidents due to thallium acetatate.

Treger had good results in burns of 1st and 2nd degree by injections of *sodium hyposulphite.* Its favourable action on certain dermatoses is due to an alkalinisation of the organism according to Spillman, Dronet and Veran.

Ravaut having used for long time a solution of sodium hyposulphite for the dissolution of 914, has had the idea of mixing this salt with lugol for intraveinous injections: the phenomena of shock and local alteration of veins are avoided by this method. The dose of hyposulphite should be the double of that of iode to be injected.

Fidanza prefers solutions of pure iode to lugol for intraveinous injections. Excellent results in mycoses with a solution of 20% of diodide of hexametile diaminoisopropanol containing O, 18 iode per c.c. No general trouble, no hardening of veins.

Levine, Nedaroff, Tchetchouline by clinical observations, autopsies and experimental researches state that *intraveinous injections of potasium iodide* may be dangerous and cause death by intoxication of cardiac muscle by the ion K and not by the ion I,

Marionini states that the *mycoses of the 4th interdigital space of the foot* are caused by the alkalinity of this region. The pH of the skin varying normally between 3-5, is of 6, 3-7, 4 on this space. Hence a good conclusion for practitioners: local application of diluted HCI cures often such lesions without any antiparasitic product.

Urticaria has been treated by Gougerot and Peyre with *cesium eosinate*, by Balbiani with *gynergene.*

Jansion, Debucquet and Pecker have cured certain *psoriasis* by a complex *bismutho-areseno-pyridinic.*

Milian. Juster, Jansian insist on the happy results of *Ultraviolet rays* on *buccal lichen plan.*

Jansion and Sohier treat *tricophytias* by a *filtrate toxine* and a *claxo-vaccine* obtained by prolonged action of azotic acid on the culture of the fungus.

In Germany *the treatment of tuberculosis by the Gerson's method* is strongly advocated. Sauerbruch and Hermansdorper state that the suppresion of salt and salted foods and their substitution by a group called *mineralogene* has a very favourable influence on certain *cutaneous tuberculosis* specially on *lupus*.

In the service of Jesionek (Giessen) Bommer has treated 200 lupic patients by Gerson's method associated to heliotherapy with good and persistent results.

Idem in the clinics of Schuller (Bonn) and Clairmont (Zurich).

Annual Review of infectious diseases Paul Nelis (*Revue Belge des Sciences medicales* 11-2-1930).

Measles. The recent study of post vaccinal encephalitis has called the attention to other forms, however rare, of acute encephalitis, specially those complicating the exanthemes. Ford finds in the literature 113 cases of nervous complications of measles and reports 12 new cases. The nervous symptoms appear 4-6 days after the beginning of the disease, and at the defervescence period and may show various clinical types. Greenfield studying histological modifications on some cases states the clinical and pathological resemblance of such lesions with *post vaccinal encephalitis*, due certainly to a neurotrope virus analogous to that of post vaccinal encepalitis. Musser and Hanser report 10 cases of post-measles encephalitis, 8 having been mortal.

Wooping-Cough. In some countries as Denmark wooping-cough makes more victims than diphtheria, scarlet fever and measles together (Madsen). Sauer and Hambrecht report similar statistics in U. S.

The bacteriological diagnosis of W. C., is of real interest, as in the catarrhal period 75% of positives results may be obtained. Technique: (1) Petridishes with fresh Bordet—Gengou milieu; (2) take them in front of mouth for 15 seconds during 3 or 4 accesses of cough; (3) at the 2nd or 3rd day characteristic colonies of B. G. bacillus appear resembling drops of mercury.

As far as concerns vaccination, some results are obtained specially in diminishing the mortality.

On therapeutic point of view Freyss calms the cough by Ultraviolet rays and vaccine. Stewart uses ephedrine 0.5 milligrs from 1 to 5 years, combined or not with belladone.

Nicolau and Miss Mateiesco state that the wooping cough has a particular action on nervous system where vascular dilatations,

monocytic infiltration and degenrescence of neurones are to be noted.

Diphtheria. The occurrence of very toxic and mortal cases of diphtheria in Europe leads me to report the strong doses of serum employed for treatment. Bie from Compenhagne shows a statistic of 1113 cases, 111 very serious, 315 middle, 687 slight. Mortality nil in slight cases, 0·96% in middle, 18% in serious cases. Number of units injected 16000 max. in slight cases, 32 to 348000 in middle cases, 300 to 500,000 in serious cases.

Active vaccination by Ramon anatoxin gives fairly good results.

On the use of ephedrine in surgery E. Deron (*Rev. belge des Sci. medicales* 11-3-1930).

In cases of hypotension due to rachianesthesy, the injection of ephedrine increases rapidly the blood pressure to its normal rate. Preventively administered, ephedrine avoids the habitual rachianesthesic hypotension.

Intraveinous pyelography. F. de. Rom (*Rev. belge des Sci. Med.* 11-4-1930).

The author strongly recommends this process of pielography, by intraveinous injections of Uroselectan, a derivate from Selectan Neutral of Binz and Rath. Replacing the methyl group of Selectan Neutral by Glycinnatrium and making its iodic content of 42% to increase the solubility Uroselectan is obtained (sodic acetate of iodo-pyridin nucleus).

A man of 60 K 02 can receive 180 gr. of uroselectan in vein. The dose commonly used is of 40 gr.

The first radiography is taken 15 minutes, the 2nd 45 and the 3rd 75 minutes after the injection.

This process is innocuous. The patients should be left to fast, either to increase the opacity, either because experimenting in animals after meals Fuchs had a sudden death.

On a case of melioidosis observed at Phnom-Penh A. Gambier (*Bull. Soc. Path. Exot. 5. 1930*).

Pyrexia, septicaemia rapidly mortal. Hemoculture giving a coccobacillus resembling Yersin. Smears from organs show the same bacillus. Bacteriological studies show that this agent is Withmore bacillus, isolated by the author in 1912 at Rangoon. Fletcher found the same in 1913 at Kuala Lumpur in an epizootic in small laboratory animals, in 1917 in human septicaemias. Stanton discovered it in 1918 in murine septicaemias.

This disease is named *meloioidosis* and supposed to be transmitted by digestive tract from rat to rat and from rat to man, through feces.

Ictero hemoglobinuric fever and plasmochin Igino Bidan. (*Rivistadi Malariolagia*) IX. 1. 1930).

Detailed clinical history of a case with the following conclusion:

1. Etiology of hemoglobinuric fever attached to both factors, malaria and quinine, and having as genesis an anaphylactic shock.
2. Injectable plasmoquin being the best treatment hitherto known.
3. Such treatment absolutely innocuous for renal filter and possessing a strong action on parasites and spleen.

6 injections given intramuscularly, one per day, 3·2 cc. each

---

Acute pyretic anemia Ed. Benhamou (*Le Sang* III. I. 1929).

Under this name the author designates a syndrom essentially characterised by a high continuous fever, a serious and progressively increasing anemia and a moderate splenomegaly. Brill called first the attention to this disease in 1926, stating however that before him MacIntosh (1902) and Moschowitz (1925) had reported such cases.

Sudden onset with vomiting, attack of biliousness, extreme lassitude, atrocious cephalea: often epistaxis, angina 38 to 39.

Anemia, the patient becoming pale, coffee and milk colour to orange yellow. Oedema. Petechia. Temp 38-40. Pulse 120-130. Often broncho-pneumonia. Often kernig, are flexy, but cerebro spinal fluid normal. Retinian and labyrinthic haemorragies. Slight albumin, with or without cylinders, large amount of urobiline. Red glob. falling to 150,00,00, 120,00,00, 700,000. No megaloblastes, neither myelocites or other element of the abnormal series.

Evolution: broncho-pneumonia, acute pulmonery Oedema paretic phenomena, menigial reactions, acute anemia. collapsus, death.

The disease is not Biermers anemia, neither leucanemia of Leube (no white abnormal cell series reaction) neither has any connexion with Banti or Gamna splenomegalies.

It seems to be of infectious origin, somewhat resembling the anemic forms of *endocarditis lenta* of Achard and Foix. However, the hemocultures have been negative.

Treatment: Blood transfusion, Whipple.

Normal value of hemoglobinic exchange. Hemolytic index. Greppi Enrico (*Archiv italiani de Biologia* LXXVIII 1927).

From this detailed study the following numbers should be stated.

Hemoglobin 15·5 % in man. 13·5 in woman. Total quantity 775 gr for a man of 70 Kgr, nearly 1 % of the body weight.

Stercobilin nearly an elimination of 120 mgr. per day for a man of 70 Kgr, possessing 15·5 % Hglob.

Relation from Hglob to Stersob: less than half of Hglob. destructed.

Vital cycle of blood: nearly 100 days.

Hemolytic index of Lichtenstein and Terwen $\frac{70\text{-}P \times 100}{Hglob \times B\text{-}120}$.

P = weight; Hglob = % Hemoglobin; B = total bilinogene (in faeces and urine nearly 120 per day).

This index is considered very useful for clinicians.

On the pathogenic role of splenic mycosis of Nanta Ch. Oberling (*Presse medicale* 1-1928).

This debated question is dealt with by the author very accurately. He divides the 14 cases of the so called mycelial splenomegalies studied by him into the following clinical and anatomopathological types: 4 Banti's disease, 2 hemolytic jaundice with splenomegaly and cirrrhosis, 3 pigmentary cirrhosis, 1 Laennec cirrhosis, 1 calculous cirrhosis, 1 arteriosclerosis in a man aged 80. 1 lymphoid leucemia. In all these the presence of mycelium was evident.

In 10 other cases mycelium could not be discovered but the mycelial nature was to be admitted on the presence of sidero-calcarious filamental reticulum. These 10 cases may be so distributed: 5 Laennec C., 1 adeno-cancer with C., 1 cicatrix of infarctus, 1 cirrhosis with hemosiderosis, 1 chronic amylosis.

So, the pathogenic role of the mycelial elements seems to the author most doubtful and he believes that the intervention of mycelial element is only an epiphenomenon, a sort of grafting of mycelium on a spleen already pathological. And then two eventualities occur.

(*a*) The mycosis progresses for a certain time, and gives place to cicatrisation, without any clinical manifestation.

(*b*) The development of mycosis is so marked that clinically and anatomopathologically a new disease is created by the mycelial nodules.

The vascular lesion are of mycotic origin.

Iodide treatment has influence on mycotic elements but none on the former pathology of the spleen.

A propos of splenic mycosis G. Gamna (*Presse Med. 23-1928*).

The author has been the first to describe under the name of Gandy Gamna nodules or mycosic tubercles the alterations noted on some spleens. He does not recognise to them a specific character as he has found not only in siderosic splenogranuloma but even in Bantis disease, in splenomegaly of atrophic cirrhosis, in hemolitic jaundice and in syphilitic cicatrix of spleen. He accepts the views of Oberling and adds that culture of fungi was obtained only in 3 or 4 cases but its pathogenic character is doubtful.

The method of Minot and Murphy in the treatment of anemias of pernicious type Sorge Giuseppe (*II Policlinico Sezione pratica* March, 1928). Interesting *mise au point* of the question. The experiments of Whipple and Robscheit-Robbins on hematic regeneration in animals and the theoretic views approaching pernicious anemias of deficiency diseases are fundamentally based on the clinical work of Minot and Murphy. The results on pernicious anaemias are wonderful, the first sign of regeneration being the appearance of young reticulated forms which disappear in the second week of treatment. The results on the secondary anemias are doubtful. All problems raised around this discovery may be classified into two groups :

(*a*) To what substance is due the activity of the liver ?

(*b*) What is the mechanism of its action ?

The last one remains unknown, but the first has a solution : Cohn has isolated from the liver an active substance, non proteic, non lipoidal, which seems to be to the liver what insulin is to pancreas.

Modern literature on agranulocytosis. Schultz gives a very good contribution to this study (*New data concerning agranulocytosis* Munch. Mediz. Wochenschr. LXXV 1928.) In his first communication on a gangrenous process with deficiency of granulocytic system the author proposed to the disease the name of *agranulocytosis*. Other names have been proposed such as *Angina agranulocytica* of Friedmann, *Mucositis necrotica agranulocitica* of

Weiss, *Stomatitis gangrenosa myelophtisica* of Fagic and Spengler. In the cases up to day published the following symptoms have been noted: nasolabial herpes, tonsillary lesions going from a simple angine till an abscess, para-tonsilla ry lesions, precocious gengivitis, dental alterations constituting sometimes the initial lesions of the disease, pulmonary complications such as bronchitis hemorragica and lung sphacele, hepatic complications, intestinal ulcerations.

The most important point in this paper concerns the prognosis. Considered surely fatal, it is now recognised that many cases may be cured. Penhaps these happy results are due to the therapeutic means already tried: novarsan, antistreptococcic serum blood transfusion, osseous irradiation etc.

Zikowski from Vien (*Contribution to the question of agranulocytosis* Wienner Klin Woch. 1928 nº 29), considers the disease as a paralysis of leucopoietic system, due to a strong septicaemia caused mostly by streptococcus. The author quotes 2 cases ending fatally in less than 3 days.

Brix (ibid nº 33) remembers that the first case was published by Turk in 1907 under the following designation: *staphylococcic septicemia with mitral endocarditis, leucopenia (400 wh. C. per m. mc.) and almost total disappearance of granulocytes.* In 1912 Stursberg reported a similar case. In 1922 Schultz described 5 cases where hemocultures were negative: necrotic angina, high fever, spleen and liver slightly or not increased, leucopenia, agranulocytosis, such is the clinical *tableau*. Actually 5 cases have been cured : 1 of Lanter, 1 of Preuss, 2 of Zikowsky, 1 of Brix.

Therapeutic tried: specialised antiseptic substances (Solganol Isotol) by intraveinous injections, cardeotonics, autohemotherapy. Aubertin and Leby Robert (*Agranulocytosis and agranulocytic syndroms in Archives des maladies du coeur des vaisseaux et du sang* 1928 nº 6) do not believe in the individuality of Schultz's disease and think that agranulocytosis is not a special disease, but a general syndrom allowing to unify and systematise various facts hitherto reported.

The first clinical type is named by the authors *Agranulocytosis pura* : Sudden onset in some hours or 2 to 3 days. Toxi infection and bucopharyngo-laryngeal troubles. No haemorragies. Fetororis. Necrosis on tonsils etc., even in genital organs or anus. Bad general state. High fever cardiovascular astheny. Sometimes jaundice. Adenopathies none, or small. Haematological picture as already stated. Constant absence of hæmorragic diathesis: a capital point characterising *agranulocytosis pura*. Duration of diasease, in general, less than 2 weeks, sometimes only 3 to 4 days. Rare cures. Recidives possible.

Among agranulocytic syndroms the authors describe the *Primitive* or *idiopathic agranulocytic syndroms* with agranulocytosis, aplastic anemia, hæmorragic syndrom, purpura. The disease resembles the aleucic hæmorragy of Frank.

Secondly come the *Secondary or Symptomatic agranulocytic syndroms*, ephiphenomena in the course of a well characterised pathological stage, such as septicaemias, general or localised infections, acute or subacute, often with suppurations (otitis, suppurated pyelonephritis).

A second chapter very important is that concerning *toxic agranulocytosis* specially those following the injection of arsenobenzenes. Pre-existant hepatic lesions may be the cause of such accidents.

Finally these may be an association between agranulocytosis and Hodgkin disease.

As far as concerns therapeutic the authors state that nothing is known which may merit confidence. However, some cases have cured. Antitoxic, anti-infectious medications, specific selotherapy, protein-therapy are indicated. Radiotherapy of bone marrow in small doses have been tried by Friedmann. Blood transfusion.

Mme Pouzin Maligne and Bocage and Filliol Report (*Bull et Mem Soc. Med des Hop. de Paris* 29-XII-28 & 3. 1. 29) one case each of post-arseno-benzolic agranulocytosis. Every necrotic angina in the course of Novarsan should command an immediate blood examination and hemocultures should be tried as the origin of those agranulocytosis may be a septicamia specially localised on bone marrow.

Indications for operation in chronic primitive spienomegalies Gregoire and Emile Weill (*Bull and Mens de la Soc. de Chir. de Paris 1927*. LIII).

The indications for operatory treatment may be schematised according to the authors in the following way.

No operation in leucemic, subleucemic and Hodgkin splenomegalies. Splenectomy gives excellent results in inflammatory splenomegalis; but one should carefully consider the symptoms. Large hypertrophy of spleen, anemia and digestive hemorragies are formal indications for operation.

On malarial, leishmanic and bilharzic splenomegalies medical treatment (quinine, stybenil, emetine respectively) should be first tried; if there is no success, operation is indicated. Among these inflammatory splenomegalies the authors classify the so-called Nanta's disease.

Contraindictions for operations are: *temporary* ones as purpuric abcess, recent digestive hemorrhage. Repeated blood transfusions may in such cases prepare the patient for further splenectomy; *formal contra indications* are brown jaundice, ascitis, cirrhosis of liver, inflammation of portal system, or of splenic vein, *polyglobulia*.

Gleanings from Medical Press

SURGERY.

Catheter Fever.—The mechanism of catheter fever has always been something of a mystery. It is liable to occur after the urethra has been injured in persons whose urine is heavily infected with bacteria, but the precise relation of the bacteria to the fever has never been clearly made out. A contribution to the last number of the Journal of Pathology and Bacteriology (Vol. XXXIII., P. 871). by Mr. F.J.F. Barrington and Dr. H.D. Wright, is an admirable example of colloboration between surgeon and bacteriologist which throws new light on the subject. Briefly their results show that the blood stream is often invaded by bacteria immediately after the passage of bougies and again immediately after infected urine is passed over the injured surface. This bacteraemia is of very short duration and at the time when the patient feels ill or has an actual rigor the blood is again sterile. Thus, in one case, dilatation after an external urethrotomy was done at 10.40 A.M.; at 10.45 A.M. a blood culture was positive (B.coli): urine was first passed at 4.10. P.M. and at 4.20 P.M. the blood again gave B.coli. At 5.25 P.M. the patient had a mild rigor, and at 5.30 P.M. the blood was found sterile. In several instances blood cultures were made immediately before operation with negative results, while positive cultures were obtained within five minutes of dilatation. The effects of this bacteraemia do not appear for some time; the rigors are, no doubt, due to the products of destruction either of tissues or of bacteria themselves, either of which takes time to happen, and when the rigor is going on the blood will probably be found to be sterile. There is therefore, no reason to doubt that catheter fever is bacterial in origin and that one may expect to diminish its incidence by reducing to a minimum the injured absorbing surface in the urethra (which is practicable) and controlling the infection of the urine (which is not).

—*Lancet.*

OPHTHALMOLOGY.

Ocular Diseases and Focal Sepsis, by A.F. MacCallan. London, Arch. Ophthalmol. Vol. 3, No. 6 (June, 1930).

The author gives an account of his experience with ocular disease and focal sepsis. His conclusions are:

1. In certain cases it is possible to cure or alleviate ocular disease by finding and eliminating foci of sepsis, such as increased lachrymation, blepharitis, tarsal cysts, chronic conjunctivitis, phylctenular conjunctivitis, episcleritis, corneal ulcer, dendritic ulcer of the cornea, dacryocystitis, iritis, and cyclitis.

2. Some forms of ocular disease are usually associated with the presence of foci of sepsis, but a cure can not be expected from elimination of the focus. Among these forms are cataract, glaucoma, thrombosis of the central artery of the retina, and thrombosis of the central vein or one of its tributaries. Other ocular conditions which may be mentioned are: Changes in the vitreous, hyperemia of the macula, pigmentary changes, and definite degeneration of the retina at the macula, choroiditis, and progressive myopia.

3. In order to arrest the action of foci of sepsis that cause ocular changes these foci should be found and eliminated.

The author advises ophthalmic surgeons to take all reasonable steps to eliminate obvious foci before undertaking any eye operation.—*The Journal of the Philippine Islands Medical Association.*

Human Lens Without Nucleus, A Hitherto Unknown Malformation. F. Salzer, Klin Monatsbl f. Augenh. 84-52 (Jan.) 1930.

In a woman, aged 45, vision had been greatly reduced since childhood by corneal opacities of both eyes. An artificial coloboma downward and to the nasal side allowed her to read ordinary print with her right eye without glasses by tilting her head backward. This eye showed red fundus reflex and a round shadow measuring about one third of the diameter of the iris, in the center of the pupil. The upright virtual picture of the fundus was clearly visible through this area. The margin of the lens appeared in the coloboma.

The slit-lamp revealed some opacities of the anterior cortical, then an apparently empty space in lieu of the nucleus, then the posterior cortical, the posterior capsule and the structure of the vitreous. No crystals or other elements could be detected in he central cavity of the lens; no remnants of the hyaloid artery were present. The patient's vision was 5/15 with a convex glass of 11 diopters, and she could see the finest print at 30 cm. with a 14 diopter lens.

Fischer's description of vacuoles in the eyes of human embryos may be mentioned in this connection although neither his cases nor those described by Hess and by Scily present clear vacuoles and a clear cortical shell like Salzer's case.—*American Journal of Diseases of Children.*

Treatment of Acute Purulent Ophthalmia of Gonococcal Origin. R. P. Wilson.—Giza Mem. Hosp., Cairo, 3d Ann. Rep., 1928, p. 60. It was pointed out that in Egypt the principle cause of blindness is undoubtedly gonococcal ophthalmia and not trachoma. The usual treatment is to wash the eyes with perchloride of mercury, 1:5,000, and afterward to paint the conjunctiva with silver nitrate, 2 per cent. For the remainder of the morning, the mother bathes the eyes of the child with a weak solution of potassium permanganate. For the past year, special methods have been employed. Injections of milk were used on eight patients. No patients developed corneal complications. The severe cases responded as well as the milder ones. All discharge and swelling disappeared within an average of three days. Nine patients were treated with antidiphtheritic serum. The dosage was 8 cc. of serum, from one to seven injections being made. All discharge and swelling disappeared within an average of six and six-tenths days.

Thirteen patients were treated by injections of S. U. M. 36 (the symmetrical urea of meta-benzoyl, meta-amino-naphthol, 3-6, and sodium sulphonate). The average dose was 0.01 Gm. The number of injections was from one to five. All discharge and swelling disappeared within an average of six and four-tenths days.

When milk was used, the results were uniform, with strikingly rapid disappearance of the symptoms. The time required for a cure was shorter than in any case by any other method. In all special methods, the usual routine local treatment was used. The conclusion was drawn that for routine treatment, except in case of milk therapy, no real advantage is gained by any of the aforementioned special methods.-*American Journal of Diseases of Children.*

Prophylaxis of Sympathetic Ophthalmia. Dr. Albert Holdener, Assistant in the Burgerspital at Zug, gives an account of five cases treated in the eye clinic at Zurich, in which sympathetic ophthalmia of the sound eye occurred after early enucleation of an injured eye. In the first case the wounded eye was enucleated 14 days after the injury when the sound eye was completely normal, both to external and to slit-lamp examination. Twenty two days after the enucleation signs of slight irido-cyclitis super-

vened, confirmed by the slit lamp, but under energetic treatment with atropine, mercury, and salvarsan it ran a mild course without ever materially affecting the vision, and in ten weeks it was practically well. The second case was that of a man of 22 whose left eye had been blinded by an arrow wound at the age of ten. This eye became irritable and when the patient was admitted to hospital it was in a condition of secondary glaucoma. A trephining was performed and following this an extraction of the lens, but the eye got worse and then at last the patient gave his consent to having it enucleated. After three weeks in hospital the patient was discharged, but 12 days later two punctate spots appeared on Descemet's membrane of the remaining eye. In another fortnight, the signs of sympathetic infection being unmistakable, he was readmitted and intensively treated as in the previous case with such success that he was discharged in a month apparently cured and with normal vision. The third case was that of a man of 28 whose right eye was wounded by the horn of a cow. After three weeks treatment, including removal of a prolapse of the iris and suturing of a scleral wound, the eye was removed on account of sympathetic danger, which pathological examination proved to be present. At this time there were no abnormal signs in the left eye, but a fortnight after the enucleation, spots on Descemet's membrane were detected which later on increased along with other signs of sympathetic infection. After six weeks energetic treatment, however, the eye was cured and the patient was discharged with an eye possessing normal vision. These cases enforce the lesson that when an eye receives a wound involving the ciliary body, and more especially when the wound is so serious as to involve total loss of sight in the affected eye, it is dangerous to postpone enucleation even though there may be no sign, detectable by the slit lamp, of commencing in the second eye.

Further, that when an eye is retained after being blinded by a wound it is never certain, even many years after the original injury, that sympathetic trouble may not supervene as a result of a slight exiciting cause. They also illustrate the encouraging fact that when a timely enucleation of an injured eye has been performed—i.e., before there is any sign even with the slit lamp of the infection having spread to the second eye, even if that eye does later show definite signs of sympathetic cyclitis—the prognosis is far more favourable than when enucleation has been deferred until actual detection of signs of infection in the second eye.—*Lancet.*

MEDICINE AND THERAPEUTICS.

A Method for Determining the Condition of the Circulation in the Limbs of Diabetics. Starr, I., Jr., *Am. J. M. Sc.* 180 : 149, 1930.

Starr Jr. has employed a histamine skin test in order to determine the condition of the circulation in the limbs of diabetics. The test is based upon the observation of Lewis that interruption of the circulation in an extremity prevents the normal development of the skin reaction to histamine. The test is carried out in the following manner. The skin area to be tested is cleansed with alcohol which is allowed to evaporate to dryness. A drop of 1 :1000 aqueous solution of histamine acid phosphate (15 per cent chloretone is added as a preservative) is placed on the cleansed area, and the skin is pricked seven times through the drop, the pricks forming a circle about 5 mm. in diameter. The reaction consists of a wheal surrounded by a reddened area (flare) which in individuals with normal circulation appears within five minutes. The greater the degree of circulatory failure, the longer the time before this reaction makes its appearance. The patients must be placed flat upon their backs with the legs extended during the test. The areas chosen for the test were just above the knee, the upper and the lower thirds of the leg, and the dorsum of the foot. The cases were graded according to the time of appearance of the reaction as it was found that the intensity of reaction was inversely proportional to the time factor. Normally the reaction was found to be complete within five minutes (grade 1). Reactions incomplete in five minutes but complete in ten were placed in grade 2, while those incomplete in ten minutes with a normal control above the knee were placed in group 3. The failure of the reaction to make its appearance in normal time indicates impaired circulation whether from cardiac failure or disease of the peripheral vessels. Where other possible causes of poor circulation in the legs can be ruled out the histamine test is a fairly accurate index of the degree of vascular damage. In general where arteriosclerosis is present the test shows better circulation in cases with hypertension than in those with normal or low blood pressure.

In a group of 100 unselected diabetics under treatment, the response of the skin of the lower extremities to the histamine test indicated that 32 percent had normal circulation in their feet. In 34 per cent the circulation was somewhat impaired (grade 2), and in 34 per cent it was markedly impaired (grade 3).

The test proved its value chiefly in those cases where vascular damage could not be recognized by ordinary clinical tests and by x-ray of the vessels; in cases where one vessel was obliterated, as a test for collateral circulation; and as an aid in determining the proper site for amputation in cases with gangrene of the foot.—*C.M.A.J.*

Use of Calcium.—Ochsenius emphasizes the great significance of calcium therapy in pediatrics, especially in therapy of rickets. However the administration of calcium in the form of calcium water is of no particular value because in rickets the organism is not able to resorb the calcium, even if the food contains sufficient quantities of it. The retention capacity for calcium is increased by ultra-violet irradiation, by cod liver oil that contains phosphorus, and by viosterol. The author recommends the following prescription: 25 gm. of tricalcic phosphate, 0.2 gm. of phosphorus, 5 gm, of viosterol in oil, and 250 gm. of cod liver oil. Of this mixture the child should receive 1 teaspoonful twice daily. If rickets is complicated by neuropathy, spasmophilia results and tetany is either manifest or latent. In these conditions large doses of calcium are of great help, because calcium counteracts quickly the nervous excitability. The sedative effect of calcium has been demonstrated in experiments. Calcium therapy has also proved helpful in exudative diathesis, especially in weeping eczema that is accompanied by pruritus. The itching is dependent on the condition of the nervous system, and the administration of large doses of calcium (from 4 to 6 gm. daily) counteracts it. Calcium also has a drying effect on weeping ezcema. Children with asthma and those with relapsing bronchitis may likewise be treated with calcium. The author gives a case history that illustrates the efficacy of calcium in these conditions. A difficulty in calcium therapy is that the taste is unpleasant. Therefore the author recommends calcium tablets to which cocoa has been added *K. Ochsenius—Munch, Med. Woch. Munich*—9—5—1930 through *Medical World.*

Charcoal Treatment in Gynaecology. The results reported by Benthin and Geller led H. Nahmmacher (*Surg., Gynecol. and Obstet.*, through *B. M. J.*) to employ the intrauterine administration of charcoal in gynaecological cases, and he has obtained similarly favourable results: The most important quality of medicinal charcoal is its high degree of absorptive power, which it owes to its porous structure and consequent great surface energy, thus being enabled to fix other substances. In addition to this property the astringent action of charcoal is not inconsiderable. The author remarks that the preparations of charcoal employed must be of high standard; their suitability depends not on their source (animal or vegetable), but solely on the method of treatment of the charcoal. The use of charcoal, in the form of granulated pencils, is indicated in cases of infected abortion, before or after clearing out the products, according to the condition of the patient; in cases of puerperal endometritis (not before the seventh day of the puerperium). and, prophylactically, in cases of Cæsarean section after rupture of membranes. The technique of this therapy, which is very simple, is described. Nahmmacher states that the reported results of charcoal treatment are so favourable that they cannot be rejected. Its intra-uterine application is completely free from danger, the medicament is very cheap, and the period of illness is greatly shortened. The symptoms are influenced at once, and never for the worse; the body responds with an immediate improvement in the general condition and in the local process, with a fall in the temperature and pulse rate.—*Indian and Eastern Druggist.*

Gold Sodium Thiosulphate in Lupus Erythematosus. Gold salts have provided an effective method of treating lupus erythematosus. The treatment usually definitely improves the condition and often gets entirely rid of it. Gold sodium thiosulphate is the salt generally used in the United States. The initial dose is 10 mg. dissolved in 2 c.c. of sterile distilled water, given intravenously. If this is well tolerated, the second dose is 25 Mg. given from five to seven days later. After this the dose is repeated at weekly intervals. Doses up to 50 mg. may be administered and they have been as satisfactory as doses of 100 mg, Occasionally severe reactions result from the use of the drug. The drug should not be pushed when symptoms occur from it. (*Jour. A. M. A., May 24th 1930*, p. 1715.)—*Minnesota Medicine.*

Correspondence.

The following is sent to us for publication :—

DRUGS ENQUIRY COMMITTEE—AN EXPLANATION.

The Drugs Enquiry Committee recently appointed by the Govt. of India, ostensibly in pursuance of a resolution adopted by the Council of State in March 1927, but really in response to a long continued and persistent agitation, held its first sitting at Madras on the 17th October last and, on arrival at Calcutta, has examined a large number of witnesses since December 1, the opinions expressed by the Calcutta witnesses being more varied and interesting than at elsewhere in view of the wider importance of Calcutta as a trade, professional and educational centre. But the more interesting feature of the Calcutta sitting is that the committee has, apparently for the first time, been faced with adverse criticisims on its constitution, necessity and *bonafides*. In an editorial article in its issue of December 7, the *Amrita Bazar Patrika* was the first to take the offensive. This was quickly followed, on December 10, by a similar but sober indictment in a long letter from Dr. K, S. Ray, M.L.C., which purported to represent the views of the independent Indian medical profession.

Criticisms are generally very welcome and unless there is an opposition view, the public are placed at a disadvantage in respect of arriving at an unbiassed and judicious conclusion. Accordingly the *A. B. Patrika* has rendered valuable public service by presenting the dark side of the Drugs Enquiry Committee and the writer is thankful for the opportunity he has thus been afforded to explain the position as an outsider from what he knows of the subject from his experience of over 30 years. A brief rejoinder was published over his signature in the *Patrika* of December 11, and a more detailed explanation is now given below.

From the Government of India Resolution of August 1930 it appears that the only cause which led to the appointment of the Drugs Enquiry Committee was a resolution passed in the Council of State on March 9, 1927, urging the control and standardisation of medicinal drugs. There was however practically nothing in the last August Resolution as to what action was being taken by Government since 1927 and as to what had preceded the Council of State resolution. In fact, the history, as far as is known to the writer, commenced more than half a century ago when the Govern-

ment of India established several drug factories in India for the supply of pure, standardised, and locally manufactured medicines to Government hospitals, both military and civil, as also to non-government charitable institutions. In 1917 the writer first published a pamphlet on "Drugs Manufacture.—What it means", wherein he explained the highly scientific technique involved, the dangers arising from use of inferior and adulterated drugs, and the necessity for a regular training in the line. In 1919 a further pamphlet was issued, urging the need of scientific cultivation, collection, drying and marketing of indigenous Indian drugs and of local manufacture therefrom of various B.P. preparations. As supplies of crude drugs and manufactured products from outside India were then cut off by the last war, the pamphlet attracted a good deal of attention in India and abroad. Thereafter, the establishment of the Tropical School of Medicine, Calcutta, with a Pharmacological Department to undertake *inter alia* indigenous drugs research and further, the issue of duty free, and concession rate, rectified spirit added an impetus to the local manufacture of medicines. There was a competition both among local manufacturers and also with imported drugs with consequent price cutting, which encouraged unrestrained adulteration, particularly when there was no law nor trained staff in the country to control importation, preparation, and sale of Drugs except to a very limited extent exercised by the Excise and Customs Departments and, if possible, by municipal areas. This limited control did not however, concern itself with the potency and purity of drugs and the danger to which the country was consequently exposed, was so apparent that during 1919-21 the writer made use of the editoral columns of *Indian Medical Record*, Calcutta, to emphasise now and then the need for an Indian Pharmacopoeia and for Pharmaceutical training to ensure standardisation of drugs. Subsequently, as a result of his representation in 1922, the Excise Department, Bengal, issued orders in 1924, threatening the withdrawal of excise permits if the preparations made by permit holders did not conform to the standards laid down in the British Pharmacopoeia. More articles on "Pharmacy in India and need for legislation" continued to be contributed to medical and pharmaceutical journals and a draft Food and Drugs Bill was submitted to the Bengal Council in 1924. While the Bill was under consideration, the writer issued in 1926 a book on "Technical Education" in which a chapter (pages 58-97) was devoted to consideration of pharmaceutical education in India and to indigenous drugs research, cultivation and manufacture. The draft bill having meanwhile failed to receive the preliminary assent of the Governor-General in Council on technical grounds, a revised draft as a

Pharmacy and Poisons Bill for India was prepared in 1927, published in the London "Pharmaceutical Journal" and "Indian and Eastern Druggist" in 1928, along with a number of articles on the subject in both the journals from time to time during 1927-30, and eventually handed over to a member of the Legislative Assembly. Early in 1928, Colonel H. A. Gidney. I. M. S., agreed to sponsor this bill and in the meantime a sensation in respect of drug adulteration in India having been created by the "C.M. Gazette", Lahore, through a series of articles in its editorial and correspondence columns during July-October 1928 and a representation to the Government of India from the Indian Merchants Chamber, Bombay, having also been published at the same time, Col. Gidney was further armed to move on Septemper 4, 1928 an adjournment motion in the Assembly, in order to draw attention to the serious menace to public from widespread adulteration in drugs. The matter was not considered urgent at the time as the Government of India were awaiting replies to the references made to local governments in connexion with the Council of State Resolution of 1927. Colonel Gidney, however, persisted in asking questions in the Assembly while references and counter-references to and from local governments took time, provision was made in the budget and the Drugs Enquiry Committee was finally brought into being in September 1930.

Considering the technical character of the enquiry which only a trained pharmacologist and a biologist could undertake, and having regard to the necessity for claims of at least major provinces and for communal and legal interests to be represented on the committee, the Government of India could not arrive at a better decision otherwise than by selecting, as they did, the head of the premier pharmacological department at Calcutta as President with a biologist of the Haffkine Institute, Bombay, a Madras barrister, a Calcutta trade representative and a mahommedan member of the Legislative Assembly as members. Moreover, the President who is an Indian with reputed sympathies for indigenous systems of medicine, is exploring the possibilities of these medicines and is adding illuminating chapters to modern pharmacological knowledge by his brilliant researches. The mere fact Colonel Chopra belongs to the I. M. S., affords no reason to look upon the committee with suspicion and to credit it with ulterior motives until and unless the committee by its findings justifies our apprehensions. The criticisms already levelled at the committee constitute a sufficient indication of popular feeling and it is confidently hoped that the high responsibility, which the committee has shouldered and which affects the well-being of millions of India, will be discharged to the satisfaction of the people who

have their last say on the subject through their representatives at legislatures and through public press.

The press comments and the evidences already published raise several important points and some remarks thereon will not, it is hoped, be out of place here. On account of the anticipated heavy-deficits in provincial and central revenues and in view of continued financial stringency until restoration of normal conditions, any costly scheme is outside practical politics however essential it may be to provide a central board and a central laboratory for drugs control in India. On the other hand these two central ideas are practicable with an inexpensive scheme if a non-official and a self-supporting organisation on the lines of the Pharmaceutical Society of Great Britain is set up for India in accordance with the memorandum and the draft pharmacy bill submitted by the writer to the committee. This non-official organisation—call it a board, an association, or by any other name-will also do away with the I.M.S. scare apprehended underneath the committee. Besides, if no interference with *Ayurvedic* and *Unani* systems is contemplated, the intention may be clearly stated by defining a "drug" to include everything as used in and understood by the British Pharmacopœia, 1914, and its subsequent editions, alterations, and amendments thereof, for pharmacopœial work and applications. This definition will not preclude *Ayurvedic* and *Unani* authorities from co-operating with their new organisation and from assisting in compilation of an Indian Pharmacopœia graudually. Furthermore there is another point which need not be unduly pressed, This is the question of biological assay under "Therapeutic Substances Act." which applies only to a limited number of drugs, the majority requiring to be assayed, chemically, microscopically and physically The whole of this assay work is particularly the province of the pharmaceutical profession, but admittedly outside the scope of the general medical practitioner in all civilised countries and there seems to be no reason why the case should be otherwise in India. It is true that the biological assay is generally carried out by the medical profession, but the pharmaceutical curriculum in the west has been revised to include this assay too in pharmacy. The clear issue, therefore, is to introduce into India a Pharmacy Act to meet *immediate* and eventual requirements and its acceptance, on the recommendation of the Drugs Enquiry Committee, will not only justify its appointment and the expenditure incurred but the misgivings that the Committee has given rise to wil disappear. Industry will thrive and a new field for useful employment and research will be opened for Indian youths as shown concisely in the following statement :—

The proceedings of the deputation recently led by the All-India Medical Licentiates Association to the Director General of Indian Medical Services and his reply thereto are published below for the information of our readers :—

TO

THE HON'BLE MAJOR GENERAL J.W.D. MEGAW,

C.I.E., M.B., B.CH., B.A., K.H.P., I.M.S.,

DIRECTOR GENERAL,

Indian Medical Service.

Sir,

On behalf of the All-India Medical Licentiates ' Association, which represents over ten thousand medical men having registrable qualifications under the Indian Medical Degrees Act No. VII of 1916, we the members of the deputation beg to thank you most heartily for the honour you have done in receiving us here today, and we are confident that you will be pleased to give us a sympathetic hearing and mete out justice to the Medical Licentiates who form the bulwark of the medical profession in India and serve the multitude. We may be allowed to put before you the following facts for your favourable consideration :—

1. The All-India Medical Licentiates ' Association has all along laid great stress upon the necessity of having a medical council for India, nay it has more than once urged upon the authorities for the establishment of such a council in India, which should have representatives from all the classes of medical men in India, on the model of Medical Council of Registration of the United Kingdom. Late Dr. Lohokare, M.L.A., of Poona, an energetic member of our Association, took the initiative by introducing a bill in the Legislative Assembly for the creation of an India Medical Council but unfortunately due to his premature and untimely demise the said bill fell through. The question was then taken up by the Ex-President of our Association the Hon'ble Dr. U. Rama Rau of Madras who would have moved the bill in the Council of State, but as he had to resign due to unavoidable circumstances his bill was automatically suspended. Later on a bill was prepared by the Government of India but the Conference of Ministers and Heads of Medical Departments from the provinces which assembled at Simla in 1929 rejected the formation of an All-India Medical Council.

2. The representatives of Government and the Medical Faculties of Universities who met at Simla in June 1930, with a view to meet the objection raised by the General Medical Council of the United Kingdom decided to establish an All-India Medical Council at an early date, to exercise supervision on the proper maintenance of the standard and efficiency of medical education in India, but by eliminating the names of Medical Licentiates from its register and constitution a very strange and impolitic move appears to have been adopted which is likely to divide the whole medical profession in India into airtight separate compartments and nurture the seed of disunion between the important grades of medical

Statement showing concisely the position in India as regards importation, manufacture, sale, analysis and dispensing of drugs and the steps necessary to improve the situation.

Note :—B. P. means British Pharmacopœia,
Galenicals are preparations of drugs generally obtained from the vegetable and animal kingdoms, the preparations being either with alcohol or with non-alcoholic agents, such as aqua, acids, ethers, honey, syrups, oils, fats, etc.,

Imported articles.	Local manufactures	Bazaars and Dispensary stocks.	Dispensing.	Remarks.
B. P. Drugs. (*a*) Galenicals (alcoholic) (*b*) Ditto, (non-alcoholic). (*c*) Chemicals. (*d*) Crude drugs (of vegetable animal and mineral origin). *Non-B. P. Drugs.* (*e*) Biological products: (Group I. Vaccines, etc) (Group II. Organic arsenicals and antimonials) (Group III. Insulin and other gland products). (*f*) Invalid and Infant foods including cod-liver oil, condensed milk, etc., (*g*) Other proprietaries, (patent preparations).	As explained in the I. M. G, editorial in July 1929 issue, firms in India are manufacturing B. P. Drugs under (a), (b), (c), as also Non-B. P. drugs, under (e), (f) and (g). The number of these firms are increasing and it is highly desirable that, in the interests of indigenous development and of consumers, these local manufactures should be undertaken by trained and qualified staff only and that the products must be up to the required standard. Some infant industry, unless properly staffed, may be handicapped first, but will thrive by proceeding on right lines. Apart from menace to public health, irresponsible manufactures must some day come to a standstill, thereby creating a serious industrial disaster. Necessary precaution should, therefore, be taken at once.	Except in the case of firms like Messrs. Bathgate & Co., drugs obtainable from whole-sale and retail druggists, groceries and dispensaries are not generally acceptable blindly. Also it is not possible to have Bathgate & Co., all over, India, in every part of a town and in every village. The practical solution seems to lie in creating trained staff not only for manufacturing but also for undertaking chemical and biological assays and for providing necessary inspecting staff. The whole question is one of higher pharmaceutical education as in the West. This is quite distinct from medical education and is understood to be controlled by *non-official* pharmaceutical organisations in all civilised countries with minimum expenditure to the State.	Under existing rules passed compounders are required to be employed on dispensing. In practice, however, the rule, according to newspaper reports appears to be more honoured in breach than in observance. There was a time when even passed compounders were not necessary in India. It is now in the fitness of things to abolish compounders gradually and to introduce higher pharmaceutical education as in Europe and America, creating qualified pharmaceutical chemists for dispensing as well as for the work mentioned in columns (2) and (3). This will give rise to an *independent* profession to carry on (1) pharmaceutical, (2) public health, (3) Scientific agricultural and (4) rural medical work, relieving a good deal of middle class unemployment initiating a new line of work of very high social and economic value at a nominal cost to Government.	The proposed legislation will less be restricted to drugs of "V Medicine," i. e., of British P copœia and of similar other W Pharmacopœias (American, German, etc.,) This pharma drugs are those mentioned un (b), (c) and (d) in coloumn 1 non-B. P. drugs under (e), (f) generally those of "Extra P copœia." The "Therapeutic Substance recommended by the I. M. G cle is to apply to non-B. P. under (e), which are of recent this act having been introduc England only in 1925, whi majority of B. P. drugs under ((c) and (d), also most of the n drugs under (f) and (g) will h be dealt with chemically, phy microscopically and bacteriolo for which a Pharmacy and Act seems suitable. Only drugs under (a), namely, ergo alis, strophanthus, require to sayed biologically under th *apeutic Substances Act*. In circumstances and further in the importance of pharmaceuti cation both in peace and in Pharmacy and Poisons Act, wh been in force in England for years seems preferable in Indi The I. M. G, writes that "d nation of the real quality or g ness of drugs on the market is the scope of the general practitioner; he looks to St guidance and protection." Eve connected with this *determ* also with manufacture, sale a pensing of drugs, belongs to t macæutical profession. The tional curriculum of this prof a special one and does not within the scope of Indian Un science courses. The whole s a public health measure and matter in which India, accor I. M. G., is far behind all oth tries. For these reasons, a all other points of view, as de coloumns 1, 2, 3, & 4. the cre India, at practically no Government, of the pharma profession by special leg namely, Pharmacy Act, is called for. More information subject is furnished in cha "Drugs Manufacture. W means." "Indigenous Indian and "Chemical Industries" in "New Chemical Ind (Butterworth), in pages 5 "Technical Education" (Tha in the pamphlet just issued on Education" (Part II)—Indust pharmaceutical Education.

men in India, i.e., graduates of different colleges and Licentiates of Medical Schools. This decision of the Official Conference for excluding the Licentiates from the Indian Medical Register has naturally but rightfully perturbed them, and raised a storm of alarm and discontent and created an inopportune and unnecessary agitation as is apparent from the protest meetings held in 80 branches of the Association all over India and Burma and in other district towns wherever a few Licentiates could meet.

3. We may further be permitted to bring to your notice that the British Medical Register, on analogy of which the Indian Medical Register will be compiled, makes no distinction between Graduates and Licentiates and even the Licentiates of the Society of Apothecaries. London, are being admitted therein and are also eligible for appearing at the various competitive examinations.

4. Medical Licentiates, the back-bone of the medical profession in this country, form the largest body of qualified medical men in India whose names stand on all the provincial Medical registers and who undergo regular training in recognised medical schools after passing the Matriculation (School Leaving Certificate) or higher examinations in India and who have now in the Bombay Presidency to undergo, a five years' course as was the case with the old Licentiates in medicine and surgery who were admitted to the Grant Medical College, Bombay, after passing the Matriculation Examination, are being excluded from the constitution of the proposed Indian Medical Council. To dub such a council an "All-India Council" is nothing but a misnomer.

5. The highest authorities in India have testified a number of times about the ability and scientific work turned out by the Medical Licentiates in India. To cite an example we may mention here the Himalayan record of scientific work performed in Eye-Surgery by a Medical Licentiate, Rai Bahadur Dr. Mathra Dass of Moga fame who has beaten the world record. The valuable services rendered by the Medical Licentiates during peace and war and during epidemics are so well known to you that they need no repetition from us on the present occasion. It is only the Medical Licentiates who are torch bearers of the allopathic system of treatment and who have been popularising the scientific system of treatment and carrying the medical relief to the very door of the patients in both urban and rural areas. It is a great pity that such a large body of medical men who are the pioneers of western method of treatment in India are being eliminated altogether from the council which assumes an All-India name, and it is not only in the interest of the Medical Licentiates but of the country at large that the council should guard the interests and keep under its vigil all qualified medical men practising throughout India and Burma.

We have therefore on behalf of the All-India Medical Licentiates' Association, to request that if an All-India Medical Council is to be formed in the real sense of the word, it should be empowered to lay down the minimum standard of medical education for Medical Schools also, and it should enrol on its register and take on its constitution, Medical Licentiates as well, as is the case with the General Council of medical education and registration of the United Kingdom and thus the causes of discontent

prevailing amongst a very important section of medical men in this country regarding the most unjust exclusion of Licentiates from the operation of the proposed Council be removed, and we may further be allowed to appeal to the Government to be pleased to rise up equal to the occasion and show their sincere appreciation and sympathy for the products of the Medical Schools who have rendered ungrudging services to the Government and to the people of the land in normal and abnormal times under trying circumstances, and also have contributed no small measure of help for the rapid growth and stability of western system of medicine in India.

We have the honour to be,
Sir,
Your most obedient servants,

DELHI,
Dated, 19th February, 1931.

KHASAN CHAND, M.P.L., L.M.F., RAI SAHIB,
Vice President.
RAM NARAIN LALL, L.M.P., RAI SAHIB,
General Secretary.
AMULYA DHAN MUKERJI, L.M.P.,
Editor, Indian Medical Journal, Calcutta.
GIAN CHAND, M.P.L.,
HARI RAM, M.P.L., RAI BAHADUR,
Members of the Standing Committee of the All India Medical Licentiates' Association.

The Hon'ble Major General J. W. D. Megaw's reply.

First let me welcome this deputation of the All-India Medical Licentiates' Association. I am particularly glad to have an opportunity of having a frank discussion with you with regard to the various matters which you have brought before me. I am speaking to you in my personal capacity, and I hope you will not regard me as giving you an authoritative statement of the policy of the Government of India. Like you I consider that it is desirable to work for the unification of the medical profession in India, and you may rest assured that any advice that I may give to Government will be directed towards the final achievement of this object. Sometimes, however, it is desirable to hasten slowly, and I think that the formation of a unified All India Medical Register will be more likely to be effected by taking one step at a time rather than by attempting to reach the goal by a single leap. If we were to attempt at this stage to form a Register, which would include all classes of the medical profession—both graduates and licentiates, the only result would probably be that we should fail to secure international recognition of our Indian degrees, whereas if we begin by securing the recognition of the university degrees and then raise the standards of school medical education to the same level we may hope eventually to secure the desired unification of the medical profession. Even if we ignore for the moment the international aspect of the question, there is likely to be a very strong opposition in India to the immediate formation of a single All India Medical Register. The action which Government proposes to take in forming a register of the university graduates is not likely to have any harmful effect on the licentiates as their position in India will remain exactly the same as before. The object of the All India Register is not in any way to upset existing arrangements, but merely to secure recognition of Indian degrees by the G.M.C. and other foreign bodies. I am sure that you would not desire to interfere with the achievement of that object especially as by doing so you would damage yourselves in the long run.

You are probably aware that the committee, which was appointed to consider question of medical education in Madras, over which I presided, about 18 months ago, made certain recommendatious which. if carried out, will constitute an important step towards raising the status of the licentiates in that province. The committee recommended that the minimum course of instruction should be of five years and that the standard of qualification should be raised as soon as possible with a view to attaining the ideal of a uniform high standard of training with a single high minimum standard of qualification. It also recommended raising the standard of preliminary education and limitation of the number of students so as to prevent the evils of overcrowding in the profession and lowering of the professional and ethical status of medical men. Another important recommendation was that those holders of the diplomas who possess the minimum educational qualifications which are prescribed for admission to the Medical Colleges. should be eligible for recruitment to Government service on the same terms as the University graduates. It is by raising the standards of education and examination in the medical schools that a real improvement will be brought about in the status of the diploma holders rather than by the purely artificial means of placing them on the same Register as University graduates.

I freely recognise the hardship which is caused to diploma holders in India by placing serious obstacles in the way of their admission to the University medical examinations in India, whereas it is possible for them by taking much shorter courses of further study in England to secure registrable qualifications. You mnst realize, however, that it is not practicable for Government to interfere in the internal affairs of the Indian Universities and your proper line of action is to bring pressure to bear on the Universities to relieve you of this disability.

I fully realize the ability and the value of the scientific work which has been turned out by many of the medical licentiates in India, and my recognition of the worth of the licentiates has been no mere "lip service." I have always insisted on their being judged by the quality of the work which they have done rather than by any artificial standards of academic qualifications. As an example of this I may mention that I fought and won the battle of the licentiates in connection with their admission to the course for the diploma of the Calcutta School of Tropical Medicine, and you may be aware that some of the Assistant Professors in that School, as well as some of the research workers have been chosen from the ranks of the licentiates. In the various departments of medical research especially in the I. R. F. A. there are large numbers of licentiates. I think you have

no cause for complaint on the ground that their valuable work has failed to secure recognition.

So far as I can see it is likely that the All India Medical Council Bill will be so framed that there will be nothing to prevent the inclusion of medical licentiates on the Register when once their standards of education and examination have been raised to such an extent as to justify their claim to recognition on equal terms with the University graduates and the diploma holders of other countries. Of course you must recognize at the same time that the increase in the duration of the medical course, and the raising of standards of preliminary education, as well as of training and examination, must involve a considerable addition to the cost of the medical course. There will therefore be some hardship on the part of some of the poorer students, who will find it increasingly difficult to secure admission to medical schools. think my record during my thirty years in India has proved me to be a real friend of the medical licentiates of India : for this reason I claim that I have earned the right to speak to you as I would to my own brothers. My advice then is, concentrate all your efforts on raising the status of the licentiates in every respect. Do not rest satisfied with a mere imitation for the University standards but aim at something which will be recognized as being sounder and more practical. When you have succeeded in this the recognition for the licenses will follow as a matter of course.

Book Reviews

Report on the Prevention of blindness. Published by The League of Red Cross Societies and the International Association for the Prevention of Blindness, 1929.

The progress of preventive medicine is continually receiving fresh and powerful impetus. It is thanks to preventive medicine that typhus does not spread from one infected country to an entire continent. It is to this science that the doctor owes a predominating position in the work of colonization, and it is his specific duty to protect natives against such diseases as tuberculosis, unknown to them in their uncivilized state, and the colonists aginst the deadly effects of a tropical climate. In countries which have attained a high standard of culture, preventive medicine is a safeguard against the ravages of small-pox, diphtheria, typhoid, purulent ophthalmia, and, perhaps in the near future, against tuberculosis. Its field of action is constantly expanding.

THE ANTISEPTIC—AS OTHERS SEE IT.

J. Dhar Ray, B. Sc., M. B. Asst. Radiologist, Chittarangan Seva Sadan, Calcutta :—Your Antiseptic has really filled a great want in the field of well conducted medical Journalism in India-Especially in S. India. You are doing immense service to your profession & the country through your Journal. I wish your Journal a happy span of useful life.

Dr. Ernest F. Neave M.D., F.R.C.S., (Edin.) Mission Hospital, Kashmir :—I complement you on the enterprise and skill which have started and carried on so successfully what is undoubtedly the most important monthly medical Journal in India. I feel sure that it will be increasingly useful.

Dr. R. N. Chatterjee, M.B. House Physician, Medical College Hospital, Calcutta :— * * * Its perusal always aroused in me a feeling of admiration for the well chosen articles.

Dr. H. T. Incc, Supt., Wellesley Sanatorium, Bellary Cant.—I have always found the Antiseptic very interesting.

Dr. P. V. Gharpure M.D., (Bom.) D.T.V. & H. (Eng.) Bombay : I have always been very glad to read it as it contains much useful scientific as well as general professional informations.

Dr. B. L. Sircar M.B., D.P.H.—I value your Journal.

Dr. E. R. Shetti M. O. in charge of Henderson Eye Ins., Bijapur :—Kindly send me your excellent Magazine every month.

To-day, public attention is being drawn to the problem of blindness. How can human eyesight be saved? It is a matter of common knowledge, but one to which too little thought is given, that there is a belt of countries encircling the world in which the inhabitants are either threatened with blindness or suffering from grave forms of ocular disease: the whole of Northern Africa, including Morocco, Algeria, Tunis and Egypt, the vast expanse of India and the alternately sparsely and densely populated territory of the Chinese Republic are included in this belt. These fascinating names, which conjure up in our minds an orgy of dazzling light and enchanting colour, have a gloomy background for thousands of human beings. In Western Europe, the leading industrial countries which are now almost immune from certain diseases as a result of the progress made in preventive medicine, have noted a marked increase in the number of accidents resulting in eye injuries. An American opbthalmologist was no doubt thinking of these countries when he declared that "external injury constitutes the most important cause of blindness through the greater part of life." Among this multitude of unfortunate human beings who have either lost their sight or are threatened with blindness, there are some who could recover their sight if given suitable treatment, there are a far greater number who could be saved from impending blindness. How can this be achieved? This question is answered in the extremely interesting report published by the International Association for the Prevention of Blindness This document gives figures showing the deplorable amount of blindness in the world and its geographical distribution: in round figures, the blind population of the different countries is given as follows: 500,000 in China, 1,500,000 in India, 76,000 in the United States, 53,000 in Great Britain, 36,000 in Germany, etc. It has been estimated that 95 per cent. of the native population of Egypt suffer from trachoma, while 90 per cent. of the school children in Southern Tunis are afflicted with this disease. Up to the present, the vastness of this problem has been a deterrent to initiative. Setting aside these figures, there can be no doubt that the problem of blindness is far from being insoluble; in the mojority of cases blindness is caused by avoidable accident or common forms of disease against which we are powerfully protected: small-pox, trachoma, purulent ophthalmia, etc. Too great insistence cannot be laid on the assertion that blindess can be prevented in the great majority of instances. The preventive measures now known to medical science give effective results almost immediately. Thanks to a campaign of intelligent propaganda, these measures are welcomed by the population. It was these considerations which led a group of

ophthalmologists from all parts of the world, who met at Scheveningen on the occasion of the XIIIth International Ophthalmological Congress to constitute an International Association for the Prevention of Blindness; 28 countries, the League of Nations, the the League of Red Cross Societies. nine national Red Cross Societies and the American Association for the Prevention of Blindness were represented at the Constitutive Assembly at Scheveningen. This new-comer to the list of international organizations was therefore brought into the world in the presence of the most eminent sponsors. May the unanimous approval of its constitution be a good omen for its future activities, inaugurated under such hopeful and promising conditions.

H. H. or the Pathology of Princes.--By Kanyalal Gauha, Published by the Times Publishing Co., Lahore. Rs. 7-8.

This book is a strange and horrible revelation of the internal administration of the native states of India and is a welcome and opportune publication, especially when it is seriously proposed that British India should enter into a federation with the Princes and Rajahs in the future constitution of the country now in the making. The author has taken care to quote chapter and verse to substantiate his indictments against the ruling chiefs and suggests a thorough cleansing of the Augean stables before any attempt at federation is made. As the author in his preface says 'This book is neither a vendetta nor a sermon. It is merely a study in pathology, an effort at diagnosis'. The diagnosis in this case has been clearly and correctly made out and that is, that the Princes and Rajahs of the land with a few honourable exceptions, no doubt, are suffering from a terrible malady which in medical parlance is termed 'Psychopathia sexualis'. The people of British India owe a deep debt of gratitude to the author of 'Uncle Sham' for his bold and fearless exposure of the vices of the native states and if the disclosures are as stated in this volume, they must only look to Heavens and exclaim in despair 'Oh! God! Save us from our friends'.

After Consulting Hours.—By Christopher Howard, M.R.C.S. L.R.C.P. 204 pages 1930. William Heinamann (Medical Books) Ltd. London Price 7-6 net.

This book contains a medical man's reflections after consulting hours are over, on his patients, their various idiosyncracies, the latest ideas in medical service, including such subjects as high blood pressure, endocrine glands, vitamins, ultra violet rays, alcoholics, patent foods, cancer, appendicitis, constipation etc. It

is pleasantly written and is of interest to both the layman and the doctor.—*U. K. R.*

The Treatment of Chronic Arthritis.—By A. H. Douthwaite M.D. (Lond.) F.R.C.P.—127 pages—Modern Treatment series—Jonathan Cape. Bedford Square, London (Butterworth & Co. Calcutta, Price Rs. 3-12-0.

This work deals with the Rheumatoid osteo—arthritic, infective and gouty forms of joint disease. The pathology and clinical features of each disease are clearly discussed in separate chapters and special attention is drawn to the various fundamental abnormalities for which treatment must be instituted. The subject of Rheumatoid arthritis receives special attention and the chapter on the theories of causation of Rhumatoid arthritis is specially interesting. The chapters on treatment are also very clearly and exhaustively written. They contain a detailed account of dietetic, medicinal, orthopoedic and spa therapy not only in relation to the particular malady under discussion, but also, when indicated with reference to the actual stage at which the disease is met. This is a special feature and will greatly help in the rational treatment of diseases. The author has successfully reviewed a difficult subject and has placed before the practitioner the latest and accepted views on the subject.—*U. K. R.*

Manual of Physical and Clinical Diagnosis. By Otto Seifert and Friedrich Mueller. Translated from the 24th German edition. By E. Cowles Andras. 1930, Pp. 543 illustrated. Published by J. B. Lippincott Company, Philadelphia.

In spite of the smallness of the book, many essential facts have been given in a descriptive style. All ordinary methods, that are commonly used, of both physical and laboratory diagnosis are considered together in a clear manner. Many of the practical details that are necessary for diagnosing common maladies are vividly given.

The value and usefulness of X. Rays and electrocardio grammes etc, in general practice are clearly explained. The chapter on nervous system is vividly written, and will amply repay any reader. This is a book that will be found very useful by practising physicians and medical Students.—*V.C.S.*

Modern Skin Therapy. By H. D. Haldin Davis, M. D., F. R. C. S., M. R. C. P. 1930. Pp. 128. Price Sh. 5 net. Published by Jonathan Cape. Ltd., London.

Many of the modern and useful methods of treatment of Ski diseases are given in this book. The great advances made in the

skin therapy of recent years have all been well introduced; and chapters on the use and value of diathermy, actino therapy including Radium, in skin affections are instructive and well written.

In this volume the practitioners will find all the latest and most uptodate methods of treating skin affections.—*V.C.S.*

Clinical Chemistry in Practical Medicine.—By C. P. Stewart, M. Sc., P.H.D., (Edin). and D. M. Dunlop, B.A., (oxn) M.D., M.R. C. P., 1930. P.p. IX+246. Edinburgh: E. & S. Livingston. (Sole Agents for India Butterworth Co.. (India) Ltd.,) Price Rs. 5/10.

Need it be said that the value of biochemical examinations as an aid to diagnosis of diseases has been realised by many of late. A correct interpretation of the results is essential to form a correct diagnosis.

The value of biochemical investigations, the importance of correlating the results obtained from the laboratory with the clinical picture at the bedside are well stressed by the authors in their introduction to this book. The succeeding chapter deals exhaustively with the collection of samples for biochemical investigations, which will be found very useful by all the practitioners and students.

Estimation of Basal metabolism is very clearly written.

Mechanism of Neutrality regulation, glycosuria, Albuminurea, and tests for renal function, examination of stomach contents, tests for Pancreatic function. hepatic function, the cerebro-spinal fluid, chemical tests in pregnancy, Blood calcium, are all treated in quite a clear manner, so as to enable any physician to understand, scientifically. Normal and abnormal compositions of Human blood and urine are separately given in the appendices.

It is an excellent book and we feel quite certain, will prove of immense value to all medical practitioners.—*V. C. S.*

Aids to Histology.—By Alexdander Goodall. M. D. F. R. C.P. (Edin). 1930, 3rd edition: Price 3/6, London: Baillere, Tindall Cox.

The third edition of this little book has undergone a thorough revision, and portions have been rewritten wherever found necessary. New work, especially on cell structure, and new methods have led to considerable additions. We are sure the book will continue to give satisfaction to students. *Ed. A.*

Burns. The types, pathology and management. By George T. Pack, B.S. M.D. and A Hobson Davis, B. S. M. D. P. P. 364,

with 60 illustrations. Published by J. B. Lippincott Company. Philadelphia London Price 6.00.

The book is divided into three parts. The first part deals with the fundamental facts concerning Burns and Scalds, which includes, history, etiology and incidence of thermal burns, classification, local change, changes in blood, poisons produced in burns and scalds complication, prognosis and causes of death.

Part two contains the management of thermal burns containing sections on, prevention of burns and scalds. immediate treatment and systemic therapy. Management of minor burns of the 1st and 2nd degree is well written. A few pages are devoted for discussing the use and abuse of wet dressings. Various types of treatment are fully discussed which includes, water bath treatment, light occlusive dressings, oils, ointments, epluchage of severe cutaneons burns, care of granulation tissue etc.

In the third part are discussed the regional burns and burns by specific agents namely X. Rays, electricity Radium etc.

This is an exhaustive work on Burns and contains all methods of treatment with a good and sound discussion of the value of each.

We confidently recommed it to all our readers. *V.C.S.*

REVIEW OF ANNUAL REPORTS OF HOSPITALS, &c.

We have received a copy of the Annual Clinical Report of the Raja Sir Ramaswamy Mudaliar's Lying-in-Hospital for the year 1929. It shows a year of good progress, with 2004 deliveries for the year, under the able management of its Resident Medical officer Dr. P. Venkatgiri., M. D., C. M. and his assistant Dr. R. S. Sivaramakrishna Iyer. It is gratifying to see that the maternal and fœtal mortality is much less and puerperal septic cases far fewer, when taking into consideration the large number of deliveries and the institution as a teaching one. It is mainly due to the expectant treatment carried out in the practice of this hospital with interference only when absolutely necessary. To give some of the figures, 987 were natural deliveries with only 1 mortality, 41 tedious labour with no artificial assistance and no mortality, and 114 laborious labour with artificial assistance and 5 deaths. Out of a total of 59 cases of hæmorrhage (accidental placenta praevia and Post partum) there are only 6 deaths. 186 were peurperal sepsis cases with 7 deaths, out of which many have been infected outside by barber midwifes and careless interference. In the end, we have to congratulate the Corporation of Madras for maintaining such a useful hospital in a thickly populated part of the town for the convenience of all. (K.L,R.).

Books Received.

The following books have been received and the courtesy of the publishers in sending them is acknowledged. Reviews will be published from time to time.—[*Ed. A.*]

Aids to Dispensing, R. A. M. Corps.—By G. Ashton, Published by Messrs. Gale & Polden Ltd., Aldershot. Price 6/6 nett.

Bacterial Metabolism.—By Marjory Stephenson. Published by Messrs. Longman's Green & Co., 39, Paternoster Row, London, E. C. 4. Price 18/- nett.

Nursing.—By Miss. M. S. Cochrane. Published by Messrs. Geoffrey Bles, 22. Suffolk St., Pall Mall S. W. 1. Price 3/6 nett.

Birth Control on Trial.—By Lella Secor Florence. Published by Messrs. George Allen & Unwin Ltd., 40 Museum Street, London. Price 5/- nett.

Angina Pectoris, 2nd Ed.—By Harlow Brooks. Published by Messrs. A. C. Black Ltd., 4, 5, 6, Soho St., London. Price 6/- nett.

The Treatment of Diabetes mellitus, 3rd Ed.—By William David Sansum. Published by Messrs. A. C. Black Ltd., 4, 5, 6, Soho St., London. Price 6/- nett.

Lipreading.—By Irene R. Ewing. Published by Manchester University Press, 23, Line Grove, Oxford Road, Manchester. Price 3/6. nett.

The students hand-book of Surgical operations, 5th Ed.—By Sir Frederick Treves and Cecil P. G. Wakeley. Published by Messrs. Cassell & Co., Ltd., London E. C. 4. Price 10/6. nett.

Mother craft.—By Leslie George Housden. Published by Messrs. Herbert Jenkins Ltd., 3, York St. James, London, S. W. 1. Price 2/6 nett.

The Treatment of Children Diseases.—By Dr. F. Lust. Published by Messrs. J. B. Lippincott Co., 16, John Street, Adelpi Price 30/- nett.

State Board questions and answers for Nurses 6th Ed.—By John A. Foote. Published by Messrs. J. B. Lippincott & Co., Ltd. Price 15/- nett.

Oxidation-reduction potentials.—By L. Michælis. Published by Messrs. J. B. Lippincott Co. Price 2/6 nett.

Preparations and Inventions

"V2A" Brand Rustless steel surgical Instruments. Manufactured by Messrs. Krupp of Essen, Germany (Distributor in India. Bombay Surgical Co., Bombay):

The well-known firm of Messrs. Krupp of Essen, Germany have successfully placed in the market quite recently "V2A" rustless steel having a high content of about 18-20 % chromium and a medium content of nickel.

This "V2A" brand of steel is recommended as being insensitive to gases and vapours at high temperatures and showing a minimum of wear and tear. The truly remarkable properties of this new brand of steel render it highly suitable for the manufacture of Surgical instruments, which are used every day not only by the Surgeon, but also the Eye, throat, nose and ear specialist, as well as the general practitioner.

The following are amongst the instruments now obtainable in 'V2A' quality, scalpels, bistouries, knives, scissors, lancets, forceps spatulas, curettes, injection needles, etc., and they are not in the least affected by boiling in the usual bactericidal media, and even in nitric acid, a point of the highest importance for every medical man.

It may be mentioned that certain instruments made of 'V2A' steel are superior to the gold article, also in respect of lightness and strength, 'V2A' steel has tensile strength of 51 tons per square inch, as against 27 tons per square inch for gold, while the physical properties of 'V2A' alloy at ordinary temperatures are as given below :—

Yield point.....tons per square inch,	24.
Tensile strength.....tons per square inch,	51.
Elongation.....per cent.	46.
Impact resistance (Charpy) Kg-M. per square cm.	25

Medical men evince a great interest now in these instruments

KAL—DERMIC.

"Ideal for Derma-Closure"

Messrs. Davis and Geck, Inc., the makers of the well-known D. and G. Sutures announce a new Suture-Kal-dermic, an ideal suture for skin and tension work. The need for such a product has long been recognized and Kal-dermic is offered as the result of exhaustive experimental work by the manufacturers. They are

non-capilliary and are unusually flexible, besides being strong, resistant to tissue fluids, non-irritating and uniform in size. Their distinctive blue colour is stable, making the Sutures readily discernable in the tissues. Kal-dermic is sterilized by heat, and are unaffected by age, climate or light. The exterior of the tubes may be sterilized either by boiling or by the use of any active germicidal solution.

Kal-dermic skin and tension sutures are manufactured in different varieties and sizes, and both with and without needles. Particulars may be had from the distributors, Bombay Surgical Company, New Charni Road, Bombay.

INCRETONE.

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Vol. XXVIII. No. 4.

APRIL, 1931.

The Antiseptic

A Monthly Medical Journal

EDITED BY

Dr. U. RAMA RAU & U. KRISHNA RAU, M.B., B.S.

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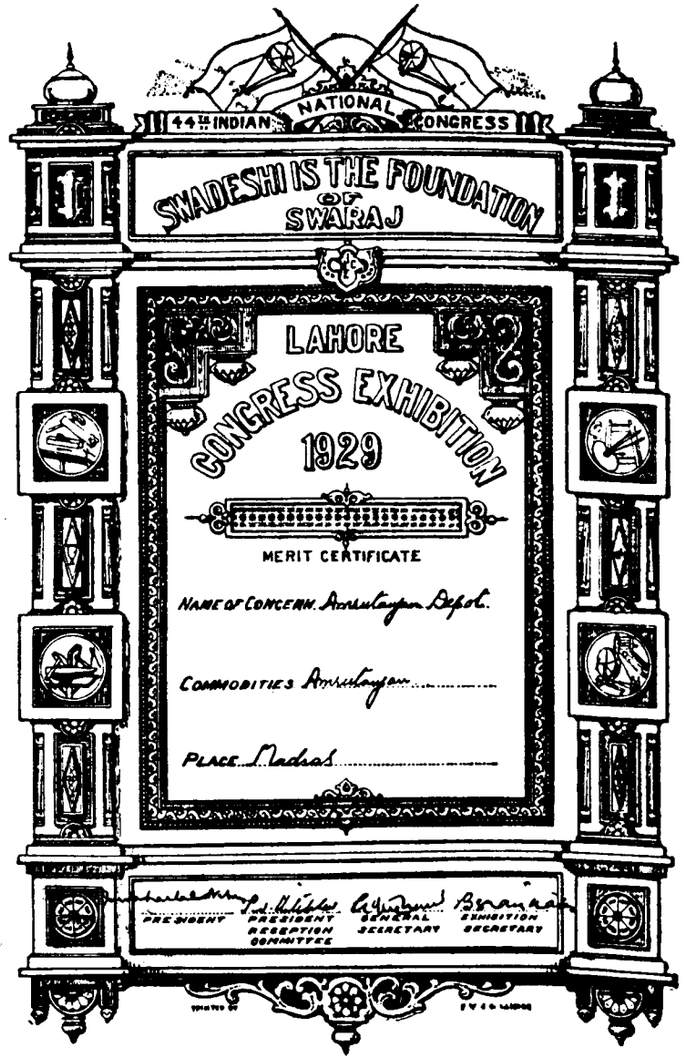

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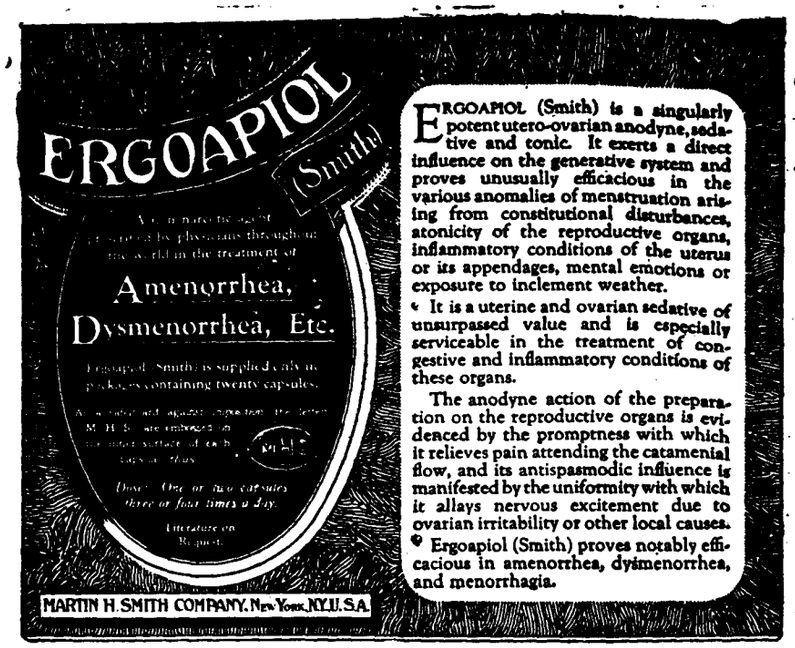

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Original articles

THE THERAPEUTIC USES OF TIN*

BY

DR. EDWARD PODOLSKY M. D.

Clinical Assistant in Cardiology, Cumberland Hospital Brooklyn, N.Y.

Among the chemical elements which have of late years occupied the attention of pharmacologists and practical clinicians as a possibility in the treatment of disease has been tin. Its beneficial effects on the human organism was discovered in quite an accidental way, as have so many of the other medicinal compounds now in common use. It was noted, many years ago, that workers in factories where tin was used were free of skin affections, particularly those in which the staphylococcus was the causative factor, while other people in similar circumstances of life, but not in daily contact with tin, were afflicted with skin lesions. This casual observation led to further study, and it was noted by Gregoire and Foiun in particular, that tin inhibited the growth of staphylococci *in vitro*.

That tin is not poisonous has been shown by the fact of its being used in the packing of food stuffs and in the lining of cans,

* Specially contributed to the Antiseptic

pots and drinking vessels. It does not form soluble tin combinations. Precaution is however indicated with strongly tart food stuffs, especially with those which might form tartrate or malate of tin.

Internally the administration of tin in any form had not been undertaken until Pateuko gave dogs, in a series of experiments, 0·2 gm. of tin daily for six weeks without observing any untoward effects. These investigations went on and Dommers recommended tin in the treatment of tapeworm in which he found from personal observation in many patients that the results produced were truly remarkable.

Further bacteriological research in connection with the bactericidal activity of tin and its preparations showed that the protochloride, iodide, oxide or metallic tin added to bouillon diminished the abundance of anaerobic cultures. In bouillon containing 1% of lactose, maltose, glucose or levulose very little difference was seen in the development of organisms in anaerobic culture but in all cases the virulence of the staphylococcus was decreased. Experiments carried on somewhat later showed that animals inoculated with cultures made in the presence of tin lived from four to eight days longer than controls. The therapeutic effect of salts of tin injected twelve hours after inoculation with a virulent staphylococcus was very evident. The treated animals lived from three to six days longer than the controls.

That field in which the use of tin has been most extensive and in which the best results have been obtained is that of dermatology, particularly in cases of furunculosis, abscesses and other staphylococcal affections. There are various modes of administering tin and its compounds for therapeutic effects. It may be given internally, as French physicians have recently been giving colloidal tin internally and intramuscularly. It may be used in the form of a lotion or a salve. It is best used internally in some form or other with the application at the same time of a tin salve locally to the lesion.

The tin most suitable for internal administration must be free from lead and arsenic, the metals most often found in association with tin. It is usually a mixture of metallic tin and the oxide of tin. In cases of skin boils the usual dosage is from. 5 to I gram daily, and no dietary restriction or modification is necessary Local applications of tin ointment may be made. At the end of the second day the pain is usually found to be diminished and the inflammation disappears in from four to five days. In serious cases of generalized furunculosis treatment for fifteen days is necessary for a complete resorption of the furuncles.

In childhood one of the most frequent affections is styes. With tin the effects on styes in children and even in infants has been found to be most satisfactory. The single doses varied from, ·22 to ·44 gm. of tin. For best results it has been found that treatment should be instituted when the first reddening and swelling of the lids appear. In the majority of cases, the lid becomes perfectly normal in two or three days. More advanced styes usually dry up without perforating. Tin medication in styes should be continued for three or four weeks, because the styes recur if this is not done.

Up till now the chief therapeutic indications for tin, as has been mentioned before, has been in skin lesions, particularly those in which the staphylococcus was the etiological factor. Research is constantly going on at the present time in an endeavour to discover other distempers in which this element may exercise its beneficial properties. Not only has tin become a topic of interest among clinicians, but others of the primary elements are being viewed as therapeutic possibilities. Thus lead has now been used for quite a few years in the treatment of certain forms of cancer, chorionepithilioma, in particular. Iron is an element whose worth in treatment is very high; titanium, in the form of an oleate has been tried in cancer by English investigators.

There is but little doubt that if careful investigation is made of the therapeutic possibilities of others of the chemical elements which are not now used in medicine, some interesting discoveries will be made. In many instances more gratifying results have been obtained with simpler agents than with expensive and complicated compounds.

Among some of these simple elements which have been serving with undoubted efficacy in the field of therapeutics have been magnesium as an analgesic and antipyretic, mercury and arsenic as specifics in syphilis, gold in skin tuberculosis, silver in gonorrhoea, and many, many others which time and space will not permit to enumerate at the present time.

A NOTE ON COLOURING THE MUSEUM SPECIMENS.*

BY

DR. N. S. SAHASRABUDHE, M.S.,

Lecturer in Anatomy, R. M. School, Nagpur, C. P.

The following method is very simple and economic. The technic differs with dry and wet specimens.

I. *Dry Specimens* (*Bones, Artificial joints etc.*)—Ordinary enamel colours are the best. They are mixed with sufficient quantity of Turpentine to make them thin—almost like ordinary ink. With a brush areas (attachment of muscles) are painted. Over such an area names (in a different colour) are put with a fine brush (Fig. 1). This requires a little practice. Over the bare

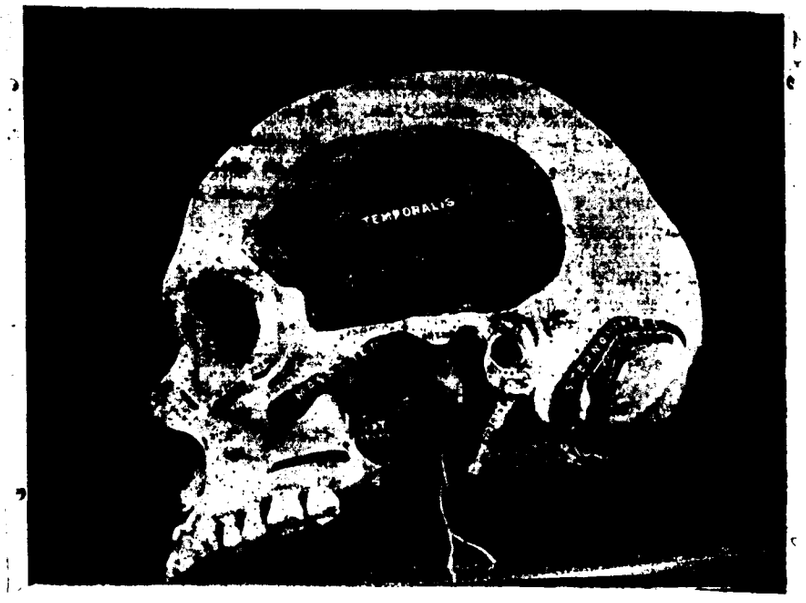

Fig. 1.

bone lines (e.g., attachment of an articular capsule or an epiphyseal line) are drawn or names written with an ordinary steel pen (Magnum bonum or the bow-pen is the best). The pen is not to be dipped into the colour but it should be deposited on the dorsum of the pen with a brush. The bone should be kept well protected from flies, cochroaches, dust etc. The colour dries up thoroughly within 48 hours. The bone then can be kept in the museum in proper mounting (Fig. 1).

* Specially contributed to the Antiseptic

II. *Wet Specimens.*—The specimen, when ready for the Museum is to be coloured, in other words colouring is the last process in the preparation of a Museum Specimen. This is effected in two ways. In some specimens the first gives a good appearance while in others the second.

(*a*) Ordinary Oil Colours (used for oil-paintings by Artists) are used. They are mixed with turpentine and thus made thin for use. The whole colouring is to be done with a brush. Dry the surface of the specimen with dry old cloth and later if possible expose the surface to an electric fan to render it sufficiently dry to enable it to take the colour quickly and easily. With a brush give the desired colour or paint the names. Wait for about 15 to 30 minutes and then immerse the specimen in the jar. It is now ready for museum, (Fig. 2).

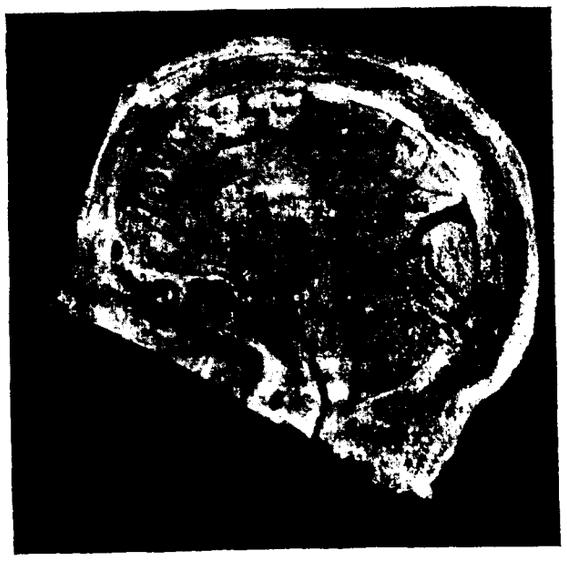

Fig. 2.

Immediate immersion in the preservative does not do any harm and has to be resorted to in these cases where drying changes the colour of the specimen, e.g., Brain sections.

(*b*) Old thin celluloid films (as used in X'ray Department) should be cleaned with hot water, washed with soap and water and dried; quite transparent ones should be chosen for use. Use colours as in II-A and write on it with a steel pen. Allow them to dry.

Cut off the strips as required. Bore holes at the ends of the strips. Fix them on the specimen with glass pins. (Fig. 3).

Fig. 3.

Glass pins are easily prepared out of capillary tubing. Draw out a capillary tube and cut off in a way that the end is sufficiently pointed. Take off a piece ½ to 1 in length. Turn the other and at right angles with a forceps. The pen is ready for use.

N. B.—Painting the back side of the jar with white or black enamel paint improves the appearance of the specimen.

SPRUE*

BY

DR. S. SUBRAMANYAM, M.B. & B.S.,

Karaikudy.

My knowledge of this disease is entirely confined to Chettinad which is the wealthiest portion of Ramnad District, nay even of the whole of the Madras Presidency. The area comprising Chettinad is a dry one with no good water supply, in fact drinking water is obtained from wells and small storage tanks from the villages, the water itself containing many suspended and other impurities and also, I think, a large amount of calcium in it. From the medical

*Read before one of the monthly meetings of Chettinad Medical Association and specially sent to the Antiseptic for publication.

man's point of view there are only two castes, one the rich Nagarathars who are bankers by profession and who spend most of their life in Burma and F. M. S., and the other caste their dependents either as their domestic servants or clerks or otherwise attached to their service. Practically speaking there is little of agricultural population as most of the area is a dry waste.

Sprue is a disease common in Chettinad with a high mortality incidence and common (only) amongst one community more than all others and that is the wealthy classes—the Nagarathars. It is characterised by general wasting, severe Anaemia, Glossitis and severe Diarrhoea. Practically almost all the villages in Chettinad have contributed cases to my series so much so one can safely conclude that so far as Chettinad is concerned it is an endemic disease. Amongst the wealthy classes it affects the males and females roughly in equal proportion though the former spend on a good part of their lives in Burma and F. M. S. leaving their wives at home in Chettinad. Whatever might be the cause of this disease, it is equally to be found in Chettinad as well as in Burma and F. M. S. The members of this community are generally sedentary in their habits. Another notable feature is that this disease also occurs in certain family groups: Example :—Brothers, Brother and Sister, Brother-in-law and Sister-in-law and so on, that is, those people who live to all purposes under the same hygienic and other conditions. I have a few cases of this type in in my series.

PRE-DISPOSING CAUSES.

On studying a large number of cases one is struck with a certain similarity in the habits of the people who are attacked with sprue.

1. Generally the community as a whole have no regulated hours of diet and most of them are non-vegetarians. In addition both males and females are often found to be heavily addicted to tobacco chewing. Their food contains a lot of spices, chillies and other condiments.
2. Almost all the lady patients generally complain that the disease started immediately after a confinement when probably the system was below par.
3. The lady patients generally confess to a habit of eating ashes of dried cowdung and on many an occasion, I have myself seized the same from their hands.

4. The males generally develop the disease during their stay in Burma, or F. M. S., and often a history of previous Syphilitic or Gonorrhoeal infection is obtained from them.

5. Almost all these patients do suffer from Pyorrhœa.

6. Early marriage which is very common in this community with its attendant evils of early parent-hood is probably another predisposing factor.

ETIOLOGY.

1. It is said that a fungus is the cause of this disease since the stools are frothy and fermenting.

2. Food deficiency theory:—This cannot be a cause in this place since most of them are used to boiled rice, greens, eggs and plenty of fruits which they do take almost daily.

3. Calcium deficiency:—This theory has never been accepted generally but I can give an instance of a patient who developed tetany a few days before his death—it was probably due to want of calcium in his blood. He was a young man of twentyfive and for the first two days only his upper extremities were affected but on the third and fourth day he developed tetany of the lower limbs also and he suffered so till his death a few days later.

4. Sprue has also been said to be a type of amœbic infection but any amount of emetine or other ipecac treatment has not produced any satisfactory results to my knowledge so far, though I have tried them on some of the cases.

5. That sprue is due to infection of a variety of hæmolytic streptococcus has been advanced recently. On studying a number of cases clinically during the past six years I am led to conclude that this explanation of the origin of Sprue is more probable than those that have been advanced so far. That there is destruction of blood is proved by the fact of deposition of iron in black dots and patches on the palms of the hands soles of the feet and also in the gums, tongue etc. The streptococcus is probably to be found in the teeth, and tonsils and they enter the stomach and destroy the mucosa and the glands below and thus the production of HCL. is diminished. The glands and the mucosa with their sensory nerve endings may also be destroyed by the toxic action of nicotine from the tobacco taken in excess. As a result of this the production of HCL. is reduced and the lack of the acid permits the streptococcus to enter the duodenum where in the alkaline fluid it finds a congenial soil for its growth and development.

The commonest symptoms of this disease are three in number:—

1. Anæmia.
2. Glossitis.
3. Severe Diarrhœa.

Anæmia and glossitis with deficient HCL. are the cardinal symptoms of Addison's disease also. But whereas degeneration of the cord is found in Addison's disease it has not so far been found in sprue.

Pathology.—Of the pathology of sprue I know very little as I have never seen a P.M. of this condition nor is it possible to obtain one here as the condition occurs only amongst the rich who are generally averse to a P.M. But we learn from other reports that there is a general thinning out of the bowels, the mucosa is destroyed and there is a certain amount of ulceration through the whole of the small intestine. Thus absorption of material taken is disturbed and does not go on normally.

Symptoms.—Each case is different from the other. Some cases do run an acute course and the patient may die in the course of a few months. In others it may run a subacute or chronic course. I have patients on hand who have been suffering like this for more than six years. The symptoms vary according to the attention and care the patient takes in getting properly treated and also on the age and the intelligence with which he carries out the instructions of the attending doctor.

Age Incidence.—The maximum age in a series of fifty cases is fiftyfive years and the minium age of the patient is sixteen. The number of males affected works to 55% and females 45%. The majority of patients were between the ages of 20 and 35. Thus it is a disease of the young and middle aged and so far no children have been known to have been attacked.

A typical well developed case is generally of a light dark colour, the skin dry and wasted. To all appearances he looks like a skeleton walking with difficulty or crawling on his buttocks and hands. He complains of acute glossitis with inflammation

extending to the gums and palate. There is difficulty in swallowing food due to inflammation of the pharynx; a certain amount of distention of the lower abdomen could be seen and he complains of a most distressing type of looseness of the bowels. He is physically weak, complains of loss of memory and inability to concentrate. He is irritable and often unreasonable.

Recently in one of the acute exacerbations of a chronic sprue case the patient could not open her mouth for more than a week and she refused all attempts at feeding and was practically on water. Even fruit juices she complained was scalding. She would not even take a pot-chloras gargle as that too was burning. I could suggest nothing else than a hydrogen peroxide gargle and Glycerinum borax to the gums and these relieved her to a certain extent in three or four days. The tongue looked very red and angry, with superficial vesicles on the tip and margin (of the tongue) and also on its under surface and the floor of the mouth could be made out. The margins of the tongue through frequent ulceration had been eaten away at some points, and the papillae at the root of the tongue could hardly be made out. The lips were also affected and on eversion numerous pin pointed vesicles were present on the mucous membrane. The angles of the mouth were fissured and painful to open. The pharynx and the uvula were also affected and feeding was very painful. Due to this severe ulceration of the whole mouth there was a large amount of salivary discharge which was very annoying to the patient.

In the subacute and chronic cases the tongue is seen to be hard and leathery to touch; still the surface is raw and patient cannot take chillies and spices and has to continue on a bland diet. I know patients who are, for this reason, on a diet of buttermilk and rice for the last so many years.

Dyspepsia.—This is often complained of and due to the loss of tone of the intestines even the smallest amount of food excites peristalsis and patient has immediately a motion. Usually he has three or four motions both day and night. He often complains of rumbling sound in the abdomen which might be heard even at a distance of 3 to 4 yards from the bedside. An immediate motion is the result of the peristalsis thus excited. Many patients have told me that if they turn to their left an immediate motion is the result, (Probably this is due to the result of gravity.

Diarrhoea.—In acute cases there may be 20 to 30 watery stools but in chronic cases three or four motions day and night is the rule. The stools in acute condition are watery, foul smelling and

are passed even before the patient has the time to get out of his bed into the commode. It exhausts him immediately and he has to be helped by his relatives to his bed. He shows all the signs of a choleraic diarrhoea. He has cold and clammy perspirations, a fast and thready pulse and not infrequently he sinks slowly to death.

On the other hand the stools of a chronic case are large, massive and copious, foul smelling, standing out over the brim of the chutty or any other vessel into which it might have been passed, due to the gases and other fermentation products in it. They consist largely of undigested food materials and invariably shines with an oily layer of fat materials on top. These motions twice or thrice a day tend to relieve the abdominal distention and patients feel better for the same. These chronic cases, though suffering from diarrhoea and still weak, do carry on their ordinary work for a pretty long time before they are actually confined to their beds in an acute attack.

Anaemia is very pronounced in the late stages but rarely in the early stages. That there is destruction of R. B. C. there is no doubt as deposition of iron pigment could be seen on exposed areas of the body. In the late stages the heart is also affected and the patient developes swelling of the legs and also fluid in the abdomen.

Tetany is said to occur in certain cases. Recently I lost a case in this manner. He was a young man of 25, suffering from sprue for the last 18 months and was confined to bed for about 5 months before his death. He came to me for treatment roughly 2 months before his death. Previous to that he was treated as a case of entero-colitis and was given bowel washes twice a day for a month or so, when he returned home disgusted, having gone down in health considerably. When I saw him he was unable to move about, had lost all his flesh from the body, had a typical inflammation of the tongue, and mucous membrane of the mouth and pharynx and had severe diarrhoea but not much of anæmia. He seemed to improve under treatment and all of us including his relatives were satisfied that he was on a fairway to recovery but suddenly and without warning he developed acute symptoms and could not open his mouth nor take his food. Saliva was dribbling from the mouth and for the first time in a sprue case I found him developing tetany. His right arm was in spasmodic movements at frequent intervals, when the next day the other also developed a similar condition and the third day the legs also were involved and in this sort of agony he died on the fourth day after the commencement of tetany.

Temperature.—Most of the cases have a low temperature varying from 99 to 101 degrees probably due to the inflammation of the mouth etc. But in bad cases I have seen temperatures shooting up to 104. Very bad cases with severe diaarhoea show a subnormal temperature.

Incomplete Sprue Cases.—These are the cases where the trouble is confined only to the mouth and pharynx. There is glossitis and inflammation of the mouth but not the other troublesome symptoms of the disease. They cannot take chillies or other hot stuff and they have to be on a bland diet. They also do not have the diarrhoea of the characteristic type.

DIFFERENTIAL DIAGNOSIS

1. Syphilitic inflammation of the mouth and tongue.
2. Tubercular enteritis.
3. Addison's disease.
4. Chronic amoebiasis.
5. Chronic diarrhoeas due to any other causes. Since the symptoms of sprue have been discussed fairly thoroughly, I do not propose to discuss the differential diagnosis in detail any more.

Prognosis is good for recent attacks but is very grave in chronic cases, where the patient's condition gets gradually worse and worse by periodical relapses until he succumbs to a final relapse. Women seem to stand the disease better than men. On an analysis of 47 cases, I found 26 males and 21 females. Of these 15 males and 7 females died, thus giving a mortality rate of about 54 % amongst males and 33 ⅓ females. Of the 26 males attacked 16 were between the ages of 20 and 35. Very few cases die in the initial attack but practically all of them get 2 or 3 relapses in one of which they may die. Relapses may occur at an interval of one or two years and the patient may have two or three relapses from the date of the first attack before his death. The average number of years a sprue patient lives from the date of the first attack is about four years. But some do pull on for even six or seven years. Female patients are more resistant to this disease and I know women who are living for the last 10 years suffering all along from sprue. Some of them have had more than six or seven relapses. A few of them get periodical attacks once in every three or four months and after suffering from the typical symptoms for a week or two they again return to normal life and thus carry on for years, except that their tongues cannot tolerate hot and pungent foods.

Treatment.—The importance of early and thorough treatment has got to be recognized in this disease. If the case is diagnosed

correctly in its earlier stage then the treatment is much more simple and the patient also will not have the agony of prolonged treatment. Patience on the part of both the doctor and the patient is absolutely necessary. He has got to be convinced that the disease is a dangerous one and that to be completely cured, treatment will be prolonged and may take a few months. The doctor also must be patient and should never get disheartened if the case does not come round as he expects. He should realize that the disease is liable to relapses and should work in such a way as to encourage the patient and get his co-operation for the success of his case. To be successful he must on the patient's mind impress that treatment must be thorough, sustained, and prolonged.

Treatment may be divided as generel, dietetic and medicinal.

General.—Patient's energy must be conserved in all possible manner and for this he must have absolute rest in bed. Institutional treatment in a hospital or nursing home is preferable to that in his own house where he cannot get that amount of attention and skilled aid which is possible to be obtained in an institution.

Dietetic.—Knowing as we do that the mucous membrane of the stomach is destroyed and consequenty, that the production of pepsin and HCL. is diminished to a great extent it is only natural that the massive *starchy* diet to which the patient is generally accustomed should be stopped. In a bad case he must be fed at intervals of two or three hours preferably on bland liquid diet like whey, or rice water or sago conjee or barley water. Since the acid of the stomach is much less in quantity than in a normal patient it should be our endeavour to supplement the secretion from the stomach by other acids and this can be done by giving the patient dilute HCL. at intervals or giving him fresh juice of oranges if the patient could afford it. This diet may be continued until the number of stools are diminished and the patient has a tendency to pass solid stools. Then the diet may be gradually increased and patient may be allowed some green vegetables of the easily digestable varieties and along with rice conjee or any other conjee he might prefer. In addition to the conjee he may be allowed plenty of milk; on an average, patients do stand about two pints of milk a day. But some of the patients complain of diarrhoea immediately they are out on milk and in these casse it is advisable to start them from a few ounces of milk a day until they reach a maximum of two pints in due course. If their stools get solid as they will do on this diet in the course of a month or two then they may be gradually tried on the sort of diet they are used to normally, but on the slightest symptom of indigestion or diarrhoea they will have to revert back to liquid diet once again.

It is generally found that people who are used to a meat diet do not tolerate it when they suffer from sprue, and so in these cases I stop them from having any meat preparation until they are sufficiently advanced on the road to recovery.

Medicinal.—Our aim should be to stop the diarrhoea first or otherwise the patient grows weaker day by day. In an acute condition severe astringents are neccessary for a few days to stop the diarrhœa. In some cases a starch and opium enema is necessary. In chronic cases to start with a castor oil emulsion may be given to clear out all residue from the bowels. Digestion must be aided by a mixture containing pepsin and dilute HCL. If patient has more than two or three motions a day some astringent may be added to the pepsine mixture. This pepsine mixture may be contined for months until the patient is absolutely alright. For the severe anæmia of sprue, I do not give any iron by mouth as it will only disturb the already disordered metabolism. Hence I give iron, arsenic and strychnine ampoules by injection and for this I always prefer zammellittis preparation. It is not irritating and unlike other preparations there is no inflammation at the site of injection. In bad cases I give on the whole two boxes of 24 ampoules one ampule being given every other day. In mild cases (one box of) twelve injections are enough. Some doctors recommend irrigation of the the colon by high enemas of astringent solution, but I have never tried this. A few cases which went to Madras and other places and had such irrigations did not improve. This can only be explained by the ulceration being much higher up in the bowels than could ordinarily be reached by a high enema.

For the inflammation of the mouth and gums and tongue I prefer a pot. Chloras gargle and glycerine borax to the gums. Some of the patients have suggested to me that they prefer a gingeley oil gargle and they say they are better on it, and according to them glossitis etc. improves rapidly and such patients I allow to have their own way. Calcium and parathyroid is recommended by some doctors but I have tried it in many cases and found it to be of no appreciable value.

Liver Extract. Liver extract has been recommended recently by some workers for the treatment of sprue. I have used it only in one case recently and he has improved on it. Beyond this I cannot say anything more at present.

CONCLUSIONS.

1. The disease is endemic in Chettinad.
2. It affects the richer classes more than the poor and middle classes.
3. Female patients resist the disease more than the men.
4. Treatment though simple should be prolonged and the co-operation of the patient and the doctor is the most important factor to be remembered.
5. Though the disease has a high mortality, cases seen in the early stages will get cured if properly treated. Relapses in subacute and chronic cases invariably prove fatal.

THE FLIES*

BY

DR. T. D. MUKHERJEE, M. B., D. P. H.,

Burdwan.

A word by way of explanation may mot be out of place for the choice of subject of this little discource of mine. As carriers and disseminators of diseases flies play an important role and we should not forget that we ought to take great care to protect ourselves from the mischiefs likely to be caused to our health and even to our lives by these pests among animals.

The position of flies in the animal kingdom :—We may divide the animal kingdom into three parts (a) Metazoa Chordata; (b) Metazoa Nonchordata and (c) Protozoa. Metazoa Nonchordata is again divided into (I) Mollusca (II) Arthropoda (III) Echinoderma (IV) Worms (V) Coelentra and (VI) Posifera, Arthropoda is again devided into (1) Crustacea (2) Myropoda (3) Arachnoid and (4) Insecta. Insecta is again divided into (1) Aptera and (2) Pterygota. Pterygota or winged insect is divided into two classes according to their undergoing complete metamorphosis or no metamorphosis. The insects which undergo complete metamorphosis are divided into five sects ; (1) Coleoptera under which the kingdom of Beetles come (2) Diptera, a very big kindgdom having two wings (3) Lepidiptera the kingdom which consists the beautiful class, the butterflies ; (4) Hymenoptera under which comes ants, bees, wasps etc. and (5) Siphoneptera under which the ectoparasite group of fleas comes. Diptera is again divided into (a) Orthorrhapha and (b) Cyclorrhapha. Orthorrhapha has got two divisions (I) Nemocera and (II) Brachycera. Mosquitoes belong to this Nemocera group. The Cyclorrhepha larvae has got no differentiated head ; Imago escapes through a circular opening, and not through a T-shaped opening as in the allied class of

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Orthorrhapha. This group of Cyclorrhapha is divided into (1) Aschiza, in which class the well known rat-tailed larvae of Eristalis belong. In the drain etc., where there is sufficient decomposed matter specially near about a privy, these larvae get sufficient food for them and they crawl about the place with a tail-like projection behind their bodies; this tail-like projection is the breathing tube of the larvae which generally live in foul water. We may consider now the Schizophora group under which come the classes of Muscoidae and Pupipera, The Muscoidae group has got antennae divided into three segments. They lay eggs and they have got the peculiar feathery structure projecting from the terminal segment of their antennae and this structure is called Arista. This group is again divided into (1) Calyptera and (2) Aclyptera. This Calyptrate group is divided into four classes (1) Sarcophagidae. This is a large stout fly, they deposit larvae on flesh, and ulcerated surfaces of the body. These flies deposit larvae in nasal cavities when ulcerated, being attracted by the foul smell, causing serious troubles e.g., pain, haemorrhage etc, which may terminate even in death. Their thorax is striped with black and grey lines. (2) Oestridae or Bot-flies;—they are generally found over the skin of dogs, they have got no mouth in the proper sense of the term and the adult flies do not eat at all. They deposit their larvae under the skin and may thereby cause a tumour under the skin. (3) Anthomydae and (4) Muscidae. The flies of Muscidae group are divided into two classes according as whether the adult flies suck blood or not. The species Stomoxidinae or blood sucking flies has got a proboscis with which they bite and suck blood. The flies are similar in appearanee as those of common house flies. The well known stable flies and setse flies belong to this species. The stable flies resemble very much the common house fly but they have got a black piercing proboscis which enables them to pierce the skin very easily and through which they suck blood from the host. These flies are found commonly in stables and in cowsheds. They in numbers, take their seats on the body of a bullock and are found to travel in this way with the host and whenever they become hungry suck the blood of the animal; whenever they get an opportunity they sit on the body of man and try to bite and suck blood. Sometimes the cart driver becomes too much annoyed with their bites. In Bengal these flies are called in colloquial language "Kana-Machhi". Now comes the species which do not suck blood, and they are divided into Muscinae and Calliphorinae groups. Calliphorinae group is divided into a few genera. Two of which are important and require a little discussion. Calliphora or Green bottle flies; they deposit eggs on meat and on wounds.

The larvae has got a peculiar shape, they have got a hook like projection anteriorly and a ringed body and sometimes when present in faeces they are mistaken for flukes for their ring like bodies. (b) Lucilia or Blue bottle flies. The genus Musca belongs to Muscinae and the following is worthy of note about this genus.

Musca Domestica or common house fly:—As the name implies it is common in every house and is a carrier of the common diseases. So in the domain of preventive medicine this insect requires more than ordinary notice. Careful investigation has demonstrated the part taken by this little winged insect in the devestation of the human race. To the unsophisticated the creature appears perfectly harmless but expert knowledge and experience have shown that the insect is the worst enmy of mankind. The ordinary ferocious and blood thirsty animals, the mighty animals of the jungles and the sea and the venomous reptiles have something in them which instinctively puts us on our guard but the apparently harmless domestic fly has much more venom and ferociousness hidden in its crawling and we are at a loss to fathom the wisdom of the great Creator for his omission to supply the man with instinctive faculty to guard himself against the evils of the flies. The little creature does not bite, does not introduce any microbes by piercing the human body, seems harmless to laity. But what would do Malaria, what would do Kala-Azar, which diseases alone devastate the country; this little creature alone competes with these diseases in respect of increasing the mortality in the vital statistics figures. It carries Cholera, it carries Smallpox, it carries Dysentery, it carries Diarrhoea, it carries Typhoid, it carries Gangrene, it carries Anthrax, it carries Ophthalmia, it carries Measles, it carries Erysipelas, it carries Tuberculosis, it carries Leprosy and it carries what not? It is common in our houses means we are commonly surrounded by these fatal diseases. To keep ourselves and our food and clothings from the contact of the fly means freeing ourselves from liability to be attacked by these diseases.

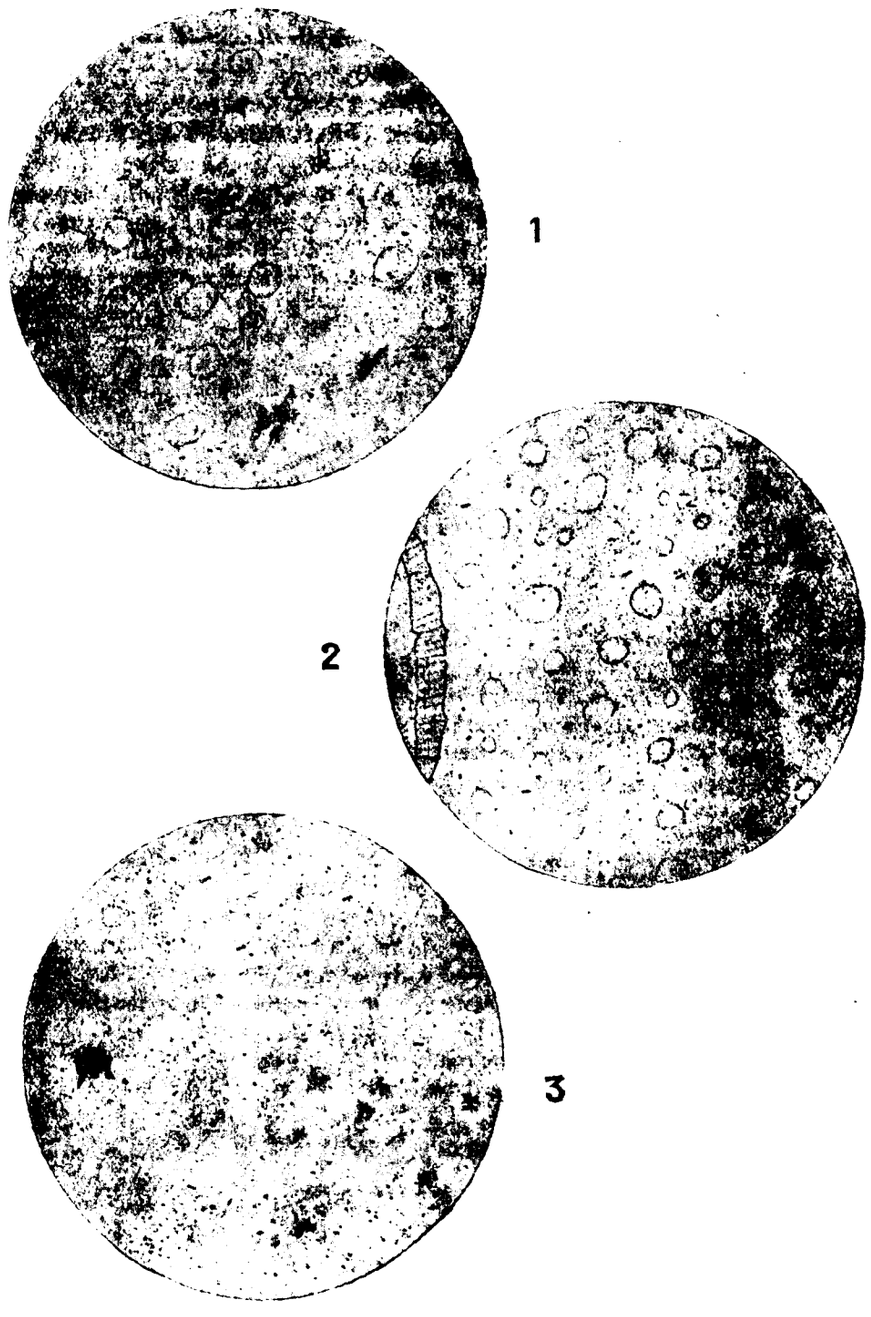
This house fly undergoes a complete metamorphosis in its life cycle. One gravid female may bring forth 120 to 150 of its species. The eggs are laid in masses. They have got polished white surface; in twelve hours the eggs are hatched into larvae; these larvae are called maggots. They are about half an inch in length and undergo three changes, first change within 24 hours, second in another 24 hours, third in 2 to 3 days' time. Then it forms into a pupa. This is a barrel shaped body, dark brown in colour, which in 2 to 3 days' time liberates the adult fly. The whole cycle takes about 10 to 14 days. So one fly within a fortnight multiplies to its hundred times.

The flies lay their eggs where the larvae would get sufficient food. Horse dung, deposit of night soil, decomposed animal and vegetable matter are their special choice.

One single fly may carry 4,400,000 bacteria upon its surface and 28,000,000 in its intestinal tract. Thus it may be easily realised how disastrous a result it may cause, if even the surface of the body of a fly comes to the touch of any food material or if it deposits a little excreta of its own on the food. Do we get any benefit from flies ? I can't say. It appears to be an all round pest.

Findings :—I collected a number of flies from different places of different character—from night soil depot, from dumping depot, from sweetmeat shops, from houses, etc. and made smear from them after thoroughly crushing one in a sterile mortar. I am giving here three microscopic pictures of these smears. The first is a smear of a fly collected from a night soil depot. Bacteria were found in abundance but their classification could not be done. The second of a fly from a sweetmeatshop-condition of bacteria was the same. The smear from that of a fly collected from a dumping depot—showed besides various sorts of bacteria a fine group of Staphylococci. Innumerable bacteria were found both on the surface of the body as well as inside the intestines. I think most of the diarrhoea cases of bacterial origin are due to flies. People in general care very little about this pest and it is the duty of every medical man to teach them how grave the fly question is as regards the spread of diseases. I only remind the facts and nothing else.

Scheme of Prevention is nothing but to improve the sanitation and I think in a town the urgent necessary measures are well fitted trap-doors to the privies and covering of refuse matters collected in the way of scavenging, with earth. These measures are neither very expensive nor difficult to accomplish, but may cause a great help in the way of prevention of diseases carried by flies, and when those diseases are so very numerous. Lastly of all preventive measures covering of food materials is essential.



Microscopic Illustrations of smears from flies. [p. 242.]

AN INVESTIGATION INTO THE CAUSE OF THE RECENT EPIDEMIC OF BERI-BERI AT BURDWAN*

BY

MAJOR A. K. NANDI, M.B.,

Burdwan.

(Continued from P. 603 of the *Antiseptic*, September 1930).

The Moon.—is the heavenly body nearer to us than any others, but is not to be ranked as a "planet" proper. Without going into the intricate details of the nebular hypothesis it may, fairly, be taken for granted on the authority of the astronomers that *the Moon at one time formed part of the Earth.* Indeed, some go so far as to assert that the volume of the depression on the Earth's surface, now represented by the Pacific Ocean, is what the Moon originally occupied, and that after it had become shot off, the cavity formed thereby became filled with water and formed our Pacific Ocean. Having once formed part of the Earth the Moon, even after separation from the parent bulk, still retains evidences of the original motion and circles round the Earth even today. Such, then, is the genesis of the Moon.

The *mean distance* of the Moon from the Earth is about 240,000 miles; its *mean diameter* about 2,160 miles; its *mass* $\frac{1}{80}$ and its *volume* only about $\frac{1}{50}$ that of the Earth.

From the observations of astronomers who have made a special study of this orb, it would appear that there is not atmosphere in the Moon enough to support *animal* life.

The Moon is interesting to us precisely because it is a *type of the dead world.* It seems to show how the Earth, or any cooling metal globe, *originally a sphere of burning gases and molten metals,* will evolve in the remote future. No one can say if ever there was life on the Moon. If there was, it could never have proceeded far in evolution, the orb cooling down rather quickly for the requirements of such process. At the most we can imagine some strange *lowly* forms of *vegetation* lingering here and there in pools of heavy gas, expanding during the blaze of the Sun's long day—14 days at a stretch—and frozen rigid during the long night—another 14 days at a stretch. No higher evolved *animal* life, certainly, can be conceived as existing on this satellite of the Earth.

The other seven planets, *most of which have moons of their own,* circle round the Sun just as the Earth does. *The Sun's mass is immensely larger than that of all the planets put together,* and *each*

* Specially contributed to the Antiseptic.

of them would be drawn into the sun with terrific force and be reduced into a volume of burning gas if each did not travel round it in a gigantic orbit with tremendous velocity. Thus it is that the eight planets, spinning each round its axis, follow their fixed paths round the Sun, paying eternal homage to that mighty monarch of the Solar System.

Mercury—is the planet nearest to the Sun and is the smallest of the wanderers'. There is reason to believe that it *rotates* on its axis in the same period as it *revolves* round the Sun, and it must, therefore, always present the same side to the Sun. This means that the heat on the sunlit side of Mercury must be considerably above the boiling point, while the cold on the side exposed to the immensity of space must be between 200° and 300°c below the freezing point. The existence of life on a planet like this would be a simple impossibility.

Its *mean distance* from the Sun is about 36,000,000 miles; its *mean diameter* about 3,000 miles. Its *mass* is about $\frac{1}{17}$ and its *volume* only about $\frac{1}{17}$ that of the Earth.

Venus.—This bright and beautiful globe, by far the most resplendent orb in the heavens at certain times of the year, is familiar to us all as the morning and evening 'star'. It is of nearly the same size as the Earth, and has a good atmosphere. Astronomers believe that, like Mercury, this planet always presents the same face to the sun, and would, therefore, have the same disadvantage——a broiling heat on the sunny side and the intense cold of space on the other. Under such circumstances the existence of life on such a planet would be simply impossible. This planet and Jupiter shine like two huge and perfect diamonds in the sky.

Its *mean distance* from the Sun is about 67,000,000 miles; its *mean diameter* is about 7,700 miles. Its *mass* is about $\frac{4}{5}$ and its *volume* about $\frac{23}{25}$ that of the Earth.

Mars.—As already stated, all the globes entering into the formation of our solar system were, originally, but masses of metal burning with an inconceivably high temperature. But they are cooling down slowly. A little reflection will show that, cœteris paribus, the smaller masses will have cooled down sooner than the larger ones. It thus stands to reason that masses like Mercury and Mars, which are of lesser mass than the Earth, and the Venus, which is about the same size as the Earth, have cooled down and condensed at their surface, the first two millions of years before the Earth did.

There has been much speculation—and some very interesting speculation too—regarding this planet, into which it is

not my intention to enter. Certain it is that astronomical findings mark Mars as a very inhospitable planet. Some astronomers believe that there is no trace of water-vapour in the atmosphere of Mars, the atmosphere itself being very scanty and highly rarefied, while the distance from the Sun is so great (a *mean distance* of about 141,000,000 miles) that it may be too cold for fluid water to exist on this planet! If the astronomical findings are infallible, life could not possibly exist on this planet of the "god of war".

It has a *mean diameter* of about 4,200 miles and is conspicuous for the *redness* of its light. Its *mass* is about $\frac{27}{850}$ and its *volume* about $\frac{1}{7}$ that of the Earth.

Jupiter—Proceeding outwards from the Sun comes this splendour of heavens next to Mars. But the distance between these two planets is very much greater than that between any two other planets similarly placed and so far considered. *Well Over 300 million miles of space span this immense* distance, and this profound void contains about 900 "planetoids"—small globes of from 5 to 500 miles in diameter. These "planetoids" might have joined forces and become united into one planet but for the proximity of the huge bulk of Jupiter. Like the Venus this planet is another splendour in the heavens, and at certain times of the year it is a sight to see them close together sailing majestically across the bluer vault of the heavens!

The planets Venus and Jupiter shine very brightly, but *they are not self-luminous. They just reflect the sunlight.* In fact, *all the planets are visible only in this way.*

Jupiter is a giant planet, being *1,300 times as large as the Earth.* It has as many as *nine moons*, four of which are large and in attendance upon the majesty of this orb. The gravitational pull as exerted by this giant planet must, therefore, be enormous and *extend far out into space.*

The *surface* of the planet as seen in photographs is *a mass of cloud or steam* which always envelopes the body of the planet. *It is apparently red-hot.* There may be a liquid or solid core to this planet, but *as a whole it is a mass of seething vapours*, whirling round on its *axis* once in every 10 hours. *The interior of Jupiter must be intensely hot.* Of course, there can exist no life on such a planet.

Jupiter is the largest of the planets. If the mean distance of the Earth from the Sun be taken as unity, Jupiter's distance from the Sun would be represented by a *mean* of 5.2028, that is, nearly 483.3 millions of miles.

Its *mass* is about 317.7 and its *volume* about 1,300 times that of the Earth.

Saturn—is the planet next in position and magnitude to Jupiter, and is in the same interesting condition as that splendid orb of the heavens. Its *surface* as seen in photographs is *steam*, and *this steam is provided by the vaporisation of its oceans.* Now, this planet is placed so far away from the Sun—886,000,000 miles that this vaporisation of its oceans can only be due to *its own internal heat. It is far too hot for water to settle on its surface.* Like Jupiter this mighty globe (diameter 73,000 miles) *rotates* on its axis once in 10 hours, and must be *a swirling, seething mass of metallic vapours and gases.*

Its *mass* is about 94·8 and its *volume* about 783 times that of the Earth.

It is worthwhile pausing a moment to compare this planet and Jupiter with the Sun. Wherein lies the point of resemblance? It lies in that they resembled one another very much *originally*, and even now reveal traces of their original nature. *All three, even now, are swirling, seething masses of burning gases and metallic vapours.* Only the two planets, Saturn and Jupiter, having a very much lesser *mass* than the Sun, have cooled down sooner than the latter. *Originally*, of course, *all the globes were in the condition that the Sun is in now.*

The view of Saturn under the telescope is worthy of all admiration. This view is unique in its nature and unparalleled by that of any other heavenly body. The splendour of this regal orb with its *ten moons* in attendance, and that wonderful system of "rings" round it, is a sight that at once compels all wonder and admiration. The "rings" are supposed to be formed by a mighty swarm of meteorites swirling round the planet at a tremendous speed. These meteorites are composed of *iron* and *stone* of all sorts and sizes, and reflecting the sunlight give rise to that wonderful appearance of the "rings". This ocean of meteoritic matter is some miles deep, and stretches thousands upon thousands of miles out into space. Like the "planetoids" of Jupiter, this ocean of matter is prevented by the proximity of the planetary mass from combining to from an eleventh satellite to wait on, and pay homage to, His Saturnine Majesty.

For the same reasons that apply to Jupiter, there can be no life on Saturn.

This is about a fair narration of facts regarding the planets plainly made.

But why should such a narration find a place in an investigation into the cause of an *epidemic* of Beri-Beri? Can the planets

have anything to do with such an event? Who knows, perhaps they may! The action and interaction of the forces of nature are so subtle and far—reaching, withal, in their consequences, that it is often impossible to conjecture beforehand which of the myriads of factors, to all appearance separate from, and independent of, each other, and to all appearance discordant with the nature of any one class of phenomena under investigation, are really responsible for their production. Inductive Logic has gone so far as to teach that *no single event can*, in this complex world of matter with its almost endless chain of actions and interactions, and in the still more complex world of mind, *give rise to a single clear-cut effect*, as it obtains in the purely formal facts of Mathematics; but that the *factors* concerned are *always multiple* and the *phenomena* resulting therefrom often an *intricate tangle of effects*. This is briefly the doctrine of the Plurality of Causes and Intermixture of Effects. That two or more circumstances are extremely dissimilar in their nature on the face of it, is no reason why they may not act and react one upon the other. A quantity of dynamite is extremely different in nature from the rock which it is employed to blast, while the living spark, as conveyed by the fuse, is very different from either; and, yet, the actions of the first and third circumstances are essential for the blasting of the rock accompanied by that deafening explosion—two effects essentially different in nature from the causative factors. Again, carbon is ever so different from sulphur in nature, and each radically distinct from the heat of a furnace. And, yet, that colourless, powerfully refractive, mobile liquid, called carbon disulphide, possessing a sweetish, ethereal odour and dissolving sulphur, phosphorus, iodine, caoutchouc, fats etc., is nothing but an effect of the action and interaction of such dissimilar circumstances. It would, indeed, be difficult to persuade one, who does not understand chemistry, to believe that such desparate circumstances as the *very substantial* carbon and Sulphur and that *intangible* heat have co-operated to give rise to that volatile liquid, itself absolutely unlike any factor taking part in its genesis.

Can anybody gainsay that very tangible, often gross, effects are not infrequently caused by extremely intangible, practically non-material, factors? How about the *invisible* and *impalpable* radiations from X-rays, radium and other radio-active substances giving rise to various cutaneous disturbances, ranging from a passing erythema to extensive, and often incurable, ulcerations with sloughing, pigmentation, induration and the formation of epitheliomata? No, the causative factors need not themselves, in all cases, be as manifest to the senses as the effects they produce. In other words, extremely subtle and super-sensible circumstances

can, and *do* give rise to gross sensible effects. The moral, thus, is that there should be no room for uncritical disbelief in any open-minded investigation of the phenomena of nature.

SOME DEDUCTIONS FROM THE FOREGOING FACTS OF ASTRONOMY

1. That the planets are held to their course along their respective orbits by the universal force of gravitation. The Sun, having the largest mass by far of all the members of the solar system, necessarily exerts the greatest amount of this force, which acts upon every planet *in proportion to its mass and its distance from the Sun.* Needless to say, this force is *reciprocal*, each planet attracting the others and the Sun and is being attracted by these in proportion to the mass of each and their distance from one another.

2. The Moon being the body nearest to the Earth (only 240,000 miles, no other heavenly body of any size being any nearer) shows evidences of this force of attraction to a very remarkable extent. It causes that rising of the waters on the Earth's surface known as the "tides".

It is not to be understood, however, that the gravitational pull of the moon ceases with the causing of the tides only. *The Earth as a whole is pulled by* the Moon, but the *loose and mobile water* is more free to obey this pull than is the *solid Earth*, although *small tides are also caused in the Earth's solid crust.*

To what logical conclusion does this fact of the Moon's attraction for the Earth drive us? To this:

That the attraction is exerted not only upon the immense masses of water on the earth's surface, and known as the "seas" and "oceans," where the resulting phenomena are indubitably manifest to anybody who cares to look about with his eyes open, but also *upon every individual particle of fluid or any small collection thereof on the earth.* Such a moiety certainly exists in the bodies of plants and animals. Does the Moon cause tides in these as well? If it does, as it in all consistency should, why are not we aware of such an event in our own persons, at least?

The question does indeed sound a cogent one on the face of it, but really it is not so.

We are not ordinarily aware of many things that concern us intimately. Thus, to cite just two common instances:

(*a*) How often in the 24 hours is an average man who is "fit" reminded of the very salient fact that he has a heart working *without intermission* and upon the *uninterrupted action* of which his very life depends? Very seldom, perhaps, if ever. But let that same heart become disordered in function or disorganized in structure, and that same man will be *painfully* reminded of the

existence of such an organ by every beat of that heart! The heart, of course, was there all the time, but we become conscious of its presence only under certain special circumstances.

(*b*) The Earth revolves round the sun at a speed of *nearly* 1103½ *miles per minute*! This means that each of us is being whirled through space at that terrific speed! Now, how many of us are cognizant of that ancient "music of the spheres"? How many are conscious of the effects of such a maddening whirl? None, perhaps and, yet, this is a solid fact.

Many things that happen do not, thus, depend for their occurrence on our recognition of them. They go their appointed way and do not in the least care whether there is puny man to observe their stately march or not.

We are now in a better position to understand the *seeming* legitimacy of the question——*If the Moon causes tides in the fluids of the animal body, why are we not aware of such in our own persons*?

Like our becoming aware of the activities of the ever-active heart only under certain special circumstances, *we become aware of the raising of such tides inside us only under certain special circumstances.* Such "special circumstances" are chiefly provided by a greatly run-down condition of the health. In other words, *we become aware of the effects of the raising of such tides inside us only when our heart has departed from the normal to a very considerable extent through the action of certain debilitating agencies.*

When the health is *at par* and the vital balance, in consequence, well-maintained, we are not for a moment made aware as to how this most complex machine, called the body, works. It is only in cases of *illness,* where this most delicate balance has become disturbed, that we become conscious of the effect of factors *extrinsic* and intrinsic, which would have been quite impotent to proclaim their existence in a condition of health. A little reflection will show the truth of this observation, which amounts almost to a truism.

I shall choose malaria to illustrate my point. Malaria is that scourge with which most medical practitioners in India are familar and one with which none practising in the plains of Bengal simply dare disclaim acquaintanceship. Let us suppose X living in a very healthy place up-country for 15 years at a stretch. During all this period he has had nothing to complain about his health in particular. Of course, there are the slight "colds" at the beginning of winter and, sometimes, a slight "diarrhoea" in the summer. But these are really of little consequence, curing themselves in few day's time. Nothing besides these passing shows had X anything more material to disturb the placid flow of his health. It was, indeed, an inauspicious hour that made him decide to come

down to Bengal to stay. He does so, and within six months of his settling in the province he contracts malaria, for the first time in life to the best of his knowledge. He gets the familiar paroxysms, and depending upon the virgin integrity of his tissues these are of a remarkably sthenic character. Poor man! he goes on writhing under the talons of the monster. With the progressive depletion thus induced he becomes introspective (a qualification he cannot remember possessing while in the enjoyment of health), as every intelligent man under the circumstances would, and has soon studied certain details of his own case to an astonishing degree. Thus, judging from the quality and quantity of his *organic feelings* (sensations) he would be able to tell *precisely* the position of the moon with respect to the earth. He will, further, as a result of experience gained from his present illness be able to predict with accuracy the time when the next exacerbation is to be expected. He is *positive* that the *character* of the paroxysm is in some mysterious way, connected with, and influenced by, the course of the moon, and deserves all credict for his investigation made on the sick-bed.

Anybody who bestows a little attention on any case of a *rapidly depleting disease of some duration* (like Malaria) can soon satisfy himself as to the accuracy of X's observation. Everybody knows that any slight disturbance having its *origin outside the organism*-leaving aside the intrinsic ones—(e.g., any *cause* of grief, emotion and the like) may cause an alteration in the condition of such a patient (eg., a slight rise of temperature, an unexplained headache, etc.) progressing apparently satisfactorily. Even if we carefully exclude all such "extrinsic" factors, we will find that *the course of the moon does, undoubtedly, influence the progress of such a case.* Thus, the condition of the convalescent is influenced more or less noticeably from the 11th day onward, particularly on *the ultimate and penultimate days of the dark and bright fortnights.* The reason for this is the same as that for the higher rise of the tides on such days, and a little inquiry into the event will be found interesting and instructive.

WHEN NORMALLY ARE THE TIDES HIGHEST IN THE TERRESTRIAL WATERS AND WHY.

(*i*) *The dark moon day.*—A little consideration will show that these are precisely the days when there occurs a marked rise in the waters of the globe. Thus on the last day of the dark fortnight the Moon comes to lie between the Sun and the Earth in the same straight line, and thus the Sun and the Moon join forces, so to speak, to pull upon the Earth.

In such a case the tides rise very high.

(*ii*) *The full moon day.*—Again when the moon in its pilgrimage round the Earth comes to lie on the other side of this planet and, thus, farthest away from the sun, but all the three orbs in the same straight line—the full moon day—the tides rise higher than on the days immediatly preceding, but not to such an extent as in (i) above, because the sun in this case acts not concordantly with the moon as in (i) but discordantly. In other words, the sun counteracts the attractive force of the moon to an extent which is equal to about *a little less than half* the action of the pull of the moon upon the waters of the globe.

Thus, if the gravitational force of the Moon is represented by x that of the Sun upon the Earth would be *a little less than* $\frac{1}{2}x$. Therefore, the resultant of forces, as represented by the rise of the tides, would be:

A. On the *full moon day*—
x *minus* a little less than $\frac{1}{2}x$ = a little *greater* than $\frac{1}{2}x$.

B. On the *dark moon day*—
x *plus* a little less than $\frac{1}{2}x$ = a little *less* than $1\frac{1}{2}x$

(*iii*) *Tides highest when the Moon comes nearest to the Earth.*—Apart from these two relative positions of the three spheres the tides will rise *very high* when the Moon comes to occupy a certain special position with respect to the Earth. The Moon moving, as it does, in an elliptical orbit, having a certain inclination, round the Earth will, at certain times in its course, *come nearest to the Earth.* This may occur at any time during the moon's journey round the Earth, that is, at any time of the lunar month. On such days *the Moon coming nearest to the earth will exert the greatest gravitational pull that it is capable of upon the waters of the globe*, and the tides will attain an exceptional height irrespective of the action of the Sun. Such days will, and *do*, cause a marked tide in the fluids of the human body, the effects whereof *are* felt by the *sick man* in question.

WHY THE SICK MAN FEELS WORSE ON SUCH DAYS

Thus, the volume of the body fluids will be influenced more by the Moon's attraction precisely on such days than on others. The net result of such an attraction would be *an unequal distribution of the body fluids*—an unnecessary, sometimes, deleterious, heaping up of the vital fluids in certain parts of the body and a fall below the normal amount at certain others, just as occurs in the terrestrial waters. The balance of health being already markedly disturbed such an unequal distribution of the vital fluid will tend to disturb this still further and lead to the appearance of such apparently unreasoned phenomena as headache, a slight rise of temperature,

an unexplained loss of appetite, etc., etc., etc, which *do make themselves felt.*

WHY IS NOT THE HEALTHY MAN AFFECTED ON SUCH DAYS.

The vasomotor mechanism during health possesses a latitude of elasticity which is quite capable of meeting such periodic distrubances. During illness, however, this apparatus shares in the general run-down condition, and losing the normal range of its elasticity becomes sensibly disturbed, or upset sometimes, by influences which would never have been operative in the condition of health. Loss of the normal ' tone " of the tissues is the medium through which such agencies act in conditions of depletion. When such " tone " is *maintained* in conditions of health, these prove quite inoperative, and we fail to feel organically one day of the moon from another. This explains the apparently unreasoned rise of temperature in a fully proved case of Malaria B.T. on the 11th and 14th day of the Moon and when the moon approaches nearest to the Earth—days on which, perhaps, iatrical calculation predicted the patient to remain free from fever.

So much then, for the *gravitational influence of the Moon on the human system* which has lost its normal "tone" and "balance" from the effects of some quickly depleting disease.

How, now, about the other planets—do they, likewise, exert a a similar action on the human system ?

A rational answer can only be made in the affirmative. A little consideration, however, will go to show that the gravitational influence due to the other planets will be felt *very much less than that of the moon.*

(*i*) **Mecury** is, indeed a baby among the planets, and placed closest to the Sun would have little gravitational effect upon the Earth placed so far away.

(*ii*) **Venus** is, indeed, about the size of the Earth, and may have some slight influence. But this would be practically negligible as compared with that of the Moon, the orb placed so near to the Earth.

(*iii*) The same argument applies to **Mars**, a planet *very much smaller in mass than the Earth.* Even when nearest to the Earth the distance is never shorter than 34,000,000 (as against 240,000 miles of the Moon), and this shortest distance between the two planets is attained once in every 15 or 17 years ! The gravitational influence thus, as exerted by this planet on the Earth would be as nothing compared with that of the Moon.

There, thus remain the four other planets—Neptune. Uranus, Saturn and Jupiter.

(*iv*) Of these, **Neptune** and **Uranus** are placed at such an immense distance away from it, that their action upon the Earth as compared with that of the Moon, is practically nil.

(*v*) The remaining two, **Saturn** and **Jupiter**, deserve some consideration. They are in mass *the two biggest planets*, Saturn in respect of size coming just next to Jupiter, which has a volume 1,300 times that of the Earth. With the advantage of this greater mass they are placad nearer to the Earth than are neptune and Uranus, the planets next in order of mass and bulk to Saturn.

A further point to consider is that Saturn and Jupiter are intensely hot and very probably still in the incandescent condtion. They may, thus be regarded as *sums of mitigated energy.* They may. thus, have some gravitational influence upon the Earth, but considering their position in space away from the Earth it would appear that the intensity of their gravitational force due to their *mass* would be vastly counterbalanced by the *distance* at which they are placed from the Earth. Gravitational attraction varies with the distance, being *inversely* proportional to the *square* of the distance asunder. This is known as Newton's third law of gravitation.

(*vi*) That monarch of the solar system of ours. the **Sun** has a *mass* 26,560,000 times that of the moon and yet, on the other hand, it is 386 times as far away from the Earth as is the moon. This enormous distance, therefore, more than counterbalances the gravitational effect that would be expected from the Sun's almost incomprehensively bigger *mass* (Vide Newton's third law of Gravitation *ante*), and the net result of this as shown already, is that *the tiny Moon* just *happening* to be placed so near to the Earth *is more than twice as powerful in respect of its gravitational influence upon the Earth as the giant Sun* !

But there is another aspect of energy besides that of gravitation appertaining to the **Sun**, **Jupiter** and **Saturn** that justly demands consideration—*an aspect of energy*, however, *very much less evident to the senses than gravitation*, which gives rise to so very many tangible effects.

3. A direct inference from the modern conception of **Matter** —which resolves the erstwhile indivisible **Atom** into myriads of infinitely small charges of disembodied electricity of the *negative* kind whirling round a *positive* core and called **Electrons**—would be that *every glowing metal is pouring out a stream of electrons.* Every arc lamp that lights us at night is pouring out an unceasing stream of these electrons. Every clap of thunder means a shower of them. Every "twinkling little star" (and being *visible* such a star is a *sun* of infinitely bigger *mass* than that monarch of our own Solar System) is shooting a stream of

electrons into space day and night. **Sun** not only pours out (a) *streams of electrons* from its own atoms—and a fair percentage of these reach the Earth owing to its *relative* proximity to that orb —but the (*b*)*ultra-violet light* which reaches the Earth from the Sun is *one of the most powerful agencies for releasing electrons from the atoms of matter on the surface of the Earth.* It is very fortunate for us that our atmosphere—and this extends to a depth of 300 miles all round the Earth, getting thinner as it recedes more and more from the Earth's surface absorbs *most* of this *ultra-violet or invisible light* of the Sun. Scientists suggest that if we received the full flood of this light from the sun, our metals would disintegrate under its influence and this " steel civilisation " of ours would be simply impossible.

What would be a necessary corollary from the above propositions of modern science?

(To be continued.)

Cases & Comments

BLACKWATER FEVER

BY

DR. M. M. ADHIKARY,

Resident Physician, Lohaghur Tea Estate, Terai.

Predisposing factors of Black Water Fever:—

1. History of long residing in Malarious place.
2. Repeated attacks of Malarial fever, chiefly of M. T. type.
3. No quinine or imperfect doses of quinine.
4. Often precipitated by a dose of quinine or exposure to cold, sun fatigue etc.
5. Completion of Haemolytic System.

Blood examination reveals 95% Malarial Parasites previous to attack.

Explanation. Corpuscles containing M. P. are destroyed and parasites are swept away and no longer found in peripheral blood.

Symptoms. Rigour and High Temp. (104° to 105°) followed soon by Haemoglobinuria with dark color of Urine. Fever usually continuous but may be intermittent, remittent or no fever.

Nausea, Excessive vomiting, epigastric distress of violent character. Spleen and Liver are tender, usually enlarged: anxiety, restlessness, delirium and coma.

Jaundice. As a rule appears in 24 hours, seldom deep.

Urine. Hæmoglobinuria, Urrobilinuria, Albumen, this exhibits copious in almost all cases.

Oxyhaemoglobin, Methymoglobin. Hyalin, Tube casts may be detected.

Duration. 24 hours to 7 days.

Mortality. 5 to 30%.

Bad indications which tend to unfavourable prognosis are incessant vomiting diarrhoea, hyper-pyrexia, anuria, apyrexia (Collapse), return of hæmoglobinuria.

Differential Diagnosis. Shake urine well; froth of B. W. fever will show pink, and Billious Remittent fever yellow.

Treatment. Prophylactic measures against Malaria will generally prevent Black Water. Some authorities advise, to avoid quinine during hæmoglobinuria but plasmoquine can be given. Perfect rest is of paramount importance. Food to be withheld for 24 hours. Plenty of alkaline water to drink. Soda Water freely with 30 grains of Soda Bicarb in each bottle. Albumen water is best after the alkalies in abundance. Digitalis and Morphine may be used with greatest possible caution. In fever and vomitting iced champagne, aerated water, plain water; Stenburgh's Mix. proves splendid effect. In malignant cases Saline per Rectum, even intravenously. Hypertonic alkaline saline soltuion is used in some cases. Hearsley believes on following mixture.

℞

Sodii Bicarb.	...	gr.	30
Liq. Hydrg. percl.	...	m.	50
Aqua. Ad	...	oz.	1

Fiat Mist for one dose.

Sig. every two to four hours up to 24 hours until urine clears up.

Some authorities advocate Ex Cassia Beareana Liq.

Digitalis, iron and Arsenic adapt good results in convalascent.

About quinine treatment during the course of Hæmoglobinuria, a few words may be said here. Naeve Kyngsbury showed that after taking quinine affected Blood Corpuscles are Hæmolised, so Billirubin is increased in serum and it generally remains about 2 hours. After taking Quinine, Haemolytic Toxins appear in the blood stream; these toxins promote general Haemolysis. Hence in treating B. W. cases with Quinine one should be cautious.

My grateful thanks are due to my C. M. O. for kindly going through this note.

OPERATIVE TREATMENT IN HEAD INJURIES WITH AN ILLUSTRATIVE CASE.

BY

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At times the surgeon is faced with a queer problem—To operate or not to operate is the question—This is especially so in head injuries. This is at times a very difficult problem to solve. The difficulty is enhanced manyfolds if the case is one of assault and is likely to be taken up in the assize courts and if the case happens to be admitted to a hospital without much assistance and remote from the nearest provincial hospital. The crafty lawyer takes every opportunity at such times and under such circumstances to put the practitioner responsible for the operation through a severe ordeal or cross examination in which one hears often questions of the type-are you a qualified surgeon and what is your experience in surgical work and how long have you been in charge of this type of work-is your hospital properly equipped-how far is the nearest provincial hospital from yours-have you sufficient staff and assistance to assist you in an emergency and during such a serious operation could you not have sent the patient after rendering firstaid to the nearest provincial hospital-could not the patient have survived from death if the operation had not been done and the case treated on merely medical lines-and was it not the fact that the operation actually hastened his death—Some of these questions are easier to ask than to answer but it is not uncommon in the lawcourts! The surgeon who undertakes such an operation in all good faith is at the end held indirectly responsible for the death of the person ! A case of any head injury especially assaults is one of great anxiety to the surgeon from the time of admission till the time of his discharge from his care. From the moment a head case is admitted it is the duty of the surgeon to see that a careful record of the patient's temp. pulse record and respirations is kept by the nurse in charge of the case. This is quite important and often forms our sheet anchor in deciding the question—to operate or not to operate!—Whether the patient passes his urine and how the bowels act also should be observed and mental state of the patient whether he is drowsy and talks sense and whether he is apt to be irritable etc. all these are very essential bits of information which should be carefully sought for. Signs of developing coma should be timely noted and proper steps be taken then. It is not necessary to see an external injury in head cases. One may come across as in the case I am quoting, very severe types of head injuries without any external signs of the slightest trauma. Sepsis is a danger signal in all

scalp wounds however superficial the head wound may appear to be. The large number of emissary veins is ever ready to take up to the meninges any slight trace of the invading bacteria and its toxins and I have seen cases of apparently very trivial head injuries ending fatally by developing meningitis as a result of infection passing through these emissary veins of the scalp. This is another point where the careful recording of temperature plays an all important role. As an uncomplicated head injury without any external injuries and without any signs of infection is very unlikely to give rise to a rise in the temperature. In head cases subnormal temperature should be looked upon with suspicion always. In cases with a rise of temperature one should note at the same time the pulse rate as the pulse rate in such cases should be proportionately increased. If the rise of temperature and the pulse rate are correspondingly disproportionate the outlook is bad as then invariably there will be some form of compression or other upon the brain. The pulse rate slows with pressure upon the brain and this fact should always be kept in mind. The slower the rate of the pulse the graver the prognosis and greater the pressure upon the brain substance and more the urgency for the relief of this pressure. It is also a fact observed that with the slowing of the pulse also comes in gradual coma and which gradually increases with the slowing of the pulse. *Increasing coma with a slowing pulse is almost diagnostic of cerebral compression.* In assaults and similar cases of trauma this pressure will be mostly due to haemorrage from one or more of the vessels of the brain either extra or intra dural.

Scalp wounds by themselves when infected will give rise to a rise of temperature. In all cases where the superficial scalp wounds are infected prompt action should at once be taken to combat the infection and not to allow the same to spread further. With this view, on the first appearances of signs of local wound infection in all scalp cases the stitches, if any had been inserted, should at once be removed and the wound should be carefully washed out either with saline or chlorinated lime solution or with dilute hydrogen peroxide solution. The patient's general strength should be kept up with nourishing diets. In cases where the brain tissue itself had been injured and there is direct communication with the exterior, one should not use anything stronger than saline used warm for irrigation purposes and this too should be done with great care without causing the least further damage to the brain substance.

I have never seen success attend any head operation undertaken at a time when the patient had stertorous breathing and deepened coma with a subnormal Temperature. Stertorous breathing *per se* is a sign that human aid is out of the question in

that particular case and then it is not quite advisable to put the patient through the ordeal of a surgical operation.

In all head cases immediately on admission, it is best to give strong purge and for this purpose, in conscious cases, I give at once 5 grains of calomel and in comatose cases a drop of croton oil in a little butter or sugar. This can be easily put under the tongue and the patient will swallow it without an effort. If an operation is to be undertaken it is best to give a soap enema prior to the operation. Retention of urine is another cause for anxiety in head cases. In such an emergency avoid the passage of a catheter if possible and the cathoter should only be used when all other means to get the urine evacuated fail. The passage of a catheter should be undertaken when it becomes absolutely essential that it should be passed and all aseptic precautions should be taken regarding the sterilisation of the catheter and also the passages. Cystitis and its concomitant complications are apt to readily come on head injury cases with often drastic results. This fact should always be borne in mind and the catheter should be the last means to make the patient pass urine. If the catheter had to be passed it is at the same time safe to give the patient small doses of urotropine.

A word of caution about the use of hot waterbottles. Remember that patients with head injuries are more susceptible to burns than an ordinary individual. Whenever hot abdominal fomentations or hot water bottles are used for any purposes great care should be taken to see that the bottle is well wrapped and not too hot for the patient. Burns with hotwater bottles are a nuisance if allowed to take place by some mischance and it does not go to the credit of the nurses responsible for the care of the patient and besides they are often the subjects of discussions in courts where many a careful surgeon at times have to face the severe ordeal of cross-examinations etc in the hands of searching solicitors.

Schering's Cylotropine or Schering's urotropine has a very good reputation for preventing retention of urine in head cases and they are worthy of a trial. These are given intravenously and are supplied in ampoules for the purpose. Certainly if it is possible it is better and safer to prevent retention of urine occurring rather than to face the problem when it does occur; If the catheter has to be used do not use anything other than a soft rubber catheter, well lubricated.

As a daily routine by the bedside everyday the surgeon in charge should test for any signs of paralysis of any of the leg, hand or face muscles. This is very important in that both as a guidance and a help to give the prognosis of the case and also as regards the line of treatment to be adopted. There should not be any delay in diagnosing any signs of paralysis either in the face, in the hands or the legs. Requests to bend, stretch etc of the legs and hands and also getting the patient to whistle etc will detect any signs of a paralysis or signs of weakness of any group of particular muscle.

Consciousness in head cases and particularly after the injury was inflicted becomes more often than not a subject for much discussion in the law courts. It is well to remember that a patient with a severe head injury may get stunned temporarily but come to his senses after some time and talk quite normally. The sudden unconsciousness at the moment of receiving the blow is due to the state of concussion that sets in immediately after the blow. He may quite correctly plead ignorance of any events after he received the blow sometimes for even days and hours depending on the site and severity of the injury. The following case I am quoting is of interest on account of many points.

(*a*) There were no injuries externally whatsoever though the patient was at the time having a depressed fracture of the skull with extradural haemorrage (*b*) marked signs of pressure dramatically removed after the operation (*c*) the rapid progress of the patient after pressure symptoms were removed (*d*) the operation successfully done under novocaine anaesthesia.

U. G. aged 30 was admitted to Government Hospital, Alutnuwara on the night of March 28th having being brought from a distance of about 25 miles with a history of being assaulted with a rice pounder on the head on that same day in the forenoon. He was quite conscious at the time of admission and was able to answer my questions and gave me a vivid description of the assault. The assault took place at about 2 P.M. on the day and he was totally unconscious till about 6 P.M. and only regained consciouness after that time. This history is quite that of a person being hit on the head-immediately after the blow, through concussion, loses all consciousness which regains of itself in favourable cases after the concussion period passes off. It must be remembered that the patient may get again a period of unconsciousness afterwards this time due to cerebral compression. This order of events is quite important medicolegally. Immediately after the blow there devolops concussion or stunning effect which passes off after some time and then the patient may make a valid and clear statement. This consciousness remains till gradually if there are signs of compression on the brain tissues either by blood or bone debris the patient will gradually become comatose again only to regain his con-

sciousness after the pressure has been removed in favourable cases. On careful examination I found that there were no external injuries whatsoever. The right side parietal area was slightly tender to touch and had a slight depression but there were no external injuries whatsoever. Temperature was normal, pulse was 52 p.m. He had passed urine since the time of the assault. I inquired into this bit of history to find out whether there were any signs of bladder paralysis. Bowels were constipated however. The upper right eyelid was odematous and slightly tender. The eye on the injured side was almost completely closed due to the drooping of the upper lid caused by this odema. There was a little subconjunctival haemorraage as well and the pupils reacted to light only sluggishly. Blood clot was cleared out from the right ear and also from the nostrils and this made me a little afraid as to his prognosis as then I was compelled to suspect a basal fracture. I however took all precautions and treated legally the case as a serious one and instructed by wire the nearest Police Magistrate to record his dying statement etc. There was also a partial paralysis of the face muscle on this same side. The patient had vomited once after the assault. Immediately on admission, I ordered that the head be shaved for me to make a more careful examination of the injury and put him to bed with the head raised a little. 5 Grs of calomel was given immediately and an injection of Morphia Grs 1/6. and atropine Grs $\frac{1}{150}$ was given.

29-3-30. The patient had vomited again in the morning-typical cerebral type of vomiting without any relation to food. He complained of a severe generalised headache of a persistent type. Pulse 50 p.m. Temp. normal. Locally to the site of the haematoma, I ordered a little Goulard's lotion. This helped to reduce the local tenderness and also the swelling and enabled me to examine more fully the site of the injury and I came to my definite conclusion that there was at least a fracture of a depressed type but I preferred to watch the patient more to decide on operation. On the same day towards afternoon the pulse rate still more slowed down to 48 p.m. and headache became more marked. He was a little drowsy too at the time and answsred to questions only after some time and that too the answer was given in a dreamy way. I now decided definitely to take him up and explore his injuries. The patient did not like to take $CHCLI_3$ and his heart too was not quite satisfactory and his blood pressure too was low. Though I had no previous experience of performing such an operation under local anaesthesia, under the circumstances I thought of giving novocaine a trial. Novocaine had never failed me in many a minor operation so far and I had made arrangements that though I am to start the operation and if I found that this was not satisfactory with

novocaine that I am to have recourse to chloroform and ether during the operation. An enema was ordered about half an hour prior to operation and an injection of Hyoscine hydrobromide gr $\frac{1}{150}$ morphia grs $\frac{1}{6}$ and atropine grs $\frac{1}{150}$ was ordered also about twenty minutes prior to the patient being taken to the theatre. His head was totally shaved and well washed with soap and water and cleaned up with rectified spirits of wine and later painted with tr. of iodine and carefully the whole head was kept lightly bandaged up with sterilised lint. A solution of Novocaine and Adrenaline in tablet form as supplied by the 'The Saccharine Co-operation Ltd' of London was made up to the strength of 2%. This firm I may mention supplies tablets of Novocaine and Adrenaline and I have found them always effective and besides ready to make up at any emergency. For infiltration of the operation area I used an ordinary serum syringe filled up with this solution which by the way was prepared with all the due antiseptic precautions and the syringe itself being well boiled. The head was now laid bare and the lint covering the operation area cut of. The part was again painted with tinct. Iodine solution and the solution of the local anaesthetic was gradualy made to infiltrate the operation area by injecting the whole of the area required. As far as the needle will go it was made to penetrate the under surface of the required scalp area. After this is over in this particular area and the part infiltrated, the needle was withdrawn and again pricked over the area alredy infiltrated so that the patient will now no more feel the prick of the needle as this time the needle will be pricking on the area made anaesthetic by the previous injection of the Novocaine. In a similarway by again pricking the needle with the Novocaine solution over the previously anaesthetised area a whole area which the operation needed can be readily infiltrated with the solution and without making the patient feel the extra pain of the needle prick. In this manner a whole area used for the trephining could be readily put on under the infiltration anaesthesia and the area in this particular case took the form of a large square as can be seen readily from the diagram.

After the whole area was so infiltrated, the area was again painted with Tr. Iodine solution and the operation was begun. A crucial incision was made over the site of the fracture and the scalp cut boldly upto the level, of the bone.

The presence of the Adrenaline in the anaesthetic to some extent prevents much bleeding and what bleeding there was was easily controlled up with ordinary pressure from the artery forceps. The four flaps as a result of the crucial incision were retracted

from the wound area and exploration began. This area of the Parietalbone was found fractured and a portion was found pressing upon the brain substance. There was a fissure running along some distance in the bone. The pressing portion of the bone was lifted up and with nibbling forceps I gradually cut off piecemeal the fractured areas of the bone and later removed all the blood clot from over the dura with warm normal Saline solution. The use of warm normal Saline for these cases helps as a haemostatic as well. The dura was found to be pressed down and there was considerable amount of blood clot pressing upon the brain substance. All these bloodclots wereremoved and the wound thoroughly washed up with the Saline solution. Finding no further damage, I decided not to open the dura which but for the pressure from the clotted blood was perfect and there were no damage at all to it. The incision was closed up with a small rubber thin drainage tube being left over. The wound was stitched up with silkworm gut, and a tight dressing applied and the whole bandaged up and the operation was completed. From the day of the operation the pulse began to improve and the patient made a speedy recovery. The only complaint was a slight headache and my ordering in the mixture a little bromide helped to get rid of this symptom as well. He was by the way after the operation put on the following mixture.

℞

Urotropine	...	Grs 10
Pot. Bromide	...	Grs 10
Sodii. Sulph	...	Drms ½
Tinct. Card Co	...	m 10
Aqua ad	...	Oz 1

OZ1 T.D.S.

There is one little point I omitted to mention with regard to the operation. The patient had his ears plugged with cotton wool so as to cut off every possible noise reaching him from the theatre. He had his eyes of course closed up.

His eye symptoms gradually passed away and he began to talk freely after the operation and he was no more drowsy. On the 9th day of April after 13 days of stay in the hospital he was discharged cured. I would again like to impress upon the readers of this article that a head case however trivial it may appear at first should always be looked upon with anxiety and careful watch, should be kept for any pressure symptoms and immediately they come on if the patient's condition warrants it there should be no hesitation in taking him up and exploring him and doing a decompression operation and also that many cases could easily be tackled with care under Novocaine anaesthesia where the surgeon at first hesitates for fear of administering Chloroform in a dubious case. Whenever possible $CHCL_3$. should be avioded in head cases.

A CASE OF "IDIOPATHIC TETANUS"

BY

PHANIBHUSAN MUKERJEE, L.M.P.

Chakmehsi, P. O. Janardanpur, Darbhanga.

From the perusal of an article "An unexpected cure of a case of Tetanus" in the September, 1930, issue of the Antiseptic, I am tempted to cite below a similar unexpected cure of an idiopathic case of Tetanus for the interest of the readers.

In January, 1930, I was called in to see an adult Mahomedan female, a resident of village Pygambarpur, near Singhwara, while I was in charge of the dispensary there.

She was attacked with the disease at about 11 a.m. and I was consulted at about 8 p.m. in the night i.e., after the lapse of about 9 hours from the onset of the symptoms.

I found the patient suffering from the following symptoms:—

1. Stiffness of the muscles of the neck.
2. Trismus or Lock-Jaw.
3. Risus—Sordonicus.
4. The limbs rigid and thrown into tonic spasms at intervals.
5. Aphonia, and,
6. Dysphagia or difficulty in swallowing.

History of injury could not be elicited nor was any wound detected, by careful examination, on any part of her body.

From the nature of the symptoms, my tentative diagnosis being Tetanus, I decided to give her an injection of Antitetanic serum but as it was not available at the spot, I gave her an injection of a quarter of a grain of morphine hypodermically.

She was also provided with a mixture containing chloral Hydras, Potassuim Bromide, Magnesuim sulphate and Tinct. Balladonna, to be taken every two hours.

To my great astonishment, I learnt the following morning that improvement in the condition of the patient had begun from midnight and by the day dawn the spasms entirely disappeared, so much so that she had practically no complaints in the morning, i.e. at the time I heard of the case. There was no return of the symptoms and the cure was quite unexpected.

In my practice which extends over a period of 15 years, I have known no such cures, death resulting even after the injection of Antitetanic serum in some cases. Causes of death from Tetanus in the moffussil villages;—

1. Owing to ignorance, the people do not understand the disease and so totally neglect the patients who ultimately die.
2. Patients are brought to the doctors very late, when little can be done.

3. The cost of Antitetanic serum, which is the solely dependable remedy in the disease, being high, it becomes impossible for the poor to pay for the drug.

4. The drug is not at all available in the moffussil. Sometimes the curative dose which is 4000 units or more cannot be had even in the nearest towns.

5. The allotment to the charitable dispensaries being very limited, to keep the drug in stock becomes a rarity.

AN INTERESTING CASE REPORT

BY

DR. S. A. SUBEDAR, L.C.P.S. (BOM.)

Physician & Surgeon, Jetpur.

The fact that diseases which often withstand the most upto-date treatment yield to insignificant drugs is shown in the following case.

A Mohamadan youth aged about 23 came to me on 10 9-30 with a complaint of passing blood in stools, severe pain in the hepatic region, No Temp. and reduction in weight. About 3 years ago he was treated in Rangoon by many physicians and was given 6 emetine injections.

After consulting a more experienced contemporary who discovered "Entamœba Hystoletica" in his stools we put him on bismuth, catachu, Liq. hydrargperchl. mag. sulph. Castoroil opium. Ipecacuanha Powder. Mixturealkaline and about a dozen emetine injections by subscutaneous and intravenous routes with strict milk diet, but all our afforts were in vain.

He always used to come with the same old complaint of severe pain and bloody stools.

Ultimetely we gave in and told him to seek relief at Civil Hospital, Rajkot.

He was once sitting in a local tea shop where he was advised to take the following twice a day.

The inner lining of the bark of "Nimb" tree to be thoroughly soaked in water for the whole night and of this bitter water a wineglass to be taken twice daily.

He came to me after a couple of weeks, and when I was expecting to hear from him the name of some miraculous drug that brought a complete change in bim, he told me all about the drug he was using.

He said he was no longer passing blood in stools while the pain was quite absent; he was eating every thing including chillies and that he was seriously thinking of matrimony.

His stools have not been examined by me again but the weight that is putting on and the indifferent cheerfulness that he has put in his gait convinces me of his recovery.

Can he be said to be free from Amoebic dysentery? The Nimb tree so common in India well-known for its bitterness needs no further introduction.

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A SOP TO L. M.Ps.

The Academic Council of the University of Madras, at their meeting held on 14th March 1931, unanimously approved the resolution of the Board of Studies and passed a regulation, on the motion of Dr. M. R. Guruswamy Mudaliar, making provision for L. M. P. diploma holders to qualify for M. B. and B. S. degree. The regulation runs thus:—"A candidate who holds the Diploma of L. M. P., or any other qualification accepted by the Syndicate as equivalent thereto, will be admitted to the Degree of M. B. B.S. provided—(a) he passed the Diploma examination at least five years before the date of application for the Final M. B. B. S. Degree Examination; (b) that he has passed the Intermediate in Arts of this University or an examination accepted by the Syndicate as equivalent thereto; (c) that he attends for two years in all special courses in a College of Medicine affiliated to or recognised by this University; and (d) that he passed Part II of the 1st and the whole of 2nd and Final M. B. and B. S. Examinations of this University and that the above regulation to take effect forthwith"

Dr. Guruswamy Mudaliar's name is ever remembered in connection with the abolition of L. M. S. and he would certainly be enshrined now in the hearts of the L. M. Ps, also, for this small mercy on their behalf. We say "small mercy" because we consider the regulation is more a sop to the L. M. Ps. who are agitating for equal rights and equal qualifications with their

graduate brethren, than as one affording real relief to them. There is no doubt the University of Madras has been generous enough to admit the L. M. Ps, within its fold but the conditions imposed are such as to require the poor L. M. Ps, to run an obstacle race to reach the goal, which, though tempting, is hard to attain.

In the first place, the L. M. P. aspiring for the University Degree should have five years' standing as such. If during this period he was fortunate in securing a job, it would really be hard on him to leave it in these days of unemployment and keen competition and join the Intermediate class in any Arts College. If on the other hand, he had built a decent private practice somewhere, it would be equally hard to give it up and start his collegiate course afresh. This condition will eliminate 90 per cent of the poor L. M. Ps to whom the theory 'half a loaf is better than no bread' will surely appeal. Secondly a student has to undergo two years course to pass his Intermediate examination. There had been a long interim of 9 years between his passing the S.S.L.C. and joining the Intermediate class. i.e, 4 years as an L.M.P. student and 5 years as a diploma holder, during which period he might have forgotten all that he had learnt at the school. It would indeed be a great strain on his body and brain, if he should successfully get through his Intermediate examination at the very first sitting. If he should fail, that would give him a rude shock and another attempt means a further drain on his purse and greater exertion to his brain. There is also the further risk of his forgetting his medical subjects during the time he was struggling to get through his Arts course. His general knowledge may not avail him to get through the Intermediate examination though it may be found sufficient to straightaway make him sit at the medical College and study the special courses prescribed for the M. B. B.S. How on earth, for instance, is Vernacular, which is one of the compulsory subjects for the Intermediate examination, going to help the M.B.B.S. candidate ?. The Cambridge Senior or Oxford Senior or other equivalent Tests will be found above the standard. As Mr. K. V. Rangaswamy Iyengar, in seconding the motion rightly observed " An L. M. P. who had had five years practice and had further undergone two years course in the Medical College could be considered to possess sufficient general knowledge as to fit him for a higher degree. To insist on a qualification in general knowledge would be unfair ". Unless the University grants the necessary exemption to these L.M.P.s. from passing the Intermediate examination, this regulation will be of no use and will remain only a dead letter.

As it is, this regulation can only benefit a few rich men, who can afford the time and money to pursue a further tedious course of 4 years or more for the mere glamour of obtaining the degree of M.B.B.S. and not the generality of the L.M.Ps. who are poor and have already invested their all on the not less costly L.M.P. course.

We know that this regulation is designed to placate the British Medical Council which considers S.S.L.C. course as inadequate to pursue higher medical studies in England. Let the University, then, hold a special entrance examination in selected subjects from time to time and test the merits of the L. M. Ps and grant a certificate of eligibility for further study for M. B. B. S. course. A good deal of time, money and odium of the aged L. M. Ps. having to sit with youngsters to study for the Intermediate examination will be saved thereby and the B. M. C. will be satisfied too. We hope that Dr. Guruswamy Mudaliar will move this question in the Board of Studies and the Academic Council next time when they meet and get the regulation altered so that it may prove to be of enduring benefit to the class of medicoes to whom it is intended. He will then have done a real service to the L. M. Ps. and earned their lasting gratitude.

Medical News and Notes

NOTES.

BY

COL. PROF. FROILANO DE MELLO, NOVAGOA.

Clinical remarks on Egyptian splenomegaly Petzetakis (*Bull and Mem. Soc. Med. des hop. de Paris* 1928 n° 26).

Onset insidious, often pyretic ; sometime after cachexia, splenomegaly, hepatomegaly; spleen very large, hypertrophied *en masse*, slightly painful. Anæmia 2 to 3 millions. Leucopenia-monocucleosis. Hypotension. Progressive evolution. Death after 6 to 18 years.

The disease attacks more the males and is particularly predominant among Egyptians living in bad sanitary conditions. No treatment except splenectomy.

Haemoglobinuric fever and plasmochin I. Biddau (*Rivista di Malariologia* IX. 1. 1930).

The Etiology of this fever is attached to two factors viz., malaria and quinine.

Its pathogeny is of anaphylactic nature.

Injectable plasmochin is very efficacious and is superior to every drug hitherto tried.

It is absolutely innocuous to the reneal filter and has not produced any trouble.

Its action is very strong on fever, parasites and spleen.

Optochin in the treatment of purulent pleurisy of infants M. Acuna S. I. Beltinoti & Maria T. Vallino (*Society of Nipiology of Buenos Aires in Rev. de Especiallidades V 1 April, 1930*).

Pleurisy in babies is strongly lethal. As optochin possesses definite elective properties against pneumococus, the authors following Gralpa and Woringer have tried the following process with wonderful results: punction and aspiration of pus, injection into the cavity of 30 to 40 c.c. of a solution of optochin chloride to 5 per 1000 recently prepared ; repeat the washing till the liquid is more or less clear, and finally inject in the cavity a solution of optochin at 5 per cent. which will remain in the cavity,

4 cases treated and cured. Radiographies. Detailed clinical histories.

Sanocrysin by intrapleural via R. Vaccarezza, F. Martinez. P. Levin (*Soc of Pharmacology and Therapeutics* of Buenos Aires in *Rev de Especialidades* V. 1 April, 1930).

Sanocrysin is not indifferent to the sensibility of pleura and so, small doses should be employed verifying carefully the reactions caused by the injection in pleura. This via may be utilised only when a modifying action on the serosa is desired. In tuberculous empyemas, wet pleurisies, pleuropulmonary fistules etc. such treatment with sanocrysin, associated or not to pleural washing, oleothorax etc., should proceed every surgical intervention. However more cases are necessary to have a definite opinion on this mode of treatment.

The Relationship of yellow fever of the Western Hemisphere to that of Africa and to Leptrospiral Jaundice. Sawyer, Kitchen, Frobischer, Lloyd. (*The Journal of Ex. medcicine* 51. 3. March 1930.)

The authors conclude for the identity of the disease in Africa and America with the only difference that the African strain is much more virulent for monkeys than the American one. The

new fact brought to light by these authors is that *L. icteroides* Noguchi is not a secondary invading organism, but the agent of a form of infectious jaundice, sometimes fatal, often coincident in its appearance with typical yellow fever, and apparently indistinguishable from it clinically. The leptospiral disease has not hitherto been separated from true yellow fever.

On the curative action of gold salts (sanocrysin) in tubercular synovitis with riziform grains. Ramon Lorenzo (*Revista de la Association medica Argentina* XLII n° 283-284 1929.)

The drug employed was the Sanocrysin prepared by Robert and Carriere under the name Crysophimin. Two cases reported with complete cure, after a total of 4·55 gr. given intramuscularly in the first case, 0·55, only by vein in the second case.

In the first case general reaction and stomatitis have been noticed, in the second one slight general reaction, but strong local ones analogous to those of tuberculin.

The author is of opinion that in tubercular synovitis medical treatment by aurothiosulfate should be tried before adopting a surgical intervention.

Treatment of leprosy by IK Prof. E. Fidanza (*Revista de la Association medica Agrentina XLII Nos 283-84*).

Preliminary report with the following cases:

1. Maculous leprosy since October 1928. Mucus, blood biopsy negative. Three months treatment by 24cc. endoiodin, 26,20 gr IK by vein, 235 gr. per os. No result.

2. Anesthaesic leprosy, three years old. Mucus, blood, biopsy negative Resume of treatment: 6 ampoules endoiodin 5,70 IK per vein. 46 gr. per os. Slight amelioration.

3. Mixed leprosy since Sept, 1928. Nasal mucus positive. Blood, biopsy negative. Treated during 80 days with 6 ampoules endoiodin, 24, 30 IK per vein, 224 gr per os. No result.

4. Maculo anesthaesic leprosy one year old. Biopsy, mucus, blood negative. Treated during 80 days with 3 ampoules endo-iodine 32, 30 IK per vein, 240 gr per os. No. result.

5. Nasal mucus positive. Biopsy, blood negative. Treated during 60 days with 6 ampoules endoiodin 15, 65 IK per vein, 84 gr. per os. No. clinical amelioration, but mucus negative.

6. Maculo-anesthesic leprosy, 4 years old. Blood, mucus tropsy negative, Treated during 60 days with 3 ampoules endoiodin. 25 IK per vein, 168 per os. Slight amelioration.

Sanocrysin in the treatment of pulmonary tuberculosis, R. Vaccarezza and F. Martinez (report to the VII Congress of Argentina Medicale Association) in *Revista de la Association Medica Argentina* XLII 287-88 1929.

Conclusions: Sanocrysin represents an elective stimulus of the natural process of regression of pleuro-bronco-pulmonary tuberculous lesions. The therapeutic success depends on the useful doses and on the repetition of the treatment only after disappearance of every ostensible reaction after the injection. A dose of 0.5 gr. seems to be the convenient limit of each series. The series should be repeated with intervals of 20 to 30 days.

Sanocrysinic treatment may be associated to other forms of cure. The aurotherapy has special opportunity when the lesions show a frank tendence for a definite localisation.

Auric treatment gives better results when associated to hygienodietetic therapy but may be used as ambulatory treatment under convenient surveillance.

Naso-pharyngeal diphtheria with pseudo-membranes in a baby, eleven days old P. d'Elizalde & F. E. Wite (*Revista de especialidades* Buenos Aires No. 4 August 1929).

Baby, normal, fever at the 8th day remaining three days more Pseudo membranes. Loeffler bacillus. Cultures positive 17,000 units injected during three days. Cure of diphteria and of the initial toxic symptoms. But the child loses weight constantly, the nutrition is altered and dies at the 42nd day with terminal bronco-pneumonia.

Diphteric anginae in the first infancy are very rare and the peculiarities of the evolution of this infection as stated by the authors deserve the attention of practitioners.

Racial differentiation of Anopheles maculipennis in Netherlands and its relation to malaria. Buck Schoute, Swellengrebel (*Rivista de Malariologia* IX 2. 1930).

The author have reported the existence in Netherlands of two races of A. *maculipeunis*, one malaria carrier, other not, the first shortwinged, multidentate, practically limited to regions with brackish water, the second longwinged, paucidentate, breeding in fresh water areas.

New characters described prove that these races are hereditary and not modificable due to external conditions.

A rapid method for staining malaria parasites with Giemsa's stain Neri (*Rivista di Malariologia* IX.2.1930.)

The author dilutes 1 part of the solution of Giemsa commercial stain in four parts of methyl alchool. This is poured on the slide counting the number of drops of the solution which are required to cover the smear. It is left to stand for one minute and then double number of drops of distilled water is added and left for five minutes; afterwards, the slide is washed in running water. Very good and rapid steins are obtained by this method.

Hypertrophic ascitogen cirrhosis. Remarkable action of novasurol (nical report of the service of Internal Medicin of Prof. T. d'Almeda in *Arquivos de clinica medica* Porto III. 2 March 1930.)

Detailed clinical report, the most important of which are splenomegaly, ascitis, anasarca, hepatomegaly, R. W. positive.

Treatment: 20 injections of hydrargiriccyanide, and regime. Slight amelioration.

After 17 days of rest intramuscular injection of novasurol at 1 cc. per day in the first days and every two days after, till 20 injections. Diuresis till 2300 in 24h. Wonderful recovery, the patient having his exeat after 40 days of hospitalisation.

Bright's disease. Albuminuric and chloretemic syndrom Small doses of calcium chloride (ibidem).

Detailed clinical report where the important points are: Anasarca, dispnea. Ascitis, right pleuresy, pulmonary congestion on left side. Oligury up to 100 to 200 cc. R. W. negative, blood urea 0'282, cylindruria, 15 to 36 gr, albumin in urin per litre. Intercurrent lymphangitis with fever.

Theobromin, cafein, lactose etc. during 60 days.

After this period treatment by calcium chloride in daily dose of 0.30. Diuresis progressively increasing till 5000 cc. coming down to 4000 cc. after some days and remaining between 2500 to 3000 during the whole period of the medication (20 days) and even some 15 days after.

Calcium salts, specially chloride have been since some years employed in Bright's disease, specially on account of their antial buminuric action either in functional or in nephritic albuminurias.

As diuretic Blum, Ruhel and most authors employ large doses of calcium chloride associated to Dechlorurisid Regime.

Vertebral sciatica Putti (*Bruxelles medical* X. 22-VI-30)

Lumbagos and sciaticas called essential, idiopathic or rheumatismal are algic syndromes caused by abnormal conditions of the conjugation canals of the lumber segment, specially of intervertebral articulations.

Lumbago is synonymous with lombarthritis. The so called essential idiopathic or rheumatismal sciatica should be named vertebral sciatica or lumbar neurodocits.

The treatmant of this lombarthritis is based on the same principles of those ruling the treatment of every specific arthritis viz: immobilisation and active hyperemia. If both these means fail one should do what we do in any arthropatty resisting conservative treatment: the resection of the sick articlulation.

On the adaptation of recurrent spirochaetes to invertebrate hosts other than the natural carriers Ch. Nicolle and Ch Anderson (*Quinta reunion de la Soc Argentina de Patologia Regionldel Norte* 1929 Ist Vol.)

A very intersting communication. It is known that generally a particular spirochete trasmitted by *Oruithodorus* has a particular species of carrier, and on such facts is based the *zenodiagnostic* of Prof. Brumpt which has rendered so valuable a services to epidemiologists. This rule suffers in nature at least two semi-exceptions: *O. marocanus* transmits in Spain Sp. *hispanicum* and in Maroc. Sp. *morocanum*, Sp. *normandi* at Carthage is transmitted by two thicks, closely allied, viz., *O. erraticus* and *O. normandi*.

The experimental researches of the authors show that the indifference of Ornithodorus vis-a-vis of spirochætes is a well established fact, contrary to what we see in nature and so it seems logical to conclude that the relationship between the spirochaete and the carrier is merely dependent on geographical distribution rather than on some factor attached to the biological cycle of the spirochæte. The authors have trasmitted by *O, moubatos* natural carrier of *S. duionni* and its Dakar variety *S. crocidurae*, the following species: *S. hispannicum marocanum, sogdianum* (Turkestan). *normandi* (Tunis); by *O. savignyi* the same species; Identical facts with *O. marocanus* and *O. normandi*.

The conditions necessary to the success of the experiments are to employ the nymphs and not the adults. When the experiment is conducted for long time, hereditary transmission is also noted, but not for so many generations as in natural infections.

Trying to infect other invertebrates partial successes have been obtained with *Sp. gallinarum* to *O. moubata*, *Sp. hispanicum* & *Sp. duttoni* to lice.

Inguinal paradenitis. Its treatment by antimonium R. F. Vaccarezza (ibid).

The disease is the same as subacute inguinal lymphogranulomatosis, more generally named Nicolas & Favre's disease. Eteological agent unknown. The disease is autonomous, specific, of genital origin, contagious, well individualised by its clinical form, anatomopathological characters and biological reactions (intradermoreaction of Frei).

The treatment of election of such disease is of a purely medical order; viz., the precocious use of intraveinous injections of emetic or some derivates proposed as succedaneous of this antimonial product.

Parasitic impregnation of the reticulo-endothelial system G. Pittaluga (ibid).

Visceral leishmaniasis is a primitive parasitic invasion of the elements of reticulo-endothelial system. The symptoms dependent of such morbid process may be *grosso modo* divided into 2 groups: those provenient directly of the parasitic lesions of impregnation of r. e. s., and those indirectly connected with these lesions on account of functional alterations of organs & apparatus.

The anemia, and more specially the characteristic leucopenia may be interpreted either as an indirect consequence of the inhibition of erythroleucopoyetic organs activity. or as a direct neoformative incapacity r. e. s. due to parasitic impregnation lowering its proliferative activity either on leucoblastic or erythroblastic line.

Very fine discussion based on histopathological data.

Mycetomes with vermicular Maurice. Langeron (ibid).

The author, a well known mycologist, states that actually we have 8 types of such mycetomes: 2 caused by *Actinomyces* viz., the mycetome of ReinaGuerra due to *A. querrai* (San Salvador), and the myc. of Delauve due to *A. nicollei* (maroc); 5 types of Maduromycosis due to *Aspergillus bouffardi* (Somaliland), the mycetomes described by Peralta Lagos (San Salvador), one of Guerra (ibid), the mycetome of Jeanselme and Langeron due to *Troula Jeanselme* (French Antilles), and the mycetome due to *Glenospora clapieri* (Algiers). All these types show black vermicular grains; finally there is the type having white vermicular grains, or the mycetome of Reynier and Brumpt due to *Indiella reynieri* (France).

Human generalised Blastomycosis due to a Criptococus nisp David Speroniy Llambias, S. Parodi, and F. Nino (ibid).

Detailed clinical, parasitological, anatomopathological and experimental study of a case of dermic blasotmycosis, which having been under the form of crustaceous verrucous ulcer on the left eye lid during 14 years, suddenly invaded the organs, gave a pyretic pyohemia with abscesses and death.

American blastomycosis may be grouped according to O, da Fonseca into three groups.

(a) Gilchrist's disease, of pure dermatic localisation.

(b) Pulmonary blastomycosis (rare).

(c) types, which attacking specially bones, particularly the vertebrae, may generalise and invade viscera.

The actual case shows that pure dermatic cases may be transformed into visceral septicæmia.

The paper should be read in original by those interested in India in the study of medical mycology (Written in Spanish).

Essays of anticryptococcic immunisation in laboratory animals. Flavio Nino (ibid.)

The author has isolated from a case of human blastomycosis a Cryptococcus, named by C. *psicrofilicus* n. sp. Inoculation in rabbits has shown that in animals resisting to the infection strong agglutinative and germicidal properties are developed in serum.

Further experiments in sensible animals show:

1. That it is possible to obtain an active inmunisation through the inoculation of repeated and progressively increasing doses of living and dead cultures of *Cryptococcus psicrofilicus* Nino 929.

2. That passing immunisation by preventive and curative serotherapy has hitherto failed.

Blastomycosis cutaneo-mucosa of mouth ending by a pulmonary granulic form. J. Llambias, Jose Tobias and Flavio Nino (ibid).

Complete and very detailed study on clinical, mycological and anatomo-pathological point of view. A case of blastomycosis cutaneo-mucosa beginning by mouth and resisting every treatment. Progressive cachexia and metastasis. Pulmonary symptoms. Death one year after the beginning of the disease. Lungs full of miliary granules of blastomycetic nature. Cultures showing that the parasite is allied both to *M. dermatitidis* Gilchrist and Stokes and *Zymenema braziliense* splendore.

Onyxis and perionyxis of blastomycosic origin (a clinical and mycological study Flavio Nino (ibid ; *New case of perionyxis due to monilia periunguealis* F. Nino, J. Fernandez (ibid) ; *Perionyxis*

blastomycetica due to Monilia (n. sp) S. Mazza, F. Nino, A. Egues (ibid).

The first cases due to Monilia named *M. Periunguealis.* The second to a Monilia named M. *inexpectata.*

Clinical lesion of common type of onyxis, which, every dermatologist knows, may be due to so many varied causes.

The reviewer calls the attention of readers to the large frequency with which such cases due to yeasts are found in India. An exhaustive study on this ground would be welcome and would add new elements to the complicated question of the pathogeny and classification of yeasts.

Rhynosporidiosis in South America S. Parodi (ibid). This subject may perhaps interest Indian students as the genus *Rhynosporidium* was created by Fantham and Minchin from a case of nasal polype belonging to the clinic of O'Kinealy, hence the designation *Rhynosporidium Kinealy* given to the parasite.

The auther shows that the first study of such cases has been made by Seeber in Buenos Aires in 1896 in an important and complete thesis and that the name *R. seeberi* has the priority. He gives also a brief account of cases found in Uruguay, Paraguay and Argentine, and states that Dr. Manalang from Philippine Island has given to Prof. Mazza, during the Congress of Tropical Medicine assembled at Cairo, preparations from a case from Philipines where the parasite is analogous to that of Argentine.

Precocious bacteriological diagnosis of diphtheria by cultures C. Lopez Garcia (ibid).

The author obtains 100% of positive results using the medium of Pergola in Petri dishes. The results are not however constant in carriers. In infective cases 18 to 20 hours are enough for a good identification of colonies.

R. Quiroga in a paper on the "*Action of tripaflavin on diphtheric bacilli*" shows that this drug in a dilution 1 to 1 million is able to act on Loffler bacilli, making them lose their virulence, their hemolitic property vis-a-vis of red corpuscles and allowing them to grow in agar with sodium oleate.

Coccidioidal granuloma. Therapeutic essays with golden salts (Supragol) A. F. da Costa (ibid).

Granuloma, type lymphatico-tegumentaris, due to *Coccidioides. immitis.* Disease ten months old. Extreme debility.

The author had tried in 6 similar cases, duly identified various treatments without result (injection of sodium iodide, tartar emetic, copper sulphate, trypaflvin).

He tried now Supragol (Krysolgan of Schering) with wonderful results and cure. Doses: first dose 0·0001 increasing successively to 0·0005; 0·001; 0,005; 0·01, the injection being given at intervals of 6 days; further on the dosage has been 0,025; 0·05; 0·10; 0·10; with intervals of four days.

Cutaneous blastomycosis of slow evolution due to a Criptococus n. sp. S. Mazza, de Nucci, Felibo (ibid).

Pustulo ulcerated patches, having appeared round the mouth, extending to various regions of the body. Disease having begun, years before. Detailed study on mycological and anatoma-pathological point of view. Isolated a new sp. of *Cripococcus* named by the authors *C. mitis*. Cure by iodide of potassium given peros beginning by 1 gr. and increasing till 10 gr. per day during three months and injections of endoyodine Bayer. Local treatment by lugol; the patient was a child ten years old.

The Cromoblastomicosis O. da Fonseca. Area Deao (ibid)

The authors, members of the Oswaldo Cruz Institute, give a very detailed study where the history, the etiology, clinical account and anatomapathological data of the group of dermatitis verrucosa are given, with especial reference to mycological character and systematic of cultures of *Phialoppeora verrucosa* Thaxter, *Acrotheca pedrosoi* (Brumpt) Fonseca and Leao and their inclusion in the genera *Hormodendron*, or *Trihcosporium* Fries (nec *Trichosporon* Behrend).

This paper should be consulted in original by those interested in such questions.

The problem of Leishmaniasis at the Vth Congress of Argentine Med. Society assembled at Jagay.

Some very important papers were read at this Congress. Many of them dealt with statistics, and local incidence in South American Provinces. The more interesting on a general point of view were the following:

H. Portugal's on *His pathology of cutaneoas leishmaniasis*, where the following classification of clinical forms made by Prof. Rabello is quoted: Tegumental, Visceral (Indian Kalazar. Infantile K) and mixed. In the former 3 main varieties; viz., a cutaneous comprising two groups I ulcerated (impetiginoid, ectimatoid, pure ulcer), II not ulcerated (nodular dermic and vegetant either framboesioid or verrucous); (b) subcutaneous not ulcerated and

ulcerated; (c) attacking the mucosae comprising two subgroups according to the vegetation is ulcerated or not. The localisation of this type is nearly always the naso buccopharingeal mucosa, but sometimes the paramucosa such as of genital gland is affected.

S. Mazza and J. D. Luna report two cases of leishmanic furoncles in two children. These cases resemble one described by Franchini in 1913 Bull. Soc. Path. Exotique) in a man returning from Brazil.

R. Borzone describes and shows excellent photographs of the *intradermoreaction* in leishmaniasis. Antigen used: emulsion of a culture of L. left during 2 days at 37 and duly verified to be dead. Control on lepers, lupus, Acne, Eczema, Blastomycosis all negative.

The Problem of leprosy in the Vth Congress of Argentine Society assembled at Jagay.

The problem of leprosy has been dealt with very carefully in this important Congress. Prof. Marchoux (*Leprosy Contagion. Prophylaxy*) advocates:

(a) the necessity of training doctors and nurses in order to discover early cases.

(b) regional dispensaries for the treatment and hygienic education of lepers and relatives.

(c) asylums to receive children since they are born from lepers.

(d) hospital for invalid lepers who do not constitute any danger for the Society and should be situated in a large town near medical schools. Prof. Py and Dr. Riveroe from Uruguay give a long report on *Treatment of leprous ulcers by sympathectomy*, fully illustrated and come to the conclusion that in the presence of trophic lesions of the inferior members, followed by a loss of cutaneous substance (perforans ulcera or common ulcer), periarterial sympathectony produces *perse* the cutaneous cicatrisation, allowing to the patient a normal life and healing a source of bacillary dissemination.

Delamare, Gatu and Battilana, from Paraguay, show that in a leper ganglion nonacid fast bacilli may be found together with typical acid fast Hansen bacilli.

Rodolpho Borzone confirms the experiments of Souza Araujo, from the Institute Oswald Cruz. on the serial transmission of leprosy to white mice.

Guerrero gives statistics of leprosy in Uruguay and Mendiorag on that of Salta (Argentine), finishing his long paper strongly advocating the isolation of every form of leprosy: The reviewer will quote his words for the consideration of indian hygienists: *isolation as sequestration and clausure and not the fallacious simulated one made in familial or hospital medium.*

Bozzone refers to the campaign made on leprosy in Santa Fe. J. Notta from Rio states that polymorphous erythema may be a symptom of latent ganglionnary leprosy.

H. Portugal studies the hystological structure of an epithelioma in a leper (metatypic type, association of baso cellular and ntermediate). E. Molinelli and A. Vaccarezza do not find an peculiarity in the cerebro.

Correspondence.

To

DR. SHARPUJI ARDESHIR BANKER, M.D., (BOM.) BOMBAY.

(THROUGH THE EDITOR *Antiseptic.*)

DEAR DOCTOR,

I shall be obliged if you can mention the name of the firm which stocks Quinine Hydrochlor Sulph. In the event of my not being able to obtain the drug in the market, can you suggest a way of preparing it? I have made a special study of malaria on European British troops and on Indians in the Madras Presidency and Bombay etc., but have never come across Quinine Hydrochlor Sulph.

I know of cases of constant relapses of malaria but have only had recourse to Quinby-Hydrochlor with favourable results *for the time being.*

Of late years i.e., since 1929 or 28. I have given Quinine and Plasmoquinco with a fair amount of success. Cases of Malraia with Malarial Cachexia responded to the following formula before 1928:—

℞

Quinine bihydrochlor grs V
Liq Arsenicalis m 2 (Increased to 3 min.
Syrup. Aurantii 2 drms.
Aquæ ad oz 1.

Sig: One ounce T.D.S. P.C. (Never after food).

This was administered for six days at the most and then discontinued.

I am not a believer in administering Quinine in any form over a long period and have never been in favour of Prophylactic administration of Quinine (Generally Quin Sulph) to British or Indian troops).

During the course of my service, I have found prolonged administration for a period of 4 months gave rise in many cases to nervous irritability. My method was to give a fairly large dose of Quinine bihydrochlor and Liq Arsenicalis at the very onset of the fever or sense of Malaise that every Malarial patient knows so well

Now I use Quinbyhydroch and plasmoquin Co alternately for a short period.

This was my routine form of treatment whenever I got an attack of Malaria myself which I contracted in Delhi in 1913 when I was attending a post Graduate Course of Malaria and Anti Malarial Measures at the Malarial Bereau. In my case Malaria comes on only for one or two days in a whole year—*when I treat myself in the manner mentioned.* In 1919, on my return to India from Field Service, I happened to get an attack of Malaria, just at the time of an epidemic of Enteric Fever. I was marched into hospital, treated for 52 days as an enteric patient and only got rid of the fever after I had been treated for malaria. On discharge from hospital I treated myself in my old fashioned way as stated above and continue to do so every year when I feel that I am about to get an attack.

In my service I have met with cases (of Malignant Tertian) who in spite of Intravenous injections of Quinine bihydrochlor every day for six days, never recovered but had to be invalided from the service. I have also met with other medical men who suffered from pernicious types of Malaria that would not be controlled by Quinine bihydrochlor. I shall therefore deem it a favour if you tell me where to get Quinine Hydrochlor Sulph.

Ripon Road,
Bombay.
5-2-1931

Yours Sincerely,
P. E. NERY.

FROM

SHAPURJI ARDESHIR BANKER, M. D.,
Nawab Building, Hornby Road, Fort, Bombay.

TO

DR. P. E. NERY,
Retired Military Asst. Surgeon.

(THROUGH THE EDITOR, *Antiseptic.*)

DEAR DOCTOR,

As Quinine Hydrochlorsulph is not used at all, there is a very sm all stock of it for dispensing purposes only with Messrs. Kemp

& Co., and Messrs. Beliram & Bros, Princess Street, Bombay. If you will please write a prescription they will dispense it for you.

℞

Quinine Hydrochlorsulph grs XVIII
Ft capsules No. VI.
One capsule to be taken three times a day.

However, before you get the pure drug you may try the following mixture which forms Quinine Hydrychlorsulph in solution,

℞

Quinine Sulph grs XV—XX
Acid Hydrochloric dil ms XXX—ms XL
Syrupi Aurantii ʒ VI
Aqua ad ℥ VI
1/6 part every four hours.

By the time you get the pure drug the above mixture may be tried with benefit, as you must have noted from Dr. Hebbar's article in January Number of "The Antiseptic." With the mixture alternately please give a mixture containing Caffeine Citrate grs III, sodii citras grs XX in an ounce of water or strong coffee may be taken about ten minutes before or after each dose of Quinine Hydrochlorsulph, as patients complain of giddiness and slight faintness after taking the drug. I will be pleased to know your results and shall be happy to give you further details. I am going to publish further notes on the subject in *the Antiseptic* but before that as the Editor of the *Antiseptic* has desired me to write to you I do so and hope you will find as much benefit as I have obtained.

Yours Sincerely,
S. A. BANKER.

QUININE HYDROCHLORSULPH IN MALARIA.—After the appearance of my article in November 1930 number of "The Antiseptic" on the treatment of acute and chronic cases of Malaria with Quinine Hydrochlorsulph with marked benefit, several readers of the *Antiseptic* inquired of me where the drug which is procurable with difficulty could be obtained.

As Quinine Hydrochlorsulph is very rarely used, it is kept in quantities for dispensing purposes only by two firms in Bombay Messrs. Kemp & Co., and Messrs. Beliram & Bros, Princess street. I find it is not obtainable in Madras and I do not know about Calcutta.

If wider use be made hereafter by physicians in India, Messrs. Howards and Sons will prepare it as I got some for my own use made by Messrs. Howards & Sons through Messrs. Beliram &

THE ANTISEPTIC—AS OTHERS SEE IT.

J. Dhar Ray, B. Sc., M. B. Asst. Radiologist, Chittarangan Seva Sadan, Calcutta :—Your Antiseptic has really filled a great want in the field of well conducted medical Journalism in India-Especially in S. India. You are doing immense service to your profession & the country through your Journal. I wish your Journal a happy span of useful life.

Dr. Ernest F. Neave M.D., F.R.C.S., (Edin.) Mission Hospital, Kashmir :—I complement you on the enterprise and skill which have started and carried on so successfully what is undoubtedly the most important monthly medical Journal in India. I feel sure that it will be increasingly useful.

Dr. R. N. Chatterjee, M.B. House Physician, Medical College Hospital, Calcutta :— * * * Its perusal always aroused in me a feeling of admiration for the well chosen articles.

Dr. H. T. Incc, Supt., Wellesley Sanatorium, Bellary Cant.— I have always found the Antiseptic very interesting.

Dr. P. V. Gharpure M.D., (Bom.) D.T M. & H. (Eng.) Bombay : I have always been very glad to read it as it contains much useful scientific as well as general professional informations.

Dr. B. L. Sircar M.B., D.P.H.—I value your Journal.

Dr. E. R. Shetti M. O. in charge of Henderson Eye Ins., Bijapur :—Kindly send me your excellent Magazine every month.

Bros., and others can order the Howards' preparation from their own chemists in different provinces.

Once when I ordered an ounce of Quinine Hydrochlorsulph from the chemist as he got only a small quantity for dispensing purposes he could not give me any, and told me that a mixture containing Quinine sulph and acid Hydrochlor dil will form a mixture containing Quinine Hydrochlorsulph. I forgot to mention this point till this suggestion of Bombay chemist occured to me, on the appearance of the article by Dr. Hebar in January 1931 number of "The Antiseptic", corroborating my good results, on treating an intractable case of Malarial fever with a temperature of 103°F, diarrhoea, delirium, in which he used a mixture containing Quinine sulph and acid Nitro-Hydrochloric dil, where he rightly suggests that Quinine Hydrochlorsulph is formed. He found this of benefit when other well known and widely used combinations of Quinine salts had failed. I would therefore suggest that as Quinine Hydrochlorsulph is so hardly obtainable, physicians should try the following mixture.

MIXTURE NO. I.

℞

Quinine sulph	grs. XV–XX
Acid Hydrochlor	dil ms XXX–XL
Syrupii Auranti	℥ VI
Aquae	ad ℥ VI

M. Ft. mist ⅙ part every four hours, i.e. three to four doses a day alternately with the following mixture.

MIXTURE NO. II.

℞

Caffeine Citratis	grs XX
Sodii Citratis	℥ II
Tinct Digitalis	ms XL
Tinct Gentian Co	℥ II
Glycyrrhizæ liq	℥ II
Aquae ad	℥ VI

M. Ft. mist ⅙ part every four hours alternately with the above mixture.

Thus the patient will be getting the No. I and No. II mixtures alternately every two hours.

As I have noted in my previous article, in acute malarial fevers there is jaundice and acidosis with fall of blood pressure and

cardiac weakness; therefore alkalies and cardiac tonics are essential.

Many must have used as I had used previously the Quinine sulph and acid Hydrochloric mixture with benefit, but we failed to appreciate the combination till the beneficial action of the Quinine Hydrochlorsulph as a pure salt was noted.

I have found it to be an excellent parasitotropic remedy but at the same time I must warn that it acts partially as organotropic that is harmful to the body tissues, especially to the vasomotor systems and the heart; hence a dose of 5 grains of Quinine Hydrochlorsulph is a maximum dose, and this should be safeguarded with the stimulant mixture or strong coffee given before or after each dose of Quinine mixture.

I hope Quinine Hydrochlorsulph wherever obtainable will be widely used in heavily Malaria-infected places and failing to obtain the pure salt, the above mixture forming Quinine Hydrochlorsulph be used with the results recorded in "The Antiseptic" because I am sure—let the mosquitoes do their worst—in Quinine Hydrochlorsulph we have at last found a remedy that will replace other salts of Quinine and Proprietary preparations which have been more or less beneficial but do not hit the mark.

Up till now it was our regret that in Quinine we had a drug which was not an ideal specific in Malaria; but it seems we were unfortunate in not hitting at the ideal salt of Quinine, which I think we have detected in Quinine Hydrochlorsulph, which will give us cent percent success in Malaria, at any stage of infection, acute, subacute or chronic, and will rank as a Therapia sterilisans Magna, and unlike the world renowned discovery of Ehrlich (salvarsan,) not requiring the aid of other drugs as arsenic, plasmochin etc., as in the case with syphilis, besides Salvarsan requiring Mercury and Bismuth in addition. I think my above conclusions will be confirmed when we get reports of thousands of cases of Malaria thus treated all over the country.

I here recapitulate the benefits of Quinine Hydrochlorsulph over other Quinine preparations.

1. In small doses 2 to 5 grs. as soon as it enters the body it begins to bring down the fever.
2. It relieves and stops the vomiting of pernicious Malarial fever as soon as it enters the stomach, even in those cases where sips of water bring on vomiting and retching.

3. It restores the physico-chemical balance in the blood, for even after the first dose the pale yellow earthy look is replaced by healthy colour of the face and the patient looks alive.
4. It stops further destruction of red blood cells and thus prevents further increase of hoematogenous jaundice. The jaundice begins to disappear thereafter of itself or with the administration of sodii Bicarb and sodii or Potasii citras.
5. It prevents the fine tremors in the muscles of the body which occur in longstanding cases of Malaria to which Quinine is irregularly administered and which on its further administration even in small doses precipitates Hœmoglobinuria (Pro-Hœmoglobinuric stage).
6. It quietens delirium and restlessness, brings on sleep and improves the appetite.
7. Judiciously administered it prevents relapses.
8. In small doses it acts as an efficient prophylactic and a few doses administered on noting the first symptoms of Malaria as headache, pain in the eyeballs, malaise and slight shivering, which symptoms every sufferer from Malaria knows, will prevent the onset of severe attack of Malarial fever, either relapse or reinfection.
9. It does not cause quinism.
10. It has favourable action in Influenza and Influenzal broncho-pneumonia, fever of pyelitis and cystitis and may be given a fair trial in other bacterial and protozoal infections.
11. The caution required during its administration is to bear in mind its slightly depressant action; hence in cases of myocarditis, in debilitated and old patients stimulant-alkaline mixture should always be given.

DR. SHAPURJI ARDESHIR BANKER, M.D.
(*Bombay*).

Book Reviews

"**Food Values in Practice**"—By E. M. Dobbs, M. A. Publishers, The University of London Press Ltd., London. pages 240. price 4/-

Medical opinion emphatically declares that a large proportion of gastro-intestinal disorders and the consequent general ill-health and unhappiness is caused by a deplorable ignorance of the scientific principles governing the values of foods. This ignorance is all the more regrettable as it not infrequently results in irreparable damage to health and crippled existence which could be quite easily averted by a little knowledge and understanding of the essential elements of food-stuffs and their nutritive value.

It is an undisputed fact that a sufficient quantity of food, according to the age of the individual, is absolutely necessary to appease the appetite; but for the upkeep of health something more important i.e., a suitable quality of food is indispensable. By the quality of food we do not mean the dainty dishes of the so-called civilized man which more often than not produce serious disturbance in the digestive economy; but we mean the foods that are capable of supplying real nutrition to the body and thereby meeting its physical needs. Moreover modern researches have proved beyond a shadow of doubt that a number of diseases called Deficiency Diseases are due to the absence from food of certain vital elements named vitamines.

Again, Food and Cooking are so intimately connected that lack of one proportionately weakens the other. The physiological needs of the body being varied, while the effect of cooking being as variable on the food-stuffs as their constituents are complex, it is no wonder if the rich and the poor alike do not know what food to buy and how to eat it. It is, therefore, with these objects in view that the book under review has been written, and though not the first of its kind it is a valuable addition to the existing literature on the subject.

The book is the outcome of the author's personal experience and practical knowledge of the subject of Diet Planning and Cookery; and contains, among other things, a lot of valuable information on the subject of making house-hold budgets and marketing which from an economic point of view is an admirable feature of the book. The learned author has treated the subject

quite systematically and no attempt has been spared to make the book as useful and practical as possible. Numerous practical recipes (covering more than 100 pages) for the normal household as well as for certain forms of sickness have been given at the end of the book, though Indian taste does not find a place in the long list. In short no phase or feature of the subject has been left untouched, and as the book is written in a simple and attractive style free from technical terms and phraseology, we hope it will be extensively read by the intelligent public.

The general 'get up' is beautiful, printing and binding excellent and we congratulate the author and the publishers for its production.—*G. L. S.*

"**Birth Control on Trial**"—By Lella Secor Florence, Publishers Messrs. George Allen and Unwin Ltd., London, pages 160. Price 5/-

During the past two decades there has been an enormous growth of public interest in Birth Control; and the virtues of Contraceptives as a panacea for most of the social and economic evils have been highly extolled by the médical and lay press alike. It is not our intention here to enter into a discussion on the different aspects of conception, control and its technique—a subject which has survived a terrible shell-fire and shock of debate. We would for our present purpose assume that the artificial prevention of gestation is justifiable either to limit the number of pregnancies on economic grounds, or to increase the interval between them with a view to afford some respite to the female; or to prevent the socially incompetent from propagating their kind for social reasons—the medical aspect of this controversial subject being happily the only phase on which there exists no divergence of opinions.

The efficiency proclaimed for the present day available contraceptives—both chemical and mechanical—is based more on a surmise rather than on actual experience. This led the learned author, who is associated with the Cambrige Birth Control Clinic, to undertake an house to house investigation into the after-history of 247 such patients (mostly working women) as attended the clinic for Birth Control advice during the period from Aug. 5, 1925 to May 24, 1927; and the book under review is a frank and impartial report of that investigation—most probably the first of its kind.

This charming little book describes in a lucid and humorous style the sad tale of the inadequacy and impracticability of the current contraceptives measures. A full chapter has been devoted

to the discussion of the merits and difficulties of each of the present day methods for Birth control and affords a very interesting and instructive reading. The book is decidedly a timely publication, and the subject matter, replete as it is with the pithy account of the failures of 155 poor multiparous women, is of vital importance not only to overburdened mothers but also supplies food for thought for Birth control advocates.

The author must have taken great pains to collect the information contained in this book ; and we join the author in hoping that it would serve as a stimulus to the medical profession to undertake a long overdue research in the field of Birth control technique for the discovery of a contraceptive which can be easily and confidently applied and perfectly relied upon for preventing conception.

The paper, binding and printing of the book are all that could be desired.—*G. L. S.*

Lip-Reading.—By Irene R. Ewing. Published by the Manchester University Press; 23, Line Grove, Oxford Road, Manchester Price 3/6 nett. pages 73.

This book is the outcome of nearly 20 years experience of the author, in teaching lip reading to deaf mutes in the Manchester University. Lip reading is no easy art and it is a thing that taxes the patience of both the teacher and the taught. Yet 'it is worth while' the author says, for, 'deafness often feels like darkness and lip reading is a source of light,' before which 'the darkness seems to pass away and blank despair is changed to hope.' The book will be of immense use to the deafened adult, the teachers and friends of the deaf and to teachers and parents of deaf children, to all of whom instructions have been given as to how to learn, teach and practise lip reading.—*S.T.*

Nursing—By Miss M. S. Cochrane R. R. C.; Published by Geoffrey Bles; 22, Suffolk St., Pall Mall S.W. 1 pp. 192. Price 3/6.

This book gives a succinct account of the early history of the nursing profession in Europe, how for nearly 15 centuries, nursing was in the hands of the religious order, the nuns and monks; how the profession ceased to exist, after the Reformation and the consequent dissolution of monasteries; and how, at the time of the Crimean War it was left for Miss Florence Nightingale to organize the nursing profession and place it on a solid footing in Europe. The book affords interesting reading and will be found inspiring to those who have taken up or are anxious

to take up the Nursing Profession in India, where still it is in its infancy. The book is handy and its get-up nice.—*S.T.*

Initis: Nutrition and Exercises—by A. Rabagliati, M. A., M. D., F. R. C. S. (Edin). pp. 200 with 50 photographs (Enlarged Edition). London: The C. W. Daniel Company: Price 10/6 net.

The author chose the title as "INITIS" for his book and he incorporated very convincing reasons for doing so in the introductory chapter.

The book is divided into twenty chapters and each one has been dealt with in a masterly way. In some of the chapters particularly in chapters II and IV, he quotes freely from Quain's anatomy on the structure and arrangement etc., of the connective tissues, which makes the book a very pleasant reading not only for lay people but for students of physiology as well. But the chief value of the book lies in the practical hints with which it is replete. Besides these there are many discussions of a highly interesting nature.

The pictures—50 in number—are most excellent and printed on special paper. They form one of the main features of the book and add greatly to the value of the work. The book is also well indexed. The printing and binding are all that could be desired.

To sum up, the book is of outstanding merit and authoritative in every respect, and is to be recommended to both the lay people and medical practitioners.—*J.D.*

Diseases of Women by ten teachers: 4th Ed. Published by Messrs. Edward Arnold & Co. London. Price 18/- sh. nett. Can be had of Messrs. Longman's Green & Co. Mount Road, Madras.

This fourth edition of Diseases of women by Ten Teachers is a comprehensive and handy volume on the subject and will be found very useful by candidates going up for the final medical examinations. It is better than many of the books written on the subject wherein there is much for diversity of opinion. The so-called disadvantages of collective authorship have to a great measure been successfully overcome and an authoritative work on the diseases of women has been achieved by the authors who are some of the leading authorities on the subject in London. This edition includes almost all the recent advances in our knowledge of Gynaecology. The newer ideas on the ovarian secretion and the recent advances on the subject of sterility, and the methods for testing the patency of the Fallopian tubes have been fully dealt with. The tumours of the

uterus and the ovaries are very fully considered. The subjects of Radio therapy and x—ray therapy in connection with the carcinoma of the cervix find a place in this book. A special chapter has been devoted to the consideration of that all absorbing subject "chronic ill health in women" from the Psychological Aspect:—Neurasthenia and Neurosis in relation to pelvic disorders. The Gynæcological operations have been concisely and clearly described. No doubt even the busy practitioner will find the book very useful and instructive.—*P. V.*

REVIEW OF ANNUAL REPORTS OF HOSPITALS, &c.

Calcutta Dental College and Hospital:—We have received with thanks the Tenth Annual Report of the above Institution, and we are glad to note that the College has greatly advanced in finance and usefulness to the public, especially the poor patients. Having been started a decade ago, without any support from the public, State or Corporation, the College has been able not only to train large number of students and Medical Practitioners, but also to relieve the sufferings of several thousands of school children and poor patients. We wish the College further period of success and usefulness especially to the school-going children "to raise a new generation, virile, strong and healthy."—*H. V. R.*

Annual Report for 1928 of The Institute for Medical Research, Kualalumpur F.M.S. by Dr. G.V. Allen, Acting Director.

TROPICAL TYPHUS

Tropical Typhus seems to have been so prevalent in an oil palm estate, within 20 miles from Kualalumpur, as to merit taking immediate measures to deal with the disease. This, naturally, has provided a valuable opportunity to investigate into the Aetiology, Pathology, and Immunology of the disease. Dr. Lewthwaite, who was in charge of this investigation makes certain interesting observations, which are worth noting here:—

(i) No coolie contracted the disease a second time; one attack appearing to confer Immunity.

(ii) The mortality is low, in contradistinction to the Typhus of the Western World; only 6 of the 85 patients died; a mortality of 7% only.

(iii) The blood of 84 patients, all of them field workers agglutinated the K strain (Kingsbury strain?) of Protens × 19, but not of the W strain (Western strain). The Blood of one case only agglutinated the W strain, but not the K strain and this man had been

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employed solely in the Estate factory. The cause of this curious phenomenon is not yet clear.

Aetiology.—This was investigated along four different lines:—Statistical, animal inoculation, cultural and Entomological.

Statistical.—The disease is not seasonal. Nature of the occupation seems to have a definite relationship with the incidence of the disease. Thus, coolies who worked either on the palm tree itself or in very close proximity to it, contributed 78 out of the 85 cases (i.e. roughly 92%.) Although cattledrivres are known to contract the disease in the F. M. S., in this estate, they seem to have escaped.

Animal Inoculations proved negative and inconclusive.

Cultural Methods also proved unsuccessful. Certain experiments on the agglutinability of the K strain of Bacillus Protens X 19 and the influence of the temparature, the P. H. and the media in which the Bacillus is grown, are all recorded, which conclude the report on the investigations into this disease.

MALARIA

A considerable amount of work bearing on malaria is said to have been accomplished, during the year, by the malaria Research and the Entomological divisions of the Institute; and it has been found necessary, to publish it in divisional Reports. A review of the Bulletin from the Malaria Research Division, is already published.

Quinine treatment was found to cause an increase in the number of subtertian gametocytes (crescents) and as such, those treated with Quinine, proved to be more infective to the mosquitoes, after discharge than on admission. The addition of small quantities of Plasmoquine to the Quinine, caused a rapid disappearance of crescents, and thus rendered the crescent carriers, uninfective to the mosquitoes. Evidently, Plasmoquine seems to have opened up a very valuable field of Prophylaxis; and the importance of rendering the patients uninfective to the carrier species of Anophelines, is too great to be lightly set aside; and Public Health workers should give this an earnest trial.

A much advertised proprietary drug "Aseplene", was found on investigation to be thoroughly useless in malaria, as it often turns out to be. "Dimeplasmine", a new drug manufactured by the manufacturers of Plasmoquine, was tried in malaria and found useless. Attempts to trace the relationship, if any, between the four blood groups and the susceptibility or immunity to malaria, in general and to infection with any one of the three species of malarial parasites, in particular, yielded completely

negative results. Pancreatic efficiency tests in malaria indicated no appreciable deficiency of function of this organ, except that the sugar storage capacity of 16 out of the 21 cases investigated, was found to be defective.

On three occasions, P. falciparum, was successfully cultivated by the Bass' method (modified by Thompson Brothers) and the rings were found to develop up to the stage of merozoites (one complete schizogony cycle), but no evidence of a second generation, such as these newly liberated merozoites entering a Red Blood corpuscle and developing therein etc., was obtained.

Parasite and spleen surveys in a Government experimental plantation, yielded an infantile spleen rate of 21·9% and parasite rate of 28·0 %, as compared with the adult spleen rate of 12·7% and parasite rate of 23·7%. P. vivax (B. T.) and P. falciparum (M.T.) seemed to be the most common infections, both in infants as well as in adults; while the mixed tertians (B. T. and M. T.) and Quartan infections were comparatively rare.

Staining methods in Malaria. The addition to the distilled water (diluent of the stain) of 0·1% of Pot. carbonate, was found to give better results, with thin blood smears stained by the Leishman's stain. By buffering the distill ed water with both $K H_2 P O_4$ and $Na_2 H P O_4$, excellent differentiation, in staining with Giemsa's stain of the various parts of the malarial parasite, was secured. Thick films are rapidly prepared for examination, by drying them in a Desiccator containing $CaCl_2$ for ½ hr, and staining them with Giemsa's stain, to which small amounts of $K_2 C O_3$ are added, which helps to secure a better differential staining. Panoptic method of staining has also yielded very good results.

Albuminuria was found to be somewhat more common among the Quartan cases, less common among M. T. cases, and least among the B. T. cases.

On the Preventive side—Rubber oil was tried, as a Larvicide. Although it proved to be efficient, it had some disadvantages over mineral oils. Also, Rubber oil was not economically, feasible. As for the breeding habits of the Anophelines it was found that very few species appeared to be specific in the selection of breeding places. A: maculatus, the greatest carrier in Malaya, was found to be capable of adapting itself to breeding places vastly different from its natural habitat.

Precipitin Tests in Malaria, using as antigen, an Ethereal alcoholic extract of Spleen, from a case of heavy infection with P. Falciparum yielded negative results.

Quinine Troposan, an isomer of "Stovarsol," manufactured by Messrs May and Baker was tried and found useful. But,

further work appears to be necessary, to confirm the value of this product.

TROPICAL ULCER

Tropical ulcer, in the F. M. S. appears to be almost confined to the coolie class; the unfit being more frequently attacked. Food deficiency is regarded as a possible predisposing factor. Bacteriological methods of Examination revealed the presence of a Diphtheroid type of organism, but whether they are the causative organisms or not, cannot be said with certainty.

By way of treatment, "Eusol" was found to yield very good results and wood oil and wood alcohols (crude) also yielded satisfactory results.

LEPROSY

Dr. R. Green, after studying several reacting cases of Leprosy, has come to the same conclusion, as reached years ago by Sir Leonard Rogers and E. Muir, that Reactions represent but a phase of the disease and that they may be beneficial or the reverse, depending upon the type of the case and the intensity of these Reactions. Although somewhat late in the day, Dr. Green seems to have realised also, that these Reactions represent only the the allergic manifestations, towards m. leprae, present already in the tissues. In agreement with other Leprosy workers, Dr. Green also opines that the Kahn's Test is slightly more sensitive than the Wassermann, in Lepers.

Alepol and E.C.C.O. have been tried, but the number of cases in which the former has been used, is too small, to bear comparison with the latter. "Krysolgan," said to contain gold, in a complex organic molecule, was tried and found useful in cases with occular manifestations; but, further observations alone will determine the value of this preparation in Leprosy.

TUBERCULOSIS

A small series of cases under Sanocrysin treatment has given rise to the impression that Sanocrysin is useful only, in just protracting the course of the disease in an Asiatic patient, but not useful enough to offer a hope of cure.

OTHER INFECTIONS

A rare case of what subsequently proved to be Infection with Eberthella belfastiensis (Wilson) and two cases of what is believed to be genuine infections, with B. faecalis alkaligenes, were encountered. Five cases of cutaneous Blastomycosis with peculiar, nodular, scabcovered lesions resembling Frambesic

lesions, but containing only yeasts in the affected tissues and treated very successfully with large doses of K. I. (Pot Iodide) (60 grs. to 90 grs.) are described.

BERI-BERI

A vitamine extract is said to have been successfully prepared by absorption on acid clay, and it is proposed to issue this extract in Tablet forms, for treating cases of Beri Beri. The results are indeed worth watching !

SECONDARY ANÆMIAS

Liver treatment was found to give very satisfactory results in cases of secondary anæmias. In some cases which failed to respond to the ordinary treatment with Haematimics, Liver Extract, exerted a remarkable effect; and it is surmised that the specific effect of the Extract, must be on the supplementary factor of nutrition, which. besides the main causative factor, helps to produce such anæmias.

AMOEBIC DYSENTERY

Bistorol was tried in a few cases but the results were not in any way better than emetine.

YAWS

Troposan was tried in 3 cases of yaws and although the results were promising, no superior claims could be made on behalf of this product, before extensive trials on a large number of cases are carried out.

SUPPLY OF VACCINES ETC.

As regards Vaccines etc. the Institute seems to have become self sufficient during the year under review—a very noteworthy advance indeed !!

SEROLOGICAL WORK

In the Serology department, upwards of fourteen thousand sera were examined for the Wassermann and 34·8% of the sera examined, were positive. A comparison between the W. R. and Kahn, in upwards of three thousand cases showed agreement in 95% of the cases and only 5% gave disagreeing results. Of this 5% only some could be re-examined. This re-examination revealed that the Kahn's Test, was more sensitive than the W. R. This is in agreement with the opinions of the leading Serologists of the world.

Five appendices to the Report deal with the divisional reports of the Bacteriological, chemical, Pathological, Entomological and Malaria Research divisions of the Institute respectively, and are well worth perusal by Research workers.

This Report, has, on the whole, maintained the high level of excellence, like so many of its predecessors, both in the output of Scientific material as well as in the printing and the general get-up of the Report. Dr. G. V. Allen, the acting Director, and his staff, deserve to be congratulated on a year's very useful work.—*G. R. R.*

Bulletin No. 4 of 1930 from The Institute for Medical Research Kuala Lumpur. F. M. S. (F.M.S. Govt. Printing Office). By Mr. F. E. Byron.

The Ca and P content of the blood, and the creatinine coefficient of the urine, of some inhabitants of Malaya, have been determined and the results are reported in this Bulletin.

As the number of cases in which these determinations have been carried out, is too small, to render the results of any outstanding value, still, as a preliminary note on the subject, this report, may just serve to point out the need for further Research work along these lines.

Serum Ca values for Asiatics are found to be below the normal standard for Europeans. But no significant difference in the Plasma P content of both the races, has been found.

The creatinine co-efficient of the urine of Asiatic males, is reported to be within the normal European standards, but the co-efficient of Asiatic females particularly Tamil females, who do enough hard muscular work, is found to be less.

Further work along these lines is necessary before normal standards for Asiatics can definitely be laid down.—*G.R.R.*

Books Received.

The following books have been received and the courtesy of the publishers in sending them is acknowledged. Reviews will be published from time to time.—[*Ed. A.*]

Synthetic Anatomy—By J. E. Cheesman. Published by Messrs. Bailliere Tindall and Cox, 7 & 8 Henreitta Street, Covent Garden, London.

Lorenz Bohler—Treatment of Fractures, 2nd Ed. Translated by M. E. Steinberg. Published by Messrs. Wilhelm Mandrich (Wien IX) Vienna, Austria. Price. $ 5.50.

Properties of Food. By W. M. Clifford & V. H. Mottram. Published by University of London Press Ltd., 10 & 11. Warwick Lane, London E. C. 4. Price 2 sh. 6 d.

Exercise, Its functions, varieties and applications—By Dr. Adolphe Abrahams. Published by Messrs. William Heinemann (Medical Books) Ltd., 99 Great Russell St. London. Price 3 sh. 6 d.

The Hygiene of Marriage, 2nd Ed.—By I. E. Hutton. Published by Messrs. W. Heinemann Ltd. Price 5 sh.

Shorter Convalescene—By J. K. McConnel. Published by Messrs. W. Heinemann Ltd., Price 5 sh.

The Soya Bean and the New Soya Flour—By C. J. Ferree. Published by W. Heinemann, Ltd., Price 6 sh.

Common Colds.—By L. Hill and M. Clement. Published by W. Heinemann Ltd., Price 7 sh. 6 d.

America's Sex, Marriage and Divorce problems, 2nd Ed.—By Dr. W. J. Robinson. Published by Messrs. Eugenics Publishing Co., New York, Price. $ 3.00.

Children at the Cross Roads.—By A. E. Benedict. Published by the Common Wealth Fund Division of Publications, 597, Madison Ave. N. Y. Price $ 1.50.

Insomnia—An outline for the practitioner.—By H. Crichton-Miller. Published by Messrs. Edward Arnold Co. 41 & 43 Maddox street, London W. I. Price. 10 sh. 6 d.

The use of Plasmoquine in subterian Malaria.- By G. Russell Amies. Published by the Institute of Medical Research, Kuala Lumpur. F. M. S.

Annual Report for the year 1929. Institute of Medical Research, Kuala Lumpur, F. M. S.

Chronic Nasal Sinuisitis and its relation to general medicine, —By P. Watson-Williams. Published by Messrs. John Wright & Sons Ltd. Bristol. Price 15/: nett.

Emergency Surgery,(Abdomen & Pelvis) Vol. I.-By Hamilton Bailey. Published by Messrs. John Wright & Sons. Price 25/: net.

Synopsis of Medicine, 5th Ed.—By H. L. Tidy. Published by Messrs. John Wright & Sons. Price. £ 1-1-0 nett.

Edward Jenner and the discovery of Small-pox vaccination. —By L. H. Roddis. Published by Messrs. George Banta Publishing Co., Menasha, Wisconsin.

The Movement of the Eyes in Reading.—By. M. D. Vernon Published by Medical Research Council, London Price. 9 d. nett.

The Electrocardiogram.—By W. H. Craib. Published by the Medical Research Council, London. Price 1 sh. 3 d.

The Psychiatric Study of Problem children. By S. Brown and H. W. Potter. Published by the New York State Dept. of Mental Hygiene, Albany N. Y.

Outlines of Psychiatry, 12th Ed.—By W. A. White. Published by the Nervous and Mental Diseases Publishing Co. Washington, U. S. A.

Pythons and their ways.—By F. W. Fitzsimons. Published by G. G. Horrap & Co., Ltd. 39-41, Parker St. Kingsway, London. Price. 7 sh. 6 d. nett.

The culture of the Abdomen—The cure of obesity and constipation 7th Ed.—By F. A. Hornibrook. Published by Messrs. W. Heinemann (Medl. Books) Ltd. London. Price 6 sh. nett.

Medical and Surgical Year Book Vol 1. 1929. Published by Physicians Hospital, William H. Miner Foundation, Plattsburg N. Y.

British Red Cross Society—Hygiene and Sanitation Manual No. 4. 2nd Ed.—By Lt. Col. G. Parkinson. Published by British Red Cross Socity, London.

Methods and Problems of Medical Education 18th Series.—Published by Rockfeller Foundation 61, Broadway, New York, U. S. A.

Diet and Efficiency,—By Franklin C. Mclean and others. Published by the University of Chicago Press. Chicago. U. S. A.

Care of the Teeth and Mouth.—By J. C. Basak. Published by the author at 363, Upper Chitpore Road, Calcutta. Price. 4 as.

Goiter—Facts for the General Public. Published by the Dept. of Pensions & National Health, Ottawa, Canada.

Periodic Examinations of apparently Healthy individuals by the Family Physician. Published by the Dept. of Pensions and National Health.

Venereal Diseases.—No. 1 & 2.—Published by the Dept. of Pensions and National Health.

Vinereal diseases—Diagnosis and treatment. Published by the Dept. of Pensions and National Health.

Uphill steps in India.—By M. L. Christlief Published by Messrs. George Allen and Unwin Ltd. Ruskin House, 40 Musem St. London W. C. I. Price 6 sh. nett.

Report of the Health Officer of Calcutta for the year 1928 and 1929.—By Dr. T. N. Mazumdar. Published by the Corporation Press, Calcutta.

Biological investigation of the Water Purification Plants of Calcutta Corporation Part I. Published by the Health Dept. Calcutta Corporation.

Lecture on diseases of children 6th Ed.—By R. Hutchison. Published by Messrs. Edward Arnold & Co. 41 & 43 Maddox St. London W. I. Price 21 sh. nett.

Nagpur Sewage Disposal Experiment.—By Williams and Temple. Published by Messrs. Thacker Spink & Co., P. Box No. 54, Calcutta. Price Rs. 3/-.

Diseases of children.—By Bruce Williamson. Published by Messrs. E. & S. Livingstone, 16, 17, Teviot Place, London. Sole Agents for India, Messrs. Butterworth & Co., Ltd., P. Box 251, Calcutta. Price Rs. 7/14.

An Introductian to Practical Bactenology, 3rd Ed.—By T. J. Mackie & J. E. McCartney. Published by Messrs. E. & S. Livingstone. Sole Agents for India, Messrs. Butterworth & Co., Ltd. Price Rs. 7/14.

Ante-Natal cure, 2nd Ed.—By W.F.T. Haultain & C. Fahmy. Published by Messrs. E. & S. Livingstone. Sole Agents for India, Messrs. Butterworth & Co., Ltd. Price Rs. 3/12.

An Introduction to Medical History and care taking.—By G. Bourne. Published by Messrs. E. & S. Livingstone. Sole Agents for India, Messrs. Butterworth & Co., Ltd. Price Rs. 4/8.

A Manual of Tuberculosis for Nurses.—By A. Underwood. Published by Messrs. E. & S. Livingstone. Sole Agents for India, Messrs. Butterworth & Co., Ltd. Price Rs. 4/I4.

NOTICE.

THE CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY

Our readers will be interested to know the existence of this society which is intended to furnish useful information, free of charge, to the travelling public regarding the names and addresses of American and English practitioners, established on the continent of Europe and in Northern Africa, whose medical aid they may be anxious to seek, in case of illness during their tours. All communications should be addressed to Dr. B. Sherwood-Dunn, Hon. Secretary and Treasurer, 54, Bd. Victor-Hugo, Nice (France).

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