based on the summary data can be made. Since estimation by the physical units represents a different task than estimation by the verbal unit, it will be discussed separately.

There is a trend for estimates made by the MU to be greater than those for the EU when estimating in terms of physical units. This occurred for EU-MU comparisons in 9 out of 12 cell means. The estimates of the larger two stimuli estimated by the largest unit of measure (7 cm) do not follow this trend. Another finding indicated by the data summary is that estimates for both the MU and EU for the larger stimuli were generally overestimated by the three larger units of measure, and underestimated by the cm unit.

The error scores in Table 1 represent the mean percentage deviations, computed without regard to sign, of estimates from measured size of the stimuli. An examination of error scores for the physical units presents results similar to the comparison of means; no consistent trend occurred between the two classes of Ss. Both the magnitude and error examination suggest that the role of familiarity with a particular unit of measure has little effect on estimations when the units are physically presented and not specified as familiar ones.

Estimates by verbal report using a familiar unit of measure (in. or cm) did not differ between the MU and EU. However, in all cases, estimates verbally reported, using a familiar unit were greater than estimates made of the same stimuli using the corresponding physical unit, e.g., EU estimates were greater when verbally reported in terms of inches than when using the physical inch unit. When error scores are compared with those for the physical units of measure some interesting differences are obtained. For the 8.73 cm

stimulus, the error value for the familiar verbal unit is greater than those for the physical units; on the other hand, the error scores for the larger two stimuli are among the lowest of all units of measure when estimation is in terms of a familiar verbal unit of measure.

Discussion

A hypothesis suggested by the preceding result is that the unit one draws from memory and compares with the stimulus for estimation is some multiple of the smallest basic unit rather than the unit itself, e.g., perhaps 6 in. for the EU or 10 cm for the MU. [It should be noted that the term "basic unit" refers to common usage rather than a physically defined standard unit. For example, the meter not the centimeter, is the unit of measure accepted by the International Bureau of Weights and Measures; see Huntoon (1965).] This coincides with the experience one has in quantifying his environment; generally, one estimates lengths greater than 1 in. Whether the lengths fall within a prescribed range cannot be here decided but the results do suggest that the memorially constructed unit for length estimation may be greater than the basic unit.

In general, the findings support a conclusion that the estimation of relatively small lengths by MU and EU are not systematically different in terms of estimated magnitude and deviations from measured size. However, there is a suggestion in the results that differences may exist for larger stimuli.

Reference

Huntoon, R. D. Status of the national standards for physical measurement. *Science*, 1965, 150, 169-178.

Note

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ERRATUM

Gillooly, W. B. The effect of familiarization instructions on associative latency and learning. *Psychon. Sci.*, 1966, 4 (8), 303-304.—Line 21 of the first column should read H₂: SRF>SIF. On page 304, Noble's m should be read as italicized wherever it occurs.