

## CURRENT LITERATURE

*The current literature of leprosy is dealt with in this department as fully as possible. It is a function of the Contributing Editors (see inside of front cover) to provide abstracts of all articles published in their territories, but when necessary abstracts are taken from other sources*

LIE, H. P. Famous Norwegian dermatologists. *Lep. Rev.* 8 (1937) 113-116.

In the middle of the last century leprosy was so prevalent in Norway that the dermatologists of that country naturally devoted themselves especially to its study. They propounded various theories with regard to its etiology. Danielssen and Boeck considered it to be a "dyscrasia of the blood" and inclined to the theory of transmission by heredity, claiming to find one leper always in the direct line of descent. Bidentkof further included cases in collateral lines of descent. J. J. Hjort advocated the idea of spontaneous origin in every case. Holmsen thought the disease was specific, caused by a miasma in certain regions. Lochmann said it was specific and spread by heredity, and rarely by contagion. Hansen from the first devoted himself to prove his theory of a bacterial origin of the disease and in 1873 claimed to have demonstrated bacilli by coloring them with osmic acid. Finding them in all undoubtedly leprous tissues, he taught that the disease is produced by them and transmitted by contagion. Modern leprology owes its foundation to the work of the Norwegians in the development of their theories of the causation of the disease, in the discovery of the bacillus, and in their accurate descriptions of the disease as found in their country in the last century. —J. W. LINDSAY

WONG, K. C. Sun Szu Mo, the first Chinese leprologist. *Lep. Quart.* 13 (1939) 66-74.

This scholarly article traces the history of the first known doctor in China who treated enough cases of leprosy to be called a leprologist. The author, who is at present China's chief medical historian, traces Sun, his work and his contributions to leprosy. He wrote extensively, and in the 21st and 23rd volumes of his "Thousand Gold Remedies" described leprosy and gave remedies for its cure. He treated Chinese and foreigners, kings and peasants, and claimed cure in about 10% of his patients. He recorded that no less than 600 patients suffering from leprosy had come to him for help. —L. S. HUIZENG

11 X  
MERIC, J. Nos lépreux et les Commissions de Réforme militaire. [Our lepers and the Commissions de Réforme militaire.] *Mouv. san.* 14 (1937) 650-652.

This article is a juridicial discussion of the case of a prison guard in Guiana who contracted leprosy during his service, the disease becoming manifest 11 years after his departure from Guiana. A commission awarded

him a pension for 70% disability. A regional pension court held this decision to be illegal. The Council of State in turn annulled this decision of the regional court. Finally another pension court concurred with the principal of the pension, which another Commission then fixed at 100% disability; at that time the patient presented mutilations of the hands and feet and ocular and nasal complications.

—ET. BURNET

HUIZENGA, L. S. The distribution of leprosy in China remains unchanged.

An encouragement to the leprosy control problem in Shanghai. *Jour. Clin. Med.* 3 (1938) 198.

The history of leprosy in China is traced and it is concluded therefrom that the disease exists today largely in the same places it has existed for centuries, and that although the infection has been introduced into new areas it has thus far not spread alarmingly in them. In Shanghai there have always been a few lepers, but the disease has never spread to any alarming extent there, though many etiological factors conducive to its spread were present from the beginning of the founding of the city. The increase in cases in recent years is due to migratory movements due solely to the Sino-Japanese war.

—AUTHOR'S ABSTRACT

LOPEZ FERNANDEZ, F. El problema sanitario de la lepra en Cuba. [The sanitary problem of leprosy in Cuba.] *Med. Hoy* 2 (1937) 565.

The author finds that the number of lepers in Cuba has been increasing considerably in recent years. Most of them are living in promiscuity with healthy families, always trying to escape the attention of the sanitary authorities. Reviewing the antileprosy methods that are employed in other endemic countries, he gives his ideas about the measures which should be taken in Cuba in order to control the disease; these are essentially isolation, treatment and dispensaries.

—W. H. HOFFMANN

DE BARROS BARRETO, J. Organização moderna da luta contra a lepra. A campanha no Brasil. [Modern organization of leprosy control; the campaign in Brazil.] *Arch. Hyg.* 8 (1938) 245-261.

The campaign against leprosy in Brazil, under the leadership of the Federal government, the states cooperating, has a modern orientation. The enumeration of lepers is carried on intensively by a specialized staff; the latest data show 35,091 cases, with incidence rates of 2.05 per thousand in the north, 0.2 in the northeast, 1.13 in the central region and 0.49 in the south. Isolation is considered of great importance, and the number of patients to be isolated is computed at 24,888. For this purpose there are 28 establishments, with 14 others under construction and 8 more planned. There are 41 well equipped dispensaries, 12 of which are located in the Federal District, one for each health center. Encouraged by the public authorities there are 72 private organizations charged with the task of giving moral and material aid to the families of the patients, and nine preventoria with a capacity for 1,000 children; two more are being erected and several others are planned. Concerning treatment, the author calls attention to the results obtained with a preparation of chaulmoogra esters whose great activity and tolerability, because of the reduction of its irritating effect, permits its use in double and even triple the ordinary therapeutic doses.

—H. C. DE SOUZA-ARAÚJO

GRECO, N. V. La profilaxis de la lepra. [The prophylaxis of leprosy.] *Semana méd.* 2 (1937) 1023-1033.

After reviewing the history of the leprosy prophylaxis the author discusses contagion and leprosy in Argentina. Among the more interesting statements are: there exist healthy persons who are carriers of the germ; the bacillus is highly resistant and can be encountered alive in various objects and are conserved in sewer pipes up to 4 or 5 kilometers from the point of entry; transmission through animals is possible, especially insects and rats. With regard to the situation in Argentina [repeatedly dealt with in *THE JOURNAL*] the leprosy index has increased from 13 per 100,000 in 1909 to 25 in 1935. It is held to be an error to establish leprosaria far from the urban centers; better would be general hospitals for infectious diseases in the cities, with wards for lepers. On the basis of bacteriological findings, 60 to 75% of the cases do not need hospitalization but can be treated in dispensaries. The ideal thing is to establish leprosy hospitals within the big cities, or very near them, with sufficient land for agriculture; such institutions would minimize antagonism to isolation. Leprosy is not very contagious and may be easily eradicated if proper measures are taken.

—G. BASOMBRI

BASOMBRI, G. El matrimonio y los enfermos de lepra. [Marriage and the lepers. An open letter to Sr. Solón Fernandes.] *Semana Méd.* 46 (1939) 801-802.

Basing his argument on natural right, on the relatively slight contagiousness of leprosy, and on the fact that it is not hereditary, the author holds that lepers should be allowed the privilege of matrimony without any distinction from healthy persons. He believes that society has unavoidable duties toward the lepers since it deprives them of their personal liberty exclusively for its own benefit.

—AUTHOR'S ABSTRACT

RYRIE, G. A. Some principles for directing leprosy surveys. *Jour. Malaya Branch, British Med. Assoc.* 2 (1939) 233-238.

This paper is intended primarily for administrators and others who may have to direct leprosy surveys but who are unfamiliar with the methods by which such surveys should be conducted. The author divides communities into (a) agricultural villages, (b) "closed communities" such as schools, barracks and factories, and (c) "open communities"—towns with mixed general population. He describes the different methods to be applied to the survey of each community type, and adds a list of terms officially adopted by the epidemiological committee of the Cairo leprosy congress.

—AUTHOR'S ABSTRACT

[MISSION TO LEPEERS, INDIAN AUXILIARY] Report of the Sixty-Third Year's Work in India and Burma of the Mission to Lepers, September 1936—August 1937. *Purulia.*

When Mr. Wellesley C. Bailey died on January 28, 1937, an epoch in the history of the Mission to Lepers came to its close; he had founded the Mission 63 years before and was the last remaining personal link that held together the first beginnings and the work of today. Marking the opening of another era, the first after-care scheme in India for arrested cases was begun with the clearing of the jungle on part of a 6,000 acre

tract of virgin forest land which has been set apart in the Central Provinces for the reestablishment in civic life of arrested cases, who so often see their symptoms reappear, nearly always after they have had to return to conditions of poverty, stress, and undernourishment. The sociological problem is important, and effective rehabilitation is almost as important in the leprosy worker's task as is direct medical treatment. In the homes of the Mission numerous small building projects make a considerable total of development during the year, much of it being "to provide more adequately for children with leprosy—a wide field for further development. Among the adult patients the proportion of contagious cases continues to increase; this will probably lead to less striking statistics of results of treatment in the future. In 1936 the total of cases arrested without deformity was 1,088. Funds available have permitted the work to grow steadily, and a total of Rs. 8,12,315 was spent on the work in India and Burma during 1936.—[From summary in *Indian Med. Gaz.* 73 (1938) 379-380.]

[MADRAS] Triennial Report on the Working of the Civil Hospitals and Dispensaries in the Madras Presidency for the Years 1935 to 1937.

The leprosy campaign in Madras has progressed rapidly due to the support of the government, and has also been taken up by local boards and the public, nonofficial organizations being formed to further the campaign and to make appeals to the public for funds, the response to which has been good. The number of clinics that had been opened was 445 in 1937. The average total attendances and new attendances per year (fairly uniform) were 791,443 and 34,511, respectively. About 20 clinics were transferred to Orissa Province during 1936.—[From a summary in *Indian Med. Gaz.* 74 (1939) 378-379.]

[BIHAR, INDIA] Notes on the Annual Returns of the Hospitals and Dispensaries in Bihar for the Year 1936. By Lt.-Col. H. Stott.

There are now five leper asylums and one colony in the province, with total accommodations of 1,851. The number of residents in them was 2,104, against 1,844 in 1935, and the number of outdoor patients treated at these institutions was 3,491 against 4,625 in 1935. Sixty-three outdoor clinics functioned during the year, and 20,611 new patients were treated in them against 17,813 in the previous year.—[From a summary in *Jour. Trop. Med. & Hyg.* 42 (1939) 20.]

[ORISSA] Annual Public Health Report of the Province of Orissa for the Year 1937. Lieut.-Col. G. Verghese, I.M.S., Director of Health and Inspector-General of Prisons, Orissa.

The Cuttack Leper Asylum, the largest in Orissa province, with 357 inmates during 1937, is maintained by a capitation grant from the provincial government and contributions from the local authorities. A special children's ward is being added. The colony at Puri, containing 75 patients, is maintained by the provincial government, which contributed Rs. 2,556 for its upkeep; the District Board and the municipalities of Puri contributed Rs. 300 each. At Burgarh 75 lepers have isolated themselves in huts a mile from the town, and at Hatigarch 14 families have isolated themselves in houses which they built. This colony has been organized

by a local missionary, and the people maintain themselves by the help of relatives and by undertaking labor tasks for others. Treatment is given in these places and in 71 leprosy clinics in the hospitals and dispensaries, where 7,659 patients were treated. The Orissa Branch of the British Empire Leprosy Relief Association was inaugurated in April, 1937, with 100 members. The district health staffs deliver lectures with magic lanterns, and in 1937 distributed 20,000 leaflets. At the close of the year a comprehensive scheme costing Rs. 36,000 for combating leprosy in the province was submitted to the Government.—[From a summary in *Jour. Trop. & Hyg.* 42 (1939) 195-196.]

[CEYLON] Report of the Director of Medical and Sanitary Services for 1937. Colombo.

During the year 1,292 cases with 84 deaths, as against 1,253 cases with 74 deaths in 1936, were treated at government hospitals, including the two leper asylums. During the year 30,411 children in 208 schools were examined and 16 cases detected, of which 8 had definite lesions and 8 indefinite ones. The total area covered by the survey was about 2,000 square miles, with a population of over 600,000.—[From the *Indian Med. Gaz.* 74 (1939) 187.]

WOODWARD, F. A. Molokai and its leper colony. *Med. Bull. Vet. Admin.* 14 (1937) 60-61.

A short description of the well-known Kalaupapa settlement, in Hawaii, which should help educate the public to the fact that, contrary to general understanding, only a very small portion of Molokai Island is used for the settlement. Reference is made to one patient who was pronounced leprosy at the age of 8 months and, at the other extreme, to one who lived 50 years at the settlement. Tribute is paid to Father Damien, Brother Joseph Dutton and Sister Marianne.

—H. E. HASSELTINE

ALLEGRET. Le Sanatorium de Valbonne. [The Valbonne Sanatorium] *Rev. Méd. et Hyg. trop.* 30 (1938) 265-267.

The author recounts the founding in 1923 of the Comité de Secours aux Lépreux, of which M. Ph. Delord was the general secretary and for fifteen years the animator; previously he had worked with lepers in the Loyalty Isles. In 1926 the organization, then named less objectionably the "Association de Secours aux Victimes des Maladies Tropicales," purchased an old chateau, site of the Chartreuse de Valbonne, in the Gard, founded in the 13th century and remodelled last in 1915. Though it is located in the midst of a 500-hectare forest, far from any center of habitation, it nevertheless required three years of effort before permission to use it for a leper asylum could be obtained; in the meantime the "antique monastery" was adapted for its new use. The organization is Protestant, but the institution is open to persons of all religions. The conditions of life as described are very comfortable, and stress is laid on the atmosphere that prevails. Patients are admitted with little formality, come at their will and go when they wish. Those who can do so pay 25 francs a day, but funds are available for the support of those who cannot pay. The number of inmates is not given.

—H. W. W.

CERRI, B. Sui gruppi sanguigni nella lebbra come eventuale elemento di resistenza. [The blood grouping in leprosy and its relation to resistance.] Boll. Sez. Reg. Soc. italiano Dermat. e Sifil. 16 (1937) 321; also Arch. italiano Dermat. 14 (1938) 108; also Gior. italiano Dermat. e Sifil. 79 (1938) 791.

Among the elements which condition the receptivity and the resistance of individuals to diseases, an important role is played by individual constitutional characters. The blood grouping is one which should be considered, though the studies of it that have been made have not given any definite results. The author thought that it should be particularly valuable to study leprosy in this connection, since it is not understood why it should affect only certain individuals out of groups under similar conditions. Previous findings have been variable and even contradictory. He studied 100 lepers and 181 healthy persons who were either relatives of the lepers or had had prolonged contact with them, and concludes that there is no relation between the occurrence of the disease and the blood grouping. Among the lepers there was a slightly higher number of group O, but the difference was negligible. On the other hand, among healthy and leprous relatives, and among the lepers of a given family, it is possible to find as many groups that are similar as groups that differ. The facts are otherwise when the data are examined with relation to the form of the disease. A quite large proportion of the persons with the mixed form belonged to the third group. The neural cases were predominantly of the fourth group; but the number of cases was too small for the comparison to be of value. The same uncertainties exist with regard to the relation of the evolution of the disease and the blood grouping. The numerous obscure points that exist with regard to contagion in leprosy will, therefore, have to be cleared up by some other means.—[From abstract in *Ann. Dermat. et Syphil.* 9 (1938) 1075.]

SANTONASTASO, A. Sulla riproduzione sperimentale delle affezioni lebbrose. [The experimental reproduction of leprosy.] Ann. Ottol. e Clin. Ocul. 65 (1937) 321-360.

The author discusses previous work on this subject, giving in detail his own experiments in which the anterior chambers of rabbit eyes were inoculated with leprous material taken from the human subject. Biologic and histologic observations were made during periods varying from thirty days to fifteen months. The conclusion reached is that none of the experiments reported in the literature warrant the belief that leprosy can be transmitted to the lower animals.—[Abstract from *American Jour. Ophthalm.* 21 (1938) 352.]

ROUSSEAU, P. AND GAUGEAT, M. Culture du bacille de Hansen a partir du lépromme. [Culture of the Hansen bacillus from the lepromma.] Rev. Méd. Hyg. trop. 30 (1938) 268-270.

——— Culture du bacille de Hansen à partir du sang de lépreux. [Culture of the Hansen bacillus from the blood of lepers.] Ibid. 30 (1938) 326-332.

The first of these reports is a confirmation of the results obtained by Vandromer and Brun in cultivating lepromma material on asnergillus liquid.



The second is a claim that the same microorganism, with the same cycle of development, has been obtained from blood seeded on Loewenstein's medium, later on agar, potato and glycerinated bouillon. —ET. BURNET

BERTELOTTI, L. Il comportamento delle cellule nevice verso i bacilli di Hansen. [Reaction of naevus cells to the bacillus of Hansen.] Bol. Sez. Reg. Soc. italiana Dermatol. e Sifil. (1935) No. 2, April.

The author briefly sums up the results of experiments on the way in which the naevus cell reacts to the leprosy bacillus. Having observed that the mesenchymal cells and epithelial cells reacted differently to it, he tried to ascertain whether the modifications presented by the naevus cells were comparable with those observed in elements of epithelial or of mesenchymal nature. He also tried to ascertain the presence of a possible new element, in order to establish the nature of the naevus cell itself. The study was carried out on numerous forms of soft and nonelevated pigmented naevi from lepers. The naevus cell does not react to Hansen's bacillus in the way that mesenchymal elements react to produce Virchow's cell, but on the other hand it presents changes comparable with these described by Babes and by Jeanselme in the cells of the epidermis and of its derivatives. In other words, the leprosy bacillus multiplies inside the naevus cell, constantly giving rise to a single vacuole which gradually progresses as the colony of bacilli multiplies. Under the pressure exerted by the mass of bacilli the nucleus changes and is displaced to the periphery of cytoplasm, appearing like a slender half-moon. This study, which contributes an additional argument supporting the theory of the epithelial genesis of the naevus cell, is to be described more fully in another publication.—[From abstract in *Arch. italiano Dermat. Sifil.* 12 (1936) 516-525.]

HOPPE JR., F. As maculas eritemato-pigmentares. [The erythematopigmentary macules.] Rev. Brasileira Leprol. 6 (1938) 173-175.

It is stated that the erythematopigmentary macule is one of the most important manifestations of leprosy. Being of lepromatous structure and later transforming into lepromata, it differs markedly from the simple pigmentary macule, which is characteristic of the residual forms and has a nonspecific histological picture. —L. SOUZA-LIMA

RABELLO, JR. Questões em discussão sobre a classificação das formas da lepra. [Discussion of the classification of the forms of leprosy.] Arch. Hyg. 8 (1938) 59-76.

In attempting to group the multiple clinical features of leprosy under simple taxonomic criteria, the author's previous classification is now reduced to three fundamental forms: (1) the lepromatous, in which the skin and nerve lesions are crowded with bacilli and Virchow's lepra cells; (2) the maculo-anesthetic in the classic sense, with macules and other trophic changes with scanty bacilli; and (3) the tuberculoid, with granulomatous lesions with no or very few bacilli. The former "mixed" forms of the disease are rather to be understood as associations of the preceding ones.

—H. C. DE SOUZA-ARAUJO

OBERDOERFFER, M. Introduction to an investigation of racial differences in the clinical picture of leprosy. Lep. Rev. 10 (1939) 112-114.

The author has had experience in Africa and the East, in different climates and among different races. In Nigeria, where the incidence is high, 90% of the cases belong to the macular type with lesions of more or less tuberculoid structure; prognosis is bad as compared with cases in India and Ceylon, the results of treatment are bad and the relapse rate is high. In Ceylon the incidence is not high, the disease takes a mild course, and the prognosis in many cases with single macules is good. In Calcutta the incidence is high, there are many tuberculoid cases, and the prognosis of treated cases is good. In Malaya, Indians show a mild form of the disease while Chinese have a more severe form. The author has noted that there are seasonal variations in the bacteriological positivity, especially of the tuberculoid lesions, and suggests that this variation may be due to seasonal variations in the toxicity of certain vegetable constituents of the diet in common use in particular places; this refers especially to *Colocasia antiquorum*, which contains a highly toxic sapotoxin the concentration of which shows definite seasonal variation. He suggests that the use of this vegetable constitutes an important predisposing factor in leprosy, due to damage to the adrenals. Adrenal damage of any kind is likely to cause the temporary or final transition of tuberculoid to lepromatous tissue reaction.

—J. W. LINDSAY

MARINO BECHELLI, L. AND DA CASTA VALENTE, E. L'influence de la réaction léprotique sur la marche des lésions cutanées lépreuses. [The influence of lepra reaction on the leprosy lesions of the skin.] Rev. Brasileira Leprol. 5 (1937) Spec. No., pp. 167-178.

Their observations and statistics lead the authors to assert that lepra reaction is much more harmful than beneficial, for in a considerable number of cases it had aggravated the dermatological condition. Aggravation was by far the most pronounced in cases that had had acute reactions, a large majority of whom had suffered more than two such eruptions. On the other hand, in a small number of cases there had been surprisingly marked improvement of the lesions, this being mostly in those with subacute reactions. Their pessimism, they point out, is contrary to the opinions of certain other workers, and they admit that the difference may perhaps arise from the fact that for this study they had used a reduced number of rigorously selected cases, which does not permit making generalizations, or adopting as a conclusion their opinion that lepra reaction is harmful.

—H. W. W.

BAPTISTA, L. Um caso interessante de reação leprotica. [An interesting case of lepra reaction.] Rev. Brasileira Leprol. 6 (1938) 27-29.

The author relates observation of a case of maculo-anesthetic leprosy in which the histamine test as applied by him (several punctures at intervals) showed that the skin areas affected by leprosy were limited. When there occurred a lepra reaction rash of the generalized exfoliative erythrodermia type of Wilson and Brocq, this reaction appeared on the areas limited by the negative histamine test.

—L. SOUZA-LIMA

ROTBURG, A. Reações leproticas determinadas pela prova de Mantoux. [Lepra reaction provoked by the Mantoux test.] Ann. Paulista Med. Cir. 34 (1937) 511 (abstract).



In 7 out of 104 patients who gave positive tuberculin reactions the author observed after 2 to 8 days the sudden appearance of lepra reaction or the exacerbation of already existing lesions. Taking as standard one of the patients affected with pulmonary tuberculosis, determined clinically and roentgenologically, he suggests as an explanation of the fact a local reaction provoked by the tuberculin on the "leprous soil" determining the rash by a parallergic phenomenon.

—L. SOUZA-LIMA

GUILLAUMOU, F. Réaction lépreuses provoquées par la vaccination jennérienne. [Lepra reactions provoked by Jennerian vaccination.] Bull. Soc. Path. exot. 32 (1939) 129-134.

The author observed 11 cases of lepra reaction among 320 patients successfully vaccinated against smallpox, within two weeks after the vaccination. None of these cases was of the neural type. Hospitalization was necessary in 6 instances. There was no effect upon the disease, favorable or otherwise. These results are compared with the observation of Muir, Hasseltine, Denney and Hopkins.

—ET. BURNET

LOUTFY, M., FAHMY, A. R. AND ISMAIL, D. Ocular manifestations of leprosy. Bull. Ophthalm. Soc. Egypt 30 (1937) 181-187.

The authors report their findings in a series of 293 cases of leprosy, 101 of them in the Sioufia Hospital for women and 182 in the Abu Zabal colony. The lesions found are as follows: *Affections of lids*: loss of brows or cilia, 190; nodules, 49; diffuse infiltrations, 4; anesthetic patches, 3; tuberculoid infiltration, 1; ptosis, 4; orbicularis paralysis, 34; orbicularis and facial paralysis, 16. *Affections of cornea*: superficial opacities, 7; deep opacities, 11; sclerosing keratitis, 7; pannus, 10; nodules, 5. *Affections of the iris and ciliary body*: iridocyclitis, 28; organized exudate, 11; nodules of iris, 7; plastic iritis, 8; atrophy of iris, 11. *Affections of the sclera*: scleritis, 4; episcleritis, 3. No pathological changes of the fundus were found in 36 cases examined. Eye lesions, especially loss of eyebrows and changes of the cilia, are usually early and often aid in making the diagnosis. Thickening of the supraciliary margin and nodular elevations of the lids are also common, patches of hyperpigmentation and anesthesia rather rare. Ptosis of mechanical nature was seen in some nodular cases. Bacilli are constantly found along the margin of the eyelid and have also been found in apparently normal parts of the conjunctiva and cornea. Entrance of the infection is through the epithelium of the conjunctiva or cornea and thence to the uvea. In the conjunctiva yellowish, translucent, not highly vascular nodules generally develop near the margin of the cornea and may spread to it, where they not infrequently have the appearance of new growths. There is an associated iritis, sometimes with formation of nodules on the iris and also cyclitis. The nodules in the different parts of the eye finally break down and the eye is lost (6 cases). The cornea is affected in many ways: diffuse haze affecting the subepithelial layer; haziness of the upper part with so-called superficial punctate opacities of irregular shape, size and form, mostly in the superficial layers of the substantia propria; punctate opacities accompanied by leprotic pannus; interstitial keratitis with uveitis, showing no tendency to absorb; sclerosing keratitis; organized exudate (membrane) on the back of the cornea, yellowish in color and with deep vascularization. Corneal ulcers

of any kind were absent. The iris and ciliary body showed: plastic iritis characterized by intense circumcorneal injection, turbidity of aqueous and posterior synechia, not characteristic of leprosy except that there is liability to hypopyon with tendency to organization and formation of the membrane at the back of the cornea; nodular yellowish masses, mostly in the pupillary area, accompanied by atrophy of the iris; irido-cyclitis (serous) with small, rather grayish precipitates on the cornea, sometimes accompanied by grayish nodules or dots between the circ. arteriosis minor and the ciliary border which are pathognomonic for leprosy. The iris may also be the site of a chronic inflammation with atrophy of its stroma, which when generalized results in loss of pattern or in striae concentric with the pupil or radial in direction. Complicating cataract is frequent in eyes thus affected. In infected eyes clumps of bacilli were present in the suprachoroidal lymph space; the chorio-capillaris was engorged and there were many wandering leucocytes. The iris, cornea and ciliary body showed rounded and oval lepra cells, free and in apparently unaltered tissue or in necrotic masses, containing colonies of bacilli which cause them to swell enormously and finally to become necrotic. Even in clinically normal eyes lepra bacilli have been demonstrated. With regard to antileprosy treatment, when the eye is involved care must be taken to begin with small doses and to increase very gradually. Local treatment is the same as in other, nonleprotic eye diseases. Surgical treatment consists of tarsorrhaphy for lagophthalmos, and excision of the episcleral or conjunctival nodules, which prevents their spreading to the cornea. Visual iridectomies are useless because the gap is usually filled up with organized exudate.

—M. DALGAMOUNI

PINKERTON, F. J. Surgery of leprosy eye. *American Jour. Ophth.* 20 (1937) 715-720.

A review of the author's 14 years of experience as ophthalmologic assistant to the leprosaria of Hawaii. Of all cases 80%, and of those of the nodular type 90%, have eye involvement. In the first 5 years of the disease 50% show disease of the adnexa; in the next five years 95% have disease of the adnexa and 50% disease of the eye ball. The aim of the surgeon is to relieve pain and preserve vision as long as possible. Most of his efforts are devoted to correcting lagophthalmos, destroying superficial pannus-like vessels of the cornea and attempting to improve vision by removal of opacities and making artificial pupils. *Eyelids:* The most common complication of leprosy of the eye is orbicular paralysis with atrophy of the muscle, ectropion, and consequent corneal exposure and erosion. The technique of operative procedure called for is described. The lacrimal sac and duct fail to function normally in the flaccid lid condition of orbicular paralysis, but dacryocystitis is not frequent. Practically all leprosy lesions of the eye are associated with numerous opacities of the cornea due to closely woven networks of vessels (pannus leprae). For relief superficial peridectomy may be done, but recently cautery and electric coagulation seem to have served better. Pinguecular masses and pterygia are common; unless they are causing trouble or growing to interfere with vision, they are best left undisturbed. Nodules occur frequently in the episcleral and subconjunctival tissue, usually near the limbus; they may be removed by dissection or by electric coagulation, but at best this pro-

cedure is only palliative. Corneal lesions do not respond to surgery with the exception of the covering of a large corneal ulcer with a conjunctival flap. Lepromatous granulomata may be removed but enucleation is preferable. *Iritis* is nearly always present in leprosy and usually appears before any nodules are detectable at the limbus. Transfixation is usually not successful; wide iridectomy behind the clearer portion of the cornea is preferable. *Glaucoma* has not been frequently encountered, but in three cases of it ultimate results were nil because of the continuation of the leprosy process. Secondary *cataract* is common but usually occurs late and surgery is of little use. Senile cataracts in "burned out" cases may be extracted successfully. The author finds 1% to 2% novocain much better than cocaine. Postoperative infection has been remarkably infrequent.

—H. E. HASSELTINE

VALLE, S. Exposé relatif à la "choroidite lépreuse precoce" de Hoffmann. [Regarding the "precocious leprosy choroiditis" of Hoffmann.] Rev. Brasileira Leprol. 5 (1937) Spec. No. pp. 3-25.

The author found abnormalities of the choroid in 66 out of 1,000 lepers examined. To express his conclusions on the matter he quotes those of Dikran Bey Adjemian, written forty years before, which in effect are: (1) The diagnosis of leprosy choroiditis has not yet been established with certitude. (2) To resolve this matter it is necessary to observe the patients closely for long periods, taking into account the course of the disease and the termination of the process or the pathological findings. (3) In making the diagnosis of this lesion of leprosy it is necessary to exclude all other conditions capable of producing such changes, among which are syphilis and tuberculosis.

—H. W. W.

MENDONÇA DE BARROS, J. Considerações em torno ás complicações oculares da lepra (Nota previa). [Considerations of leprosy ocular complications. (Preliminary note.)] Ann. Paulista Med. Cir. 34 (1937) 616 (abstract).

Drawings are presented showing the superciliary, ciliary, sclero-conjunctival and corneal involvement, and changes in the iris. Such lesions predominate in patients of the lepromatous type. There is a great similarity between the affections of the cornea and those of the skin; some keratotic lesions are of the infiltrative type, others are nodular, and still others mixed.

—L. SOUZA-LIMA

RAMEEV, R. S. [Eye lesions in leprosy.] Vestnik Oftal. 11 (1937) 787-791.

Because of the frequent ocular complications in leprosy, the author pleads for assignment of an ophthalmologist to the medical staff of leper colonies. He points out that in the Astrakhan leper colony there are no blind people, and he attributes this to the constant availability of ophthalmologic assistance.—[Abstract from *American Jour. Ophthal.* 21 (1938) 1074.]

AUBONE, J. Leproma del tabique. [Leprosy of the nasal septum.] Rev. Asoc. méd. Argentina 50 (1937) 674-675.

The patient, an adult Yugoslavian who complained of rhinorrhoea and slight epistaxis, was found to have a hypertrophic rhinitis that totally ob-

structed the nasal fossa. In the general examination attention was called to anesthesia and leprosy was suspected. Referred to Dr. Balifa he was found to have a leprous affection of the entire face and other symptoms of the disease. The author calls attention to the necessity for rhinologists to bear this disease in mind.

—G. BASOMBRI

VALLE, S. Particularidades da clinica oftalmo-oto-rinolaringologica de leproso. [The eye, ear, nose and throat clinic in leproso.] Rev. Brasileira Leprol. 6 (1938) 151-160.

The conclusions drawn are: (1) The eye, ear, nose and throat services in leproso, to care for patients of all types of leprosy, must be organized according to ordinary rules generally in effect in medico-surgical clinics, with further rules of individual prophylaxis for the protection of the specialists. (2) The contagiousness of leprosy is universally accepted and implicit in the adoption of segregation, and the employment of individual prophylaxis is the logical consequence. (3) Our ignorance concerning the way in which the bacillus infects the human being is no reason for dispensing with defense measures adopted against affections similar to leprosy.

—L. SOUZA-LIMA

CASSIANO, T. P. Amenorrhea leprotica. [Leprotic amenorrhoea.] Arch. Dermat. Syph. São Paulo 1 (1937) 213 (abstract).

Modern understanding of the menstrual functions is reviewed, and the diseases that commonly or occasionally cause amenorrhoea, these being divided into physiological (pregnancy and menopause) and pathological (primary and secondary). Leprosy, it is stated, may determine both primary and the secondary amenorrhoea, and it is commonly responsible for precocious menopause. Regarding treatment he advises the use of chaulmoogra oil combined with hormone therapy with large dosages.

—L. SOUZA-LIMA

SOUZA CAMPOS, N. Dois casos raros de evolução de lepra em crianças. [Two rare cases of evolution of leprosy in children.] Ann. Paulistas Med. Cir. 35 (1938) 74 (abstract).

Observations of two cases of leprosy in children, followed from the onset of the first lesions until suppuration or regression occurred. The author points out the special aspect of the scars, showing the relation between them and those observed in children with positive lepromin tests. It is concluded that in certain children leprosy follows a benign course.

—L. SOUZA-LIMA

Fox, H. Neural leprosy (?) in a native of North Carolina. Arch. Dermat. & Syph. 36 (1937) 877-878.

A case presentation. The patient exhibited loss of sensation in feet and legs with large chronic ulcers on soles of feet. No acid-fast bacilli were demonstrated. While the case seemed quite probably one of neural leprosy, the author was doubtful in view of the fact that leprosy is not prevalent in North Carolina. [Comment: The records of the National Leprosarium at Carville, Louisiana, show that only 3 persons born in North Carolina have been admitted from 1894 to 1939.]

—H. E. HASSETT

WILE, U. J. Neural leprosy. *Arch. Dermat. & Syph.* 36 (1937) 908-909.

Report of a case of neural leprosy with extensive sensory disturbances, confirmed by finding acid-fast bacilli in the ear lobe. The author states that he used a technique essentially the "scraped incision" method, and comments that with this technique it is easier to find the bacilli than on mucous surfaces.

—H. E. HASSELTINE

SOPO BARRETO, R. Revisión en lepra. [Review of leprosy.] *Rev. Méd. Cubana* 40 (1939) 434-449.

The author gives a compilation of various facts about the history and clinical aspects of leprosy, often referring to his own experience. Mention is made of certain details in which the disease is similar to syphilis and tuberculosis, and of certain diseases produced in animals by acid-fast organisms similar to the Hansen bacillus.

—W. H. HOFFMANN

MUIR, E. Leprosy and tuberculosis. A comparison. *Lep. Rev.* 8 (1937) 117-122.

The bacilli of the two diseases are discussed, and the resemblances and differences between tuberculoid and tuberculous lesions. Among other things it is pointed out that tuberculosis attacks the lungs whereas in leprosy the trachea and bronchi are more seriously affected. The virulence of tuberculosis depends mostly on the strain of the bacillus involved, but in leprosy virulence depends mostly on the degree of resistance of the patient. Slight infections of both diseases produce a certain immunity, with only mild lesions, while severe infections result in graver types of disease with no evidence of immunity. Children are more susceptible than adults to both diseases; latent childhood infections of both show themselves during adolescence. Leprosy is the more chronic and less fatal of the two, and so the bacillus has time to attain to enormous degrees of concentration in the tissues. Neither disease has as yet any specific remedy, but today it is considered that leprosy is at least the more amenable to treatment. Everywhere in the tropics we now "find tuberculosis racing after and making up on leprosy so that the two diseases are found side by side."

—J. W. LINDSAY

RABELLO, JR. Novas observações sobre a infecção tuberculosa na lepra. [New observations on tuberculosis in leprosy.] *Rev. Brasileira Leprol.* 5 (1937) 465-479.

The author reiterates the ideas published a year earlier on the possibility of cross relations between the antigens and antibodies of leprosy and tuberculosis. He holds that sensitization by the tuberculosis virus can influence the leprosy process, in particular exalting the reactions against the leprosy bacillus. This effect is manifested from the static point of view by tuberculoid leprosy, and under the dynamic aspect by the leprotic reactions, which can assume the tuberculoid aspect.—[Abstract from *Bull. Inst. Pasteur* 37 (1939) 455.]

STEIN, A. A. Occupational therapy in leprosy. *Urol. & Cutan. Rev.* 41 (1937) 636-638.

This is an interesting discussion of the effects of organized work as

a part of the treatment of leprosy. Idle life affects leprosy individuals adversely, especially if they are accustomed to hard work; they continue to complain of their pains and other difficulties and tend to become introspective, indulging in too much self-analysis and developing a distrust of their physician and their treatment. Work is not expected to show a direct effect on specific lesions, but it does have an effect on the course of the disease. Employed patients have fewer febrile exacerbations, have better appetites, sleep better, complain less, are of better dispositions, and tolerate treatment better; the dynamometry of the hands and the volume of the lungs are increased. The work regime is necessary in leprosy as a factor in conduct and discipline. For work purposes patients are divided into 5 groups: (a) those physically able for most labor, (b) those of moderate working capacity, (c) those fit for light work only, (d) those who can only take care of their own quarters and prepare their own meals, and (e) those for whom no work is possible or desirable. —H. E. HASSELTINE

TISSEUIL, J. Action thérapeutique comparée, par voies veineuses, intramusculaire et intradermique, des huiles et des éthyl-esters de chaulmoogra dans les lèpres tuberculoïdes. [Comparison of the therapeutic action of the oils and ethyl esters of chaulmoogra in tubercloid leprosy when given intravenously, intramuscularly and intradermally.] Bull. Soc. Path. exot. 32 (1939) 202-207.

In this comparison intradermal injections were found to be generally efficacious, much more so than intravenous and intramuscular injections, which were only exceptionally effective. Two of the products used intradermally were not active, the soap of gorli and olive oil ethyl esters.

—ET. BURNET

TISSEUIL, J. Méthode d'expérimentation de la valeur antilépreuse des médicaments, par injection intradermique des taches de lèpre tuberculoïde. [Method of determining the value of antileprosy medicaments by intradermal injection of the lesions of tubercloid leprosy.] Rev. colon. Méd. Chir. 11 (1939) 238.

Because of their special properties the lesions of tubercloid leprosy, an attenuated form of the disease, constitute a terrain suitable for the trial of medicaments and the determination of their efficacy. According to the results obtained by the author, oils with horizontal chains and one or more double bonds, with or without the properties of alcohol, do not seem to be active. The iodine index cannot be used as a measure of activity. The activity of chaulmoogric acid must be due to its pentacyclic nucleus, and transformation into the sodium soap does not suppress that activity.

—ET. BURNET

BLUETH, A. "Betaxin" in the treatment of leprosy. Lep. Rev. 10 (1939) 109-112.

Because of the satisfactory results reported by Keil, by Villela and Rocha, and by Badger and Patrick from the intramuscular infection of the synthetic crystalline vitamin B<sub>1</sub> ("betaxin") in cases of leprosy neuritis, the author applied the treatment in a series of four cases of severe general lepra reaction. In each case the violent nerve pains of the extremities rapidly lessened and disappeared within a very few days, the



swellings of the hands and feet diminished quickly, but the lepromata and other cutaneous manifestations of the disease were unaffected.

—J. W. LINDSAY

VALENTE, E. C. O ictiol no tratamento das reações leproticas. [Ichthyol in the treatment of lepra reaction.] *Ann. Paulista Med. Cir.* 35 (1938) 74 (abstract.)

The author concludes that ichthyol employed in the treatment of lepra reaction gives the same results as other drugs actually employed.

—L. SOUZA-LIMA

VALENTE, E. C. A proposito do tratamento das ulceras de leproso pelas infiltrações intradérmicas. [The treatment of leprotic ulcers by intradermal infiltration.] *Rev. Brasileira Leprol.* 5 (1937) 519-521.

This is a continuation of the author's observations on the treatment of leprotic ulcers and their painful manifestations. He employed intradermal infiltrations around the ulcers. Describing the condition before treatment and 2½ months after the publication of his first report, he concludes once more that this treatment not only favors cicatrization but relieves pain.

—L. SOUZA-LIMA

BRAGA, R. Injeções intrarteriaes de vacinas no tratamento do mal perforante plantar. [Intra-arterial injections of vaccines in the treatment of perforating plantar ulcers.] *Rev. Brasileira Leprol.* 5 (1937) Spec. No., pp. 261-277.

The author is enthusiastic with the first results obtained with intra-arterial vaccinothrapy of plantar ulcers and presents this preliminary report dealing with 23 cases injected into the femoral artery, which he says is no more difficult to do than intravenous injection, and can be practised in ambulatory treatment. Of 23 cases treated, one-half were cured and three others showed improvement.

—L. SOUZA-LIMA

MAYNARD, N. H. The treatment of trophic ulcers in leprosy. *East African Med. Jour.* 15 (1938) 307; *also Lep. Rev.* 10 (1939) 118-120.

After the usual discouraging results with many methods of treating trophic ulcers, the author adopted the principle that nourishment should be brought to the parts and she experimented with ointments made up of animal fats. The one now used is composed of beef suet 8 parts, ghee (clarified butter) 4 parts, and beeswax 1 part. Preliminary treatment consists of surgical cleansing and daily antiseptic dressing for a week with perchloride 1:1000. The melted ointment is poured into the ulcer so prepared, and as it congeals it is covered with a piece of heavy white cloth; a pad of cotton wool is applied over that and a bandage is sewed on. For the first two weeks this dressing is changed every three days, but thereafter it is left for a week. One-half of the ulcers in the 60 cases treated healed in six months time, a result better than those obtained with other methods tried.

—H. W. W.

MOISER, B. Some results at Ngomahuru Leprosy Hospital, S. Rhodesia. *Lep. Rev.* 8 (1937) 110-112.

The disease as seen in Southern Rhodesia is described as of a mild type, the majority of cases being of N1-C1 or N2 types, most cases

beginning with neural symptoms. Treatment was by "moogrol" in doses of 5-10 cc. over periods of 6 weeks, followed by fortnightly intervals; Bayer's "No. 4829 AJ" and Bayer's "jantol" were also used. During the course of treatment the bacilli change in appearance, the globi become less dense and the individual bacilli smaller and dotted instead of solid. For recording progress, stress is laid on periodical photographing of the lesions. The proportion of cases made symptom-free and germ-free is said to be exceptionally high. This large estate of about 9,000 acres might very well be made use of as a leprosarium for the British Empire.

—J. W. LINDSAY

FÉRON, J. Le traitement de la lèpre à la léproserie Saint-Antoine à Harrar (Ethiopie). [Treatment at the St. Antoine leprosarium in Ethiopia.] *Rev. Méd. et Hyg. trop.* 30 (1938) 261-264.

The author, on the basis of six years experience as the physician of the leprosarium mentioned, tells of a method of treatment for which he claims 100% cures in macular cases and 50% cures in nodular ones. Chaulmoogra drugs are harmful, he holds; further, the physical constants of the oil which should be preferred have never been determined, and the active principle is completely unknown and may perhaps be altered in the processing of the esters. Leprosy is usually characterized by disequilibrium of the diastases—lack of oxydizing diastases and predominance of the asphyxiant and necrosant ones. From various considerations (one of them the claim that leprosy bacilli sometimes assume the aspect of yeasts, which with fungi in general are susceptible to copper), a finely dispersed copper preparation made by Lancien ("zymbil-cuivre") and one of gold ("zymbil-or") were employed. The precise nature of these preparations is not indicated, but the schedule of daily injections is given and some general remarks are made on the results obtained.

—H. W. W.

GRECO, N. V. La curación de la lepra es un hecho. [The cure of leprosy is a fact.] *Semana méd.* 44 (1937) 1495-1497.

This article is a radio talk given by the author on the occasion of a "Leprosy Week" organized by the Patronato de Leprosos. After eulogizing that organization the author speaks of the valuable results obtained with modern therapy in leprosy.

—G. BASOMBRI

CORREA DE CARVALHO, J. Considerações sobre o tratamento da syphilis pelo bismutho nos doentes de lepra. [The treatment of syphilis by bismuth in patients with leprosy.] *Rev. Brasileira Leprol.* 5 (1937) Spec. No., pp. 253-260.

The association of bismuth with the esters of chaulmoogra is strongly advised against. The author associates 3% Bi hydroxide.—[Abstract from *Bull. Inst. Pasteur* 37 (1939) 469.]

PERPIGNANO, G. Observations on iodo-reaction and albumino-reaction in leprosy. *Urol. & Cutan. Rev.* 41 (1937) 864-871.

By "iodo-reaction" is meant the appearance of increased leprous activity following the use of KI. "Albumino-reaction" signifies the presence of albumin in appreciable quantities in a secretion, the mucous secretions of the nose being considered in this connection. Describing the technique of several tests to determine this point, the author reports that albumin

is usually found in the nasal secretion of lepers. In order to increase the amount of nasal secretion large doses of KI are given, after which its albumin content is increased. The results are usually more pronounced in the nodular and mixed forms of leprosy. Of 26 cases all gave positive results, while of 32 nonleprosy persons there was found only a small amount of albumin in 3 individuals, all of whom suffered from lupus vulgaris of the face.

—H. E. HASSELTINE

PLUCHON, J. P. Note sur un procédé de désacidification de l'huile de chaulmoogra injectable. [Note on a process of reducing the acidity of injectable chaulmoogra oil.] *Ann. Méd. Pharm. colon.* 37 (1939) 220-224.

Certain leprologists recommend the use of chaulmoogra oil the acidity of which has been partially reduced, in practice from 5% to 2%. The author describes a method of accomplishing this by using alcohol heated to 70° at most, in the apparatus of Jalade. The operation takes 6 hours, including the final filtration (through paper), with 100% recovery and little expense.

—ET. BURNET

ROTBURG, A. Estudos sobre a imunidade na lepra. I. Reação á lepromina, tecnica e interpretação. [Studies on immunity in leprosy. I. The lepromin test, technique and reading.] *Ann. Paulista Med. Cir.* 36 (1938) 84-85 (abstract).

The present system of reading the lepromin test introduced by Hayashi was arbitrarily established, and there are in the test unknown factors which prevent arriving at definite conclusions in some forms of leprosy. For instance, in 194 clearly lepromatous cases the author obtained 74 positive results, which evidently could not have the slightest immunological or prognostic value. On the basis of the behavior of the reaction in two groups of cases with diametrically opposed immunological conditions, lepromatous and tuberculoid, the author points out the essential signs of distinction between them. In the lepromatous cases the reaction is entirely negative or there is only a slight papular reaction which reaches its peak on the 4th or 5th day but may persist until the 38th day; the maximum size of the reaction lesion is about 4 to 5 mm. The tuberculoid cases give true positive reactions, often belated in appearance, evolving progressively to a maximum after from two to six weeks, the lesion generally more than 5 or 6 mm. in diameter on the 28th day. Between these two types it is necessary to recognize a considerable group of doubtful reactions, measuring 4 to 6 mm. on the 28th day. This grouping avoids the classification of poorly defined reactions and also possible error due to differences of antigenic activity of different lots of lepromin, the standardization of which is difficult to accomplish.

—L. SOUZA-LIMA

ROTBURG, A. Estudos sobre a imunidade na lepra. II. Natureza imunológica da reação á lepromina. [Studies on immunity in leprosy. II. Immuno-allergic nature of the lepromin test.] *Rev. Brasileira Leprol.* 6 (1938) 373.

Reviewing the literature on the matter, the author shows why the lepromin test has failed as a diagnostic measure and why it has become re-

presentative of specific immunity of healthy people in daily contact with leprosy and of tuberculoid and bacteriologically negative cases of the disease, in contrast with the nonreactibility, due to lack of immunity, of lepromatous cases and of those that tend to change into the bacteriologically positive form. The few objections to this view are criticized and the specificity of the lepromatous antigen is pointed out. Lacking a suitable animal for experimental study of the sensitizing bacillary invasion, and also lacking any clinical, pathological or roentgenological method of determining latent infection, the author in order to establish the allergic nature of the test has recourse to the results observed in people with and without contact with leprosy. This comparison is entirely favorable to the view that the reaction is of allergic nature. He compares results obtained by him in healthy individuals in São Paulo, Brazil (marked nodular and suppurative reactions, characteristically belated) and those obtained by workers who have experimented in nonendemic areas of Europe (negative or precocious and small, rapidly regressive reactions). He recalls the Lewandowsky-Jadassohn law which agrees with this point of view. So considered, the test differs from the one with tuberculin and approximates the one with trichophyton, which indicates the parallel course of allergy and immunity as was demonstrated experimentally by Bruno Bloch.

—L. SOUZA-LIMA

Row, R. Some experimental observations on human and rat leprosy and their significance in the pathogenesis and treatment of the disease. *Trans. Roy. Soc. Trop. Med. & Hyg.* 32 (1939) 497-504.

In an analysis of over 100 complement fixation tests, a tubercle bacillus autolysate being used as the antigen, on sera from cases of different types of the disease the following facts appear. (a) Of cases of cutaneous [lepromatous] leprosy with massive bacillary invasion of the skin, all gave strongly positive reactions; (b) of neural cases where no bacilli were demonstrable in the skin all gave negative reactions, as was also the case with nonlepers; (c) of the tuberculoid cases, with skin lesions characterized by cellular infiltration and thickening associated with few bacilli, the reactions were doubtful and indefinite. It is concluded that the findings give strong support to the clinical division of leprosy into the three types, cutaneous, neural and tuberculoid. They indicate that an immunity response is provoked by the acid-fast bacilli in the skin. The question is raised whether or not the leprosy bacillus is the only etiological factor concerned in the pathogenesis of the disease.

—J. W. LINDSAY

KRAKOWER, C. AND GONZALEZ, L. M. Spontaneous leprosy in mouse. *Science* 86 (1937) 617-618.

The authors, of the School of Tropical Medicine, at San Juan, Puerto Rico, report a case of natural infection of a wild brown house-mouse (*Mus musculus*), which was found wandering about their laboratory. The condition seemed to be similar to rat leprosy though attempts to infect mice with rat leprosy have usually been unsuccessful. From the description of the pathology found in the animal it would appear that the condition is very closely allied to, if not identical with, rat leprosy. Further work will be done to determine if there is a specific strain for mice and to see if the mouse infection can be transmitted to rats.

—H. E. HASSELTINE

LYON, M. Le rat ne réagit pas à la léproline de Mitsuda. [The rat does not react to the leprolin of Mitsuda.] Bull. Soc. Path. exot. 32 (1939) 134-136.

The lepromin reaction is not produced in the rat, even with 0.1 cc. of a suspension of 2 gm. of leproma in 10 cc. Rats prepared by an intravenous injection of 0.5 cc. of a filtrate of a colon bacillus culture also failed to react.

—ET. BURNET

PRUDHOMME, R. O. Préparation d'une émulsion de bacilles de Stefansky à partir d'une lépromie et évaluation de sa richesse. [Preparation of an emulsion of Stefansky bacilli from a leproma and its evaluation.] Bull. Soc. Path. exot. 32 (1939) 136-138.

A suspension of a subcutaneous leproma was centrifuged four times, the last wash water not containing any reducing substances or proteins; the pH was 6.37 at 20°. Based on counts, the author constructed a curve of density of the suspensions from readings of the Vernes-Yvon-Bricq photometer.

—ET. BURNET

PRUDHOMME, R. O. Action du bacille de Stefansky sur certains acides aminés, in vitro. [Action of the Stefansky bacillus on certain amino acids in vitro.] Bull. Soc. Path. exot. 32 (1939) 138-141.

Stefansky bacilli freed of all tissue debris were seeded comparatively on a definite, artificial medium containing no source of nitrogen, and on the same medium with the addition of amino acid. Of 12 amino acids thus tested only alanine, taurine and prolines were attacked. It is pointed out that these experiments do not indicate whether the bacilli utilize these amino acids or if they are attacked by bacillary diastases.

—ET. BURNET

CHABAUD, A. Evolution sur la souris de quatre souches de lèpre du rat. [Evolution in the mouse of four strains of rat leprosy.] Bull. Soc. Path. exot. 32 (1939) 195-201.

One of the four strains of rat leprosy used ("Cayenne") was found to be less virulent for mice than the other three. Those strains that had been subjected to the largest number of rat-to-rat passages were the most virulent for mice, and one of them ("Strasbourg") seemed to adapt itself more readily than the others. Another strain ("Marchoux"), which 20 years before localized itself in the mouse at the point of injection and produced enormous lepromas, now became generalized much more quickly in that animal than in the rat. This strain has had more than 50 passages in the rat.

—ET. BURNET

CHORINE, V. Lécithine et cholestérine sanguines dans la lèpre murine. [Blood lecithin and cholesterin in rat leprosy.] Compt. rend. Soc. Biol. 124 (1937) 1276-1278.

The amount of lecithin and cholesterin in the blood of rats infected with rat leprosy is generally greater than in that of normal rats, but the concentration varies in almost the same proportions in both groups so that no practical application can be made of the findings. An increase of lecithin and a decrease of cholesterin can be appreciated only by taking an average of a large number of animals. The lecithin-cholesterin ratio is generally higher than 1 (average 1.30) in infected animals and lower than 1 (average 0.89) in normal ones.

—ET. BURNET