

SCIENCE DEPARTMENT.

[A series of notes prepared for the Monthly, by Henry Montgomery, M.A., Coll. Inst., Toronto].

THE *Megaceros Hibernicus* or *Cervus Megaceros* is familiar to our readers under the name of the "Irish elk." This extinct animal, related to the stag, was of great bulk, and possessed enormous palmated antlers, measuring ten or twelve feet from tip to tip. It has been found in Ireland, on the Isle of Man, in the South of England, in Scotland, and in many parts of Europe. A few years ago Mr. A. Pride, of Toronto University Museum, brought to this country from the county of Limerick, three skeletons of this so-called elk, two of which were afterwards purchased by museums in New York and Cambridge (Massachusetts). Dr. Wilson called attention to the *Megaceros* last year in a paper written after a visit to Ballybetagh bog in the vicinity of Dublin, where many remains of this extinct gigantic stag have from time to time been discovered.

That gentleman stated, what has for years been generally held, that the *Megaceros Hibernicus* had died out in Ireland before man appeared on that island. He also suggested two probable causes for its disappearance, viz.: (1) the restriction of its habitat by the encroachment of the ocean in the post-glacial period, and (2) the great disproportion which existed between the size and weight of its antlers and the size of its body. With respect to the belief in its extinction in Ireland before the arrival of man, it may be observed that there is good reason for believing it to have been co-existent with man during the early stone age in England and France, and also that there has been some dispute about certain markings on bones found in Ireland. The markings and incisions alluded to were shown by Mr. Jukes, before the British As-

sociation, and afterwards by Dr. Carte, before the Royal Geological Society for Ireland, to be markings not made by the hand of man, but produced by the pressure and friction of the bones and horns against one another, in conjunction with the movements of the bogs and their other contents. Most assuredly the marks which we have had the opportunity of examining, and which are very distinctly shown on elk bones in Mr. Pride's possession, do not present indications of having been formed by man. Their smooth, polished, and occasionally wavy surface presents rather the appearance of what might be produced by the grinding action of one bone upon another. Quite recently, however, it has been claimed that new evidence has been gained by the discovery of a cave in the south of Ireland, at Cappoquin, Waterford Co., about seven miles distant from the famous Shandon cave found more than twenty years ago near Dungarvan. Bones of other deer and of bears also occur in both these caves; but the important point to be noticed is that many of the elk bones removed from this cave, according to Prof. Adams, "were evidently split for their marrow, and several of the cannon-bones were fashioned into awls and gauges, showing that man was contemporaneous with the *Megaceros*, and also may have in some measure helped to exterminate it."

WITH the exception of some fungi, all plants take carbonic acid gas into their bodies through the stomata of the leaves, decompose it, emit the oxygen, and retain the carbon, which, with water, they form into starch. This is a *digestive* process. Plants also have a *respiratory* process, inhaling oxygen and