

Would it not be possible to build into all future complex structures, sections whose behaviour under loading could be scientifically observed at all times during the working life of the structure? If this information could be collected and correlated by some central research body then I feel that the design engineer would be in a far better position to predict the behaviour of a complex structure and realize the limitations of his design assumptions.

Yours faithfully,

Paul A. O'Leary, Sc.M., B.A.
(Graduate).

Kirk and Kirk, Ltd,
Atlas Works,
Putney, S.W.15.

Dr Heyman writes: Mr O'Leary makes a request of considerable importance. The Institution has sought in the past for such information, and the response has always been disappointing. Apart from the Conference sponsored by the Institution in 1965 on the *Correlation between calculated and observed stresses and displacements in structures* (Preliminary Volume 1955, Final Volume 1966), the references to actual site measurements of the behaviour of structures are very few. I should be pleased to learn of the measurements that are being taken on any of our recent major engineering works, for example, the Forth Road Bridge or the Severn Bridge.

The Secretary,
The Institution of Civil Engineers
Dear Sir,

Flow through partly-lined conduits

We should like to bring to the notice of the profession some research into flow through partly-lined conduits which has just started at this college with the support of the Civil Engineering Research Association. This work forms part of a long-term investigation into the hydraulic design of unlined and partly-lined rock tunnels, undertaken because we believe that, in view of the often preponderant cost of tunnels in water projects, any refinement that can be made to their design will be of considerable economic importance. By the research in hand we hope to determine the effective friction of conduits which have a full-length longitudinal strip smoother than the rest of the circumference. We anticipate that the results will find application in the design of rock tunnels with lined inverts or pipes which have been scraped in service.

Owing to our as yet incomplete understanding of the effect of random surface roughness on flow, it is important to assess laboratory results in the light of data obtained from site tests on completed tunnels (unlined and partly lined). The tests we have in mind would include measurements of flow and head over as wide a range as possible; it would also be necessary to have details of the cross-sectional size and shape of the excavated tunnel. We think that this data is not difficult to collect up to the time works are commissioned, but would be hard, if not impossible, to obtain later on. As such

information will make the results we hope to obtain more valuable to the profession, we appeal for the assistance of members in obtaining field data and making them (together with any material not yet analysed) available to us.

Any member wanting further information is invited to write to us.

Yours faithfully,
J. R. D. Francis,
D. E. Wright.

Department of Civil Engineering,
Imperial College of Science and Technology,
South Kensington,
London, S.W.7.
9 December, 1966.

FORTHCOMING EVENTS

Annual Dinner 1967

The Annual Dinner of the Institution will be held in the Great Room, Grosvenor House, Park Lane, London, W.1, on Thursday, 20 April, 1967.

Applications by Home Corporate Members for tickets (price £2 15s each, inclusive of cocktails served before dinner, but exclusive of wines and tobacco) to be acceptable, must be made on the application form enclosed in the January issue of *Proceedings*. Any members abroad who will be able to attend should apply for tickets by letter. Accommodation is limited to 850, and applications will be dealt with in strict order of receipt by the Secretary, on the basis of one guest per member, up to 3 March, 1967, thereafter, any surplus tickets will be allotted to members who have requested them.

Dinner jackets with decorations will be worn. Ladies, other than Corporate Members, will not be present at this function.

ALGS Easter tour

An Easter tour of Scotland for all Graduates and Students of the Institution is being organized by the Association of London Graduates and Students. The tour is from 27 March to 2 April starting from Edinburgh; for those members travelling up from the south tickets at party rate are being organized on a night train with sleeping accommodation leaving London on the evening of 26 March. The return journey will be made on Sunday, 2 April, during the daytime.

Visits will be made to sites of engineering interest including the Strathfarrar Hydro-Electric Scheme, seeing the Monar Dam and, it is hoped, Cumbernauld. The tour will take in Fort William and Inverness and finish with a whole day to sight-see in Edinburgh. For further details of this tour write to the Secretary of the Institution.