

BOOK REVIEWS

Diffuse Leprosy of Lucio and Latapi. By J. H. Frenken. Oranjestad, Aruba, Netherlands Antilles, De Wit, Inc., 1963. 240 pp., 100 photos, 29 figs. US \$7.50.

The original of this treatise was a thesis in the Dutch language, presented at Utrecht University in June 1962. Part I gives a detailed reproduction of the masterful dissertation by Rafael Lucio and Ignacio Alvarado on clinical types of leprosy as observed in the mid-nineteenth century, with emphasis on the so-called spotted (or lazarine) form of leprosy, which, in the 1930's, Fernando Latapí called the Lucio phenomenon (erythema necroticans). Frenken credits Latapí with rediscovering this forgotten form of leprosy, describing its fundamental character, and adding other salient aspects of what is now known as the diffuse leprosy of Lucio and Latapí. A carefully systematized record of present knowledge and opinions on the Lucio phenomenon is presented by the author, with the addition of observations by other leprosy workers on cases of diffuse leprosy, with or without the Lucio phenomenon, occurring outside Mexico.

The second part of the treatise deals with the author's own investigation and evaluation of 16 lepromatous cases, with either pure and primitive or secondary diffuse leprosy, some of which exhibited the typical necrotic spots of the Lucio phenomenon. He compares the Lucio phenomenon with the phenomenon of Schwarzman and the allergic vasculitis of Ruiters. Frenken favors fitting the Lucio phenomenon into the latter category because it follows the same pathogenetic sequence and has the same fundamental anatomic lesion (vascular inflammation and necrosis), although its allergic nature can only be assumed, rather than considered established. Whereas the allergic vasculitis of Ruiters affects the narrow superficial vessels of the dermis, the vascular alterations in the Lucio phenomenon occur in the deeper vessels lying in the subcutaneous fatty tissue. Thus the spots of Lucio appear much larger and few in number as compared to lesions of allergic vasculitis, which are often small and numerous.

Alopecia in diffuse leprosy and treatment of this condition are touched upon in the final chapters of the book. The author concludes that diffuse leprosy occurs much more often than is presently accepted and that a large percentage of cases are missed until after a long infectious state. Of the two types of diffuse leprosy, the secondary form occurs more frequently than the pure and primitive form; the former starts as indeterminate leprosy, while the latter has an insidious, imperceptible, nonlocalizing, initial phase in the spread of infiltration over the body's surface.

For the benefit of the many leprologists who know of but never see a case of diffuse leprosy of Lucio and Latapí exhibiting the relatively rare characteristic spots, the reviewer presents excerpts of the definitions of some terms commonly associated with this form of lepromatous leprosy:

1. *Pure and primitive diffuse leprosy.*—This is a diffuse or generalized cutaneous infiltration involving the entire body, associated with a pseudo-myxedematous involvement of the face (Latapí calls this "full-moon" face), hands and feet, in the early stages,

and epidermal atrophy and ichthyosis in the later phases of the disease. here is also alopecia, and telangiectasis of the face and trunk. Nodular lesions are absent, a fact differentiating it from the nodular form of lepromatous leprosy.

2. *Secondary diffuse leprosy*.—This condition presents the same features as the pure diffuse type, but in addition, macules with sensory disturbances characteristic of the indeterminate group, and neurologic disorders and deformities, are present.

3. *Medina reaction*.—This is an intracutaneous response to integral lepromin characterized by an early (Fernández) type of reaction, appearing as soon as 4 hours after injection and ending with the formation of an intradermal abscess. It differs from the 48-hour reaction of Fernández in that in the first few hours the Medina reaction lesion shows histologically many polymorphonuclear leucocytes and eosinophils in the cellular infiltrate, with edema and necrosis of the collagen, resulting in abscess formation a few days later. This reaction is almost always positive in the pure and primitive form of diffuse leprosy.

4. *Colima type of diffuse leprosy*.—The reactional lesion in this type of diffuse leprosy is manifested not by red, painful, necrotic spots, but by nodules of the erythema nodosum variety. Where these nodular reactional lesions predominate, the Lucio phenomenon is absent.

5. *Lucio phenomenon*.—This peculiar reactional state is found only in patients with diffuse leprosy of Lucio and Latapí. It is characterized by red and painful spots on the arms and legs and more rarely on the face and trunk. The centers have a tendency to necrotize and ulcerate, leaving crusts over the ulceration, and ultimately distinct scars. Patients with untreated diffuse leprosy often experience recurrent attacks of these spots. Fulminant cases are complicated with gastrointestinal disturbances, the latter condition being the cause of death. The Lucio phenomenon is regarded as a secondary episodic condition of lepra reaction produced by multiple necrotizing vasculitis.

Individually, each chapter is authoritative and worthwhile reading. The volume contains much factual information on this least known type of leprosy, as well as much material that is speculative. The case illustrations and microphotographs are distinct and illuminating. The book will prove valuable for physicians in leprosy or dermatologic practice.

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The Fight Against Leprosy. By PATRICK FEENY. London, Elek Books Ltd.; Toronto, The Ryerson Press; 1964, 191 pp., 25s (\$4.00).

This book, the most thorough and readable "popular" one on leprosy that this reviewer has seen, can be highly recommended. This is said in spite of occasional unavoidable inaccuracies, of unnecessary luridness in a couple of places, and its understandable British bias. The author's vocation (it has been learned) is journalism, but it might be that of historian in view of the remarkable thoroughness with which he goes into the background of most of the topics dealt with. This feature makes the book a product of three years' work, outstanding and particularly interesting. This review, for the most part, touches only the high spots.

The account starts with a detailed inquiry into the source of the disease. To sample it: The idea that leprosy came from Africa is attractive, but it "depends on evidence that at best is indecisive and at worst is purely imaginary." The "imaginative claims" for ancient China as the source are dismissed, and Japan is also eliminated by ascribing to leucoderma the term *shira-bito* ("white man") found in the Makatomino-hara of about 1250 BC. At about that time the Aryan invaders in India were using the word "kushta" in their Vedas, apparently in reference to a specific disease, but when the word reappeared later it was a generic term covering a host of different diseases. Later developments, however, point to India long before Christ as possibly the place where measures against leprosy were first taken.

Next comes a historical discussion of the attitude of the public toward the disease and persons infected with it or deformed by its sequelae. In countries like China, for example, where leprosy was regarded as a venereal disease, the effects of the disease itself were clearly responsible for the hostile attitude of the public. In Christian countries the Bible and the Holy Church were influential in this respect.

After relating the legendary story of the finding of chaulmoogra, and discussing the practice of moxa and acupuncture, popular ideas regarding the causation of the disease, especially diet, are then dealt with.

Unexpectedly, leprosy in Norway is blamed on the Irish. According to legend, we are told, when the Vikings raided Ireland they took back with them beautiful Irish women, and some of them brought leprosy. Bergen, the principal focus, is the only one considered. It was there that Danielssen, the "first of the giants" in leprosy, began his work in 1839, in the long-established leprosy "hospitals"; the epoch-making book of which he was the senior author was published in 1847. In autopsy work, to which he was apparently addicted, Danielssen observed in lesions "little brown bodies" which he came to regard as somehow specific for leprosy—until Virchow discouraged that idea when he visited Bergen in 1859. Danielssen repeatedly inoculated himself and volunteer associates without results, and that strengthened his opinion that the disease was hereditary. Incidentally, the personality of Danielssen, and later that of Hansen, are depicted as has not been seen elsewhere.

Hansen began his work at the leprosy hospitals in 1868, and two years later was sent abroad for a year's study. In Vienna he became imbued with Darwin's theories, which led him thenceforward to search for a rational, material explanation of all natural phenomena, including disease; and he also became especially interested in the talk then rife about microbes as agents of specific diseases.

The account then goes back to the history of the discovery of bacteria (first by van Leeuwenhoek in the 17th Century), and to the idea of contagion (beginning with the Babylonian medical texts, in which the idea of contagion was associated with religion). It is noted that Jacob Henle, in 1840, set up what very much resembled the postulates of Koch, enunciated later.

The story of Hansen's work after he returned to Bergen, first on the contagiousity of leprosy (which view was accepted by the Berlin Conference in 1947), and then on the causative factor (the "host of little sticks, rod-shaped bodies," found in the "little brown bodies") is familiar. It is most unexpected, however, to find given here a definite date for the first observation, and even the name of the patient concerned. (This matter is dealt with in the editorial and correspondence sections of this issue of THE JOURNAL.)

The author then takes up the familiar story of Father Damien de Veuster, who after ten years as a missionary to Hawaii went to the leprosy settlement at Kalawao (on a low-lying off-shoot of Molokai Island). Following that is the story of Wellesley Bailey and the famous tea party in Dublin which led to the creation of the Mission to Lepers, which since then has done so much in that field.

The account of the disease itself is reasonably accurate. Leprologists would doubtless take exception to some of the statements, as for example the one that a person in the "long incubation period" could, unsuspectingly, be infecting others.

The long section on treatment begins with chaulmoogra oil, and the first report of its use by Mouat in India, in 1854. The fact that Engel Bey, in Cairo, induced the Bayer Company to produce an injectable form of it, the ethyl esters (Antileprol), is mentioned; but nothing is said of the rediscovery (or at least reintroduction) of that product by McDonald and Dean in Honolulu, or of the fact that its use in the Philippines, especially at Culion, brought that drug (and that institution) into the picture. Much is said of the work of Rogers, and of Muir whom he brought into leprosy work. The soluble salts for intravenous use which Rogers introduced proved not very successful. One of Muir's many contributions was the finding that the oils from *Hydnocarpus* species would serve as well as the original chaulmoogra from *Taraktogenos kurzii*, which was difficult

to get in quantity. There is no mention of the fact that Rodriguez, at Culion, investigated and developed the method of intradermal infiltration of lesions with the esters; the only name connected with that method is that of Muir, who was shown it on a visit to Culion. Ultimately there was general disillusionment with chaulmoogra.

Ryrie's work with dyes is related, with a deserved appreciation of his general ability and character. (The intravenous use of methylene blue, especially by Montel, which reveals the existence of lepromatous infiltrates of the skin not apparent on the surface, or the lepromatous portions of mixed lesions, is overlooked.) Then an individual of a very different stripe is dealt with, the ill-fated Oberdoerffer, who at first advanced his Colocasia (sapotoxin) theory of the causation of leprosy, and then one that led to the use of diphtheria toxoid, the results of which were unfortunate for all concerned.

The comprehensive story of the sulfones begins with the synthesis of 4,4'-diaminodiphenyl sulfone by Fromm and Whitman in 1908, and later the introduction of Prontosil by Domagk, in which a British group under Butte, and the Tréfoüels in France, discovered that diaminodiphenyl sulfone was present as a contaminant. The high toxicity of that sulfone led to the production of less toxic disubstituted forms. The use of Promin, by Feldman of the Mayo Clinic in experimental tuberculosis (until his interest turned to streptomycin), by Cowdry of St. Louis in rat leprosy (the results not notable), and finally by Faget of the U.S. National Leprosarium at Carville, resulted in a break-through in leprosy therapy. Muir, then in Trinidad, used Diasone with equally encouraging results. The discovery, in 1949, that the inexpensive mother substance, DDS, could be used safely by mouth in small dosage, apparently first reported by Floch in French Guiana and shortly afterward by Lowe and Smith in Nigeria (also, according to this account, tried at the same time by Souza Lima in Brazil), completed the therapeutic revolution.

The introduction of the various other drugs that are mentioned is too recent to need recounting. Only a page or so is given to Brand's work in orthopedic surgery, and that not accurately.

Intrusive in this section, but interesting, is an account of the establishment in 1894 of Carville (after an objectionably lurid account of conditions in New Orleans in those days). First the Louisiana Leper Home, managed entirely by the Sisters of Charity, was taken over in 1921 by the Federal Government as the national leprosarium. Ultimately completely rebuilt, it is now the most magnificent—and the most expensive—leprosy hospital in the world.

The story of Stanley Stein (actually Sidney Levysen) and the Carville *Star* is told with admiration for a courageous man and a crusader. This leads to a consideration of the use of the words "leper" and "leprosy." The former word was condemned by the International Congress held in Havana in 1948 but not the latter, and no satisfactory substitute for it has been proposed. Sermonizing at the end, the author agrees that both words should be abolished. This is perhaps the least interesting part of this extraordinary book.—H. W. WADE.

CORRECTION

The authorship of a paper entitled "Serological studies in leprosy" (Abstract No. 129, *Internat. J. Leprosy* 31 (1963) 574), was not Rees, Fildes, Pepys, Tee and Waters, as stated in the printed abstract, but Rees, R. J. W., Chatterjee, K. R., Pepys, J., Tee, R. and Waters, M. F. R. As explained in the editorial introduction on page 515 of the same issue of *THE JOURNAL*, the official document "Abstracts of Papers," of the Rio de Janeiro Congress was duplicated in *THE JOURNAL*, and errors in the original were inevitably carried along in the process. It is hoped that all necessary corrections will be made in the official *Transactions of the Congress*.

SUSTAINING MEMBERS

(List under revision)