

been adopted but without the earthquake design provisions. A small part of Indiana lies within the zone of highest risk of earthquake damage, as defined in the Seismic Zone Map of the United States contained in the Uniform Building Code. The map, however, is based primarily on the maximum seismic intensities in the historical record without regard to the frequency of occurrence. Indiana is shown in the same zone as coastal California, but the frequency of damaging earthquakes has been much higher in coastal California. Some future edition of the code will likely contain an improved seismic zone map. In the meantime, adoption and enforcement of reasonable earthquake regulations, perhaps less stringent than those applied in California, could greatly reduce potential earthquake damage in areas of known earthquake occurrence outside the western United States.

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Mirror Making

Nicholas Wade's article "Zen and the art of big mirror making" (News and Comment, 10 Oct., p. 132) admirably conveys the consistent dependence of optical astronomy upon the judgments and manual skills of craftsmen. However, there are two statements in the article that are misleading. Glass-ceramics are described as "materials whose thermal coefficient of expansion is magically near zero," and Corning's material is called "Ultra Low Expansion Quartz." Neither statement is correct. The Corning material is prepared by flame hydrolysis from halides of titanium and silica in such proportions that the condensate is a true solution of TiO_2 in SiO_2 (1). Quartz plays no part in this process, either as a raw material or as a characterization of the final product, which is completely amorphous, that is, a glass and not a glass-ceramic.

"Magically" near-zero thermal expansion coefficients are not an intrinsic property of glass-ceramics, many of which have high expansion coefficients; nor is a near-zero coefficient unusual or unexpected in glasses. Indeed, data from the University of Arizona Optical Sciences Center (2) indicate that, between 0° and 300°C , the ex-

pected dimensional change of a ULE[®] glass mirror will be less than one-third the dimensional change in a Cer-Vit mirror, since the measured excursions in this temperature range are, respectively, $9 \times 10^{-8}/^\circ\text{C}$ and $32 \times 10^{-8}/^\circ\text{C}$.

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References

1. D. L. Evans, *J. Am. Ceram. Soc.* **53**, 7 (1970).
2. S. F. Jacobs, A. J. Malvick, J. Berthold III, in *Applied Optics Research Report, 3rd Quarter, FY-72* (Optical Sciences Center, Univ. of Arizona, Phoenix, 1972), pp. 18-22.

Cholesterol in Eggs

Although to our knowledge no evidence is available in the scientific literature, recent releases in the popular press infer that eggs laid by the Araucana fowl ("Easter egg chicken") are lower in cholesterol than eggs routinely available to the consumer. As a result, individuals have been eating Araucana eggs in an effort to lower their intake of dietary cholesterol.

At a recent meeting of the technical committee of the Southern Regional Poultry Breeding Project, data on the cholesterol content of eggs laid by various populations of Araucana fowl were discussed. In no instance was the cholesterol content of Araucana eggs found to be lower than that of eggs laid by strains of domestic fowl. We believe that these data, the result of independent studies at six separate laboratories, provide evidence to disprove the myth that low cholesterol levels are found in eggs from the Araucana fowl.

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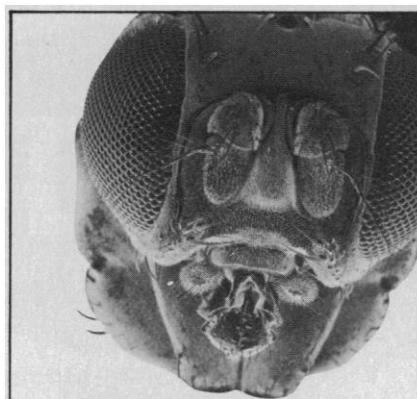
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multi-element trace analysis

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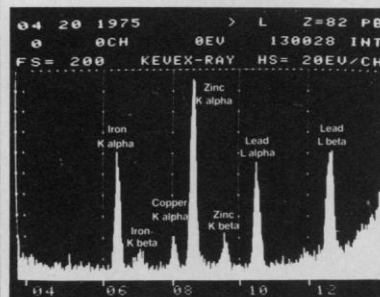
However, when you have an analysis—quantitative or qualitative—that calls for low concentration detection in a small sample mass such as this fruit fly, it's beyond the scope of ordinary X-ray energy spectrometers. Only a high-intensity system with a secondary target that emits pure mono-chromatic X-rays with low background can produce results such as shown here. And only KEVEX has a high-intensity (2,000 or 3,000 watt) XES system for trace analysis in the less than 100 parts-per-billion range for many elements in organic matrices. That's why the man with the fruit fly came to us. It might pay you to do the same. Here's how to go about it:

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