Editor's Note: G. M. Idorn is a frequent contributor to MRS symposia on concrete and cement whose attendance at the 1984 Fall Meeting in Boston was unfortunately not possible. In lieu of his presentation at the meeting, he has written this letter in the hope that the needs of the cement and concrete field will be recognized by the membership of our Society.

Dear colleagues,

Some of you know that for about 30 years I have been in ever closer contact and cooperation with the cement and concrete research community in the United States, see e.g., NMAB-361, (Ed. D. M. Roy, 1980), papers to MRS symposia in 1981, 1982 and 1983, and ACI: Raymond E. Davis lecture 1983.

On November 1, 1984, the American Concrete Institute (ACI) took steps to strengthen concrete materials research in the United States.

ACI is an engineering organization, and I am a civil engineer. I write because my long-term R&D service to concrete technology in its entirety is based upon past physico-chemical research in the United States, and I cannot help but seeing the profession now in urgent need for support from the basic regimes of materials science:

- The decay of America's infrastructure—anticipated to cost $2.5-3 trillion in rehabilitation this decade—much depends on concrete and is largely due to declined attention to basic physico-chemical research for more than one decade.
- The residual basic cement and concrete materials research, which for the last few years has found a welcome annual sanctuary in MRS, has but little association with how laboratory specimen research and modeling can be converted into technology to reduce or eliminate the structural decay, or to innovate processing and products.
- Many of the U.S. cement firms—now also concrete industries—are currently investment objectives for foreign industries, which have their own powerful, integrated R&D for business development. They surely enjoy basic input, also from MRS, but innovation moves to the homelands and young Americans can look forward to becoming wholesalers and retailers of foreign technology. This is wrong. My experience and knowledge of the U.S. tells me that a strong science-engineering basis in your country is globally desirable.

ACI's incipient move needs cooperative efforts to strengthen its scientific base. Therefore, consider how to activate topics for discussions in MRS:

1. Arrange for a group of motivated academic and public/private researchers of quality to discuss the science-technology issues, to make scientific research more realistically oriented, and to restore civil engineering belief in science.

2. Approach those universities that are preparing or acting towards reconstruction of science-based materials research and new courses (MIT, Hopkins, UM, Berkeley to name a few), and arrange for collegial support (workshops, fellowships) at those universities where science-based research survives and/or thrives.

3. Look into how cement and concrete research can learn from higher technology R&D in MRS to plan and manage coherent programs with long-term strategy and short-term off-springs. (Fly ash research is an outstanding example of how this is not done, despite great opportunities).

4. Encourage recruiting of young Americans to cement and concrete science-based research with roots in engineering demands.

Please continue to arrange for science-oriented symposia on cement and concrete but give them an obligation to **discuss** engineering needs and opportunities and the effectiveness of research. This is so urgently in demand.

G.M. Idorn

Narum, Denmark
November 9, 1984

(continued from the previous page)

OCTOBER 1986

7-9 18th National SAMPE Technical Conference.
Seattle, WA.
SAMPE, 843 West Glentana (Box 2459), Covina, CA 91722; (818) 331-0616.
(See related article in this issue.)

19-24 Fall Meeting of the Electrochemical Society.
San Diego, CA.
Electrochemical Society, 10 S. Main St., Pennington, NJ 08534-2896.

21-24 Meeting of the Optical Society of America.
Los Angeles, CA.
OSA, 1816 Jefferson Pl., N.W., Washington, DC 20036.

26-31 33rd National Vacuum Symposium of the American Vacuum Society.
Baltimore, MD.
N. Hammond, 335 E. 45th St., New York, NY 10017.

NOVEMBER 1986

3-7 Meeting of the Division of Plasma Physics of the APS.
Baltimore, MD.
W. W. Havens, 335 E. 45th St., New York, NY 10017.

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Fly Ash and Coal Conversion By-Products: Characterization, Utilization and Disposal I

Edited by Gregory J. McCarthy and Robert J. Lauf

Proceedings of the Symposium held at the 1984 MRS Fall Meeting contains 24 papers which explore analysis and handling of fly ash and consider environmental consequences and potential future uses of the material in industrial or civil engineering applications.

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- Transmitted and reflected visible light microscopy of two bituminous fly ashes
- Scanning electron microscopy and x-ray diffraction analysis of various size fractions of fly ash
- Electrokinetic phenomena and surface characteristics of fly ash particles
- Technical note on the determination of free lime (CaO) in fly ash
- Characterization of cyrstalline phases in fly ash by microfocus Raman spectroscopy
- Characterization of catalyzed devitrification in quenched fly ash melts
- Retardation effects in the hydration of cement-fly ash pastes
- Reactions products in fly ash concrete
- Autoclave expansion of Portland cement-fly ash pastes
- Effects of fly ash and superplasticizers on the rheology of cement slurries
- Flexural strength and fracture properties of a fly ash blended cement
- Properties and potential uses of the products resulting from the fluidized bed combustion of coal washery wastes
- Utilization of fly ash in roadbed stabilization—some examples of western U.S. experience
- Utilization of fly ash in oil and gas well cementing applications
- Potential resources for coal fly ash
- Characterization of a lignite ash from the METC Gasifier—mineralogy, scanning electron microscopy, and correlations of leaching behavior and mineralogy
- Comparative economics of several alternatives for bulk utilization of fly ash and coal gasification ash
- Disposal of western fly ash in the Northern Great Plains
- Mobility of organic and inorganic constituents from energy and combustion-related wastes under codisposal conditions
- Investigation of leachability of subbituminous fly ash enhanced road based materials
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(See Symposium T in the "Fall Meeting Preview" article in this issue.)

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