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The information provided by J.W. Fisher and his co-authors on the stiffness of the negative moment region of a continuous beam is most welcome. The existing British design method for continuous composite bridge beams (CP 117 : Part 2) distinguishes clearly between assumptions to be made about stiffness, for the purpose of calculating longitudinal moments, and assumptions to be made about the stress distribution at a cross-section.

It is not clear in the present paper whether the conclusion that C_1 can be taken as 0.6 refers only to equivalent stiffness, from which bending moments can be deduced, or to the calculation of reinforcement-bar stress also. It would seem logical to calculate this stress neglecting concrete in tension altogether, in order to satisfy the equilibrium condition at a cross-section where there is a crack.

The authors show that stiffness decreases as load increases, as one would expect. Has it been established whether stiffness in service depends on the current load level or on the maximum load level previously reached? If the latter, which seems the more likely, then one would presumably base fatigue calculations on the moment distribution found using stiffnesses corresponding to maximum working load. If that load were never reached, the moments and hence the loads on connectors in the negative moment region would be higher than calculated, which could reduce fatigue life. Another problem is shrinkage. Is anything known about its influence on stiffness of negative moment regions? It is possible that predictions of loads on connectors and stresses in reinforcement in service may still be quite inaccurate.