

thought the latter, so that a boy knew what he was trying to verify by the experiment.

With regard to what Mr. Siddons had said, he himself would work from things which were moving, from a given velocity to rest, and then he saw no more real difficulty in dealing with momentum than with kinetic energy. Both represented something about an object, and one needed to find either what force would stop the motion within a given time or within a given distance, and, as Mr. Siddons had said, one used momentum in the one case and kinetic energy in the other.

Mr. Clarke had said that he preferred to take dynamics first rather than statics. The difficulty about that in practice was that the more difficult ideas arose more quickly in dynamics. It was much easier to deal with the resolution of forces than it was with the problem of momentum and energy. That was one of the reasons why he preferred statics first.

When they go on to the later course a great deal of what had been said applied to the Sixth Forms. This was the time to start with vectors and to deal with the laws of motion and with statics as a particular case of dynamics, at any rate as far as the particle was concerned. This would prove too difficult for a rigid body.

He was grateful for the comments on his opening and he remained unrepentant about units in the preliminary course.

CORRESPONDENCE.

THE TEACHING OF MECHANICS.

To the Editor of the *Mathematical Gazette*.

SIR,—In the discussion on the above subject at the Annual Meeting, January 1950, there appeared to be two schools of thought on the question of units, one in favour of using gravitational units at first without too much insistence on accurate terminology, and the other in favour of starting with theoretical units. As far as I remember no reasons were given except “usage”. It seems to me worth considering whether to allow (I do not say to encourage) pupils to use the same word to express a mass and a force, for even part of their course, does not make it more difficult for them to realise the difference later.

The following example shows the sort of confusion which does actually occur frequently.

“A block of mass M gm. rests on a rough horizontal table and the coefficient of sliding friction between the block and the table is μ . Find what horizontal force must be applied to the block so that it shall move with an acceleration of a cm. per sec. per sec.”

First solution. Friction = μM gm.

Required force = $(M \pm \mu M)a$ or μMa ,

and the unit here may be gm., gm. wt. or dyne.

Second Solution. Friction = μM gm.

Force required to produce acceleration = Ma gm. wt.

Hence total force = $\mu M + Ma$ dynes.

Yours, etc., J. J. WELCH.