

## TYPES OF ALLUVIAL DEPOSITS

SIR,—Dr. Challinor's article (*Geol. Mag.*, July–August, 1946) drawing attention to the laying down of two contrasted types of alluvial deposit—boulders and gravel in the bed of the stream with fine silts above—as a consequence of the normal processes of the activity of streams under certain conditions is welcome. Not only has this topic been inadequately handled in most text books, as pointed out by Challinor, but one even finds in Wooldridge and Morgan's well-known *Physical Basis of Geography* (1937) the statement (footnote, p. 171) that “generally speaking, the present valley floors of the world show alluvium overlying river gravel. This points to a general change in conditions . . .” *et seq.* My own view, which is identical with Challinor's, is stated in my *Physiography of Victoria* (1940), a copy of which is in the Library of the Geological Society of London (see pp. 55–58, Fig. 65). For the stream illustrated, I have observed both the movement of boulders with the river in spate and the deposition of silt during floods. While it is true that a change in the physiographic setting has occurred in many regions, leading to the deposition of silt in places where the streams were formerly transporting sand and gravel, the footnote above referred to requires considerable amplification if misconceptions are to be avoided in teaching.

The fault, if any, arises I think from a fairly general tendency in physiographic works to lay insufficient stress on the vagaries of “real” streams—variability of velocity and volume and its consequences—which are so significant for students such as engineers who may be called upon to cope with their effects.

E. SHERBON HILLS.

DEPARTMENT OF GEOLOGY AND MINERALOGY,  
THE UNIVERSITY, MELBOURNE.  
31st October, 1946.