

times during the meditation period a "unique wakeful hypometabolic physiologic state" was present. We do, however, question the use of the word "unique" in describing this state. Unique with respect to what? Based on Wallace's previous publications, the answer is, "with respect to ordinary wakefulness, sleeping and dreaming." However, ordinary wakefulness is itself composed of many different states, such as anger, joy, intense mental concentration, or simple relaxation, to name a few. It is obviously premature to claim that the wakeful hypometabolic state often achieved during TM is uniquely different from these states, particularly from the states produced by other forms of relaxation. TM may result in a unique state of consciousness, but there is no controlled research supporting that contention. The studies cited by Wallace do help to establish that a wakeful hypometabolic state does often exist during some part of the meditation period, but they are woefully inadequate for establishing a claim of uniqueness. In addition to our *Science* report, a recent report by R. R. Michaels *et al.* (18 June, p. 1242) offers evidence to the contrary. It is clear that, before the uniqueness of TM can be determined,

much more research needs to be done, particularly comparing TM to other techniques such as progressive relaxation, autogenic training, or ordinary relaxation.

Finally, Wallace implies that the beneficial effects of TM are due to changes that occur during the awake portion of meditation. In seven of the 13 sessions in which we observed sleep, our subjects rated their meditations as "typical." Thus, as we concluded in our report, the following question is still an open one to be resolved by future research: Are the beneficial effects reported for TM due to the sleep that occurs during the meditation period or to some other feature of the process? In addition, in light of the above discussion, there is a second and related question which awaits resolution: Are the beneficial effects reported for TM due to the ordinary rest that occurs during the meditation period in both the sleeping and awake periods or to some *unique* feature of the process?

ROBERT R. PAGANO

RICHARD M. ROSE

STEPHEN WARRENBURG

*Department of Psychology,
University of Washington,
Seattle 98195*

Doomsday Expectations

During the past 2 years I have been conducting an informal poll on the doomsday expectations of persons with whom I work. I have asked students and faculty to record, by secret ballot, their response to the following question: "How long do you think our civilization will continue to exist in the developed state before it is vastly diminished or destroyed?" I ask respondents to record their intuitive hunches. Virtually everyone polled was able to record a numerical answer within a minute.

The estimates varied among groups but were surprisingly low overall. Twelve graduate students in a class in environmental planning had a modal expectation of 100 years in 1975, which increased to 150 years (16 students) in 1976. A sample of 35 graduate students in planning as a whole gave civilization a 50-50 chance of lasting 200 years, and 16 architecture graduate students gave it 100 years (1). Faculty members had substantially more optimistic expectations. Eight who responded from the planning faculty gave civilization a 50-50 chance of lasting 700 years, and four members of the architecture faculty gave it 500 years. Perhaps the most provocative result came from an upper undergraduate class in environmental biology for nonmajors that had a modal expectation of 25 years (26 out of 94 students gave answers of from 20 to 30 years).

Regardless of who ultimately may prove to have guessed "best," it is significant that those who teach planning have quite different implicit planning horizons from those of their students and that a sample of undergraduates gave their society a life expectancy not as long as their own. The number of "indefinitely" or "forever" answers was very few (3 out of 122). Changing attitudes toward the apocalypse might be an interesting social indicator, although its interpretation in terms of causal factors is undoubtedly not simple.

I invite interested *Science* readers to poll their own associates similarly (2).

WALTER E. WESTMAN

*Department of Geography,
University of California,
Los Angeles 90024*

Notes

1. For the poll of students and faculty in architecture and planning as a whole, the technique was modified by my colleague John Friedmann, such that respondents recorded the percentage probability of survival for given periods in decades. C. E. Weaver tabulated the results.
2. I would be interested in learning the results of such polls, including approximate ages, occupations, and sizes of groups, from readers willing to communicate them to me.

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