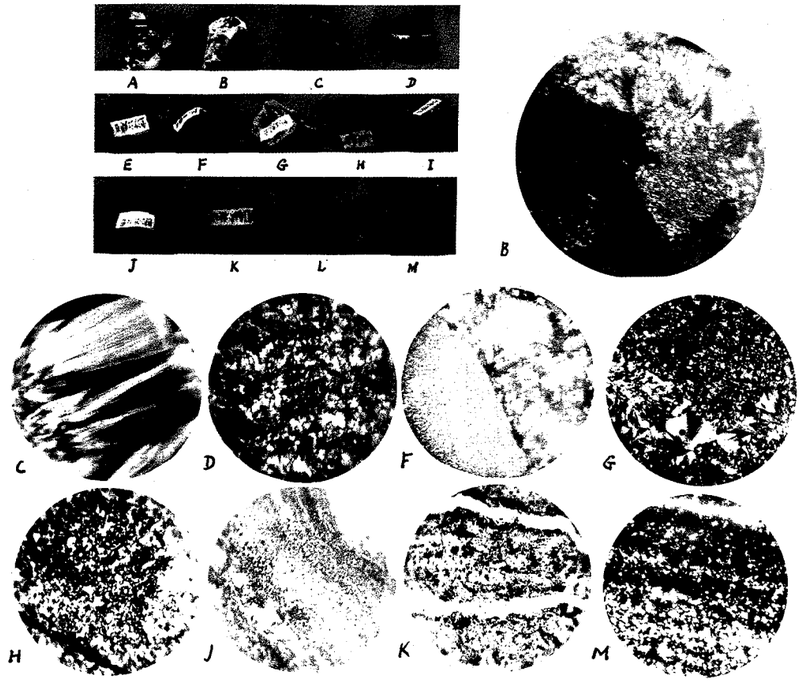

Plate. The appearance and micro-structure of reactive aggregate.

A. Pyrex glass B. Opal C. Agate D. Jasper E. Dense flint
F. Konglomerat G. Porous flint H. Dense flint I. Porous flint J. Rhyolite
K. Tuff L. Andesite M. Siliceous slate

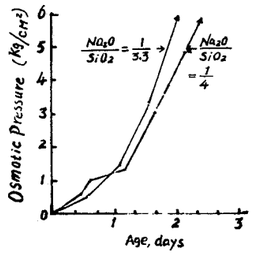

Fig. 1. Osmotic pressure(Alkali-Sillica complex)

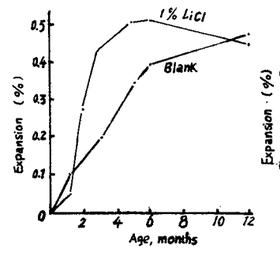

Fig. 2. Effect of 1% LiCl on mortar bar

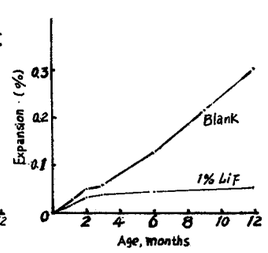

Fig. 3. Effect of 1% LiF on mortar bar

CHAIRMAN'S REPORT, Session 5
Bryant Mather

It was very good to have participation by structural design engineers in the discussion because only they can judge that a structure has been sufficiently damaged to require more than cosmetic maintanance.

Few structures have required demolition and replacement prematurely because of alkali-silica or alkali-carbonate rock reaction. Methods for repair and for reducing the rate of deterioration were described.

We know how to make concrete that will not deteriorate; we are seldom able to obtain the materials, proportions and practices that will guarantee non-deterioration. Research is needed better to judge risk and evaluate materials, proportions and practices so we will have practical, economical means of assuring non-deterioration.

It was good to have a discussion of measures being taken to avoid premature deterioration of concrete to be made for the Faroe Bridge. It appears that the measures being taken are at least as stringent as necessary and that they are being followed.

Concrete need not deteriorate.