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CORRIGENDA

'Channel flow induced by a travelling thermal wave'

By CHUEN-YEN CHOW

J. Fluid Mech. vol. **43**, 1970, p. 419

In §4, dealing with a fluid layer of depth h over a horizontal plate with an undeformed free surface, the problem was treated as equivalent to one considering the lower half of a fluid contained between two parallel plates, separated by a distance $2h$, with both plates traversed by identical heat sources.

It has been pointed out that by doing so the velocity boundary conditions at the free surface, namely $\phi = d^2\phi/d\zeta^2 = 0$ at $\zeta = \frac{1}{2}$, are not satisfied. To correct the result, these and the conditions on the plate, i.e. $\phi = d\phi/d\zeta = 0$ at $\zeta = -\frac{1}{2}$, together with values of a_1 and a_2 shown in (17) for the specified thermal boundary conditions, determine the four coefficients in (21):

$$c_1 = 2c_3\frac{\sinh\frac{1}{2}\alpha}{\alpha} - \frac{2\sinh^2\frac{1}{2}\lambda}{\lambda\cosh\lambda},$$

$$c_2 = -\frac{1}{\cosh\frac{1}{2}\alpha}\left(c_3\sinh\tfrac{1}{2}\alpha + \frac{\lambda}{\alpha\cosh\lambda}\right),$$

$$c_3 = \frac{\lambda\sinh\frac{1}{2}\alpha + \alpha\lambda^{-1}(\cosh\lambda - 1 - \lambda\sinh\lambda)\cosh\frac{1}{2}\alpha}{\cosh\lambda(\sinh\alpha - \alpha\cosh\alpha)},$$

$$c_4 = c_3\frac{\sinh\frac{1}{2}\alpha}{\alpha} + \frac{\lambda}{\alpha^2\cosh\lambda} - \frac{\cosh\lambda + 1}{2\lambda\cosh\lambda}.$$

The coefficients c_5 and c_6 in (22) are determined from the requirement that $du_0/d\zeta = 0$ at $\zeta = \frac{1}{2}$ and $u_0 = 0$ at $\zeta = -\frac{1}{2}$. Their expressions turn out to be the same as those given in (28) and (29). Figures 4, 5 and 6 are revised accordingly, showing a reduction in the order of magnitude of the average mean velocity.

Figure 7 in §5, the plot of Stern's solution for a vanishing Prandtl number, is in error. The corrected figure included here shows that the average mean velocity V does not become negative at low Reynolds numbers as predicted by Stern. As Re approaches zero, V should be proportional to Re instead of Re^{-1} as stated previously.

I am grateful to E. J. Hinch for pointing out my errors.

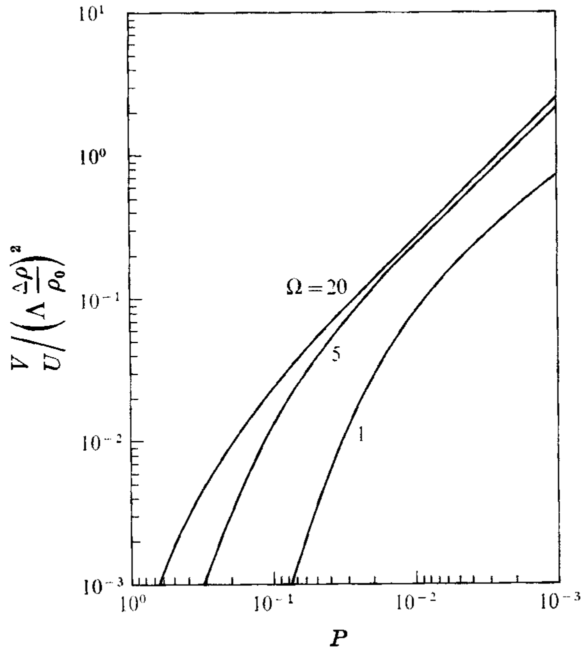

FIGURE 4

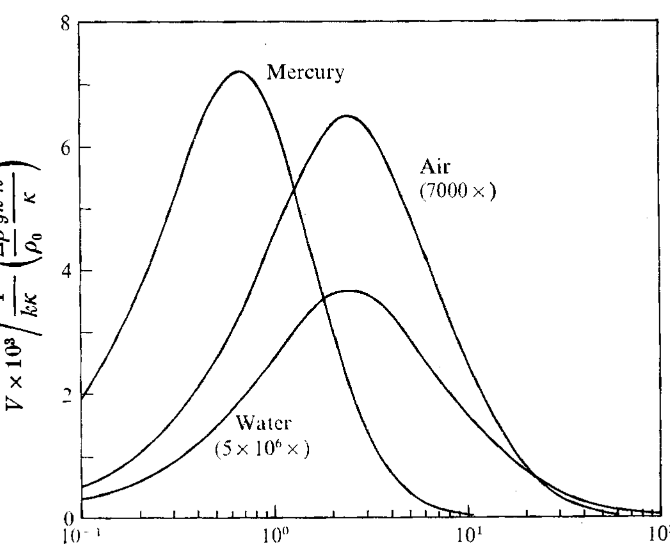

FIGURE 5

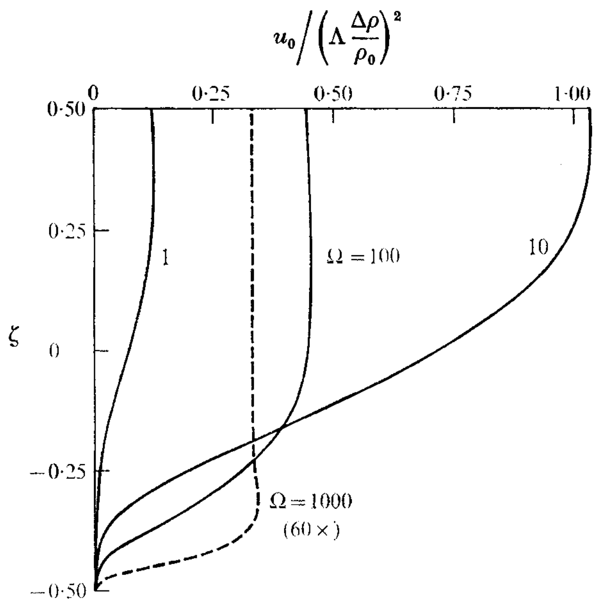

FIGURE 6

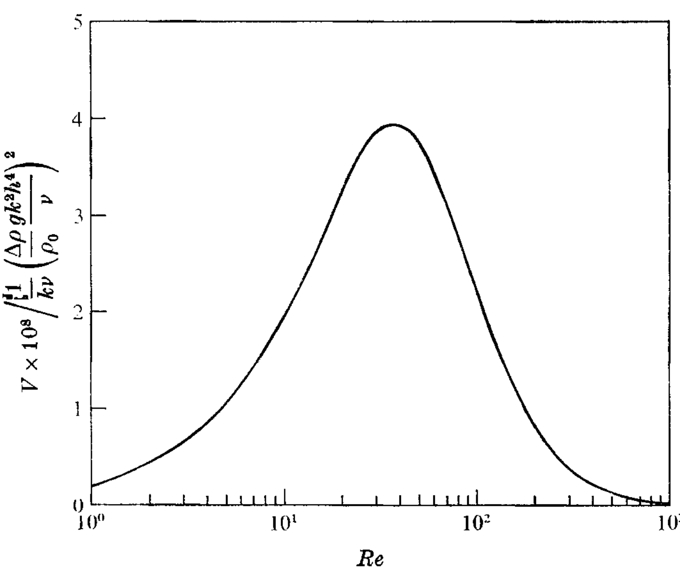

FIGURE 7

'Note on slightly unstable nonlinear wave systems'

By Richard Haberman

J. Fluid Mech. vol. **58**, 1973, p. 129

In the above paper it was concluded that there are bursting solutions for all $a_{2r} > 0$, $d_r > 0$ and $k_r > 0$. However, equation (A 18) explicitly shows that, as $s \to -\infty$, then $F^{(4)} \to \infty$. Thus, contrary to what was claimed, the inner solution cannot be matched to the outer solution. This can also be concluded for the case $\lambda \neq \lambda^*$. In addition Brown's proof (appendix to Hocking, Stewartson & Stuart 1972) eliminates the possibility that matching can be accomplished in the case of real coefficients. In consequence of the similarity solution not being valid in general, it cannot be concluded that there are bursting solutions for all $a_{2r} > 0$, $d_r > 0$ and $k_r > 0$. Furthermore, it is no longer asserted that the singularity proposed by Hocking & Stewartson (1972) and Hocking, Stewartson & Stuart (1972) is incorrect.

I wish to thank Professor K. Stewartson for aiding in the location of the above errors.

'On the creeping motion of two arbitrary-sized touching spheres in a linear shear field'

By Avinoam Nir and Andreas Acrivos

J. Fluid Mech. vol. **59**, 1973, p. 209

The expression for the particle stress given by (4.1) and (4.2) differs from Batchelor's (1970) original and correct definition. Specifically, these integrands should include, respectively, the terms $-\mu(\partial u_i/\partial x_j + \partial u_j/\partial x_i)$ and $-\mu(u_i n_j + u_j n_i)$, which, when incorporated in the analysis, increase by 2·0 the value of the coefficients β_2 and c_2/V_0 in tables 1 and 2.