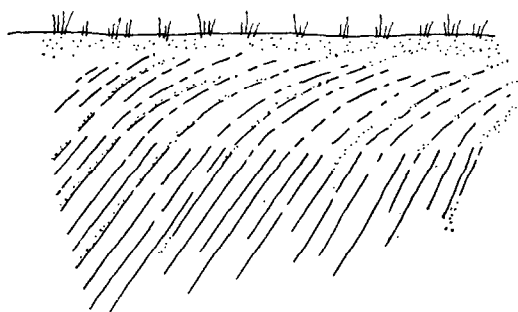


**Fig. 1.** Soil and rock creep in flagstones (stippled) and shales at Rishton in Lancashire. The thickness of the flagstone horizon is approximately 1.5 m. A photograph of this site is given as Plate 3(b) of Blyth and de Freitas (1974)



**Fig. 2.** Creep in slates in the Minehead and Lynton district of North Devon. The area shown in the sketch is approximately 3 m x 3 m

Spectacular examples of soil creep can be seen in parts of the country, but in many instances it is difficult to determine the extent to which the fabrics seen have been produced by simple toppling. Two basic profiles can be considered: that derived from strata which dip into the slope, and that from strata dipping out of the slope; Figs 1 and 2 illustrate the situation. The creep profile in Fig. 1 could not have been derived simply from toppling movement, although it is conceivable that toppling could produce the profile shown in Fig. 2.

#### REFERENCE

Blyth, F. G. & De Freitas, M. H. (1974). *A geology for engineers (VI edition)*. Edward Arnold.

## Nomograph for earth acceleration calculation

ZANKER, A. (1972). *Géotechnique* **22**, No. 4, 667–668.

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It is not clear what Zanker has in mind when he claims that a knowledge of the exact value of  $g$  is sometimes important in an engineer's work. If  $g$  is taken as  $980 \text{ cm/s}^2$ , this is correct to better than  $\frac{1}{2}\%$  at all latitudes at sea level (the variation with height is a much smaller effect). A few inquiries suggest that this accuracy is sufficient for practically all engineering purposes. What applications does Zanker have in mind?

If a greater accuracy than  $\frac{1}{2}\%$  is required then a simple nomogram may not suffice. Zanker's construction suggests that he is aiming at an accuracy of  $0.1 \text{ cm/s}^2$  (100 mgal) or better (his example yields  $979.36 \text{ cm/s}^2$ ). In that case, the Free Air correction (his equation (2)) is not enough; gravity survey maps must be consulted. Mass distributions within the crust and upper mantle often give rise to anomalies of 50 mgal or more.

Finally, why does the author use the formula shown in his equation (1) and not the usual International Gravity Formula?