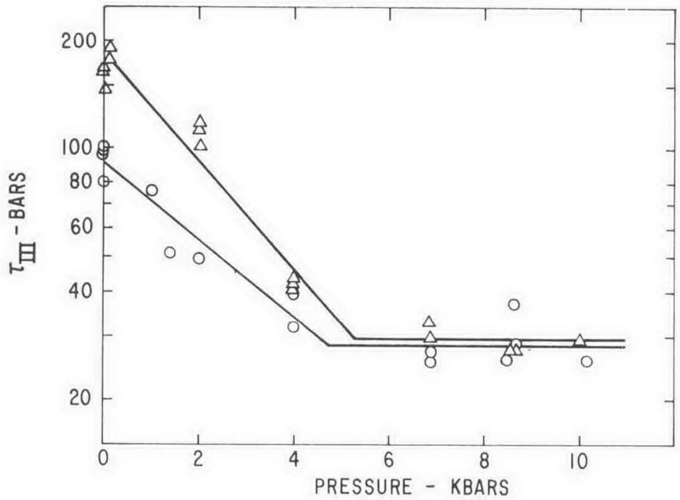
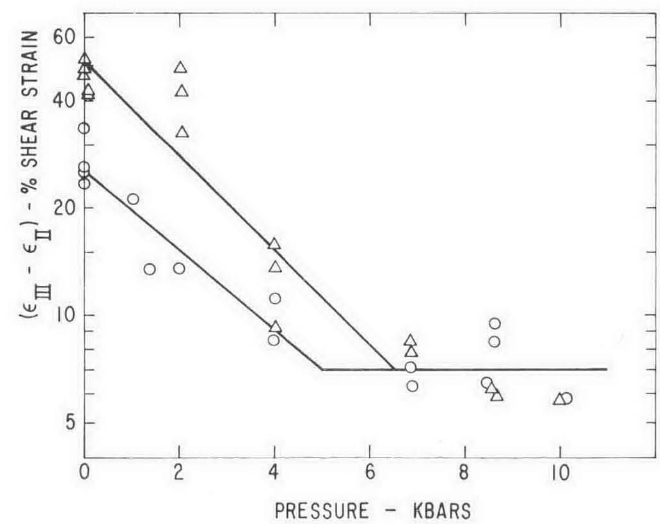
Fig. 2



Dependence of the stress for initiation of stage III, τ_{III}, on pressure; circles refer to $\dot\epsilon = 5 \times 10^{-4}\,\mathrm{sec}^{-1}$ and triangles to $\dot\epsilon = 1{\cdot}2 \times 10^{-2}\,\mathrm{sec}^{-1}$. The straight lines between 1 atm and 4 kb are fitted by least squares; the slopes are given in the text.

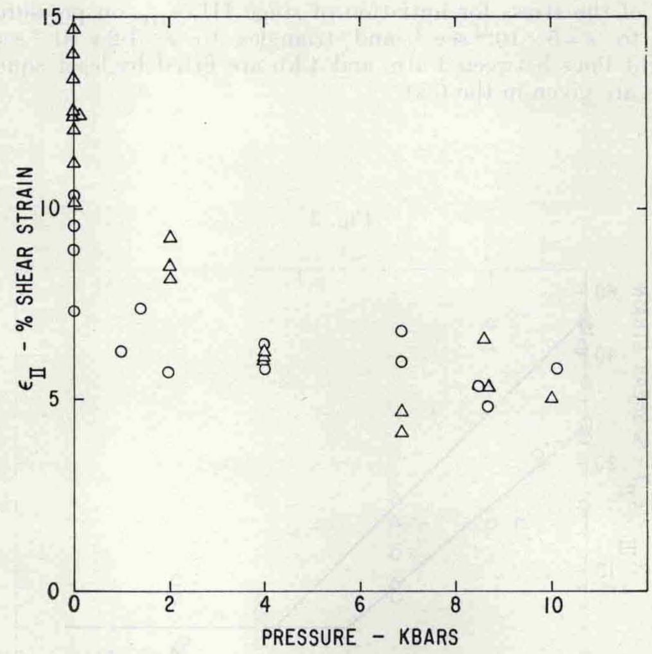
Fig. 3



Dependence of the range of stage II, $(\dot\epsilon_{III} - \epsilon_{III})$, on pressure, where symbols are as for fig. 2. The sloping lines are fitted by least squares; above 6 kb a simple means of all the data points is plotted.

In figs. 2 and 3 it also is apparent that the effect on P of the initiation of stage III saturates in the vicinity of 5 kb for both strain rates. According to our qualitative association of decreasing τ_{III} with increasing γ, noted in the introduction, it would follow that either the increase of γ saturates or the stacking-fault width becomes so narrow it is no longer sensitive to increasing γ. In fig. 2, which is of most interest, the horizontal lines represent the mean values (from 5 to 10 kb) of τ_{III} at each strain rate. It is also readily apparent from fig. 2 that the strain rate sensitivity of τ_{III} decreases greatly with increase in pressure. Extracting points from the solid lines shown one finds that $(\partial \ln \tau_{III}/\partial \ln \dot{\epsilon}) = 0{\cdot}22$ at 1 atm (in good agreement with the 1 atm data of Hesse) then decreases to 0·099 at 4 kb and finally becomes roughly constant at 0·01 between 5 and 10 kb. The last value is probably only reliable within a factor of 2 or 3. A far greater number of samples would have to be tested to fix it more accurately. It is clear, however, that a strong decrease of $(\partial \ln \tau_{III}/\partial \ln \epsilon)$ with pressure is well established.

Fig. 4



Dependence of the range of stage I, ϵ_{II}, on pressure; circles are for $\dot{\epsilon} = 5 \times 10^{-4}$ sec^{-1} and triangles for $\dot{\epsilon} = 1{\cdot}2 \times 10^{-2}$ sec^{-1}.

On comparison of the present τ–ϵ curves with those reported by Aladag *et al.* reasonable agreement is found. The stronger dependence of τ_{III} and $(\epsilon_{III} - \epsilon_{II})$ on P noted here is, in considerable measure, due to the 1%