LETTERS

Romance in six figures

Re: "Who said it first?" (PHYSICS TODAY, April, page 56, August, page 9).

Almost two decades ago Karl K. Darrow raised the question, "Who first spoke of the importance of the next place of decimals in physical measurements?" (*Isis* **41**, 201, 1950). Darrow pointed out that although it was Albert A. Michelson who made the idea popular, Michelson himself attributed it to an "eminent physicist," and James Clerk Maxwell had already tried to refute it as early as 1871.

The note on page 56 of the April PHYSICS TODAY and the letters from Charles Weiner, Robert C. Wykoff and George L. Trigg in the August issue provide further interesting evidence on this subject but indicate that the origin of the phrase is still a mystery. There is another question, however, just as important as "Who said it first?" —namely, why would anyone think it was a valid description of the state of physics about 1894? Was Michelson so absorbed in his own experiments that he was oblivious to the violent controversies raging among theorists at the time? He certainly helped to establish the myth of a Victorian calm in physics—with nothing left to be done but make more precise measurements—preceding the 20th-century storm. It is still customary for authors of texts and popular expositions of modern physics to assert that physicists at the end of the 19th century were confident that all the fundamental laws of physics were known so that the only further progress to be expected was in refining the determination of the physical constants.

Now it does not necessarily follow from Michelson's statement that there would not be any more fundamental discoveries. In fact it could be argued that ultrarefined measurement does often lead to such discoveries; see, for example, Floyd K. Richtmyer's essay on "The Romance of the Next Decimal Place" in *Science* **75**, 1 (1932). Nevertheless the "next-decimal-place" phrase is usually associated with the more pessimistic (or complacent) implication.

I can contribute one more item, a report on Michelson's 1894 speech, that suggests his ambivalent attitude toward the myth he was propagating:

> "He gave the address on the place of very refined measurement in the progress of physics, an address in which he quoted someone else, I think it was Kelvin, as saying that it was probable that the great discoveries in physics had all been made and that future progress was likely to be found in the sixth place of decimals. Later, in conversation with me, he was to upbraid himself roundly for this remark." (*The Autobiography of Robert A. Millikan*, Prentice-Hall, New York, 1950).

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When Congress does not know

May I comment on your November editorial titled "In Politics, How Should We Do Our Thing?"

I would like to emphasize the following point: The problem is not that Congress does not have ready access to good scientific information and advice; such aid is readily available—and from many different types of groups—when Congress recognizes the need and itself provides the impetus for acquiring the necessary information. The problem occurs when Congress does not recognize what its needs are or what information is available but others, including scientific societies, do. My plea is that in the latter circumstance, the societies and members of them not be reticent in notifying appropriate members of Congress of their views.

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No new first-rate insights

Are you interested in a nonphysicist's nasty first reaction to Lewis M. Branscomb's August article, "Physics and the Nation in a Crystal Ball," particularly to the paragraph on pages 24 and 25?

It is very hard for a still beautiful woman to discover that she is begin-