

CURRENT LITERATURE

It is intended that the current literature of leprosy shall be dealt with in this department. It is a function of the Contributing Editors to provide abstracts of all articles published in their territories, but when necessary such material from other sources is used when procurable.

PATRONATO DE LEPROSOS DE LA REPUBLICA ARGENTINA. Reunión de Presidentas de las Casas filiales y subfiliales. Primera reunión del Patronato de Leprosos Internacional. [Society for the Welfare of Lepers of the Argentine Republic; meeting of the presidents of the branch chapters and sub-chapters; first meeting of the International Society for the Welfare of Lepers.] Imprimió Sebastián Amorrortu, Buenos Aires, 1947; 183 pp.

The first part of this beautifully printed volume deals with a meeting of the presidents of the branch chapters, as stated in the title. The second part sets forth the plans for and the efforts made to establish a Patronato de Leprosos Internacional, for the purpose of coordinating the efforts in this field which are being made in different countries. [From a note by Dr. G. Basombrio. The body of the material provided by him has been incorporated in an item of the News section. —EDITOR.]

- ▷ VIEIRA BRAGA, R. Contribución al estudio de la lepra en el media proletario de la ciudad de Rio de Janeiro. [Contribution to the study of leprosy among laborers in Rio de Janeiro.] *Rev. argentina Dermatosisif.* **31** (1947) 486-492.

The number of leprosy cases among the laboring class in Rio de Janeiro is notable. The incidence is highest in the occupations liable to involve trauma, and in those in which certain kinds of foods are handled. There are possibilities of infection between two fellow workers using the same tools. The incidence is highest at the prime of physical capacity (ages from 20 to 40 years). —G. BASOMBRI.

- ▷ BABLET, J. Acquisitions récentes dans le domaine de la lèpre. [Recent progress in leprosy.] *Biol. méd.* **37** (1948) 49 (March-May).

The author reviews successively the attempts at classification, the results obtained in efforts to cultivate the bacilli, the inoculations of experimental animals, and the study of "leprosy" of the rat in so far as that can contribute to knowledge of human leprosy. A special section is devoted to the histological diagnosis of cutaneous lesions, and the last two sections deal with recent progress in chemotherapy and the present situation with regard to prophylaxis. This excellent work, which cannot be summarized, presents in a condensed form the ideas essential to the study of leprosy. —R. CHAUSSINAND.

- ▷ NEWMAN, P. P. A visit to a leprosy colony. *British Med. J.* **1** (1946) 616.

The author describes a visit to a colony in India which accommodated about 700 patients. The standard treatment was by injections of chaulmoogra oil in 4% creosote or thymol, intradermal injections being given in addition to daily intramuscular injections. The results, on the whole,

were good. Syphilis and tuberculosis were common complications. Surgical amputations were frequently performed, despite which fact there was a remarkable degree of mobility and stability. Morale among the patients was surprisingly high, and it was obvious that the medical staff, despite working under inadequate conditions, was performing an excellent service.—[From abstract in *Arch. Dermatol. & Syphilol.* **55** (1947) 702.]

- ▷ MCCOY, G. W. Leprosy in California. Danger of Infection. Pub. Health Rep. **63** (1948) 705.

Since California has furnished a large proportion of the cases admitted to the National Leprosarium at Carville, La. (1921-44, 207 cases) an investigation was undertaken to obtain data as to whether or not the infection was acquired in California. In determining the source and place of infection, consideration was given to the place of residence namely: if the patient had lived in the Philippines or a recognized area of high leprosy prevalence, this was regarded as the place where the disease was probably acquired. The report shows that 23 persons in the present century have acquired leprosy in California. Of these, 7 cases have never been out of the State. There are four tables indicating the probable source of infection in the 23 cases. In 3 case histories the marital partner was the probable source of infection. The majority of the cases were due to infection probably acquired in Mexico, China and the Pacific Islands. California is to be regarded as an area in which the likelihood of transmission of leprosy is small, except for children born of parents, one or both of whom have the disease. —F. A. JOHANSEN.

- ▷ ROTBERG, A. Nuevas perspectivas en el terreno de la profilaxis de la lepra. [New perspectives in the field of leprosy control.] *Rev. argentina Dermatosisif.* **31** (1947) 474-484.

The isolation and treatment of infectious cases is still fundamental in leprosy control, in conjunction with the examination of contacts. It is suggested that cases with a few bacteriologically positive cutaneous lesions, but with negative nasal mucosa, should be treated in dispensaries for as long as possible. Cases with negative Mitsuda reactions should be strictly supervised and given intensive sulfone treatment. Bacteriological positivity of the nasal mucosa should obligate prompt internment. Parole discharges should be governed by elastic regulations based on the purpose of prophylaxis, social condition of the individual and the possibilities of reexaminations. Cases of reactional tuberculoid leprosy should be isolated in hospitals or domiciles while the nasal mucosa is positive. It is suggested that the Mitsuda test should be frequently made in contacts. The immunopositives should enjoy all the privileges of visiting their segregated relatives. The immuno-negatives should be followed up periodically for ten years. Those who fail to appear should be considered suspects.

—G. BASOMBRIO.

- ▷ BECHELLI, L. M. Situación de los enfermos de lepra tuberculoide, incharacterística (inflamatorias simples) en la profilaxis de la lepra. [The place of tuberculoid and incharacteristic (simple inflammatory) cases in the control of leprosy.] *Rev. argentina Dermatosisif.* **31** (1947) 468-474.

In leprosy control consideration must be given to both the welfare of the public and to that of the individual and his family. The measures against tuberculoid leprosy are becoming less and less severe. At present the general consensus is not to segregate this class of patients so long as the bacteriological examination is negative. Furthermore, there are those who avoid making the true diagnosis, and list these cases as "patients under observation." This is what the author proposes, in order to prevent irreparable moral injury to the patients and their families. Argemiro de Souza proposed calling tuberculoid leprosy "Jadassohn's disease." The number of lesions is of no importance; it is the bacteriological examination that counts. But all of the cases should be given the lepromin test. Those which are found negative should be kept under the most rigorous supervision, and submitted to the most intensive treatment with the sulfones. The contacts should be examined as are those of lepromatous cases.

—G. BASOMBRIO.

MANALANG, C. Criticisms against my new orientations in the etiology of leprosy. *Mo. Bull. Bur. Health (Philippine)* **23** (1947) 5-18.

In the past, many reports on leprosy have been published without scientific details to give them value, and often have been based on preconceived ideas. Less is known of the essential factors in the pathogenesis and transmission of leprosy than of any other great infectious disease of man, and the position of *M. leprae* as the cause of the disease still remains unsettled. In 1931 the author made the first attempt to shift from the subjective to the objective method of study of these matters. This he did by an interpretation of the clinical, pathological and bacteriological findings in cases of all stages and in their contact children (either bacteriologically positive or negative), before treatment, when cured, after relapse and postmortem, with the necessary controls on nonleprosy subjects. He arrived at the following new orientations: (1) that the cause of leprosy is a virus stage of *M. leprae*; (2) that infection is acquired only in infancy or early childhood, the adult being immune; (3) that transmission is accomplished through frequent and prolonged skin to skin contact; and (4) that both the bacteriologically positive and negative cases, clinical or paroled, are transmitters of the disease. Criticisms of his findings and views—with specific reference to Baliña, Wade, Lara, Schujman, Fernandez and Muir—are mentioned more or less critically; some have accepted or approved his ideas to a greater or less extent, whereas others still labor under preconceived and sometimes contradictory ideas. It is possible to face both ways; one writer (Muir) in 1933 evolved a hypothesis that a virus is the etiological factor of neural leprosy, but in 1934 he opposed the author's concept that the adult is immune and that the bacteriologically negative patient is a transmitter. However, there have been indications that workers are shifting from the subjective to the objective method of study. The hope is expressed that the new orientations will place leprosy control on a more effective and humane basis.—[From the Author's summary.]

STEINIGER, F. Die erbliche Disposition bei der Entstehung der Lepra. [Predisposition to leprosy.] Reprinted from *Ztschr. f. mensch. Vererbungs- u. Konstitutionslehre*. **25** (1941) 245-272 (No. 2) in *Arb. a.d. Reichsgsndhtsamt*. **74** (1941) 471-498 (No. 3).

This is another long German discussion in support of the speculation of Oberdoerffer and Gehr that an essential cause of leprosy is poisoning by sapotoxins contained especially in yams. The early part deals with the literature on hereditary infection and hereditary predisposition, from Danielssen and Boeck in 1848 to recent papers by Aycock, from which it is concluded that hereditary predisposition is one of the three factors in the causation of leprosy; and another of course is infection by the *lepra bacillus*. The work of Oberdoerffer and his German supporters is then examined and the absorption of sapotoxins during the digestion of cocoyams (*Colocasia*) is considered to be the second and central factor, as shown in a diagram of causes of leprosy. This conclusion is arrived at by omitting all reference to the demonstrations by Lowe and Chatterji that the German hypothesis is quite contrary to the facts as regards India; the work of Davey and Ross [see *THE JOURNAL* 14 (1946) 154] which disproved the relationship as regards Nigeria was not published when this paper was written. A recent paper by Chaussinand also shows that it is not applicable to Indo-China. No new facts are brought forward in the present paper, so any who may be interested may be referred to it for his summary of the literature on the subject from the German point of view.—[From abstract in *Trop. Dis. Bull.* 45 (1948) 1008.]

- CHAUSSINAND, R. A propos de l'action des sapotoxines d'origine alimentaire sur l'infection lépreuse. [On the effect of sapotoxins of foods on the leprosy infection.] *Bull. Soc. Path. exot.* 40 (1947) 424-427 (Nov.-Dec.).

[This paper was presented at the Havana Congress; see *THE JOURNAL* 16 (1948) 303.]

- CHAUSSINAND, R. Contribution a l'étude de la contamination lépreuse. [Contribution to the study of the transmission of leprosy.] *Bull. Soc. Path. exot.* 41 (1948) 17-20 (Jan.-Feb.).

The study of the probable source of the leprosy infection in 1,223 cases proved deceptive. Only 284 were able or willing to indicate that they had been in contact with leprosy persons before the appearance of the disease in themselves. Of that group probably 88% had been infected by persons with the lepromatous type, and 12% from the tuberculoid or indeterminate form. With 56% of the group a member of the family was responsible for the infection, and in 44% the origin of the infection was held to be outside the family. The duration of the supposed infecting contact varied from one day to thirty-three years. This investigation seems to show that the risk of infection by cohabitation is not greater than that of exposure by intermittent contact. In fact, 45% of the 284 cases had lived in direct cohabitation with leprosy persons, while with 55% the leprosy contacts had been more or less intermittent and of varied duration. It is concluded that lepromatous leprosy is the principal source of infection; that while cohabitation with a leprosy person undoubtedly favors infection, it is far from indispensable for the transmission of the germ; and that the term "familial disease" applied to leprosy seems incorrect since in 44% (the author's) cases the infection was probably of extrafamilial origin.

—AUTHOR'S ABSTRACT.

- DUBOIS, A. Evolution clinique de la lèpre au Congo Belge. [Clinical evolution of leprosy in the Belgian Congo.] Bull. Acad. roy. Méd. Belgique **11** (1946) 407-415.

The author discusses the results recorded in an inquiry involving more than 1,300 cases in the Népoko. With regard to the bacteriological findings, 260 of 1,548 cases were multibacillary, 145 paucibacillary, and 1,143 negative. The author insists on the lessening of frequency of positive cases with age. As for the clinical classification, 321 cases were lepromatous, with an equal proportion of the two sexes and a lessening of frequency with age. More than 50% of the cases were of the neural type, with mutilations. The tuberculoid condition is relatively benign and stable, very rarely evolving to the lepromatous type and with the acroteric evolution quite rare. The neural type, on the other hand, is marked by the frequency of the acroteric evolution, but transformation to lepromatous is rare. The minor tuberculoid form quite frequently changes to the simple neural. Leprosy remains the principal problem of the Népoko, where 4% of the population is infected. —R. CHAUSSINAND.

- PORTUGAL, H. & ROCHA, G. L. Juxta-articular node of leprosy origin. Arch. Dermatol. & Syph. **53** (1946) 471-476.

Juxta-articular nodes are now regarded as a syndrome. The cause of the first case, reported by Lutz and Jeanselme, was syphilis, as seen at present in the majority of cases the world over; but the condition may also occur in other diseases and several authors have ascribed cases to yaws while others have implicated tuberculosis. The case attributed to leprosy by Fred Wise was not proved, but in the case here reported it has been definitely shown that *M. leprae* may also produce such lesions, for the presence of Virchow cells and acid-fast bacilli was demonstrated. The condition appears not to have any special clinical aspect. The nodes of syphilitic origin are generally, though not always, multiple; in the present case there was only one. Another peculiarity is the flat discoid form in which the thickness is usually one-half of the width, a fact which is not usually detected by palpation but only after resection of the nodule; in the present case palpation gives the impression of a globular mass. The clinical aspect of these lesions does not alone suffice to permit a conclusion as to etiology. The earliest report on juxta-articular nodules in leprosy was by Adolf Lutz, but he regarded them as coincidental because the patients were suspected of having syphilis and because the lesions were cured by potassium iodide. Wise was inclined to regard his case as due to leprosy, but the patient had neural leprosy, with maculoanesthetic lesions and neuritis of the peroneum and nodes on the ankle, and *M. leprae* were not found; no histological examination was made. The lesions regressed after treatment with chaulmoogra oil, but that is not convincing proof; that drug is not specific, and its effects extend to other infections as reported by Lomholt in cases of mycosis fungoides and Boeck's sarcoid. —[From abstract in *Fontilles* (1947) 647-648.]

- WISE, F. A case for diagnosis (sarcoid; leprosy). Arch. Dermatol. Syphilol. **53** (1946) 670.

The patient presented was a woman, aged 49, a native of Nassau in the West Indies, resident in the United States since childhood, who had a generalized macular, nodular and tuberculous eruption of ten years duration.

Shortly after its appearance a diagnosis of Hodgkin's disease (lympho-granulomatosis) had been made and a few x-ray treatments given. A recent biopsy had shown changes characteristic of Boeck's sarcoid; leprosy bacilli had been sought but not found; there was some rarefication of two bones of the hand; the Wassermann reaction was negative and the patient "showed an anergic response" to tuberculin. The outer portions of the eyebrows were devoid of hair; there was moderate interosseous atrophy of the knuckles of the hands but no palpable thickening of the nerves; right foot-drop had developed a month previously; tests for skin anesthesia gave negative results. Seven members of the meeting discussed the case, with an over-all tendency to favor leprosy; one was emphatically for it but another, with experience with the disease (F. Reiss, formerly of Shanghai), pointing out features not in conformity with tuberculoid leprosy. One speaker asserted that leprosy is so serious a diagnosis that the Hansen bacillus must be found to prove it. Another, who thought the condition probably leprosy, spoke of a remote possibility of a tuberculoid lymphoblastoma involving the nerves.

H. W. W.

- ▷ SCHUJMAN, S. & LITMANOVICH, R. Efectividad terapéutica del chaulmoogra sobre las lesiones rino-faringo-laringológicas de etiología leprosa. [The therapeutic effectiveness of chaulmoogra oil on lesions of the nose and throat of leprosy etiology.] *Prensa méd. argentina* (1948) 2107-2113 (No. 44).

The derivatives of chaulmoogra oil, employed in an adequate manner (high and sustained doses), are capable not only of checking but also of eliminating the lesions of leprosy etiology in the nose, pharynx and larynx in the majority of lepromatous cases.

—G. BASOMBRIO.

- ▷ SCHUJMAN, S. ¿Es menos activo el aceite de chaulmoogra y sus derivados que las sulfonas en el tratamiento de la lepra? [Are chaulmoogra oil and its derivatives less active than the sulfones in leprosy therapy?] *Prensa med. argentina* 53 (1948) 2499.

The author not only reaffirms his ideas of the therapeutic activity of chaulmoogra, as given in previous papers, but maintains that the activity is not less than that of the sulfones. Employing chaulmoogra in adequate doses—from 20 to 30 cc. weekly—he obtains clinical, bacteriological and structural modifications similar to those credited to the sulfones. This affirmation is based on a comparative therapeutic study with both medicaments made in 80 lepromatous cases, the majority of them with more than two years of observation. From this point of view he concludes that: (a) Advantage should be taken of the therapeutic activity of both medicaments, at times employing them in association, at times in alternating series, and only in exceptional cases (those of intolerance) employing one of them exclusively. (b) Investigations designed to increase the tolerance for and activity of these medicaments should be continued and extended.

—G. BASOMBRIO

- ▷ FIOLE, H., JONQUIERES, E. D. L., BRUSCO, C., MELAMED, A. & FIRPO, C. Tratamiento de la lepra con promin (promanida). [Treatment of leprosy with promin.] *Rev. argentina Dermatosif.* 31 (1947) 531-537.

Of 125 patients of both sexes with the lepromatous form of the disease treated with promin, 90% of those treated for more than a year

showed clinical improvement, 66% of those treated for from six months to one year and 70% treated for three to six months. The improvement was 100% when 900 gms. of the drug was reached. Two patients attained the stage of negative examinations, and in nearly 10% of the improved cases the lepromin reaction became positive. The schedule was two weeks of treatment and one week of rest. Adjuvant tonic treatment is indispensable. It is not considered desirable, because of the danger involved, to give massive doses, and it is advised that the injections be given every twelve hours. —G. BASOMBRIO.

- ▷ FLOCH, H. & CAMAIN, R. Sur le traitement de la lepre par les sulfones en Guyane française. [On the treatment of leprosy by sulfones in French Guiana.] Inst. Pasteur Guyane et Terr. Inini, Publ. No. 179, Sept. 1948.

This is a report of the results of treatment with promin, used (max. daily dose 5 gm.) since January 1947, and diasone, used (max. daily dose 3 tablets) since June 1947. The *promin* group comprised 21 cases, 9 lepromatous, 3 tuberculoid and 9 undifferentiated. All of the lepromatous cases were much benefited, especially the younger patients; there occurred subsidence of nodules and infiltrations, repigmentation, healing of ulcerations, lessening of trophic and anesthetic troubles, and marked improvement of the general physical and mental condition. Of the tuberculoid cases, 2 remained stationary and 1 got worse. Of the undifferentiated group, 6 improved, 1 remained stationary, and 2 got worse. The *diasone* group comprised 31 cases, 9 lepromatous, 10 tuberculoid and 12 undifferentiated. The lepromatous cases all improved in a manner identical with those under promin. Of the tuberculoid cases, 3 were reactional, and in them that condition disappeared; 7 were of the minor variety, and of them 2 improved, 2 remained stationary and 3 were aggravated. Of the undifferentiated, 5 were improved and 7 stationary. All of the cases were controlled by histological examinations made before treatment and after six and twelve months of treatment. In the lepromatous form there were observed retrogression of the lesion foci, progressive disappearance of the foamy cells and their replacement by lymphocytes and fibrocytes, morphological alterations of the bacilli, with rapid change to granular forms and diminution of their numbers, without however going to the point of negative smears. In the other forms there were no appreciable changes of structure. It is believed that lepromatous leprosy is the more sensitive to the treatment chiefly because of the predominance in it of the elements of vascularization of the lesions and of bacillemia. On the other hand, in the forms where the bacilli are rare and are situated in the slightly vascularized nerve sheaths they are less affected by drugs introduced by the blood stream.—[From the authors' summary.]

- ▷ FERNANDEZ, J. M. M. & BERGEL, M. Una doctrina terapéutica basada en los procesos de óxido-reducción. Su aplicación en el tratamiento de la lepra. [A therapeutic doctrine based on oxidation-reduction processes; its application in the treatment of leprosy.] Rev. argentina Dermatosis. 31 (1947) 513-527.

The importance of the oxidation-reduction mechanism in the biology of *M. leprae* and *M. tuberculosis* is discussed in the light of several facts which prove the vital importance of oxygen for both species. The oxidation-

reduction mechanisms are not the same in the infected organism and in the infecting germ, so it may be possible to interfere with the latter without disturbance to the former. As a reducing agent of low toxicity methanal sodium sulfoxylate ["rongalite"] was chosen, because it is part of the molecule of diasone, which has been used successfully in leprosy treatment. Twelve cases of lepromatous (L2) type were treated by intravenous and intramuscular injection of a 10% solution of this substance (MSS) in doses of 4 to 6 grams daily for periods of fifteen to twenty days. No toxic effects were observed. After a few weeks there was a favorable change, consisting in a notable improvement of the lesions and in morphological changes in the bacilli, which diminish considerably in number and lose their acid-fastness.—[From the author's summary, in English.]

- ERICKSON, P. T., WOLCOTT, R. R. & JOHANSEN, F. A. Sulfone treatment of leprosy. *New Orleans Med. & Surg. J.* **100** (1948) 475 (April).

The sulfone drugs have proved to be more effective in lepromatous leprosy than any previous drug tried at Carville. There is reason to believe that the diaminodiphenylsulfone radical is the active principle, although this has not been definitely established. No claim is made that these drugs are specific remedies for leprosy, but objective and subjective clinical improvements are produced by them that cannot be attributed to spontaneous regression of the disease, and their superiority over chaulmoogra oil is signified. The disease seldom if ever gets worse during treatment. There is a slow but steady decrease in acid-fast organisms in the skin, and negative smears and arrest of the disease occur. So far no relapse in arrested cases has been reported.—[From abstract in *J. American Med. Assoc.* **138** (1948) 918-919.]

- MONTEL, R. Le method de Charpy dans le traitement de la lèpre. [The Charpy method in the treatment of leprosy.] *Bull. Soc. Path. exot.* **38** (1945) 63.

The method used by Charpy in the treatment of lupus was applied in leprosy, as follows: during the first week, 3 injections of 15 mgm. of vitamin D, continued in the same dose twice weekly for three consecutive weeks, and then once a week for four months, and during the whole period 3 weekly injections of calcium and one liter of milk daily. This treatment was first given to 2 patients. One of them was a lepromatous case previously treated with methylene blue and chaulmoogra, who improved extraordinarily under the Charpy treatment; the lepromas and infiltrations were remarkably reduced, and also the numbers of bacilli in the lesions. The other patient had the neurotrophic form, and also improved remarkably. These results have encouraged the author to continue experimenting with this method of treatment.—[From abstract in *Fontilles* (1947) 642-643 (July).]

- GUADAGNINI, M. La cirugía de la lepra. [Surgery in leprosy.] *Arch. Secret. de Salud Públ. Nación (Argentina)* **4** (2) (1948) 139-161.

Surgery has a very important role in repair and treatment in leprosy according to the author, a surgeon who here discusses his many years of experience. Nasal deformities, *rhinophyma*, and hypertrophy of the ear lobes can be much improved by plastic surgery. Surgical treatment of painful hypertrophic neuritis, by decapsulation or transposition, has at

times relieved patients of great suffering. Ganglionectomy or resection of the sympathetic also frequently relieves suffering, and they have a favorable influence on tropic disturbances. Surgery may be applied in the transplantation of tendons and the treatment of osteitis and arthritis, the phimosis due to lepromas of the prepuce, etc. Only surgery can save the lives of patients with serious laryngeal and tracheal complications, by either intubation or tracheotomy. A surgical department is an absolute necessity in all leprosy sanatoria. —G. BASOMBRIO.

FERNANDEZ, J. M. M., CARBONI, E. & TOMASINO, P. Tratamiento de la reacción leprosa mediante transfusión de sangre de convalescientes de reacción. [Treatment of lepra reaction by transfusion of blood from patients convalescing from reaction.] *Rev. argentina Dermatosisif.* **31** (1947) 493-501.

The authors have noticed frequent occurrences of lepra reaction during diasone treatment. In treating that condition they have used transfusions of blood from: (a) patients convalescing from lepra reaction (91% good results); (b) patients not convalescing from lepra reaction (45% good results); (c) healthy, nonleprous persons (55% good results). These results are in accord with the concept that lepra reaction occurs in patients which show, on the one hand, a diminution of the organic defenses (anemia, intercurrent diseases, etc.), and, on the other hand, the inability to form antibodies. —G. BASOMBRIO.

EMMART, E. W. The tuberculostatic action of the sodium salts of certain synthetic alicyclic acids. *American Rev. Tuberc.* **53** (1946) 83-95.

While the chemotherapeutic effects of certain sulfone drugs are being studied actively in experimental and clinical tuberculosis and in leprosy the author, who has also worked with drugs of that class, harks back to earlier work with chaulmoogra oil and its derivatives in tuberculosis (Walker and Sweeney (1920-1922), Voegthin, Smith and Johnson (1921), and, more recently, Prigge (1940, 1941) and Wagner-Jauregg (1943)). An attempt has been made, without effective results, to apply long-chain fatty acids in combination with sulfanilamide and sulfapyridine in the oral treatment of experimental tuberculosis in guinea-pigs and mice (Arnold, Mobus, Prigge, Ransen and Wagner-Jauregg). The author reports an investigation of the bacteriostatic properties of a series of 12 sodium salts of alicyclic acids, of which the four which were found best in a preliminary *in vitro* test were studied further, including an *in vivo* test using the chorio-allantoic membrane of the chick embryo. A comparison *in vitro* of the effectiveness of sodium salt of chaulmoogric acid (prepared by the method of Power and Gornall, 1904), showed that that substance was considerably less inhibitory than the four selected new compounds, which were highly bacteriostatic and greatly attenuated the virulence of the bacilli for the chick embryo. —H. W. W.

FENNELL, E. A. Sulfa and sulfone excretion; a method of measurement. *Proc. Staff Meetings, The Clinic, Honolulu*, **13** (1947) 140-144 (Dec.).

A simple urine test is proposed, useful in following the excretion of sulfa drugs and the sulfones (promin and diazone), derived from the observation that in testing urine for urobilinogen the addition of a modified

Ehrlich's aldehyde reagent produced a pink color whereas a bright canary yellow overshadowed the pink if the patient was excreting sulfa or sulfone drugs. The depth of the yellow color was roughly proportionate to the amount of the drug present. It is suggested that this simple test might be applied at the end of the "rest periods," thus screening the sulfone patients for hepatic or renal damage which might delay complete excretion. It has also been found useful in determining whether or not juveniles have been taking the diasone issued to them. The "stock reagent" is made by dissolving 2 grams of para-dimethyl-amino-benzaldehyde in 15 cc. of concentrated HCL and diluting with water to 100 cc. The "working reagent" is made by diluting 4.0 cc. of the stock reagent to 200 cc. with water. The test is performed by adding 1.0 cc. of urine to 5.0 cc. of the working reagent and noting the depth of the color, which is produced immediately. Fairly permanent standards for visual comparison may be made by adding to a series of tubes of the working reagent varying quantities of a solution of sulfadiazine in alkaline water or N/10 NaOH. For very accurate estimates an electric photolorimeter is required. —AUTHOR'S ABSTRACT.

SCHUJMAN, S. & CASTAÑE DECOUD, A. Modificaciones (histopatológicas comprobadas en casos lepromatosos beneficiados: (a) con el tratamiento chaulmoogrico, (b) con tratamiento prominico. [Histopathological alterations found in lepromatous cases improved under chaulmoogra and promin treatments.] Rev. argentina Dermatosis. 31 (1947) 502-506.

From a group of lepromatous patients treated by one of the authors (Schujman) there have been taken 18 biopsies, involving 7 cases benefited by chaulmoogra and 2 improved under promin, in order to study the histological modifications which accompany the clinical changes. The following points have been observed: (1) In the improved cases there is evident diminution of the infiltration of the dermis. (2) In some cases there is sclerosis of the corium, secondary to the resorption of the infiltration. (3) Regression of the infiltrations is accompanied by diminution of the bacilli, which are also fragmented. (4) The same histological modifications have been observed in the cases benefited with chaulmoogra as with promin. —[From the authors' summary, in English.]

CAMPOS, J. R. Lesiones viscerales en lepra tuberculoide. [Visceral lesions in tuberculoid leprosy.] Arch. peruanos Path. y Clin. 1 (1947) 331-336.

In a child affected with tuberculoid leprosy in reaction, the author after laparotomy obtained biopsy specimens from the liver, the large omentum and a mesenteric lymph node, and he also performed sternal puncture. He found small numbers of granular acid-fast bacilli in the preparations from the liver, the mesentery and the lymph node. He also observed, in all the specimens, nonspecific inflammatory lesions—neither tuberculoid follicles nor sarcoid structures—with lymphocytic hyperplasia and the presence of eosinophiles. From this he concludes that the tuberculoid leprotic infection seems not to be limited solely to the skin and the superficial lymph nodes; instead it behaves as a generalized infection which determines throughout the organism lesions which differ bacteriologically and histologically from those of lepromatous leprosy.

[A further report on this subject, by Campos and Molina, was presented at the Havana Congress; see *THE JOURNAL* 16 (1948) 295.]

—R. CHAUSSINAND.

- Δ MARIE-SUZANNE, SR. & POLICARD, A. Recherches cytologiques sur les inclusions actéroides de certaines cellules géantes lépreuses. [Cytological studies on the asteroid inclusions of certain giant lepra cells.] *Bull. Histol. appl.* 23 (1946) 143.

After having studied cytologically and histochemically these rare inclusions, found in 4 cases of mixed leprosy out of 58 cases examined, (19 tuberculoid and 39 mixed), the authors conclude that these formations may be considered as a deposit of waste substances in the cytoplasm of the giant cell. It may be that a relation can be established between these paraplastic formations and those found in the syncytium of Sertoli after phagocytosis of imperfect male elements.—[From abstract in *Bull. Inst. Pasteur* 45 (1947) 703.]

- Δ MARIE-SUZANNE, SR. & NOEL, P. Sur la présence de polynucléaires éosinophiles et de mastocytes dans les lésions cutanées de la lèpre tuberculoides. [On the presence of eosinophiles and mast cells in the cutaneous lesions of tuberculoid leprosy.] *Bull. Histol. appl.* 25 (1948) 5 (Jan.).

The authors regard as characteristic of tuberculoid leprosy the early and progressive presence of eosinophiles, some of which degenerate and leave, swarming in the surrounding connective tissue, granulations which are sometimes phagocytized by the histiocytes. The presence of mast cells is also observed, but in smaller numbers than the eosinophiles.

—R. CHAUSSINAND.

- Δ MANALANG, C. Significance of pathologic findings in biopsy materials from leprosy patients. Part V. *Mo. Bull. Bur. Health (Philippine)* 23 (1947) 85-91.

Of 60 clinically normal skin specimens from 15 adult leprosy patients, only 17% were histologically normal; 17% had tuberculoid or early lesions, and in 66% there were varying degrees of perivascular round cell infiltration. These findings must be considered in controlling treatment, as clinical normality has only minor value. It is possible that new skin lesions may be hematogenic in origin, but a large majority of them must come from histologically preexisting ones. The findings confirm a previous statement that the large hazy macules seen in contact children are the sites of future leprosy lesions, the result of infection in infancy through frequent and prolonged skin-to-skin contact. These findings, and other reports cited, confirm the author's commitment, in 1931, the perivascular round-cell infiltration and tuberculoid changes precede the leproma. They also show the utter epidemiological hopelessness of ever ascertaining the precise mode of transmission of leprosy by periodical surveys of the population of an endemic area, especially as in the Cordova survey where the examinations were done rapidly, and the most essential scientific methods ignored at the expense of an elaborate determination of elementary data.—[From the author's summary.]

- MANALANG, C. Pathologic and bacteriologic survey of leprosy patients. VI. (Post-mortem). *Mo. Bull. Bur. Health (Philippine)* **23** (1947) 117-128.

The findings in clinically normal postmortem material from the scalp and axillary fossae of 48 San Lazaro and Culion cases confirm previous statements that infection is contracted by the infant through frequent and prolonged skin to skin contact with a person having leprosy. The prevalence of microscopic lepromata in the nonbald head of Philippine leprosy patients who were not shaved in infancy, and the large lepromata and infiltrations that cause the common alopecia leprotica of the Japanese who, by religious requirements, were shaved at the age of 100 days, are undeniable evidence of infantile infection. Occasional cases of leprotic alopecia recorded in many countries further prove that infantile infection is universal. Observations by Lara on 770 Culion-born children have revealed unequivocal leprosy lesions in at least 50% before the age of five years. All evidence used to prove adult susceptibility are based on unscientific and misleading data which have no place in leprosy literature. On the other hand, epidemiologic observations on spouses and workers among leprosy patients, and direct inoculations in the adult man, prove his immunity. Observations on contact children, epidemiology, and experimentation on the adult, prove that, as in any other communicable disease, the transmission of leprosy obeys a biological law which under natural conditions is not only universal but obligatory. In leprosy, it is infantile infection with the infected person's sweat and adult immunity.—[From author's abstract.]

- SCHUJMAN, S. Influencia benéfica de la reacción leprosa en la evolución de los casos lepromatosos. [Beneficial influence of lepra reaction on the evolution of lepromatous cases.] *Rev. argentina Dermatosis.* **31** (1947) 506-512.

From prolonged observations of lepromatous cases, some with intercurrent lepra reactions and others without them, the author arrives at the following conclusions: (1) That lepra reactions, however frequent, intense and prolonged, are beneficial to such patients, usually by retarding the evolution of the process, less frequently by provoking regression. (2) The favorable effects of reactions are greatest when they appear in the early stages of the disease, before ocular lesions are established. (3) Reactions may sometimes cause clinical and bacteriological clearing of the lesions, but the author believes that it is not a definitive clearing, to obtain which it is necessary to consolidate the results with an appropriate antileprosy treatment. —[From the author's summary, in English.]

- IGNACIO, J. L. & TIONG, J. O. Further observations on the Mitsuda (lepromin) reaction in leprosy children. *Mo. Bull. Bur. Health (Philippine)* **23** (1947) 93-101.

In this continuation of the studies of Lara, a total of 216 children were injected with lepromin between August and October 1946. They were divided into three groups: (1) 73 who were tested for the first time, (2) 84 who had received one previous injection, in 1941, and (3) 59 who had received from 4 to 5 such injections. To afford a comparison of children of similar average ages, the records of the lepromin reaction and of the clinical examinations of the group which had received repeated tests in 1941 were used, the average age of the children in the new (1946) group

being about the same. The results of the test show a correlation between the number of lepromin injections and the strength of the reaction with the condition of the leprosy, and point to a possible immunologic value of these injections in children. The markedly greater proportion of quiescent and clinically improving cases among the strong reactors and, on the other hand, the high proportion of advanced cases among the poor and negative reactors are indications that lepromin reaction is of distinct prognostic value.—[From the authors' summary.]

NOLASCO, J. O. The potency of stored lepromin. *Mo. Bull. Bur. Health (Philippine)* **23** (1947) 103-114.

Two series of lepromin potency tests have been performed on two groups of twenty patients each on two different dates, one before the outbreak of the Pacific War in 1941 and the other in 1945. The results have demonstrated that the ordinary lepromin suspension, as prepared by the Hayashi-Mitsuda method, can retain its antigenic properties for as long as eight years even without adequate refrigeration. In all the specimens of lepromin used, well staining acid-fast bacilli, in their solid and globi forms, were still demonstrable in fair abundance, apparently in the same high numbers as when the specimens were first prepared. Such lepromin need not be refrigerated to maintain its antigenic properties, which fact enhances its value for field work. Two patients, both moderately strong (2-plus) reactors, illustrate the precautions that should be taken in administering the intradermal injections when the skin is very thin or of the onion-skin types, to avoid faulty interpretations. Observations on reactions of the foreign-body type of reactions indicate that certain specimens of lepromin prepared by the Hayashi-Mitsuda method contain more materials in suspension than others, and that all specimens prepared by this method in the author's laboratory contained more such material than was necessary, producing fairly large foreign-body reactions which to the inexperienced might be interpreted as positive reactions.—[From the author's summary.]

BECELLI, L. M. La conveniencia de hacer la leprominoreacción en los funcionarios que trabajan en contacto directo con enfermos de lepra. [The desirability of making the lepromin test on employees working in direct contact with leprosy patients.] *Rev. argentina Dermatosisif.* **31** (1947) 484-485.

Acknowledging the prognostic value of the lepromin test, the author suggests that this should be made on all persons about to work among leprosy patients, and that only the immuno-positives be allowed to do so. This test should be repeated annually. Those who refuse to accept this measure should only be accepted for the work upon executing written statements accepting the responsibility. In Brazil there have been seven cases of contagion of persons attending patients. [This paper was later presented at the Havana Congress, but only the title was available for the Congress Number (see *THE JOURNAL* **16** (1948) 301).]—G.BASOMBRIO.

CHAUSSINAND, R. Une nouvelle réaction d'allergie dans la tuberculose. A new reaction of allergy in tuberculosis.] *Ann. Inst. Pasteur* **73** (1947) 811-814 (Aug.).

The author studied the condition of allergy to the bacillary bodies in

tuberculosis and BCG vaccination by injecting intradermally 0.1 mgm. of Koch bacilli killed by heat. He observed that patients with leprosy of the benign type (tuberculoid and indeterminate), and guinea-pigs infected with leprosy as a result of implantation (*greffe*) of leproma, who react to the Mitsuda test, are also sensitive to this new reaction even when they are absolutely free from tuberculosis as shown by negative results of tests with 1 cgm. of tuberculin. There exists in these cases a phenomenon of bacterial parallergy which can be explained on the ground of a relationship between the bacilli of leprosy and tuberculosis.—AUTHOR'S ABSTRACT.

- ▷ CHAUSSINAND, R. Para-allergies bactériennes dans la tuberculose. [Bacterial parallergy in tuberculosis.] *Ann. Inst. Pasteur* **73** (1947) 814-815 (Aug.).

The human being and the guinea-pig infected with tuberculosis or vaccinated with BCG react, not only to the intradermal injection of an antigen composed of Koch bacilli killed by heat, but also and with equal sensitiveness to the injection of an antigen prepared in the same way of paratuberculosis bacilli or the bacillus of Hansen. Tuberculosis and BCG vaccination, it is concluded, determine an evident parallergy with regard to the leprosy bacillus. —AUTHOR'S ABSTRACT.

- ▷ GUILLOT, C. F. & MOM, A. M. Nota sobre la reacción de Montenegro en la lepra y algunas tuberculosis cutaneas. [The Montenegro reaction in leprosy and in cutaneous tuberculosis.] *Rev. argentina Dermatosisif.* **32** (1948) 112-115.

Montenegro's reaction was found negative in all cases of cutaneous tuberculosis with ganglionar involvement that were studied, this result differing from those of previous authors who have studied the same subject. The reaction was also found negative in all cases of leprosy studied, in which respect the findings agree with those of previous workers.

—G. BASOMBRIO.

- ▷ OLMOS CASTRO, R., ARCURI, P. B. & BONATTI, A. Reacción serológica de floculación en lepra; su aplicación práctica en el diagnóstico y profilaxis. [The serological flocculation reaction in leprosy; its practical application in diagnosis and prophylaxis.] *Rev. argentina Dermatosisif.* **31** (1947) 528-531.

The authors report the results of a serological flocculation reaction, made with a lipid antigen extracted from lepromas according to the method of Olmos Castro, on sera from 1,816 persons, healthy, leprosy contacts, and others with various other diseases. They found specific sensitization [*sic*] in 73.5% of lepromatous cases, and 4.8% of tuberculoid cases, with a specificity of 99.4%. They believe that this test can be used as a serodiagnostic method for lepromatous leprosy, and suggest its practical use in official laboratories as routine method in the issuing of health and premarriage certificates, etc.

—G. BASOMBRIO.

- ▷ HALLBERG, V. A new method for staining tubercle bacilli, applicable to the micro-organisms of leprosy and other acid-fast germs. *Acta Med. Scandinavica Suppl.* **180**, 1946, pp. 1-37.

A new method is described [see *THE JOURNAL* **14** (1946) 67] for staining tubercle and leprosy bacilli, the bacilli of Johne's, Traum's and

Gollerstedt's diseases, the acid-fast saprophytes, Moiser's "oval bodies," at least parts of the younger forms of actinomyces and the common molds, and the spores of some bacteria in a certain stage. The dye Nachtblau (Grubler), which in watery solutions behaves like a colloid, is used in combination with water, alcohol and phenol; the counterstain may be applied separately (pyronin, neutral red, carbol-fuchsin, vesuvin or Bismarck-brown) or simultaneously, in the same solution with the Nachtblau (pyronin). Tubercle bacilli stain dark blue and appear larger and more numerous than in Ziehl-Neelsen preparations, and they have sharper outlines and stand out more clearly against the red or yellow background. In tuberculous sputa all the other organisms take the counterstain except a yeast-oidium-like fungus, which corresponds to that of Reenstierna (1912), found able to produce acid-fast rods with the same morphological and tinctorial qualities as those of the tubercle bacillus. Schaumann and Hallberg found fungus cells quite similar to those described by Reenstierna in lymphogranulomatosis benigna, together with other acid-fast forms. In pus from lymph nodes of guinea-pigs inoculated with tuberculosis material, acid-fast fungus cells were found with this staining method. The complete morphology of the causative agent of tuberculosis, leprosy and other diseases will be studied, since the classical bacilli are believed to be merely evolutionary stages originating from lower, commonly occurring fungi. (Four color plates.)—[From abstract in *American Rev. Tuberc.* **56** (1947) 127.]

- ▷ CURBAN, G. Estudo morfologico e quantitativo do method de Hallberg na coloração do bacilo da lepra. [Morphologic and quantitative study of Hallberg's method of staining the leprosy bacillus.] *Rev. Inst. Adolfo Lutz* **6** (1946) 50-63.

The author stained the serous fluid of cutaneous lepromatous lesions by the Hallberg method (Gruber's Nachtblau) and by Gabbett's variant of the Ziehl method. The results were in favor of the latter one.—[From abstract in *Bull. Inst. Pasteur* **45** (1947) 703.]

- ▷ MONTEL, R. Aspects différents du bacille de Hansen dans le sang de lépreux coloré par la méthode de Macchiavello. [Different aspects of the Hansen bacillus in leproma blood stained by the Macchiavello method.] *Bull. Soc. Path. exot.* **39** (1946) 167.

The Macchiavello staining method applied to unfixed smears of leproma blood reveals very numerous Hansen bacilli scattered or in globi, which appear clear and refringent (*en negatif*) in the rose-colored cytoplasm of the monocytes, and, in very small numbers, other forms which are very thin and short and of a lively (ruby) red color. From this observation one may envision, in the realm of hypothesis, a form "*negatif*" representing the saprophytic state, and a young "red" form responsible for virulence and lacking in acid-fastness.—[From abstract in *Bull. Inst. Pasteur* **45** (1947) 703.]

- ▷ MONTEL, R. & GIROUD, P. Affinities tinctoriales du bacille de Stéfansky. (Methode de Macchiavello.) [Staining affinities of the Stéfansky bacillus; Macchiavello method.] *Bull. Soc. Path. exot.* **39** (1946) 248-250.

[As stated in the abstract already published (see THE JOURNAL **16**

(1948) 108), the Macchiavello staining method showed in material from rat lepromata the same two varieties of bacilli described in the preceding abstract, in the same relative proportions.]

- MONTEL, R. & GIROUD, P. Affinities tinctoriales du bacille de Koch; comparaison avec les bacilles de Hansen et de Stéfansky. [Staining affinities of the Koch bacillus; comparison with those of Hansen and of Stefansky.] Bull. Soc. Path. exot. **39** (1946) 341-342.

In an introductory summary of findings with the Hansen and Stefansky bacilli [see preceding items] it is stated that nearly all bacilli, whether Macchiavello positive or negative, take the Ziehl-Neelsen stain when that is superimposed, but that there remains doubt as to the nature of the very rare Ziehl-negative individuals. The difficulty of extending the study to the tubercle bacillus, due to the rarity of bacilli in the usual lesions, was overcome at least in part by using smears of the spleens of guinea-pigs inoculated with a very virulent bovine strain, but still the preparations contained relatively few bacilli. For that reason, it was not possible to observe with certainty bacilli of the "*cliché négatif*" appearance so common with the other bacilli, though it is believed that that aspect exists. On the other hand, there are forms which stain ruby red by the Macchiavello method, they usually ensheathed by a clear, refringent line. These forms usually prove to be Ziehl-positive, but some appear grayish-blue after that staining process. Without wishing to draw premature conclusions the authors hold that these findings, in agreement with what has been seen with the other bacilli studied, indicate constitutional differences among the individuals in the same lesion. —H. W. W.

- CHAUSSINAND, R. Contribution a l'étude de la morphologie du bacille de Hansen. [The morphology of the leprosy bacillus.] Ann. Inst. Pasteur **73** (1947) 660-665 (July).

[A paper on this subject was presented at the Havana Congress; see THE JOURNAL **16** (1948) 296.]

- CHAUSSINAND, R. Examens bactériologiques et leur interprétation dans la lèpre. [Bacteriological examinations in leprosy and their interpretation.] Bull. Soc. Path. exot. **41** (1948) 59-73 (Jan.-Feb.).

The diagnosis of leprosy does not usually require the bacteriological examination of the patient, for despite the extremely varied aspect of these lesions the disease can be diagnosed in the great majority of cases by a methodical and intelligent clinical examination. However, the exact classification of each case, indispensable in connection with prognosis, the dosage of treatment and the evaluation of therapeutic results, cannot be made without preliminary bacteriological examinations. It is, therefore, very important that that examination be made by the most effective technique and that the interpretation of the results be correct. Of all the bacteriological examinations proposed, the author holds that only those of the nasal mucosa and the cutaneous lesions should be made systematically in every case. The techniques which have given him the best results are the cotton swab method for the nose and the biopsy method for the skin lesions. In the latter examination the choice of lesions to be dealt with is of considerable importance. The author's data on 1,175 cases are as follows: In benign leprosy (tuberculoid and indeterminate forms; 668 cases), the

nasal mucosa was positive in 8.8% and the skin lesions in 43.9%. In malignant leprosy (lepromatous; 507 cases), the nasal mucosa was positive in 73.6% and the skin lesions in 100%. It follows that it would be erroneous to base the diagnosis of leprosy in the benign type solely on the results of the bacteriological examinations. It is useful to determine approximately the number of bacilli seen and to note their morphological aspect.

—AUTHOR'S ABSTRACT.

CHAUSSINAND, R. La transmission en série de la lèpre humaine aux animaux n'est pas réalisable par le procédé d'Ota. [The serial transmission of human leprosy to animals is not accomplished by the method of Ota.] *Ann. Inst. Pasteur* **73** (1947) 682-684 (July).

During a period of three years the author repeated the experiments of Ota on cocks, hens, guinea-pigs, white rats and white mice. In this work he followed strictly the recommended technique, namely, inoculation of a suspension of ground-up leproma mixed with infusorial earth, trypan blue, and KI in saline. Four to eight months after the inoculation only rare and partly degenerated bacilli were found at the point of inoculation, and all attempts at passage to other animals gave negative results. On the other hand, using Hansen bacilli killed by heat instead of living bacilli for making "passages" every two weeks, the author was able to reproduce the "bacilliferous lesions" described by Ota. It is concluded that the transmission of human leprosy to animals cannot be effected by this method, and that it does not determine an infection transmissible in series; there is only a mechanical transfer of the bacilli, dead or living, from animal to animal.

—AUTHOR'S ABSTRACT.

CHORINE, V. Action de l'amide nicotinique sur les bacilles du genre *Mycobacterium*. [Nicotinamide action on the bacilli of the genus *Mycobacterium*.] *Presse med.* **45** (1945) 609.

This experimental study of the effects of nicotinamide led the author to the following conclusions: (1) Nicotinamide in massive doses has an evident curative property in rat leprosy and tuberculosis of guinea-pigs, this effect being more evident than those obtained by experimental drugs. (2) This curative properties of the substance is not due to its vitamin activity. (3) Its effect seems to be specific for bacilli of the genus *Mycobacterium*. These new properties of the substance permits the assumption that it may be one of those of a new therapeutic series with activity against tuberculosis and leprosy, a series which probably contains others endowed with still greater activity.—[From abstract in *Fontilles* (1947) 649 (July).]

CHABAUD, A. Extraits hormonaux par voie buccale au début de la lèpre murine. [Hormonal extract given by mouth at the beginning of rat leprosy.] *Bull. Soc. Path. exot.* **40** (1947) 332-333 (Sept.-Oct.).

Given by mouth, suspensions of thyroidine, ovarine, orchitine and powdered anterior lobe of the pituitary do not change the picture of rat leprosy at the third month, though at the 25th day of such hormonal treatment the lesions were larger in the animals receiving the thyroidine and the anterior pituitary lobe than in the controls and in those treated by orchitine and ovarine. After three months of ingestion of hormonal powders the superficial lymph-node system of all the treated animals,

and the spleens of those receiving the anterior lobe, were increased in volume and weight. —R. CHAUSSINAND.

CHORINE V. & CROUGUE, O. Un seul bacille de Stefansky peut infecter le rat. [A single Stefansky bacillus can infect the rat.] Bull. Soc. Path. exot. **40** (1947) 421-424 (Nov.-Dec.).

The authors have employed the micromanipulator of Fontbrune and the oil chamber for the isolation of germs, and have inoculated a single Stefansky bacillus, one or more times, in a shallow cut (*étroite boutonnière*) made in the region of the right groin of the rat anesthetized with ether. Of 10 rats inoculated with a single bacillus each, only the last 3, dead 14 months after the inoculation, were infected. Of 10 rats inoculated with 3 bacilli each, 3 contracted the infection after 429, 440, and 519 days. Of six rats inoculated with 10 bacilli each, 3 were infected after 185, 195 and 439 days. —R. CHAUSSINAND.

SOEUR MARIE-SUZANNE. Culture du bacille de Stéfansky sur embryon de poulet. [Culture of the Stefansky bacilli on chick embryos.] Compt. rend. Soc. Biol. **142** (1948) 35 (Jan.).

The author obtained 18 cultures on the chorio-allantoic membrane of the egg out of 23 inoculations made with material from the lymph nodes and testicle of rats inoculated 10 months previously with the Stefansky bacillus, the eggs maintained at 40°C. Smears made every 24 hours, from the 20th hour to the 10th day after the inoculation, became more and more rich in bacilli; and microscopic colonies were found on histological examination of the membrane. Finally, after three successive inoculations on the chorio-allantoic membrane, the intratesticular inoculation of a suspension of the membrane of the third transfer into a rat—the rat sacrificed on the 27th day—produced an infection at the point of inoculation. —R. CHAUSSINAND.