COMMENTS
by Readers

The announcement of the 6th International Congress of Experimental Cytology states: "The Congress will be open to scientists of all nationalities except German and Japanese."

To exclude from an international scientific congress any group of colleagues on the basis of nationality is to make a travesty of both appellations—international and scientific. Surely, science transcends considerations of nationality, as of race, color, and creed. For scientists to discriminate against colleagues on the basis of nationality is to commit the very crime against civilization which justified to many their participation in the war.

From the practical aspect no less than from the standpoint of scientific ethics is such a policy of exclusion disastrous. In science each builds on the other's work; exclusion is as harmful to those who practice it as to those excluded.

Sweden, host to the Congress, enjoys a deserved reputation for fairness and justice. I am convinced that the Swedish organization committee would welcome an expression of opinion on this policy. Other International Congresses are in preparation. If truly international, their influence can be great in restoring intellectual communication and mutual understanding. To that end, protests against exclusion of colleagues on such nonscientific grounds as nationality should reach the organization committees as soon as possible. (SALLY HUGHES-SCHRADER, *Department of Zoology, Columbia University.*)

Interesting calculations of the unequal distribution of diffusible nonelectrolytes across a membrane have been made by C. L. Deasy (*Science*, October 25, p. 388); the inequality is a consequence of the presence of a nondiffusible nonelectrolyte on one side of the membrane. Without questioning these calculations, one is inclined to be skeptical of the suggested importance of this phenomenon in the case of biological membranes.

No mention is made in Deasy's paper of the difference in pressure required to maintain equilibrium in an osmotic system of this sort. From the derivation given by F. T. Wall (*J. Amer. chem. Soc.*, 1944, **66**, 446) it is clear that Deasy's equation is based on the assumption that this pressure difference exists, and that it is calculable from the mole fractions of solvent by the usual logarithmic equation. If the mole fraction of nondiffusible solute is 0.05, the distribution ratio for dissolved CO_2, according to Deasy, is 0.89. It may be calculated, however, that the pressure difference at equilibrium must be, at 38° C., more than 70 atmospheres. The magnitude of this pressure indicates that the assumed conditions are hardly physiological. For a pressure difference of 25 mm. Hg, which is low enough to be physiologically possible, the distribution ratio becomes 0.99995. In the absence of very great differences in pressure, the calculated distribution will not be sufficiently unequal to require consideration in the explanation of physiological phenomena. (DAVID I. HITCHCOCK, *Laboratory of Physiology, Yale University School of Medicine.*)

May I add a footnote to Henry K. Beecher's interesting article on "Anesthesia's Second Power," appearing in *Science* for February 14, in the form of a quotation from Oliver Wendell Holmes that may help to throw the aforesaid "second power" into perspective?

"I once inhaled a pretty full dose of ether, with the determination to put on record, at the earliest moment of regaining consciousness, the thought I should find uppermost in my mind. The mighty music of the triumphal march into nothingness reverberated through my brain, and filled me with a sense of infinite possibilities, which made me an archangel for the moment. The veil of eternity was lifted. The one great truth which underlies all human experience and is the key to all the mysteries that philosophy has sought in vain to solve, flashed upon me in a sudden revelation. Henceforth all was clear: a few words had lifted my intelligence to the level of the knowledge of the cherubim. As my natural condition returned, I remembered my resolution; and, staggering to my desk, I wrote, in ill-shaped, straggling characters, the all embracing truth still glimmering in my consciousness. The words were these (children may smile; the wise will ponder): '*A strong smell of turpentine prevails throughout*'" (from *Mechanism in thought and morals.* Boston: Houghton Mifflin Company. Cf. also H. M. Johnson, "The real meaning of fatigue," *J. nat. Inst. industr. Psychol.*, 1929, **4**, 433–45). (JOHN F. DASHIELL, *Department of Psychology, University of North Carolina, Chapel Hill.*)

The article by Haley and Flesher (*Science*, December 13, p. 567) suggests the following comment:

Besredka formulated the rule that if the same substance is injected into the same subject, in the same amount and in the same way, at intervals of 10 days, the resulting reactions will be approximately equal in intensity. If the interval is shorter, the intensity will be successively less and less; if the interval is longer than 10 days, the reactions will be successively more and more severe.

The authors state that the injection of a sensitizing dose increases the resistance of the animal to toxic injections of thiamine chloride. This is actually so in their experiment and due to the desensitizing interval of 7 days. Had the interval been more than 10 days, the effect of the sensitizing dose would have been the other way. An extensive experience with the rule makes me put considerable faith in it.

The case of death following injection of thiamine hydrochloride was reported by Webb and Reingold and quoted by the authors. The fatal injection was given after an interval longer than 10 days, and the previous injection had also been given after an interval of more than 10 days. This made the sensitization progressive. In both this case and the experiment of the authors, the responses occurred according to the rule.

It would be very interesting if the experiment were repeated with an interval of 14 or 21 days and the result reported. The rule is very important and not commonly observed. (JOSEPH F. BICAK, *Mosholu Parkway South, New York City.*)