

THE INFECTIOUSNESS OF NEURAL-TYPE LEPROSY

Cases of leprosy of the so-called "benign" sort, which belong to the classical "neural" type,¹ are as a rule of the "closed" group of the so-called administrative classification. The attitude toward them, where leprosy control is attempted, varies in different countries. In many places the public health authorities regard them as "noninfectious," in at least a relative sense, and therefore susceptible to different handling from "open" cases, and particularly cases of the lepromatous type; but in other places that distinction is not made. As Winter² says, "Where such drastic and unique interference with individual liberty as the segregation of leprosy is practised on medical and public health grounds, it is but right that the subject should be reviewed periodically." Should the present new therapy prove as valuable in neural-type forms as—to a certain degree—it is in lepromatous leprosy, it may be timely for a general review of this matter.

The idea of relative noninfectiousness of neural-type cases has not been widely accepted for as long a time as may be thought. No farther back than 1923, the Strasbourg conference adopted resolutions recommending the Norway system for places where leprosy is not extensive, and isolation for "endemic foci," but made no suggestion that that measure might be applied to one type of the disease or group of cases and not to another. Yet at that time it had been for more than a decade the avowed, official practice in the Philippines—and, so far as we are aware, in no other place where isolation was practiced—to isolate only bacteriologically positive cases. The others were left free to be treated in general outpatient clinics, which in actuality were—as, for the most part, they still are—unprepared to do anything of the sort. It was in that same year that South Africa relaxed its rules sufficiently to permit, for the first time, the provisional parole of arrested cases which had been in segregation.

The first international action involving a distinction with respect to control on the basis of infectiousness is found in the report of the Leprosy Commission of the League of Nations,

¹ This refers to that great class of cases which in terms of the South American classification would be the "tuberculoid" type provided, as proposed by the Classification Committee of the Havana Congress, that "polar group" be made to include the classical "maculoneural" case with clinically simple (flat, anesthetic) macules.

² WINTER, P. D. South African laws and policy control. *THE JOURNAL*, this issue, p. 253.

which met in Bangkok in December of 1930. That report speaks repeatedly of the "isolation of infectious lepers," and it also mentions modern emphasis on "distinction between presumably infectious and non-infectious cases;" but it does not set up any specific definitions. In the following month, in Manila, the Leonard Wood Memorial Conference—which comprised with others the members of the League of Nations Commission—recommended not using the term "infectious case," there being no absolute criteria of infectivity. It proposed, instead, the term "open" for cases in which bacilli could be found in the skin or mucous membranes—by standard examination—and "closed" for others. With the utmost caution of verbiage it stated that "administrative action concerning the two classes might well differ in its application according to the community affected"—whatever, precisely, that was supposed to mean.

The Cairo Congress did not deal very directly with this matter, and its technical committees provided no pertinent definitions. The recommendations for control of leprosy deal first with "isolation of open cases," but the section dealing with "nonisolated cases" does not specify what kinds of cases were being considered.

More forthright was the Havana Congress, although again no definitions were provided. The report on classification states that the cases of the lepromatous type, constantly with many bacilli in the lesions, are "infectious" or "open," whereas those of both the tuberculoid type and the indeterminate group are "usually 'noninfectious' or 'closed'." The report on control states that "a leprosarium is a place for isolation of (a) infectious patients, and (b) noninfectious patients for social, economic or other reasons." Later on it is stated that "infective cases" [*sic*] should be isolated, and then tells of what should be done for "noninfectious patients" [*sic*] who are not isolated.

Throughout the whole course of events there has been an apparent reluctance to say, flatly and without hedging or compromise, that "closed" (or, if preferred, "noninfectious") cases need not be subjected to the same control measures as are necessary for the "open" (or "infectious") cases. This condition is in marked contrast with the present-day propaganda carried on in certain places by patients and politicians, which goes dangerously far to the other extreme in conveying the impression that there is no necessity of isolating any cases, anywhere.

In the United States no distinction is made in any law between types of cases. The federal quarantine law prohibits entry of

any alien with leprosy. The laws of one or two of the states permit virtually full liberty to all persons with the disease, whereas the other states require segregation of all. However, the problem in the United States is a relatively small one, and conditions are unusual.

South Africa is the outstanding example of a country with a real leprosy problem where general segregation has been practiced. It was begun, apparently in the Cape Province, about 1817 and accelerated in 1884 by the adoption of a special Leprosy Repression Act. That act provided only for segregation of persons "likely to spread the infection," but evidently without definition. Of the three other provinces which composed the Union after it was formed in 1909, only Natal seems to have some such qualification in its leprosy law. Nevertheless, it is clear that the general practice has been to segregate all leprosy. Thus Davison³ speaks of South Africa as the only country "which insists on compulsory segregation of all types of leprosy until such time as any given case is found to be cured," and Winter² says that it is the only one "where all known leprosy patients are segregated, indiscriminately and completely, for at least one year."

In 1923, under new regulations, "probational discharge" was granted to several hundreds of patients with the disease arrested. But still, even where officials are discriminating in applying the law (i.e., not sending up old "burnt-out" cases), all cases deemed to exhibit evidence of clinical activity are isolated regardless of bacteriological status.

That the more liberal view is not without support in South Africa is evidenced by Winter's plea for relaxation of the regulations, with less segregation of neural cases and, for compensatory insurance, more surveillance at large to detect adverse developments. He points out that of the 533 neural cases admitted during the past three years, only 8 (1.5%) were found bacteriologically positive on admission. Not a few such cases are found positive at some time during their stay, but relatively few become lepromatous.

On the other hand Davison is opposed to relaxation of the existing regulations, and goes to some length in refuting the view that neural cases are not infectious. "It is a strange reversal of fortune," he says, that "it is now necessary to [argue] that the neural form of the disease is contagious," though less

³ DAVISON, A. R. The infectivity of neural leprosy. *THE JOURNAL*, this issue, p. 247.

so than lepromatous leprosy. He suggests that where neural cases are not segregated the reason is usually "practical politics," in consideration of expense. He holds that "any case which shows clinical activity does so because of the presence of bacilli, and that such a case is infectious or potentially infectious;" and he quotes Wayson's opinion⁴ that "there are no grounds for assuming the patients affected with the neural forms of leprosy may be considered noninfectious."

Furthermore, he says, change to the lepromatous form is not infrequent. Of neural cases which had been in the Westfort Institution for more than 2 years—i.e., which had not responded to treatment and become eligible for parole—45.5 per cent of the native females and 37.7 per cent of the native males had become lepromatous, and many others had been found bacteriologically positive. The actual number of that group of cases is not stated, nor the proportion of neurals admitted, but specific data for 1940 show that of 157 neural cases admitted no fewer than 22 (14%) had turned lepromatous, and 14 more (9%) give positive smears though still neural. When visiting Brazil he had been shocked to observe the lack of restrictions on neural patients there, and he believes that if their contacts are watched at all efficiently "Brazil will have a lot to tell us in another ten years about the infectivity of neural leprosy."

He might have said the same for other places, including the Philippines; and in one area of that country an epidemiological unit has been maintained by the Leonard Wood Memorial, for most of the last 16 years, to obtain just such information. It would be interesting indeed if there could be assembled the actual experiences and considered conclusions about the infectiousness of neural leprosy, of the authorities in other places where such cases are not segregated.

—H. W. WADE.