

and chemistry to prepare for the University Matriculation Entrance Examinations. These courses are equivalent to freshman and sophomore courses in our universities and colleges. These students have had one year or more of general physics already in form 5. They certainly are not equivalent to high school seniors or 12th graders in the US!

Besides, they are, on the whole, older, averaging 19 or 20 years of age, and more mature than their American counterparts. Their socioeconomic system worships mathematics, chemistry, physics and engineering. Above all, their cultural and family influences are conducive to scientific perseverance and excellence.

There is no doubt that the gap is widening in physics aptitude between US high school seniors and their counterparts in Hong Kong. Our nation is still at risk! The gap, however, is neither as big and hopeless nor as spontaneous and abrupt as the graphs imply.

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7/88

Rangefinder Caption Misses the Mark

In my article "How the Military Responded to the Laser" (October, page 36), the caption for figure 3, a photo of the AN-GVS-5 hand-held rangefinder, was inaccurate. The AN-GVS-5, unlike the tank laser rangefinder discussed in the text, was built not by Hughes, but by RCA, after it was developed by Richard J. Newton and his colleagues at the Army Electronics Command (Fort Monmouth, New Jersey). It was not operational until the 1980s, whereas tank laser rangefinders were fielded in the 1970s. I am grateful to Newton for calling this error to my attention.

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11/88

Bitter Lab, Bitter Memories

I would like to clarify a point made in your news story about the Francis Bitter Magnet Laboratory (July 1988, page 61). Contrary to the impression one gets from your report, former members of the in-house research staff did not leave the lab because we feared competition for external funding. Indeed, all of us possessed Federal research support at the time of our departures and continue to com-

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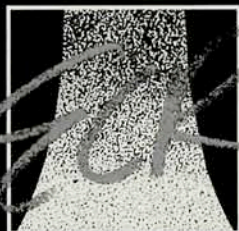


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pete in our new positions. Rather, our departures resulted from a severe deterioration in the climate of the lab, as well as a desire to have at least a part of our support based upon hard money, as is the practice throughout the academic world.

CHARLES ROSENBLATT
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7/88

Nobelists Overprized

In Herbert York's article (April 1988, page 40) there is a group photograph sited at the 86-inch magnet at Berkeley. After identifying the author of the article, W. B. Reynolds, the business manager, and Ernest O. Lawrence, the caption locates Luis W. Alvarez, Emilio Segrè and Edwin McMillan. They seem to have been picked out because they were "future Nobel Prize winners."

There seems to be a quite ridiculous tendency on the part of modern scientists to revere the Nobel Prize. This was most egregiously evident in James Watson's book *The Double Helix*, but seems to be quite general. Don't you think AIP could aspire to value scientists for their contributions to science rather than for the prizes they have received?

R. F. LEVER
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YORK REPLIES: I singled out those particular people partly to show how adept Ernest O. Lawrence was at identifying and gathering such scientists around him *before* they won their Nobel Prizes. Anybody can identify them and try to recruit them afterwards. No offense meant to more ordinary mortals, including the other hundred-odd in the picture!

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Na-NH₃ and High T_c: The Ogg Couple

The letter by Alan L. Rockwood (March 1988, page 13) does not elaborate on the further contributions of Richard A. Ogg Jr beyond the suggestion of "Ogg pairs" as an indicator of Ogg's insights into high-T_c superconductivity. In 1982 Ogg's 1946 paper on the sodium-liquid ammonia system as a possible high-T_c superconductor¹ was brought to my attention, as well as the apparent validation of this system by Russian² and French³ scientists.

It appeared to me and the members of a scientific team under my direc-

tion that because of the difficulty of reproducing Ogg's observations due to the critical nature in the freeze cycle dependence of this difficult system, not enough attention had been paid to his work. Since 1983 we have continuously proposed work on this system, but we have received limited support. The recent flurry of activity following the discoveries of the much-lower-T_c ceramic systems has overshadowed Ogg's findings in another way. If Ogg's concepts have merit, superconductivity is a rather general phenomenon requiring only the correct electron pair states in a wide variety of structures. These states need to extend over long ranges in the material, most likely on the order of at least ten to hundreds of atoms. Based on these concepts, titanium-oxygen, zirconium-oxygen and sodium-ammonia are a few of the many systems in addition to copper-oxygen that should exhibit "Ogg pairs."

I hope some acknowledgment of Ogg's foresight will be made by the physics community. His ideas were simply 40 years premature.

References

1. R. A. Ogg Jr, *Phys. Rev.* **69**, 243 (1946).
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3. P. Arendt, *Z. Phys. Chem.* **263**, 689 (1982).

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3/88

Publishing Solid-State Theory: Series Business

Although I thoroughly enjoyed Spencer Weart's article "The Birth of the Solid-State Physics Community" (July 1988, page 38), it was very disappointing to me that he failed to mention McGraw-Hill as the publisher of Frederick Seitz's text *The Theory of Modern Solids*, referred to throughout the article. *The Theory of Modern Solids* was part of McGraw-Hill's International Series of Pure and Applied Physics, a series that was part of every physicist's education. Almost every physicist mentioned in the article—John Slater, Edward Condon, Henry Smyth—was also an author in the series. Many of the books in the series, including Seitz's text, no other major publisher was willing to publish at the time. The risks were too great; the rewards were too small.

JOHN ZUMERCHIK
McGraw-Hill Book Company
New York, New York

8/88