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any ideas of helping them in their buildup of scientific knowledge and information, as well as the acquisition of technical expertise. Many older Americans are all too mindful of giving aid, in all good faith, to a potential adversary, only to have that succor turned back against us. Yes, the Chinese officials may be urging more joint cooperative efforts in science and technology, but what would we, as a nation, be gaining from this "exchange"? And what guarantees do we have that this knowledge will not be turned against us in the future? Or against the Taiwanese?

As an alternative, I would respectfully ask Koch to redirect his energies, as well as those of the AIP, to helping the efforts of Chinese scientists on Taiwan, where human rights and freedom are respected.

PETER D. GIANINO

Melrose, Massachusetts

2/5/80

Light from carbon arc

The extensive historical coverage in the article "The Electric Lamp: 100 Years of Applied Physics," by John Anderson and John S. Saby, (October, page 32) is marred by two noteworthy omissions. Most glaring is the failure to mention Charles F. Brush, whose name is almost synonymous with both the first successful electric arc lamps and their power source, the "Dynamo."¹

Also omitted is recognition of the development of flame arcs using carbon electrodes containing luminescent materials principally from the cerium family of rare earths, which produce radiation of "daylight" quality with luminous efficacy as much as double² the 25 lumens per watt value quoted by Anderson and Saby for "arcs burning in air." The operation of this type of electrode at high current density resulted in a carbon arc³ (known variously as the "high-intensity" arc, the "high-current" arc, or the "Beck" arc) which gives values of luminance exceeding by an order of magnitude those of incandescent filament lamps, even surpassing that of the Sun.⁴

The carbon-flame arc has served for many decades as a "work horse" of the graphic-arts industry. Because of its spectral quality and high luminance, the high-intensity carbon arc truly made possible the rapid growth and the large extent of the theatrical motion-picture industry before and after the World War II period, serving both studio photography and theater projection. Although carbon arcs have been replaced somewhat by some of the technological developments recounted by Anderson and Saby, they still remain significant.

References

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Story of General Electric, J. B. Lippincott, New York (1941).

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3. W. Finkelnburg, "The High-Current Carbon Arc," Fiat Final Report 1052, Office of Technical Services, P.B. No. 81644.
4. M. T. Jones, F. T. Bowditch, *Jour. of Soc. Mot. Pict. Engrs*, 52, 395 (1949).

W. WALLACE LOZIER

Rocky River, Ohio

2/12/80

THE AUTHORS COMMENT: we thank Wallace Lozier for his comments regarding our article and wish to assure him that we were well aware of all the facts he notes. However, the constraint of journal space necessitated much editing of our original manuscript and the section on flaming arcs, along with the interesting contributions of Steinmetz, were deleted.

Perhaps the best justification for these omissions was our desire to concentrate on those lamps that persist today in general-purpose lighting.

JOHN M. ANDERSON

General Electric Company

Schenectady, New York

JOHN S. SABY

General Electric Company

Cleveland, Ohio

2/25/80

Frisch obituary

The excellent obituary of Otto Robert Frisch in January (page 99) contains one minor mistake. Frisch did not hold a chair previously held by Lord Rutherford. Frisch was Jacksonian Professor of Natural Philosophy in the University of Cambridge. Rutherford was Cavendish Professor and Head of the Cavendish Laboratory. The duties of the Jacksonian Professor, as laid down by the founder, are "to study Natural Philosophy, and to endeavour to find a cure for the gout." It is perhaps an understatement to say that Frisch concentrated on the first part of this directive.

R. W. DITCHBURN

2/15/80

University of Reading, U.K.

Automated Relativity

It is not uncommon today for physicists to depend upon computers. But I have come to depend upon mine in a somewhat unusual way.

At least three or four times a week I receive a letter, preprint, query or threat on special relativity from someone who does not understand that theory. Those in a similar position will know what I mean when I say the prevailing advice on such matters is that life is too short to bother with such correspondence.

It is difficult for me to accept such advice for at least two reasons. First, the individual who is attempting to unexplain