

Rivière Blanche landslip, they contained, when saturated, from 22 to 25 per cent. of their own weight of water.

2. Increased or unusual precipitation, which furnishes the great excess of water necessary to produce that condition of supersaturation of certain portions of the clay which eventually brings about unstable equilibrium of the beds. Thus, certain layers or portions of the clay are in a semi-liquid condition, and examination of the Lièvre occurrence shows a considerable portion of the clay to have about the same consistency as ordinary thin porridge. The extra weight of the overlying material, due to the unusually large amount of contained water, results in the displacement of those portions or blocks of land which are underlain by the supersaturated or liquid clay. Movement once begun gathers force and quickly extends the area affected, and the existence of even a very gentle gradient imparts an irresistible movement towards the lower ground in the vicinity of the river.

The flats which border the Lièvre river in the neighborhood of the recent landslip are principally made up of very thick and uniform beds of a stiff, impervious bluish-gray clay, with small and subordinate layers of silty, sandy or gravelly material. This drift material forms a plain, which, with very occasional minor depressions, occupied by small marshes or creeks, extends to the base of the rocky hills. Between this clay and the solid rock beneath, along the base of the hills, there generally intervenes a considerable layer composed of boulders or coarse gravel. Most of the surface drainage from the rocky hills flows out along the top of this plain, reaching the river through one or two small brooks. A large proportion, however, of this surface water flows downward through the coarse gravel and boulders, finding its way into the various sandy or silty layers and thus feeding the wells which are located on one or other of these layers. The introduction of this water serves to produce the necessary degree of saturation. During extreme wet seasons, like the summer of 1903, the amount of water thus flowing into and along these permeable layers must be very large, and with long-continued and unusual precipitation the saturated clay is being constantly increased, until the limit is reached and the necessary conditions of unstable equilibrium are produced. As a result it occasionally