This note, which concerns the classifications of leprosy, arises from the recent monumental work on this subject by Wade [THE JOURNAL **20** (1952) 429-462]. Admirable as that is, my convictions prevent me from accepting that part of his proposed classification which rests on the clinical aspects of leprosy.

In my opinion, classification of disease must rest on etiologic and histopathologic foundations. Clinical aspects are too varied and sometimes even too individual to serve in determining types. Etiology is, of course, the most scientific way to classify syndromes, but when the etiology is always the same, as in leprosy or tuberculosis, or is unknown, as in cancer, the pathologic changes of the affected tissues must serve to distinguish the different types of a disease. Whenever possible pathologic changes must be related to immunologic reactions, since pathologic changes are usually dependent on the way the animal tissues react to a given noxa.

Let us take, for example, the classification of malignant tumors. The old terms "ulcus rodens," "terebrant cancer," "noli-me-tangere," "epithelioma cicatricialis," "pearl-like epithelioma," "mutilating carcinoma," "phagedenic malignant ulcer," "tubular proliferating epithelioma," and many other such descriptive terms have been superseded by a histopathological classification now universally accepted with slight variations. American physicians as well as Europeans have accepted these scientific advances in oncological terminology. Malignant tumors belong to three great categories: sarcomas, epitheliomas and lymphoblastomas as the principal types, each with various subdivisions based mainly on the type of cell involved.

Affections of the kidneys constitute another example of modern classification that has been the subject of much discussion, to the extent that Thomas Addis said: "Every student of Bright's Disease constructs his own classification to meet his own individual interests and needs." However, modern textbooks such as Cecil's classify nephritis on a pathologic pattern, as follows: (1) glomerulonephritis, acute and chronic; (2) arteriolar nephrosclerosis; (3) nephrosis; (4) nephritides.

Hepatitis is also classified on the basis of pathology as due to disease of the blood vessels or to parenchymatous inflammation, and subdivided as hyperemic or due to active congestion, chronic due to passive congestion, or due to portal thrombosis; and on the other hand as the result of portal and biliary cirrhoses: atrophic, lenticular degenerative and biliary hypertrophic and obstructive.

If this is the present trend in the classification of disease, why insist that the classification of the forms of leprosy should remain clinical? Granting that the present organization of the struggle against leprosy is not as effective, modern, and ideal as it could be, why should that fact interfere with scientific advance? If men with no scientific training must be used for case finding in the campaign against this disease, let them use whatever classification they may wish, even to the extent of calling the patients "red patients and white patients," or "thin patients and bloated patients," or "cutaneous and neural." This might help them in their administrative duties. But when a scientific meeting takes place, or a scientific paper is sent for publication to a medical journal, the pathologic-immunologic-bacteriologic changes must serve as the basis of classification, and the clinical aspects must be subordinated to them.

Of the changes in the Havana classification which are proposed, I believe that the "borderline group" should be included; these are the *"limitantes"* of the Latin-Americans. These cases are rare in my experience and so few in our territory that my associates and I had considered them as exceptions to the rule and not worthy of the formation of a group apart; but since such cases, which remain in doubt between "lepromatous" and "tuberculoid," are more frequent in other parts of the world I believe we must create a group for them, since their classification rests on histopathological grounds.

As to the lepromatous and tuberculoid types, once a case is classified in one of these it remains there permanently unless it happens to be the unusual, *very* unusual, one of mutation from

one polar type to the other, in which case, if pathologic and immunologic changes warrant it, it must be relocated. In the same manner a "borderline" case must remain borderline until there is a definite mutation to one of the polar types, on the basis of pathology, immunology and bacteriology.

I cannot agree to the creation of a "polyneuritic" or "neuritic" group, because the so-called polyneuritic patients are of either the tuberculoid or the lepromatous type; most of them in my experience of the former. If a lepromatous or a tuberculoid case undergoes spontaneous involution or recovers as a result of treatment, leaving only polyneuritic dystrophic or atrophic changes, that patient should still be classified as lepromatous or tuberculoid with "residual lesions." Most likely such patients will also have some cutaneous atrophy or scarring.

"Maculo-anaesthetic" symptoms cannot be the basis of a group, because with the aid of the Mitsuda test, the bacteriologic findings, and the histopathologic structure these patients can be allocated to one of the polar types or at least to the "indeterminate" group. If macules appear as the final stage of a treated case, the fact that macular or maculo-anaesthetic manifestations remain, instead of lepromatous or tuberculoid lesions, does not change the classification except to the extent that the histopathologic changes warrant it, and should be considered always as "residual" lepromatous or tuberculoid changes until and if a histopathologic mutation occurs.

Finally, in my opinion the indeterminate group should include only those cases in which the pathologic changes do not, for the time being, allow their inclusion in one or the other of the polar types, and only until such changes occur as will allow them to be entered as lepromatous or as tuberculoid. Undoubtedly some patients remain in this indeterminate state for months or years, and even indefinitely, but they are few in comparison with those which in time mutate to lepromatous or to tuberculoid. This group should never harbor the cases which, having been lepromatous or tuberculoid, having become "burnt-out" due to spontaneous involution or cured by present-day therapy, even if they show macular lesions. These, I repeat, should be considered as "residual lepromatous" or "residual tuberculoid."

Is it said that not *all* cases of leprosy can be included in this classification? Granted. But that is also true in the classification of the types or groups of any other disease. There will be always the unusual tumor, or granulomatous change, or in-

flammatory reaction of the spleen or lungs or liver or skin, and likewise the peculiar case of leprosy that will defy inclusion in any classification. Nothing is perfect, and such is the make-up of human cells and tissues and of their manner of reacting against aggression.

I hope the Madrid Congress will uphold the Havana classification, improve it and create clinical subgroups, but always within the scientific immunopathologic conception. It is my opinion that to go back to the old "symptomatic" types, even in part, would be a blow to the scientific progress of leprology.

—V. PARDO-CASTELLO. M.D.