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continued from page 15

out the top ten were mathematics (1183), aeronautical engineering (1183), classical language (1177), molecular and cellular biology (1177), philosophy (1174) and chemical engineering (1168). The overall average was 1036. Physics was also first on the quantitative test alone (697, overall average 545) and was eighth of 98 on the verbal test (554, overall average 491). First and second on the verbal test were classical language (616) and philosophy (593). Astronomy was the only field other than physics to rank in the top ten on both quantitative (sixth, 674) and verbal (seventh, 566) scores.

We are sure that this information will come as little surprise to the readers of PHYSICS TODAY.

R. E. FORNES

J. D. MEMORY

D. W. STEWARD

J. F. ARNOLD

North Carolina State University

12/83

Raleigh, North Carolina

Polonium halos

With reference to Robert Gentry's "polonium halo" phenomena, one of the first tenets of science is that a thing must be examined before it is condemned. However, certain facts of nature rest on such an extensive background of examination, that when confronted with an apparent discrepancy, they need not be further defended. No competent physicist worthy of the name need spend his time examining an apparent conflict with the second law of thermodynamics, or that the Earth is flat. I am afraid that this polonium halo business falls in this category.

Any reasonably intelligent person can easily satisfy himself of the following:

- ▶ The oldest tree ring count goes back to 7124 years before 1983.
- ▶ The oldest written document goes back to about 5483 years before 1983.
- ▶ The earliest structures of man date back to between 120 000 and 1 750 000 years before 1983.
- ▶ Earliest man appeared during the Paleocene period, some 70 000 000 years ago.
- ▶ Overwhelming "scientific" evidence—radioactive dating—places the oldest terrestrial rocks at 3 800 000 000 years ago.

Accordingly, when one comes across something like this polonium halo business, which suggests that the Earth and the universe as we know them are only some 6000 years old, having satisfied oneself as to facts listed above, one would be well advised to dismiss the

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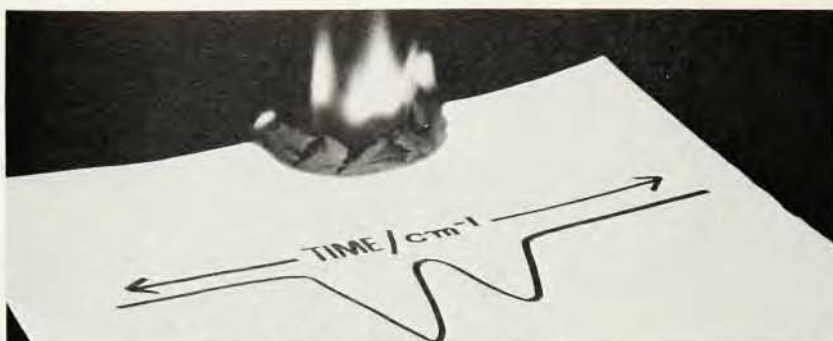
discrepancy and hunt elsewhere for an explanation. I am as certain as I am of anything that Robert Gentry has been led down the garden path by a capricious whim of nature. She has been known to do this before.

ROBERT C. WYCKOFF
Geberville, California

11/83

THE AUTHOR COMMENTS: Wyckoff's plea that my work be condemned because it contradicts certain "facts" has already been a factor in termination of NSF support, in attempts to thwart publication of my results, and most recently in the loss of my research opportunities. In 1977 the APS invited its members to support a 1976 NAS-sponsored resolution,¹ which emphasizes that those who search for truth and knowledge should be free to inquire and express their views without fear of retribution because of the unpopularity of their conclusions. Does Wyckoff exclude those who publish evidence for creation from this resolution?

The items he lists as facts are actually deductions about the past which Wyckoff has equated with the certainty of the present by assuming certain data and interpretative principles are correct. Is this justified? For the first two items we cannot certify that all old tree rings are annual, nor can all the assumptions of carbon-14 dating be verified. The ages in the third, fourth and fifth items are derived from geologic and radiometric dating methods, both of which assume the uniformitarian principle—that the universe (whose age I do not restrict) evolved to its present state by the unvarying action of known physical laws. If this unproven principle is true, then it must explain how all natural phenomena fit into the evolutionary mosaic. If it is wrong, all the pieces in the mosaic become unglued and evolution dissolves into a mire of quicksand. Evidence that something is drastically wrong comes from the fact that this basic evolutionary premise has failed to provide a verifiable explanation of the widespread occurrence² of polonium halos in precambrian granites, a phenomenon I have suggested is *in situ* evidence of a virtually instantaneous creation of these rocks.³ I have repeatedly challenged my evolutionary colleagues to synthesize a piece of granite with polonium halos as a means of falsifying this interpretation,³ but the only response has been Wyckoff's plea that my work be condemned without investigation. It is inescapable that this synthesis should be possible if the uniformitarian principle is true. Perhaps Wyckoff does not realize that failure to accomplish this synthesis is *prima facie* evidence that the uniformitarian principle is untenable. But



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then, how could he be expected to know? To him my reports² were not worth examining!

References

1. The resolution "An Affirmation of Freedom of Inquiry and Expression," was passed by the National Academy of Sciences on 26 April 1976.
2. R. V. Gentry, *Science* **173**, 727 (1971); *Science* **184**, 62 (1974); *Science* **216**, 296 (1982); *Geophys. Res. Lett.* **9**, 1129 (1982); R. V. Gentry, *et al.*, *Science* **194**, 315 (1976); *Science* **216**, 296 (1982); *Nature* **244**, 282 (1973); *Nature* **252**, 564 (1974); *Nature* **274**, 457 (1978).
3. R. V. Gentry, *EOS* **61**, 514 (1980); *PHYSICS TODAY* **35**, No. 10, 13 (1982); *PHYSICS TODAY* **36**, No. 4, 13 (1983).

ROBERT V. GENTRY
Columbia Union College
Takoma Park, Maryland

2/84

The truth about Rowland

R. E. Bell inquires (February, page 89) about the old story that Henry Rowland, on the witness stand in an 1894 lawsuit, declared himself to be the world's greatest electrical authority, explaining later that he had to tell the truth under oath. This often-repeated story is apocryphal, according to the research of John David Miller as reported in his Oregon State University PhD Thesis, "Henry August Rowland and his Electromagnetic Researches" (a copy of which Miller donated to the AIP Niels Bohr Library). Inspecting the trial record, Miller found that Rowland had no need to boast; as the judge said, it was conceded by all that he was "the highest known authority in this country upon the subject of the laws and principles of electricity..." (page 330). Rowland did make similar statements himself, however, in private letters. Like many apocryphal stories, this one is probably more revealing of real character than anything publicly seen at the time.

SPENCER R. WEART
Center for History of Physics
American Institute of Physics
New York, New York

2/84

Oversight in overview

In our overview article on Surface Spectroscopy in November (page 62), we would like to point out that the data points in the dispersion curve of figure 4 summarize the results of two different groups, one of which was omitted in reference 4. We wish to correct this omission and to cite R. I. G. Uhrberg, G. V. Hansson, J. M. Nicholls and S. A. Flodstrom, *Phys Rev Lett* **48**, 1032 (1982).

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