

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.

✓ DROGENDIJK, A. C. Is de melaatschheid van de bijbel een zuiver religieus begrip? [Is the leprosy of the Bible a purely religious concept?] *Geneesk. Gids.* 16 (1938) 824-834.

The author repeats the well known but not generally accepted arguments in favor of the view that biblical leprosy is a real human disease, probably identical with Hansen's disease except for confusion with other affections.

—P. H. J. LAMPE

✓ HUIZENGA, L. S. Leprosy in legend and history; Emperor Constantine. *Lep. Quart.* 14 (1940) 93-96.

In this discussion of the history of Constantine it is pointed out that in one way or another leprosy is linked up, either historically or in legend, with some of the world's greatest moments. When the State handed over civil powers to the Roman Church, leprosy was mentioned. In fact had it not been for leprosy, according to this tradition, the Church would not have gained control over the State at the time.

—AUTHOR'S ABSTRACT

† LOWE, J. A curious chapter of the history of leprosy in India; the Indian Leprosy Commission of 1890. *Lep. in India* 11 (1939) 82-86.

This article relates how the Indian Leprosy Commission of 1890 came to be appointed and how it found that leprosy, while being contagious and inoculable, was not spread widely in these ways. It was concluded that leprosy arises *de novo* from a combination of circumstances and conditions whose interrelation is not known. In spite of this opinion, however, the Commission recommended that lepers be prohibited from following certain occupations or from using public conveyances, etc., and that leper beggars be segregated. The author points out that the opinions and recommendations of the Commission appear to be irreconcilable; and it is surmised that the Leper Act of 1897, which was passed by the Government of India on the basis of the Commission's report, was framed with a view to deferring to the opinion of the public that leprosy was contagious and to mitigating a public nuisance.

—AUTHOR'S ABSTRACT

✓ B. E. L. R. A. The Fight Against Leprosy. Report for 1939 for the British Empire Leprosy Relief Association (London).

The year preceding the outbreak of war was marked by a great increase in all of the activities of the Association, and a large expansion of its sphere of influence. It had been the most successful year for the Exhibitions and Deputations departments, but with the advent of the war nearly all of the engagements had to be cancelled. The most interesting feature of the year's

work was the visit of Dr. Muir to Central and South Africa. It is now recognized that in the British Empire the "severity of type is very different in different places, and that the severity of type and the frequency of the disease do not always correspond." In South Africa (Pretoria), European patients were found to "suffer from the severe type of leprosy associated with high susceptibility to the disease," while a much smaller proportion of natives suffer from that type, indicating relatively low susceptibility. The history of leprosy shows that war has often been responsible for its spread or aggravation. Severe and prolonged war, by lowering the standard of living, creates the conditions under which it flourishes. It is necessary to keep this fact in mind, especially in those countries of Europe in which the disease is still not uncommon. What the condition of the British, French, Dutch and Belgian tropical territories from this point of view will be after the present war, as well as that of India, Japan, China and adjacent eastern countries, is too dreadful to imagine. The Association, however, is facing the situation with determination. There is an increasing number of Toc H-BELRA workers in the leprosy fields, and every encouragement and assistance possible is given to all leper missions and establishments everywhere. —J. W. LINDSAY

MISSION TO LEPERS. A report of the Sixty-fifth Year's Work in India and Burma, September 1938-August 1939.

The report of the Mission for the year 1938-39 shows a further growth of its already extensive activities. In its 34 homes, 7,565 resident lepers and 834 healthy children were cared for. In addition, it gave grants-in-aid to other homes with 2,270 leper inmates and 151 healthy children. Extension of work is seen chiefly in the greater numbers of leprous children being looked after, the number having increased to 678, from 560 at the end of the previous year. This increase was made possible by the provision of new wards at the Purulia and the Cuttack homes. In addition, two new homes for healthy children have been completed, at Vadathorasalur and Rawalpindi. A new hospital section at the Naini Leper Home, Allahabad, has also been completed, and grants were made towards the building of two out-patient clinics and the rebuilding of an aided home. The new home at Zamurradgani, near Fyzabad, opened in August, 1938, has been popular from the first, and there is a considerable waiting list for admission and a large out-patient department. During the year, a total of 514 patients were discharged with the disease arrested without deformity. Among patients discharged in previous years there were 79 known cases of relapse during the year. The total expenditure for the maintenance and development of the mission's work in India and Burma for 1938 was approximately Rs. 8,42,535. Of this total, nearly one-half derived from voluntary gifts, the rest being grants-in-aid from the provincial governments.—[From review in *Lep. in India* 12 (1940) 71-72.]

[COLUMBIA] Anexo a la Memoria del Ministro de Trabajo, Higiene y Previsión Social (Fascículo 2.º). Departamento de Leprosia y (Protección Infantil y Materna.) República de Colombia, Bogotá.

The first 165 pages of this volume consist of the report of the Departamento de Lucha Antileprosa for 1938, signed by Drs. Mario Bernal Londoño, Chief of the department, and Dario Maldonado Romero, "médico ayudante." In the introduction it is stated that there are considered the

phases of the antileprosy campaign as carried out by the different entities concerned, with data from which anyone interested can arrive at an approximate idea of the actualities of the leprosy problem in Colombia. Incidentally, the opinion is expressed that none of the general formulas proposed for the estimation of the number of cases in a given region can be applied there. The first section consists mainly of a detailed tabulation of the infected municipalities throughout the country as determined by an examination of the records of 4,922 cases in the Agua de Dios and Caño de Loro leprosaria. This table shows in detail the classification of the cases, summarized as follows (condensed, percentages added):

N1 to N3.....	815	16.5%
L1 to L3.....	1,912	38.9%
L1-N1 to L1-N3.....	1,002	20.4%
L2-N1 to L2-N3.....	951	19.3%
L3-N1 to L3-N3.....	242	4.9%
	<hr/> 4,922	<hr/> 100.0%

The second section analyzes the incidence in different parts of the country, based on the numbers of isolated cases and the total populations of the different political divisions or "departments." These are divided into three groups: (1) Santander, Boyacá, Cundinamarca, and Norte de Santander, incidence higher than 1 per thousand; (2) Huila, Caldos, Tolima, Atlántico and Bolívar, incidence 0.5 to 1 per thousand; and (3) Nariño, Cauca, Valle, Magdalena and Antioquia, incidence less than 0.5 per thousand. Upon this consideration, it is pointed out, must be based the study of the organization of the antileprosy campaign. In a lengthy tabulation (79 pages) are given data, by municipalities, on the numbers of cases and the seriousness of the condition in the communities as indicated by their classification ("serious" when more than 50% are "L"—this applying to an overwhelming majority of the municipalities affected—"stationary" when 40-50 percent are L, and "in decline" when more than 60% are N—this last being applied to only one municipality); population, elevation above sea level, temperature, local appropriation and certain other data. The third section concerns the work of the dispensaries, visiting staff and other entities concerned. During the year more than 30,000 individuals were examined clinically by physicians connected with the campaign, that number including about 7,000 contacts; and other physicians of the health department had also examined nearly 90,000 other persons. Nearly 7,000 bacteriological examinations had been made (4.1% positive) and 510 Lleras reactions. A total of 773 cases were discovered, of which 478 (62%) were open ones. Only 16 cases were isolated at home; a total of 112 cases were certified as noninfectious; and 1,729 were under treatment throughout the territory; in that connection nearly 175 liters of chaulmoogra ethyl esters had been used. Under a new regulation (1936), 321 healthy children had been released from the leprosaria. Other sections include the statistics of the three leprosaria (Agua de Dios, 4,821 cases at the end of the year; Contratación, 2,559 cases; Caño de Loro, 477 cases; total, 7,857, an increase of 114), details of the expenditures made in them (totalling 1,612,960.20 pesos); and certain other data. [See the news section of this issue for data from the report for 1939.]—H. W. W.

- † GEORGE, J. V. Estudio sobre el foco leprogénico de Sotomayor. [On the leprosy focus of Sotomayor.] *Rev. Colombiana Leprol.* 1 (1939) 196-202.

The municipality of Sotomayor is an active focus of leprosy, 0.36% of the population being affected. Isolation of cases has not been sufficient to check the disease. Avitaminosis is one of the principal causes of its propagation in this district. Numerous houses maintain the infection and it is indispensable to destroy them. The families of lepers, especially children, should be given preventive treatment with esters and vitamins to increase resistance. It is necessary to develop vigorous health among the population. —[From author's summary.]

MALDONADO ROMERO, D. La incidencia de la lepra en Colombia. [Incidence of leprosy in Colombia.] *Rev. Colombiana Leprol.* 1 (1939) 186-189.

[For data on this subject see other items in this issue, pp. 109 and 122.]

[ARGENTINA] La sanidad en Argentina. [Health in Argentina.] Report of the Departamento Nacional de Higiene for 1938. *Bol. Sanitaria* 3 (1939), Suppl. No. 1, 172 pp.

During the year 327 new cases of leprosy were reported, and 34 deaths, bringing the total for the year to 3,579. These are distributed as follows: Federal Capital, 697; Buenos Aires, 395; Santa Fé, 787; Cordova, 414; Corrientes, 359; Entre Rios, 265; Misiones, 258; and Chaco, 137. The Chemical Institute prepares the chaulmoogra drugs used. Regarding the leprosaria, the first to be established was that of Posadas, in Misiones, with a capacity of 140. Those of San Francisco del Chañar, in Córdoba, and of Isla del Cerrito, in the Chaco, were to be inaugurated in 1939, and probably the General Rodriguez colony, in Buenos Aires. The plans of one for Diamante, in Entre Rios (at the site of which there was already a house of isolation for 10 advanced cases) had been finished, and also for one to accommodate 352 cases at San Jeronima, in Santa Fe. Another small establishment in the province of Salta may be built.—[From *Bol. Of. San. Panamericana* 19 (1940) 223-224.]

PATRONATO DE LEPROSOS, Memoria del, Correspondiente al Ejercicio vencido al 30 de Abril de 1939, Año VIII. Buenos Aires.

This comprehensive report of the activities of the Patronato de Leprosos, of Argentina, is a small-paged volume of 438 pages which is notable as a record of accomplishment, for the benefit of lepers and leprosy work, by a group of public-spirited and determined women in a country in which the government does not take the leadership in this field. Among many other things it contains reports of the provincial branches ("casas filiales"), of which there are thirteen distributed throughout the country. Nearly 200 pages are devoted to a financial report, in which apparently every donation received during the period under report is itemized. A tabulation summarizes the sources of income and total amounts raised from 1931 to 1938, inclusive. Beginning with \$86,898.71 in 1931, with a decrease to \$41,670.44 in 1933, the amounts have increased steadily since then. In 1936 more than \$200,000 was raised (an increase of over 150 percent above the previous year), and in 1938, \$350,174.64; the total for the eight years is the impressive sum of \$1,156,941.79. (The currency referred to is the Argentine peso.) An

especially interesting item of income, \$30,614.20, is from a "stamp campaign." The largest items of expenditure in the period under report were for leprosy work in the Hospital Muñoz, in Buenos Aires, and for educational propaganda. In connection with the latter item, the organization publishes a periodical, "Presente," a unique feature of which is that much of the material published is of popular interest, in no way connected with leprosy. —H. W. W.

[SOUTH AFRICA] Annual Report of the Department of Public Health, Union of South Africa, for the year ended 30th June, 1939.

The leprosy section of this report discusses the development of leprosy policy in recent years in the Union, where compulsory isolation of infectious cases in institutions has been in force for many years. During the last 15 years there has not been a great reduction in the number of patients in the institutions, but the patients are detected, isolated and treated very much earlier, and the release from isolation of arrested cases has markedly increased the number of voluntary isolations. On the 30th of June, 1939, there were 2,279 persons in the institutions and 4,876 in their own homes, all but 30 of these being patients discharged from leprosy institutions, the remainder being patients isolated in their homes or awaiting admission to an institution. During the year 708 cases were admitted to institutions, 447 were discharged and 229 died.—[From *Lep. in India* 12 (1940) 110.]

✓, LICHTWARDT, H. A. Leprosy in Iran. *Lep. Quart.* 14 (1940) 12-18.

Lichtwardt has set forth what is known of leprosy in Iran, concerning which very little recent information has been available. Some 520 cases are reviewed. The writer comes to the conclusion that leprosy is one of the minor public health problems in Iran, but he considers it challenging because it is easily approached. —L. S. HUIZENGA

✕, PEARCE, R. The distribution of leprosy in Northwest China. *Lep. Quart.* 14 (1940) 6-12.

The author, himself a resident of Northwest China, writes on this section of the country, which is yet so largely unknown to leprosy workers. He reviews the geography and social conditions and the incidence of the disease. It seems that it is more common among the Chinese and Moslems than among the Tibetans. —L. S. HUIZENGA

✓, DHARMENDRA. Re-survey of the village Debipur Hir. *Lep. in India* 11 (1939) 87-92.

Dharmendra reports on the resurvey, after 5 years, of a village surveyed by Muir and Chatterji in 1934. At that time there were 19 cases in a population of 77, an incidence of 24%. In 1939 there were 16 cases in a population of 81, or 19.7%. No new case has arisen in the village during this period, but one new one has come from outside. Of 10 originally reported infectious cases, 7 are still infectious, 1 has died, and 2 are found not infectious. Of 9 noninfectious cases 1 is dead, 2 have left, and 1 has become infectious. Several show marked clinical improvement. There is some attempt at isolation of infectious cases in the village; they are supposed to occupy separate rooms and to have their food separately, but during the day they appear to mix with healthy persons. Of 13 cases reported in 1934 as having infectious contact from birth, 6 were infectious

cases and 7 noninfectious. None of these 7 has since become infectious. Thus the incidence of leprosy, though high, has not increased, and though lepromatous cases form more than one-half of the total, the incidence in children has diminished in the period under review. It is impossible to say to what extent, if any, the isolation measures have influenced this outcome.

—J. LOWE

SITANALA, J. B. Leprabestrijding in Nederlandsch-Indië. [Leprosy campaign in Netherlands India.] *Geneesk. Tijdschr. Nederlandsch-Indië* **79** (1939) 1560-1578.

This is a controversial article in which the author points out features of proposals for leprosy control made by Lampe at Cairo that had already been applied in Java at his own instance, and others that are impracticable. He also takes Rodriguez to task for asserting that the Norwegian system of control had failed in Rumania, citing at length statements made by Babes in 1901 and 1910 which show that that system had never been properly applied there.

—H. W. W.

GRAMBERG, K. P. C. A. De verzorging van uit lepreuze ouders geboren kinderen op Donorodjo. [Care of children born in the Donorodjo leprosy asylum (Java).] *Geneesk. Tijdschr. Nederlandsch-Indië* **78** (1938) 1787-1791.

The fertility of lepers isolated in the Donorodjo asylum is very low. In a period of 21 years only 16 full-term children were born of 10 married leprous couples, while 75 couples had no children. Since 1930 the new-born children have been separated from their parents immediately after delivery, which takes place in the infirmary of Kelet. The children remain in the infirmary until a suitable place is found for them in nonleprous native surroundings.

—P. H. J. LAMPE

VLAVIANOS, G. Spina longa, die Insel der Aussätzigen. [Spina Longa, the island of lepers.] *Deutsch. med. Wchnschr.* **65** (1939) 424-425.

Many of the lepers of Greece are isolated on the island of Spina Longa, lying off the northwestern coast of Crete. The number there at present is about 300, many of them in advanced stages of the disease. They are lodged in individual family homes or in new houses for many families. More houses and streets are under construction. Two physicians, together with the attendants, attend to the examinations and treatment. Recently an attempt has been made to relieve the barrenness of this rocky island by plantations and afforestation. The water supply comes from cisterns.

—[From abstract in *Arch. f. Schiffs- u. Trop.-Hyg.* **43** (1939) 276.]

DA SILVA CAMPOS, M. A. Ligeiras notas sobre a historia da luta contra a leprose em Minas Geraes. [Brief notes on the history of the control of leprosy in Minas Geraes.] *Arq. Saúde Publ. (Belo Horizonte)* **6** (1938) 17-38.

The high lights of this historical review are: the establishment of the first leprosarium in 1812, in the city of Sabará; an attempted census of lepers, in 1826; an attempt in 1844 to obtain legislative provision for the founding of a leper hospital near the capital, then Ouro Preto; decree promulgated in 1910 and 1918 for the recording and control of lepers, con-

templating their isolation; the adoption of the Federal regulations (1923) in 1927; the provision, in 1931, that all state officials, civilian or military, who should acquire leprosy in the line of duty would be retired with full salary; the prohibition, in 1931, of lepers changing residence without permission. With regard to the number of cases, the first statistics, gathered in 1917 by postal inquiry, recorded 601 in 27 counties. In 1930-31, 230 cases were reported as existing in Bello Horizonte, the capital, and an estimate of 8,751 for a total population of somewhat over 3,000,000 was made. Authorization for the establishment of leprosaria was provided in 1921; a location for the first one, the "Colonia Santa Izabel," was set aside in Santa Querita county, construction was started in 1926, and in 1931 it was opened. In 1933 two new leprosaria were provided for, the "Pere Damien" in the southern part of the state and "Santa Fé" in the west, and in 1936 a third new one, the "Colonia St. Francis de Assisi"; two of the three were to be inaugurated in 1940. These four colonies, and the Sabará Hospital, are to have in total accommodations for 4,600 cases. A "Centro de Estudos de Lepra" was provided for in 1927 but was established only in 1931, when it was expanded to be a "center for study and control of leprosy." In 1937 it was divided into two services, one having the original name and the other being the "Serviço de Prophylaxia da Lepra," in control of all leprosy institutions, clinics and preventoria—in the last of which the Leprosy Relief Association of Minas, founded in 1931, is especially interested.

—H. C. DE SOUZA-ARAÚJO

- X DA SILVA CAMPOS, M. A. AND DINIZ, O. Zoneamento do Estado de Minas para o censo da lepra. [Division in zones of the State of Minas Geraes for the census of lepers.] *Arq. Saúde Publica (Bello Horizonte)* 6 (1938) 39-70.

[This article was presented at the Cairo Conference; see *THE JOURNAL* 6 (1938) 437.]

- X ETCHEVERRY, V. P. Situación médico-social del enfermo de lepra tuberculoides. [Medico-legal aspect of tuberculoid cases of leprosy.] *Rev. Brasileira Leprol.* 8 (1940) 59-61.

The author agrees with Nelson de Souza Campos, of Brazil, that the antileprosy law should give special consideration to cases of tuberculoid leprosy. Leprosy itself be given a new name that avoids the traditional stigma that the present term carries, and tuberculoid leprosy merits a special term to distinguish it from other phases of the disease; etiological identity does not justify a common name for all kinds, and there exists clear differences in consequences and prognosis. Tuberculoid cases are mostly ambulant and in consequence frequent the dispensary. Internment should be applied only to those who have extensive cutaneous lesions, those with intense reactions, those who are weak and have intercurrent diseases, and those who are economically and morally abandoned. It is suggested that there be special establishments for internment of tuberculoid cases, apart from the general leprosaria.—[From summary.]

- ✓ CAMARGO JR., A. T. O contagio da lepra. [Contagion in leprosy.] *Rev. Brasileira Leprol.* 7 (1939) 127-156.

In an epidemiological inquiry made among 1,527 patients in the Santo

Angelo leprosário, the author has found that in no less than 64% of the cases it has been impossible to determine the sources of contagion in the history of the family, because of the absence of contact with lepers. After a general review of the different routes of elimination of the bacillus, and of ideas regarding the primary lesions of the disease, he discusses the various theories of contagion in this disease. He believes that apparently healthy cases, these being represented by the latent, incipient and atypical forms, are incriminated as sources of transmission and responsible for the high percentage of cases the origin of which remains unknown.—[From abstract in *An. Brasileiros Dermat. Sifilog.* 14 (1939) 297.]

✓ GMINDE, E. Vitamin B₁ und Lepra. [Vitamin B₁ and leprosy.] Deutsch. med. Wchnschr. 65 (1939) 1346-1350.

The author, who began to study leprosy in 1917, points out that the usual food in West Africa consists of yams, bananas, palm-oil soups, a little meat and dried fish, normally no fruits or vegetables, never any salads, milk or butter. All of these foodstuffs are lacking in vitamin B₁. The neural form of leprosy is usual in West Africa; and cases of hyperthyroidosis which require B₁, are common there. After infectious diseases and in hot climates, more B₁ is necessary for a normal reaction in the body. In very many cases gastroenteritis and amoebic dysentery are responsible for abnormal and bad absorption of this vitamin. Recalling that it is a specific neurotropic factor, the author points to the symptoms of polyneuritis, like beriberi, in the earlier stage of leprosy. He holds that B₁ hypovitaminosis is an important factor in neural leprosy, noting that in countries where the standard diet is poor in that factor, that form of the disease is more prevalent than generalized leprosy; when B₁ is adequate the latter form prevails. He found the results of treatment with "betaxin forte" (Bayer) in 8 cases of neural leprosy to be very good. Each was given 170 mgm. within a period of 14 days. Five were remarkably improved, with normal sensation in formerly anesthetic areas, improvement of the erythrocyte sedimentation rate, etc.; the other cases remained as before. Only in the earlier stages of neural leprosy will this treatment give results, better than is obtained from chaulmoogra injections. (Later, the author had an opportunity to examine two cases of leprosy in a hospital in Germany, and found that in both of them the urine was markedly deficient in vitamin B₁.) —KLINGMÜLLER

✓ GEHR, E. Lepra und Ernährung auf Neuseeland. [Leprosy and nutrition in New Zealand.] Arch. f. Schiffs- u. Trop.-Hyg. 44 (1940) 73-78.

The author discusses the available evidence for the disappearance of leprosy from New Zealand, where it must have been endemic for many centuries, disappearing within three generations from the time of 1830. There is no reason to believe, he holds, that improvement of general conditions, racial factors, climatic changes or isolation have any relationship with this result. He finds, however, that the sapotoxin-containing foodplant of the tropics, *Colocasia antiquorum* ("taro"), has disappeared from the Maori's diet during the same period, it having been replaced by the potato. This observation, therefore, confirms Oberdoerffer's theory that leprosy can only become endemic in populations in which sapotoxin-containing foodplants are consumed, and that leprosy disappears as an endemic disease with the disappearance of this predisposing factor. —KLINGMÜLLER

- DE ABREU, M. Classificação e notação dos casos de lepra. [Classification and notation of cases of leprosy.] Arch. Dermat. Syph. São Paulo 2 (1938) 68.

The author reviews and criticises the best known classifications of leprosy and explains the one adopted at the Asilo Colonia de Santo Angelo. By this classification it is possible to establish at any moment the clinical form and evolution of any patient.

—L. DE SOUZA LIMA

- CHALA H., J. I. Reaccion leprosa y síndrome eritema nudoso y e. polimorfo simultaneos con descamacion eritrodermica generalizada. [Lepra reaction and the syndrome of erythema nodosum and erythema multiforme with generalized desquamation.] Rev. Fac. Med. Bogotá 8 (1939) 201-240.

In his conclusions the author points out that lepra reaction is a frequent episode in the course of the evolution of leprosy, that it may present cutaneous lesions which morphologically are similar to those of erythema nodosum and erythema multiforme, and that changes of either kind, or of both associated, may occur as the first manifestation of the disease. In the three cases studied, the condition subsided by resolution of the skin lesions and desquamation of the erythrodermic type, a phenomenon which is exceptional in lepra reaction. Contrary to the opinion of some leprologists, who deny the presence of the leprosy bacillus in the new skin lesions that appear during the course of lepra reaction, those of two of these cases proved to be positive. These phenomena are of interest for investigation, the author notes, but from this preliminary study he does not venture any definite conclusions in connection with the etiology of the dermatological syndromes observed. The final results of serial inoculations of laboratory animals is awaited to eliminate tuberculosis and establish more fully the opinion of the possible leprosy origin of the erythema nodosum. [This paper is illustrated with 25 rather poorly printed photographs, including 8 of Case 1 and 11 of Case 2, both of which seem, from the pictures of the face, quite definitely to be cases of tuberculoid leprosy in reaction, with extraordinary affection of the skin of the extremities and with typically complete subsidence of the lesions after the reaction. The nature of Case 3, of which two photographs are reproduced, is less apparent.]

—H. W. W.

- HUIZENGA, L. S. Lepra reaction. Morning Light 1 (1940) 1-4.

Lepra reaction is divided into acute, chronic, treatment and convalescent reactions. The nature and clinical manifestations are described and the treatment is given as generally agreed upon in various treatment centers.

—AUTHOR'S ABSTRACT

- REISS, F. Pruritis. Jour. Clin. Med. (Shanghai) 5 (1940) 55-62.

With respect to the physiology of itching, it has been held that it is produced by mild stimulation of the pain receptors, whereas the integrity of touch, cold and heat sensations are not essential in conducting the itch sensation. This widely accepted conception has gained further confirmation by experiments performed by the author on a number of leprosy patients. Where analgesia was present, itching could not be produced, despite a slight retention of superficial touch sensation. These findings seem to be in line

with the investigation of Rodriguez and Lara, who failed to elicit the "triple reaction" of Lewis with histamin in nonlepromatous macules.

—L. S. HUIZENGA

✓ RODRIGUES DE SOUZA, A. Transformação de uma lepra lepromatosa em tuberculoide. [Transformation from lepromatous to tuberculoid leprosy.] *Rev. Brasileira Leprol.* 7 (1939) 321-323.

This report has to do with a case of lepromatous leprosy, bacteriologically positive and subject to all of the reactions of that condition, which after a period of ten years has developed into the tuberculoid form, with scattered scars and various active macules which histologically show distinctly the tuberculoid structure.—[From author's summary.]

✓ COCHRANE, R. G. AND SLOAN, T. B. M. Tuberculoid leprosy affecting the palpebral portion of the lachrymal gland. *Lep. in India* 12 (1940) 83-86.

A case of tuberculoid leprosy affecting the palpebral portion of the lachrymal gland is briefly described, as a search of the literature has failed to reveal a similar case. The reasons why such a change is liable to occur in tuberculoid leprosy are discussed. The article is illustrated by a photomicrograph of a section taken from the excised portion of the lachrymal gland and with two photographs of the patient. —AUTHORS' ABSTRACT

* MENDONÇA DE BARROS, J. Aspectos biomicroscópicos das complicações oculares da lepra. [Biomicroscopic aspects of ocular involvement in leprosy.] *Ophthal. Ibero Americana* 1 (1939) 169-180.

The author describes the biomicroscopic aspects of ocular involvement in leprosy, as seen in 1,200 patients. On the limbus he has seen, in advanced lepromatous cases, micronodules in the vicinity of vessels of the region. Corneal involvement is discussed in detail. In the epithelial surface (Vogt): edema, bullae and vesicles, ulcers, bulging forward, band-shaped keratitis, and keratitis secondary to lagophthalmos. In the stroma: regarding the nerves—which may be seen not only by the focal illumination but also by retroillumination, the indirect method, or by sclerotic scatter (Graves)—there are sleeve-like formations around them, and nodules which sometimes look like rosary beads; blood vessels are a late finding, excluding cases of sclero-keratitis, which will furthermore constitute the corneal leproma; edema may be present; infiltration of the membrane frequently begins in the upper temporal portion of the cornea, generally localized in the most superficial layers of the stroma. In the endothelial surface (Vogt): edema, coagulation particles, opacities, anterior synechiae and bulging backward. Various types of keratitis are distinguished: infiltrative, hyperplastic or tumoral, secondary to lagophthalmos, secondary to iridocyclitis, and band-shaped. Involvement of the iris is seen in two forms: diffuse iritis, serous or serofibrinous, either acute or superacute or subacute or chronic, and localized iritis, miliary or nodular. The paper is illustrated with twenty colored plates.—[From author's summary.]

✓ IDE, D. Leprosy, with special reference to the upper respiratory tract. *New York State Jour. Med.* 39 (1939) 2290-2292.

Report of a case in an elderly woman born in Latvia who developed the first signs of leprosy 17 years after coming to the United States and

was diagnosed 4 years later. In spite of continuous treatment with chaulmoogra and other drugs, the condition 15 years later was the typical leonine one, with particular complaint of difficulty of breathing—nose flattened; nasal canals practically obliterated, with dry and parchment-like mucous membrane; nodules of the buccal mucous membrane, with atrophy; tongue enlarged; uvula three times the normal size, with nodules and ulcerations; tonsils and pillars thickened, with nodules; enormously thickened and distorted epiglottis; vocal cords thickened, of limited excursion, with typical husky voice. Wassermann 4+, syphilis excluded. Biopsy of uvula: typical lepromatous infiltration. Some years previously septum resection had been performed on account of the nasal obstruction, with harm rather than benefit. By gradual dilatation with a long dilating nasal speculum and lubrication it was possible to enlarge the nasal canal about 1 cm. This procedure had to be repeated monthly.

—H. W. W.

BAPTISTA, L. *Lepra e acromegalia*. [Leprosy and acromegaly.] *Rev. Brasileira Leprol.* 7 (1939) 165-170.

Report of a case with acromegaly in neural leprosy, believed by the author to be the first one reported in that type; in a review of the literature he found references to only two cases of the condition, both in the cutaneous form. Whether the acromegalic condition developed before or after the onset of leprosy cannot be said.—[From author's summary.]

DE FREITAS JULIÃO, O. *Tabes e Lepra*. [Tabes and leprosy.] *Arch. Dermat. Syph. São Paulo* 2 (1938) 67 (abstract).

The author refers to the association of neuro-syphilis and leprosy, which he has not yet seen recorded, and reports a patient of the Asilo-Colônia de Santo Angelo who had a mixed form of leprosy associated with Bayle's disease. He also reports two cases of association of tabes and leprosy, one of them being of tuberculoid form.

—L. DE SOUZA LIMA

HUIZENGA, L. S. *Leprosy and tuberculosis compared*. *Lep. Quart.* 13 (1939) 91-98.

Tuberculosis and leprosy have frequently been compared. The author, who is concurrently superintendent of the largest tuberculosis hospital in Shanghai and of the only leprosarium in the city—both of them products of the Sino-Japanese war and hence developed under somewhat abnormal circumstances—finds his observations to be in general agreement with those of others who have made similar studies in other parts of the world.

—AUTHOR'S ABSTRACT

SOETOPO, M. AND GOENAWAN, R. *Leproid uitslagen bij framboesia*. [Leproid eruptions in yaws.] *Geneesk. Tijdschr. Nederlandsch-Indië* 79 (1939) 2639-2650.

This is a report of three patients who, in the course of yaws, showed leprosy-like infiltrations. The clinical findings, the histological picture of the skin lesion, and serological tests confirmed the diagnosis of yaws. The leproid affection has been differentiated from syphilis, leprosy, tuberculosis and deep mycotic diseases.—[From author's summary.]

DO PATEO, D. *Um caso de lepra com aspecto clinico raro*. [A case of leprosy of unusual clinical aspect.] *Rev. Brasileira Leprol.* 6 (1938) Spec. No., pp. 153-155.

The author reports a case of maculo-anesthetic form of leprosy with positive findings in both the nose and the skin, with dischromic macules of the melanoleukoderma type, of circinate and geographical aspect.

—L. DE SOUZA LIMA

RIBEIRO, E. B. Achado cirurgico em um caso de lepra nervosa considerado extinto. [Surgical findings in a case of pure neural leprosy considered extinct.] *Rev. Brasileira Leprol.* 6 (1938) Spec. No., pp. 175-178.

The author describes a case of the pure neural form with affection of the ulnar nerve, regarded as a "burnt-out" case. Later the patient presented a caseous abscess of that nerve and was operated upon in order to accelerate the regeneration of the nerve fibers. Many bacilli were found in the nerve, thus demonstrating the real nature of the case.

—L. DE SOUZA LIMA

TAPPEINER, S. Ueber lepra mixta. [On mixed leprosy.] *Arch. f. Dermat. u. Syph.* 178 (1939) 570-581.

Description of four cases of leprosy that have been seen in the dermatological clinic in Vienna in recent years, two of them Austrians (the other two being Turks), both of whom had lived in South America, one in Brazil and the other in Argentina.—[From abstract in *Ann. Dermat. et Syphilig.* 10 (1939) 703.]

OBERDOERFFER, J. Kasiustik in Bildern. [A record in pictures.] *Dermat. Wehnschr.* 110 (1940) 224-226.

This is a collection of 12 photographs of patients. One of them is entitled "white, caseous necroses in nodular lepromas after diphtheria antitoxin," but the view was not taken sufficiently close for the intended demonstration. Most of the others are interesting but not exceptional, except one of a tuberculoid lesion of the penis.

—H. W. W.

RISHI, D. P. A review of arrested cases. *Lep. in India* 11 (1939) 124-127.

At the Chandkuri Leprosy Hospital, 324 cases were declared "disease arrested" during the ten years from 1928 to 1937. Of these, 128 were children who have been kept under observation; in them the relapse rate was 10%. A total of 202 cases of all age groups were examined in 1938, 46 of whom had been lepromatous and 156 neural. Of these arrested cases, 134 (14 children and 120 adults) were still in the institution, some being crippled and some being very old. Of the adults still in the institution, 22 showed signs of relapse; of the 68 persons living outside, none showed any sign of the disease. The general relapse rate of all the cases examined was 11%, that of neural cases being 8.5% and that of lepromatous cases 18.5%. The majority of relapses were seen between four and seven years after arrest.

—J. LOWE

DISINI, D. AND LAUREOLA, A. F. Clinical trial of methylene blue, fluorescein, trypan blue and brilliant green in leprosy. *Month. Bull. Bur. Health (Manila)* 19 (1939) 3-14.

Clinical trials of 2% trypan blue and 0.5% brilliant green on two groups of 8 patients each, and 1% methylene blue and 2% fluorescein on another two groups of 21 patients each, are reported. Treatment was given for seven

months with the first two drugs, and for nine months with the last two. The therapeutic effects were essentially negative. The fact is mentioned that the treatment employed was less intensive than those tried by others. The authors discuss the lower dosages employed as a possible explanation of the poor results, and the probably benign types of leprosy treated by the ardent advocates of the dye treatment as possibly responsible for their spectacular success.
—J. O. NOLASCO

WHITCOMB, E. W. Rubrophene in the treatment of leprosy. *Lep. in India* 11 (1939) 98-100.

Whitcomb reports on the trial of rubrophene (tri-methoxydioxy-oxotriane) in 78 patients, 40 others having been kept as controls, all receiving hydnocarpus treatment. The drug was given orally and intravenously. It is found to have no effect on the manifestations of leprosy. It has a depressing effect on the general health of the patient, and it is considered that large doses may be toxic to some patients. It is reported as having a marked anthelmintic property.
—J. LOWE

NARAYAN, J. S. Neem oil in the treatment of leprosy. *Lep. in India* 11 (1939) 128-131.

This short note reports clinical and bacteriological improvement in a small group of cases of leprosy treated by intradermal and intramuscular injections of neem oil.
—J. LOWE

DE RAADT, SR., O. L. E. AND PARJONO, R. De phenoltherapie der lepra en tuberculose. 2de Mededeeling. [Phenol treatment of leprosy and tuberculosis; 2nd report.] *Geneesk. Tijdschr. Nederlandsch-Indië* 78 (1938) 435-439.

This is a second publication concerning the treatment of leprosy and tuberculosis with phenol diluted in Scott's emulsion and administered to adults in a daily dose of three times 100 mgm. In addition to the results described in the first publication, mention is made of favorable results and complete cure in a few other cases of leprosy and tuberculosis. —P. H. J. LAMPE

GOLOVINE, S. Zur Goldbehandlung der Lepra. [Gold treatment of leprosy.] *Arch. f. Schiffs- u. Trop.-Hyg.* 44 (1940) 39-42.

The author reports that auro-detoxin, a medicament free from toxic action and very well tolerated by lepers (at least by Negroes), has a distinct influence upon leprosy in all stages. Its effects appear very rapidly, especially on intramuscular injection; intravenous injections, less effective, are more appropriate for subsequent treatment to maintain the benefit achieved or to prevent relapses. The question remains whether the demonstrated action of this drug on the germ of leprosy is definitive, or at least sufficiently inhibitory. The answer cannot be given for the reason that, in dealing with patients of the black race, when once they are cured or distinctly improved they disappear in the bush and are never seen again.—[From author's summary.]

GMINDER, E. Bericht über sieben Fälle generalisierter Lepra, die mit Gold behandelt wurden. [Report on seven cases of generalized leprosy treated with gold.] *Arch. f. Schiffs- u. Trop.-Hyg.* 44 (1940) 171-180.

The author, at the Agogo Hospital, Gold Coast, has used solganol B

oleosum in the treatment of 7 cases of generalized leprosy. The minimum total dose used was 3 gm., given in increasing quantities, over a period of 4 months. It was found advisable to give prophylactic calcium with this treatment. No lepra reactions were observed. In no case was there any improvement of the general condition, nor were leprosy eye symptoms improved. One case was slightly improved, 2 became worse and 4 were unchanged. It is concluded that, on the whole, gold treatment has no effect on leprosy.

—KLINGMÜLLER

✓ COLLIER, R. D. Notes of the use of diphtheria toxoid in leprosy. *Lep. Quart.* 14 (1940) 83-86.

In this brief note the author gives the gist of a report, previously published elsewhere, of the apparently remarkable results obtained with the use of diphtheria toxoid, previous to which diphtheria antitoxin had been employed, with much benefit, whereas other patients given antivenin and tetanus antitoxin had not benefitted. It is noted that the author concludes with the tetanus statement that "the permanency of the beneficial results from toxoid treatment is yet to be determined. As yet we have only impressions."

—L. S. HUIZENGA

✓ LATAPI, F. [The vaccine of Vaudremer.] *Medicina* 129 (1939) May 10.

This vaccine was experimented with in eight cases, in a dispensary in Mexico. The acute lesions—cutaneous and ocular, but especially the latter—were modified by the treatment. Chronic conditions—macules, nodules and ulcers—were not perceptibly affected during the course of the treatment, but in some cases after two or three months there was observed resorption of lepromas and a tendency to cicatrization of ulcers, although it cannot be affirmed that these changes were necessarily due to the treatment. In general, the absolute innocuity of and tolerance to the vaccine has been proved, but it has not been possible to arrive at any conclusion regarding the effect on the chronic lesions.—[From abstract in *Bol. Of. San. Panamericana* 18 (1939) 984-985.]

✓ DELANOE, E. Travail d'ensemble sur le traitement mixte de la lèpre. [Review of mixed treatment of leprosy.] *Bull. Soc. Path. exot.* 32 (1939) 937-944.

The author reviews her own work and writings concerning mixed treatment, which she asserts is her personal idea and which has she employed in about 150 cases in the past twenty years. Insisting on the importance of energetic action, to obtain notable results in a few weeks, she claims results better and more rapid than would be possible with any of the medicaments employed were they used alone, and benefit from the association of chaulmoogra drugs with certain substances, as trivalent arsenic, that by themselves are ineffective. The general principle is that in its "state of dissociation" in the course of treatment the leprosy bacillus is more susceptible to the combined and repeated action ("continual bombardment") of medicaments that, when used singly, already have the property of diminishing its vitality and hence its harmful effects. Chaulmoogra drugs are usually given (the collobiasis and sodium gynocardate given intravenously are mentioned especially, but pure oil has evidently been used) and in addition an arsenical (novarsenobenzol, or acetylarsan for children), or solganol

B in oil, or methylene blue (all intravenously), or the BCG vaccine (intramuscularly). [The report is conspicuously lacking in precision in this matter.] —H. W. W.

FOLMER, H. C. La lèpre; nouvelle méthode de guérison. [A new method for curing leprosy.] The Hague, Holland (undated), 4 pp.

A pamphlet in which the author sets forth his conviction that he has found a new method for curing leprosy, analogous to his treatment of tuberculosis and anemia with organic compounds of calcium. —P. H. J. LAMPE

BIERDRAGER. Leprabehandeling. [Leprosy treatment.] Geneesk. Tijdschr. Nederlandsch-Indië 78 (1938) 1960.

Demonstration of a case of leprosy [according to the description a major tuberculoid case] which was cured during a one-year treatment with carbon-dioxide snow, antileprol and solganol B oleosum. —P. H. J. LAMPE

HUIZENGA, L. S. Routine treatment used at the Shanghai leprosy clinic. Lep. Quart. 14 (1940) 18-31.

The writer, who himself conducts the only separate leprosy clinic in Shanghai, tells of the simple routine treatment method employed, in order that it may be helpful to the small leper clinics throughout the country. He describes how a simple room can be made into an efficient clinic, and the management thereof. —AUTHOR'S ABSTRACT

DE OLIVEIRA, D. Vitaminoterapia e lepra. [Vitamin therapy in leprosy.] Rev. Brasileira Leprol. 7 (1939) 187-193.

This is not at all a work on vitamin therapy of leprosy; it is more a review of the use of vitamins in therapy, with stress on their use in infectious diseases in general and mention of their possible value in leprosy, but without mention of work that has actually been done in this field.—[From abstract in *An. Brasileiros Dermat. Sifilog.* 14 (1939) 298.]

COCHRANE, R. G., PAUL RAJ, M. AND SALMOND, M. D. The effect of wheat diet in the relief of certain painful complications and sequelae in leprosy. Indian Jour. Med. Res. 27 (1940) 963-969.

A dietetic experiment with wheat conducted at the Lady Willingdon Leprosy Sanatorium, in Madras, is described. The 37 patients given this additional dietary factor were moderately advanced or advanced lepromatous cases who complained of severe nerve or bone pain. Rice was completely eliminated from their diet and substituted by whole wheat. This was lightly ground on the curry stone and cooked in the same way as rice, and in the evening wheat pancakes (chapatties) were eaten. The results with regard to pain were as follows:

Condition	Cases	Complete relief	Partial relief
Bone pain.....	14	12 (86%)	2 (14%)
Nerve pain.....	23	16 (70%)	7 (30%)

With respect to the condition of the disease, 2 patients became negative, 2 were much improved, 18 others were improved in lesser degrees, 14 were stationary, one worse. It is concluded that this dietary factor is of value in chronic cases of pain and worthy of trial when other remedies have failed, except for abscess or marked swelling of the nerve in tuberculoid leprosy,

which can be relieved surgically. It does not appear to hasten the improvement of the disease in lepromatous cases, which conclusion makes it necessary to exercise caution in ascribing lack of improvement in leprosy to a dietary factor or to a poor general state of health. It is often suggested, with too much facility, that these causes underlie deterioration in leprosy, whereas the real factor is often unknown. Since administration of large doses of vitamin B did not have any effect on nerve or bone pain, it is suggested that the improvement in this series of cases was probably due to a combination of factors, including protein, calcium and vitamin complex. The relative importance of each factor has not yet been determined.

—AUTHORS' ABSTRACT

SILVEIRA, L. M. Tratamento cirurgico das nevrites leprosas agudas. [Surgical treatment of acute leprosy neuritis.] *Rev. Brasileira Leprol.* 6 (1938) Spec. No., pp. 193-196.

The author reports five observations of acute leprosy neuritis in which surgical treatment was employed. He points out that it is necessary, in order to obtain good results, to dissociate the nerve fibers longitudinally, because the infiltration is localized in the interfascicular connective tissue.

—L. DE SOUZA LIMA

LOWE, J. AND CHATTERJI, S. N. Surgical removal of the sheath of ulnar nerve in severe leprosy neuritis. *Lep. in India* 11 (1939) 44-52.

The technique of the operation is described and the immediate results observed in 14 cases are recorded. The operation relieves pain, may diminish deformity and may prevent deformity from developing. A publication by Dow on the subject, in which he reported good early results but bad late effects, is criticized, it being pointed out that the cases reported by him are the residual ones of a much larger series and not likely to give a true impression of the value of the operation.

—AUTHORS' ABSTRACT

SILVEIRA, L. M. Amputações e mal perfurante plantar. [Amputations and plantar perforating ulcers.] *Rev. Brasileira Leprol.* 6 (1938) Spec. No., pp. 219-229.

The author discusses the indications for amputation in cases with plantar perforating ulcers. He prefers Lisfranc's amputation in cases with secondary infection, and Syme's in cases of drop-foot.

—L. DE SOUZA LIMA

COCHRANE, R. G. General principles in the treatment of trophic ulcers in leprosy. *Lep. in India* 12 (1940) 11-16.

This article is a general review of the main methods of treatment of trophic ulceration, based on long personal experience. Ulcers should be considered according to the situation, and whether they are clean or foul, and whether bone is involved or not. No routine treatment can be recommended; each case has to be considered separately, following certain general principles. The indications when an ulcer should be injected are given. In certain types of ulcers, it is advocated, the ulcer should be packed with a sulfanilamide paste (sulphanilamide 75 grs., adeps lanae 18 drachms and liquid paraffin $6\frac{1}{4}$ drachms) and the dressing left for a week. Among other methods that have been found useful are: after cleansing, frequently-changed eusol dressings or iodoform grs. 10 in eucalyptus oil oz. 1, with or without castor oil; in foul ulcers saturated magnesium sulphate baths

for ten minutes; syringing out sinuses with dettol, 1 in 20 solution. Operative procedures are briefly referred to; amputation is only justified when life is endangered, or for a painful and deformed limb. Conservative methods are strongly advocated. This article is illustrated by eleven plates.

—AUTHOR'S ABSTRACT

- DA SILVA, O. L. Tratamento das localizações leprosas nas vias aéreas superiores e na boca. [Treatment of lesions of the upper air passages and the mouth.] *Rev. Brasileira Leprol.* 7 (1939) 75-84.

The favorite sites of lesions in the mouth and upper respiratory passages and the various forms which such lesions may present are discussed. For their treatment the author has used a 30% embrocation of chaulmoogra oil every two days. As such treatments sometimes caused hemorrhage, he followed them once a week with applications of 50% trichloroacetic acid, with good results. With vegetative lesions such as lepromas he uses the galvanocautery or excises the growth and cauterizes the wound. Tracheotomy is resorted to when there are lesions of the larynx with dyspnoea; 15 cases in which that operation has been performed are presented.—[From author's summary.]

- DHARMENDRA AND CHATTERJI, S. N. Total excision of early neuromacular lesions. *Lep. in India* 11 (1939) 117-123.

Complete excision of neuromacular lesions was performed in 22 cases of leprosy, 18 of which have been kept under observation for periods varying from 1 to 49 months. In 4 cases relapse has been seen, in 3 instances at the site of excision and in 1 case with the development of new lesions. In the other 14 cases followed up there has been no recurrence of symptoms, but 9 of them have been observed for only seven months or less. It is considered too early for definite conclusions to be drawn, but the procedure of total excision of solitary lesions is regarded as free from harm in all cases and beneficial in some.

—J. LOWE

- VIEIRA, J. P. Fisioterapia na lepra. [Physical therapy in leprosy.] *Brasil-Med.* 53 (1939) 900-902.

In this review the author presents some very general facts concerning the possibilities of application of physiotherapeutic measures in leprosy, especially x-rays, carbon dioxide snow, electrotherapy and diathermy.—[From abstract in *An. Brasileiros Dermat. Sifilog.* 14 (1939) 299.]

- CARDOSO, H. T. Observações sobre o emprego do óleo de sapucainha no tratamento da lepra. [Observations on the use of sapucainha oil in the treatment of leprosy.] *Acta Med. (Rio de Janeiro)* 2 (1938) 145-150.

The author gives briefly the history of the researches of Cole and Cardoso upon the oil of *Carpotroche brasiliensis*, Endl. and its composition:

Hydnocarpic acid.....	45.0%
Chaulmoogric acid.....	24.4%
Gorlic acid.....	15.4%
Palmitic acid.....	6.6%
Oleic acid.....	6.3%
Other acids not recognized.....	2.3%

The first three acids (84.8% of the total) are optically active. The activity of the oil is from 52° to 54°. The preparation of carpotroche ethyl esters with 0.5% iodine and its use in therapeutics in small scale are discussed, without statistical data. Carpotroche oil from old seeds has proved to be very irritating because of its resinic acids (9.0%, Paget), but by employing quite fresh oil in the preparation of the esters irritation is avoided or diminished. The author suggests that only seeds not older than six months be used, and oil not older than two years. —H. C. DE SOUZA-ARAÚJO

MACHADO, A. O óleo de sapucainha e seu emprego no tratamento da lepra. [Sapucainha oil and its use in treatment.] Booklet, 1938, published in Leopoldina, Minas Geraes, Brazil, 15 pp.

This booklet is a review of previous publications of the author, made with commercial aims. He claims to have been the first to demonstrate (in 1924) the similarity of this oil with Asiatic oils. By new analyses he has found its composition as given below [the figures total 110.2%:] which differs greatly from the findings reported by Cole and Cardoso;

Saturated acids:	
Palmitic.....	15.4%
Stearic.....	8.2%
Unsaturated acids, optically active:	
Carpotrochic.....	12.8%
Carpotrochinic.....	31.5%
Unsaturated acids, optically inactive:	
Oleic.....	28.6%
Linoleic.....	4.8%
Glycerol radical.....	7.4%
Unsaponifiable.....	1.5%

The dextrorotary power of carpotrochic acid is given as 54°, and that of the carpotrochinic acid as 69°. The rotary power of the oil, it is said, diminishes with ageing. Finally, information regarding the use of his preparations of this oil are given. —H. C. DE SOUZA-ARAÚJO

POSSOLO, H. A química do óleo de chaulmoogra. [The chemistry of chaulmoogra oil.] Rev. Brasileira Leprol 7 (1939) 171-186.

The author reviews rapidly the chemistry and the history of the therapeutic use of the chaulmoogra oils and their derivatives. However, the material studied by him has not been correctly classified, and there is some confusion in the botanical determination of the species cited. The chemical formulas attributed to the acids studied present unpardonable inaccuracies. It is also regrettable that the author does not refer to the outstanding work of Cole and Cardoso.—[From abstract in *An. Brasileiros Dermat. Sifilog.* 14 (1939) 298.]

BASU, U. P. AND MAZUMDAR, A. Of the keeping properties of *Hydnocarpus wightiana* oil and its derivatives. Lep. in India 11 (1939) 53-61.

The authors treated samples of the oil in various ways and studied its subsequent oxidation when heated and blown through with air. The addition of creosote or hydroquinone to the oil was found to minimize oxidation and to improve the keeping quality of the oil. —J. LOWE

X BURSCHKIES, K. Ueber die Bedeutung der Chaulmoogra-säure und deren Derivate für die Chemotherapie der Lepra und der Tuberkulose. [Significance of chaulmoogra acids and their derivatives in the chemotherapy of leprosy and tuberculosis.] Zntbl. f. Bakt., I. Abt., Orig. 144 (1939) 239-243.

This is a highly technical chemical paper, on certain new compounds, which should be consulted in the original by those interested.—[Abstract from *Trop. Dis. Bull.* 37 (1940) 45.]

✓ DHARMENDRA AND DE, N. K. Blood cholesterol in cases of leprosy. *Lep. in India* 11 (1939) 93-97.

Blood cholesterol was estimated in 23 nonlepers and 250 lepers. The mean average value in nonlepers was 163.44 mg. per 100 cc. of plasma, with a standard deviation of 48.34. In untreated cases of lepromatous leprosy the mean average value was 129.09 mg. with a standard deviation of 34.24, and in untreated cases of neural leprosy these figures were 143.08 mg. and 38.01, respectively. The average values in the treated lepromatous and neural cases did not differ significantly from those in the untreated cases of the same groups. There was no significant difference in the values of N1 and N2 cases. The administration of hydnocarpus oil was attended with an increase in cholesterol in those cases which showed some improvement after the treatment, but it is difficult to say whether or not the increase resulted directly from the treatment. —J. LOWE

+ BERTELOTTI, L. Contributo alla conoscenza del granuloma leproso. (L'origine della cellula di Virchow dall'endotelio dei vasi cutanei.) [Contribution to knowledge of the leprous granuloma. The origin of the Virchow cell from the endothelium of the cutaneous vessels.] *Gior. italiano Dermat. e Sifil.* 80 (1939) 469-487.

Though the modern concept of the histopathology of leprosy refers the origin of the Virchow lepra cell to the elements of the reticulo-endothelial system, with respect to certain of the latter—this referring to the endothelial cells of the cutaneous blood vessels—there are discordant opinions. Those of certain authors regarding the relationship of those cells to the reticulo-endothelial system are recalled. Aschoff distinguished the cells of marked granuloplectic activity from those of weak activity (vascular endothelium and fibroblasts); others later employed classifications with less restricted criteria and a more general character; but most modern authors do not regard the vascular endothelium as a true element of the system. The author has studied the matter in leprosy by histo-bacteriological and experimental methods. He finds that endothelial cells of the blood vessels of the skin may contain bacilli in their cytoplasm, without presenting any apparent change; but they may also, though more rarely, show protoplasmic reactive phenomena entirely similar to those observed in the cells of the reticulo-endothelial system proper (adventitial cells, perithelium, etc.). But while, for the latter, a later definitive transformation into the lepra cell is possible, the endothelial cells, after the first changes of reaction or degeneration, are detached from the vessel wall and fall into the blood stream. If it is admitted, he concludes, that the endothelial cells of the blood and lymphatic vessels possess a functional affinity with the other elements of the reticulo-endothelial system, it can then be thought that the endothelial element is, in a measure,

potentially capable of giving rise to the Virchow cell but that, under the circumstances, it cannot undergo a complete transformation.—[From abstract in *Ann. Dermat. Sifilog.* 10 (1939-40) 935.]

NUÑEZ ANDRADE, R. Causas más frecuentes de mortalidad en la lepra. [The commonest causes of death in leprosy.] *Medicina (Mexico)* 19 (1939) 173-176.

The causes of death of 1,074 lepers in Mexico are compared with a report for the Culion colony (Pineda). The latter are based on only 300 deaths, but the contrasts are so marked that they are worth noting. The differences are best seen from the following tabulation of percentages compiled from figures in the text:

	Mexico	Culion
Pulmonary tuberculosis.....	1.6	24.0
Nephritis.....	2.3	16.3
Bronchopneumonia.....	3.1	9.3
Entercolitis and dysentery.....	16.1	5.1
Leprotic cachexia.....	9.9	2.3

—[From abstract in *Trop. Dis. Bull.* 37 (1940) 42.]

DHARMENDRA. Arneth count in leprosy. *Lep. in India* 11 (1939) 132-133.

Dharmendra reports a shift to the left in 82 cases of leprosy, 60 being of neural and 22 of lepromatous type. There was no appreciable difference in the Arneth count in these two types of the disease. —J. LOWE

MONTEL, LE-VAN-PHUNG, DO-VAN-HOANH AND TRAN-VAN-HANH. 526 cas de lèpre. Formules cytologiques. Réactions de floculation de Verne. Analyses du sang. Diagnostic bactériologique. [Investigations in 526 cases of leprosy; leucocytic formula, Verne reaction, blood analyses, bacteriologic diagnosis.] *Rev. Méd. Française d'Extrême-Orient* (1939) 623-627.

The authors record the results of laboratory investigations in Indo-China. Cytological observations showed an increase in the eosinophils, but it was not of diagnostic importance. Their bacteriological diagnostic examinations were in accordance with general experience. Verne's flocculation reaction was not more frequently positive in lepers than in healthy people, so is of no diagnostic import.—[Abstract from *Trop. Dis. Bull.* 37 (1940) 43.]

HOPPE, JR., F. Considerações sobre o exame bacteriológico na lepra. [Considerations regarding the bacteriological examination in leprosy.] *Rev. Brasileira Leprol.* 7 (1939) 199-203.

The procedures employed by the author in collecting material and staining are described. For the nose, he recommends obtaining material from the anterior portion of the septum with a small cotton swab; curettage is reserved for special cases. For abscesses, lymph nodes and nerves, puncture is resorted to. For the skin he employs superficial scarifications, single or multiple, making 4 or 5 parallel lines not more than 1 mm. deep. The findings in different kinds of lesions are given. Certain of the erythematous macules, it may be noted, he ascribes to a neurotrophic origin.—[From abstract in *An. Brasileiros Dermat. Sifilog.* 14 (1939) 299.]

CHALA H., J. I., BRUMPT, L. C. AND LLERAS RESTREPO, F. Puncion de la medula osea en la lepra. [Puncture of the bone medulla in leprosy.] *Rev. Colombiana Leprol.* 1 (1939-40) 246-256.

Sternal puncture is proposed as a diagnostic measure, because of finding the bacillus in the bone marrow in cases in which lymph nodes and the mucosa are negative. The authors had found the bacillus in 8 of 14 lepromatous cases and in 2 neural ones. The myelogram does not present appreciable quantitative modifications, but foamy cells were found in the cases in which bacilli were encountered. The method is easily tolerated by the patients, and is applicable in dispensaries as well as in leprosaria. —[From summary.]

MANALANG, J. A comparison of the Cooper modification and the Culion modification of the Ziehl-Neelsen staining method for *M. leprae*. *Month. Bull., Bur. Health (Manila)* 19 (1939) 287-292.

The Cooper method of staining acid-fast microorganisms (modified by the author) was compared with the Culion method of acid-fast staining on 338 smears taken from 58 "negative" candidates for parole and 48 smears from 19 very young children of lepers showing very early suspicious lesions of leprosy. The Cooper method gave 28% more positives than the Culion method, and it stained the bacilli clearly and more deeply. The absence of beaded forms observed by Cooper in *M. tuberculosis* was not observed in the leprosy bacilli. The author recommends the use of modified Cooper's method in leprosy, particularly in clinically active suspicious leprotic lesions which are frequently negative by the standard staining methods.

—J. O. NOLASCO

[LAIDLAW, P.] (Human infection with rat leprosy?) Report of the Medical Research Council, 1938-1939, London, 1940. (Leprosy, pp. 43-44.)

One feature of this report has to do with an interesting study of the relation between human and rat leprosy, made by the late Sir Patrick Laidlaw. Syrian hamsters were inoculated by Dubois, in Antwerp, with human leprosy material from the Belgian Congo, and one of the animals developed an infection, with typical bacilli. With this material Laidlaw found it easy to transmit spreading infection, not only to hamsters, but also to white rats. This fact, together with observations made on the tissues of the animals, suggested that the lesions from which the original material was obtained were due to human infection with the organism of rat leprosy, and not with that of the usual human type, though the clinical condition of the patient had aroused no such suspicion. This opinion was shared by Dubois and by Adler, to whom specimens were sent. The suggestion is that human leprosy in the past may have arisen from the more rapidly spreading and more widely prevalent rat disease, the bacilli afterwards losing their infectivity for the rat with adaptation to the human tissues.—[From abstracts.]

FROILANO DE MELLO, I. AND LOBATO DE FARIA, C. Sur la infestation des ulcères leprotiques par des champignons levuri-formes. [Yeast-like fungi in leprosy ulcers.] *Mycopathologia* 1 (1938) 201-211.

In 8 out of 10 cases of leprosy ulcers yeast-like fungi were isolated. These were: a new species of *Zychosaccharomyces*, designated *Z. leproticus*,

a new species of *Saccharomyces* forming a salmon-colored pigment, designated *S. ciferri*, and five *Candidas* (2 *C. zeylanica* and 3 *C. zeylanoides*). These organisms are regarded as saprophytes, maintaining nevertheless an essential action comparable with the secondary function of vulgar pyogenic microbes.

—P. H. J. LAMPE

GEIGER, W. B., JR. AND ANDERSON, R. J. The chemistry of the lipids of tubercle bacilli. LVIII. Concerning the firmly bound lipids of the so-called leprosy bacillus. *Jour. Biol. Chem.* **131** (1939) 539-548.

The material used in this study was the bacterial residue left after exhaustive alcohol-ether and chloroform extraction by Uyei and Anderson of a so-called leprosy bacillus culture, the Hygienic Laboratory strain No. 370 (Apa, Honolulu). It was found still to contain 19.2% of firmly bound lipids which could be removed after the cells had been treated with dilute hydrochloric acid. The lipids thus obtained were separated into three main fractions, which varied greatly in properties and solubility. The least soluble fraction, a white amorphous powder, m.p. 175-185°, was saponified and gave 40.5% of carbohydrate and 66.4% of ether-soluble compounds. The ether-soluble compounds were mainly hydroxy acids similar to leprosinic acid. Other details are given.

—H. W. W.

ANDERSON, R. J. AND CREIGHTON, M. M. The chemistry of the lipids of tubercle bacilli. LIX. The composition of the polysaccharide of the firmly bound lipids of the leprosy bacillus. *Jour. Biol. Chem.* **131** (1939) 549-554.

In previous work in the authors' laboratory [see preceding abstract] it was found that about 40% of a fraction of the firmly bound lipids of a so-called leprosy bacillus used was a polysaccharide. Its cleavage products liberated on hydrolysis consist principally of pentosans. The chief constituent is d-arabinose. About 7% of pentose or pentoses other than that substance is present but they could not be identified. A small amount of d-galactose is present. The sugars actually isolated account approximately for the total amount of reducing sugars liberated on complete hydrolysis, but represent only about one-half of the polysaccharide.

—H. W. W.

LARA, C. B. Mitsuda's skin reaction (leprolin test) in young children of leprous parents. I. Observations on children from one to five years old. *Month. Bull. Bur. Health (Manila)* **19** (1939) 15-47.

This study was made with a view to correlating observations on the lepromin reaction with the development of leprosy in a group of children of leprous parents. The group studied comprised 66 children (29 girls and 37 boys) from about one to nearly five years of age at the time of the first test, who had been in intimate contact with their parents for from 7 to 17 months. The test was made every 3 months, a majority of the children receiving four of them in a period of one year. A tabular summary of the findings is given. The general tendency, with a very few exceptions, was for the reaction to become positive, or to be intensified, with repeated testing, regardless of the presence or absence of frank leprous manifestations. The impression is gained that the test is of no value as an index of the resistance of children over one year of age to the development of leprosy, that

it has no prophylactic value in such children, and that there is a possibility that it may act provocatively. —J. O. NOLASCO

LAGROSA, M. The leprolin (Mitsuda) reaction in "negative" lepers. I. Observations over a period of one year. *Month. Bull., Bur. Health (Manila)* 19 (1939) 83-93.

One hundred and eleven "negatives" were studied, 36 males and 75 females. The three main forms of the disease—lepromatous, tuberculoid and neural—had been recognized prior to the bacteriologically negative stage. All but 17 patients were tested four times; 11 were tested three times and 6 only twice. Many of the cases that had been lepromatous gave doubtful or negative reactions to the first test, while most of the neural cases were positive, the tuberculoid cases being intermediate. Cases negative for more than four years gave the highest proportion of positive reactions, those negative for less than two years the lowest. This was apparently due to the preponderance of the better-reacting neural and tuberculoid cases in the former group; the N3 cases gave a higher proportion of strongly positive reactions than did the other groups. On repeated testing doubtful and negative reactions gradually became positive, regardless of the type of the disease or the occurrence of relapse. The proportions of moderate to marked reactions also gradually increased in all types, the increase being most rapid and marked in the tuberculoid-type cases. About 50% of the lepromatous cases always gave positive reactions; the rest were sometimes positive but at other times negative or doubtful. There were relatively several times more regularly good reactors among the neural or tuberculoid cases than among the lepromatous ones, among which relapses occurred relatively most frequently and lasted longest; only one neural case relapsed, and that for but a short time. About one-half of the relapsed cases showed a slight depression of the reaction. No case relapsed that had had a 3+ reaction at any time, or that consistently gave moderately strong reactions in all tests. Concerning the other cases, the less satisfactory the reaction curve the greater was the frequency of relapse. Sex had no influence on the reaction, nor did the presence of active pulmonary tuberculosis or pregnancy. —J. O. NOLASCO

IGNACIO, J. L. Observations on the leprolin test in clinically active, bacteriologically positive lepers. *Month. Bull., Bur. Health (Manila)* 19 (1939) 95-105.

This test was made repeatedly, at intervals of six months, over a period of two years on a group of 105 bacteriologically positive, clinically active cases of leprosy: 87 lepromatous, 8 tuberculoid and 10 neural. About 79% of them gave negative or doubtful reactions to the first test. With each repeated testing the proportion of positive reactors increased progressively, reaching 80% in the fourth test. In the lepromatous-type cases practically all of the increase in the proportion of positive reactions in the retests was in the slightly positive reactions. Not one of the 8 tuberculoid cases, and only 4 of the neural ones, gave positive reactions at first, but with repeated testing both of these groups became better reactors more readily than did the lepromatous cases, with a considerable proportion of them developing moderately strong reactions, differing in these respects from the lepromatous group. The influence of the repeated testing itself is considered to be the main factor responsible for the increase in the proportion of positive reactors.

The initial lépromin reaction appears to have a limited prognostic significance. The results of any one testing could not be correlated with changes in the status of the disease seen at the time, but a study of the reaction curves showed that poor and very poor reactors had the lowest proportion of improved cases, while the moderately good reactors had the highest proportion, indicating a fairly good correlation of the reaction curve and clinical progress. Intercurrent conditions like lepra fever, tuberculosis, malaria and pregnancy appeared to have no influence on the test. —J. O. NOLASCO

BÜNGELER, W. AND FERNÁNDEZ, J. M. Untersuchungen über den klinischen Verlauf und die histologischen Veränderungen allergischer Reaktionen bei Lepra. I. Mitt. Klinische und histologische Untersuchungen über die Leprolinreaktion nach Mitsuda. [Investigations on the clinical course and histologic changes of allergic reactions in leprosy. I. The leprolin reaction of Mitsuda.] *Virch. Arch.* **305** (1939) 236-260.

In the Mitsuda reaction, which as a rule is positive in tuberculoid cases, there may be differentiated two phases, a nonspecific early erythema and the specific nodule formation. Only the latter is generally regarded as significant. The authors' investigations have shown that, histologically, the reaction shows from the beginning all of the signs of a specific allergic reaction in those cases which later are evaluated clinically as positive. Within 24 hours after the injection there are found, besides noncharacteristic leucocytic infiltrations, peculiar, circumscribed, swollen fibrinoid necroses, arranged as small perivascular nodules. The appearances correspond to the characteristic connective-tissue changes in allergic reactions. Within 2 to 3 weeks these fibrinoid necroses are transformed into organized nodules, composed mainly of epithelioid and giant cells. These findings permit a definite histological diagnosis of the course of the reaction as early as the second day after the injection, when a diagnosis is not yet possible clinically. Comparisons with bacilli-free lepromin do not show these peculiar changes.

—KLINGMÜLLER

SOEPARMO, M. Een greep uit het leprawerk in het Regentschap Blora en het nut van de daarbij verrichte Takata-Ara-reactie. [Particulars about the antileprosy campaign in the Regency Blora and the usefulness of the Takata-Ara reaction.] *Geneesk. Tijdschr. Nederlandsch-Indië* **78** (1938) 1817-1821.

The first part of this article contains nothing new. In order to obtain an evaluation of the general condition of lepers, practicable in the field, the Takata-Ara reaction is employed. The results of the examination of 248 lepers in Blora are given as follows: Of the cases in the first stage of the disease, 6% gave very strongly positive, 8% strongly positive, and 86% slightly positive reactions. Of those in the second and third stages of the disease, the results were 19, 43 and 38% and 96, 3 and 1%, respectively.—P. H. J. LAMPE