

Drs. Band and Talwar Reply

TO THE EDITOR:

We thank Dr. Pandya for his comments on our work. May we offer some justification for the use of the term "phagocytosis" for the entry of mycobacteria into Schwann cells.

Several workers in the past have studied the behavior of the Schwann cell toward particulate matter of different kinds *in vivo* as well as *in vitro*. These studies have demonstrated that morphologically identifiable Schwann cells *in vivo* are capable of taking up particles such as myelin debris (1, 7, 9-11, 20-22), carbon particles (15, 17), and mycobacteria (8). A similar behavior of Schwann cells *in vitro* toward myelin debris (23), latex particles (2), and mycobacteria (2, 13, 14, 16, 18) has been known for a long time. Moreover, a similar, though more avid, uptake of nonmycobacterial particles such as carbon particles (12) and latex particles (2), as well as that of mycobacteria (2, 12, 13), has been observed with Schwannoma cells *in vitro*. Nearly all of the workers have used the term "phagocytosis" to describe such

phenomena. It is difficult to envision that a mechanism other than phagocytosis accounts for the uptake of inert particles, such as that of carbon and latex. It is, thus, clear that Schwann cells are endowed with phagocytic capabilities. We, therefore, used the term "phagocytosis" for the uptake of mycobacteria by Schwann cells in recognition of their phagocytic nature, and to conform with common usage. An added reason for the use of this term was the relative lack of discrimination between different mycobacteria by Schwann cells (2, 18) and the inhibition of this interaction by inhibitors of macrophage phagocytosis (3, 19). As used in our work, the term was an operational one and did not imply any passive role of the mycobacteria during their entry into Schwann cells.

The use of the term "phagocytosis" should not by itself prevent investigators from defining the role of mycobacteria in the process of their entry into Schwann cells. Although we observed several parallels between the uptake of latex and mycobac-

teria by Schwann cells^(3,4), we have also observed marked differences between the two⁽⁶⁾. In fact, our recent work⁽⁵⁾ has shown that certain components of the mycobacterial surface may be important in their interaction with the Schwann cell surface. Treatment of mycobacteria with antimycobacterial antibodies inhibited their uptake by Schwann cells *in vitro*. However, in the absence of any direct evidence to suggest that mycobacteria, especially *Mycobacterium leprae*, actively invade Schwann cells, it seems reasonable to continue to use the term "phagocytosis" (which is rather widely used by investigators in the field) to describe their uptake by these cells. Coining new terms like "ingress" to describe the mycobacteria-Schwann cell interaction may only serve to complicate the nomenclature. In addition, this term may indirectly imply an invasive nature of *M. leprae* for Schwann cells which has not been documented so far.

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