

We can appreciate now that a force must be exerted to cause a body to move, or to change its velocity in any way. The pull of the earth on a pound lump of material is a force, which would tend to make it go faster and faster if free to fall: it would cause the body to increase its velocity at the constant rate of thirty-two feet per second every second (32 ft. per sec. per sec.); if we want to keep the body from moving, then we have to apply an equal force in the opposite direction—that is what we mean by a weight of one pound. We also know now what we mean by pressure; for many purposes we may wish to exert a big force, but not unduly to squash the molecules to which we apply it, so we spread our force over a big area—pressure is *not* force, it is force divided by the area over which it is applied; when you sit on a chair, you do not fall to the ground, because the molecules of the chair, acting all over the area of contact, bombard you upwards with a force equal to your weight downwards, so that your resultant force is nothing, and you stay at rest; if you sit on a drawing-pin, point up on the chair, you are trying to exert the same force over a much smaller area, that is the pressure has now become very great—greater than the molecules of you over that area mutually can withstand—and they are pushed apart as the pin point penetrates.

Do not muddle force and pressure—they represent quite different ideas; and try as soon as possible to get clear ideas as to forces and their effects, learning also the units and how to employ them, if you are making a study of science in any branch.

---

### A VISITING SCIENTIST.

Arrangements have been made for a public lecture to be delivered by Dr. H. S. W. Massey (Independent Lecturer in Mathematical Physics, Queen's University, Belfast) in the Physics School, The University of Sydney, at 8 p.m. on Thursday, August 26. His subject will be "The Modern Study of the Atom". Dr. Massey is an Australian, and one of Melbourne's most distinguished graduates; he is the joint author (with Mott) of the monograph on "The Theory of Atomic Collisions" in the series of "International Monographs in Physics" (Oxford University Press).

Dr. Massey is visiting Australia by arrangements with the Australian Broadcasting Commission; he may be heard on the national network at 5 p.m. on Sunday, August 15, and at 7 p.m. on Monday, August 23. He is at present lecturing in Melbourne for the University Extension Board.

A charge of two shillings will be made for attendance at the lecture, payment being made on admission.

This lecture should be of particular interest to teachers of physics or chemistry.