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Editorial comment

WE MUST APOLOGIZE for misleading our readers in the *Editorial comment* in *Magazine* No. 33. In describing the work on plaster models being carried out by Dr Brock at the University of Birmingham we said that " Reinforced plaster models can be tested after a day or so, instead of the month needed for conventional specimens ". Dr Brock has pointed out that in fact all his tests have been made *an hour or so* after casting, and that tests made after about twenty hours would not be satisfactory.

The testing of models forms the subject of the first paper in this issue of the *Magazine*, and those who attended the one-day Symposium on Model Testing at the Institution of Civil Engineers, London, a year ago will recall the description of the work of the ISMES laboratory at Bergamo given by the Director, Professor Oberti. The present paper, while still of a general nature, goes into more detail regarding some of the problems involved in scaling down structures for model tests, and will be valuable to those about to undertake experimental work in this field. All who have had the good fortune to visit the ISMES laboratories will have come away with a vivid impression of the variety and boldness of the experimental work being undertaken there, and we are very happy to welcome to our pages a paper from such an authoritative source.

An opportunity to visit the ISMES laboratories is included in the programme for the visit to Italy from 17 to 25 September this year which is being organized by the Joint Committee on Structural Concrete.* The itinerary includes visits to important concrete structures in Turin, Milan and Rome—including the new stadia for the 1960 Olympic Games—but we feel sure that one of the highlights of the tour will be the visit to Bergamo, where the party will be able to see at first hand the laboratories where models of so many of Italy's outstanding modern structures have been tested, and to meet Dr Fumagalli, the author of our present paper.

This is perhaps an appropriate place—and, indeed, an appropriate occasion—to underline the advantages to be gained from model tests. For far too long has the designer been restricted by empirical rules and formulae, and by the approximations (always conservative) made necessary by our insistence on producing pseudo-mathematical solutions to highly redundant structures. The advent of computers has made it possible for calculations, hitherto too complicated or too lengthy to perform, to be carried out relatively cheaply, but the very nature of a computer dictates that the calculations must be broken down into all their separate parts, and it is impossible to obtain an over-all picture of the behaviour of the structure as a whole.

Testing of models, on the other hand, enables the designer to free his imagination from the restrictions imposed by mathematical analysis, and to see for himself exactly what happens to his structure under various conditions of loading. Although the initial cost of a model may be quite appreciable, the information which can be gained from its testing and the reliance which can be placed on the results undoubtedly lead to considerable economy in the final design. The presence of unnecessary material can be eliminated, and the fullest use made of the material of which the actual structure is to be built.

Realizing the importance of this field of study, and the desirability of having specialized equipment and personnel trained specially for this work, the Cement and Concrete Association recently announced its willingness to undertake (at cost) the testing of models. Obviously the amount of work that can be undertaken is limited by the facilities available, but the completion of new laboratory buildings at the Association's Research Station in about one year's time will result in an appreciable increase in these facilities, and indirectly, it is hoped, lead to the erection of more imaginative and progressive structures in this country.

*For further details apply to the Cement and Concrete Association.