CORRIGENDUM

'Coherent structures in turbulence',

by P. O. A. L. DAVIES AND A. J. YULE,

J. Fluid Mech. vol. 69, 1975, pp. 513–537.

Professor J. T. C. Liu has pointed out that much of his talk was different from that reported. His paper presented a critique of the eddy-viscosity model of the effect of small-scale turbulence on the large-scale coherent structure and then offered a new alternative by bringing in the active participation of the turbulent kinetic energy within the framework of an energy integral formulation. The coupling between the two disparate scales is through the product of the modulated or coherent structure-induced turbulent stresses and the appropriate rates of strain of the coherent structure, the shape of these having been approximately calculated. The coupling is proportional to the product of the energy densities of the large and small scales. 'Amplitude' equations for the mean flow, coherent structure and turbulence were obtained. A special example of parallel flow was discussed: as the large structure amplified and decayed, the small-scale structure increased from an initial equilibrium level to a final, higher equilibrium level, this new level being that net energy gained from the mean flow by the small-scale turbulence through the intermediary action of the large-scale structure.