

direction of its line of descent. These movements are probably extremely slow. I well remember many years ago observing a case, somewhere in the West of Scotland, where a stream had exposed a fine section of the soil-cap with the lines of broken-down and crushed slate-beds carried far down the slope. The whole effect was so graphically one of vigorous and irresistible movement, that I examined carefully some cottages and old trees in hope of finding some evidence of twisting or other irregular dislocations; but there appeared to be none such. The movement, if it were sufficiently rapid to make a sign during the life of a cottage or a tree, evidently pervaded the whole mass uniformly.

It seems to me almost self-evident that wherever there is a slope, be it ever so gentle, the soil-cap must be in motion, be the motion ever so slow; and that it is dragging over the surface of the rock beneath the blocks and boulders which may be imbedded in it; and frequently piling these in moraine-like masses, where the progress of the earth-glacier is particularly arrested, as at the contracted mouth of a valley, where the water percolating through among them in time removes the intervening soil. As the avalanche is the catastrophe of ice-movement, so the land-slip is the catastrophe of the movement of the soil-cap.

As I have already said, I should be the last to undervalue the action of ice, or to doubt the abundant evidences of glacial action; but of this I feel convinced, that too little attention has been hitherto given to this parallel series of phenomena, which in many cases it will be found very difficult to discriminate; and that these phenomena must be carefully distinguished and discriminated before we can fully accept the grooving of rocks and the accumulation of moraines as complete evidence of a former existence of glacial conditions.

On the 1st of February we went round to the head of Berkeley Sound, and saw the old station of St. Louis now nearly de-