Recent Proceedings of Societies.

Academy of natural sciences, Philadelphia.

Dec. 1. — Prof. Thomas Meehan referred to an ear of corn, exhibited last year, on which some of the grains were of a rich red color, while others were creamy white. The specimen had been sent to him as probably illustrating the occurrence of hybridity, and his assertion to the contrary had been disputed on the ground that the impossibility of cross-fertilization had not been proven. He now had the opportunity of exhibiting an instance of change of color in the seeds of the honey-locust from the normal dark tint to a light gray or whitish hue. As there is but one species of the plant in this region, the idea of hybridity is, of course, excluded, the change of color probably depending on an innate power to vary, entirely independent of cross fertilization. The variation will probably have the power of perpetuating itself, as there is no evidence that the change of color in the seeds is the effect of disease. —— Dr. Koenig reported having determined the presence of three species of diatoms in the blue clay of the railway cutting at Gray's Ferry road. These were Pinnularia viridis, P. inaequalis, and a probably undescribed form. The greater bulk of the bed was found to be composed of soluble silica, which may at some time in the future have a commercial value. He believed the bed, which is of fresh-water origin, to be of the same age as in the Richmond clay, and other diatomaceous tertiary deposits. —— Professor Heilprin called attention to the fact that in consequence of the persistence of many species of diatoms in successive geological formations, it is difficult to determine the age of a deposit by the presence of these organisms alone. He also stated that in a fossiliferous pebble collected by Mr. Woolman near Tacony, he had been able to determine the presence of two species of trilobites, and two of brachiopods, together with impressions of crinoids and cephalopods. The fossils were all of Devonian age, and had been transported from the region of the Delaware Water Gap by glacial action.

Anthropological society, Washington.

Dec. 1. — Dr. Miles Rock, who is engaged in surveying the boundary between Guatemala and Mexico, gave an account of some ruins, hitherto unknown, which he had recently visited. These ruins are in a basin of the Lagartero River, a tributary of the Chiapas. The country has evidently been thickly populated, and many remains of villages and towns are found. What is remarkable is the absolute denudation of the portions formerly tilled, leaving a surface of barren rock. The process of denudation was apparently going on before the abandonment of the country, as efforts to check it are visible in existing walls and terraces, which still retain small tillable patches. The ruins consist largely of stone floors raised above the ground, and which may have formed the basis for superstructures of less permanent material. In Dr. Rock's opinion, these remains are more ancient than the better-known ruins of Central America and Yucatan.

Society of natural sciences, Buffalo.

Nov. 13. — D. A. Kellicott gave in detail some facts in the life histories of a wood-boring larva, Harmonica pini, — an Aegerian enemy of the native pines, boring in the trunks, and causing large exudations of pitch, under which the larva passes its larval and pupal life. Mr. Kellicott believed the larval period was probably of three years' duration, from the fact that early in July, 1883, at the time the moths were escaping, fully formed pitch excrescences containing larvae of one year were marked, from which, in July, 1885, moths escaped. —— Dr. J. Pohlman discussed the geological history of Grand Island. He said that the valley of the Tonawanda was of preglacial origin, as is demonstrated by its surface deposits of glacial drift. In its area we can conveniently include all that tract of land between the watershed of the Genesee River on the east, and the Grand River of Canada on the west; the ridge of Niagara limestone on the north, and the corniferous limestone terrace on the south; which latter we can trace along upper Main Street and Humboldt Parkway, towards the frontier, into Canada. According to the treaty of Great Britain, the line of deepest water was accepted as the boundary between Canada and the United States, and thus Grand Island became a part of the latter. Geological evidence rather tends to prove the wisdom of this decision, because it demonstrates that Grand Island was a peninsula projecting from the American side within a recent period, geologically speaking: in fact, it would be a peninsula to-day, if the waters of the river subsided only twelve feet. The soundings given on the map of the lake survey demonstrate this conclusively. We find that the river between Black Rock and Tonawanda has an average depth of about thirty feet, while to the north of the latter place it shallows suddenly to fourteen and fifteen feet; and all along that part which runs north of Grand Island its depth exceeds twelve feet in only a few isolated spots. The western branch of the river has a more or less uniform depth of twenty-five to thirty feet. The only exception to this we find at the southern end of Grand and around Strawberry Island, where the river apparently deposits its largest amount of sediments, and where the waters are somewhat shallower. Now, the question occurs, How was Grand Island formed? In preglacial times the water of the Tonawanda valley, after following a more or less meandering course in the soft shale and gypsum layers of the Onondaga salt group which formed their bed, ran into the present Niagara at or near Tonawanda village; then it took a southerly course until it encountered the hard corniferous limestone ridge at Black Rock; from here it ran north again along the western branch of the present river, and then found its way along the Niagara gorge and the St. Davis valley, into Lake Ontario. This left Grand Island a peninsula, or, better, a large bend in the ancient river. Of course, nobody can tell at what period in the geological history this took place: we only know that it happened before the advent of the ice period, which worked such important changes in the physical geography of this section of America. During glacial times all the river-valleys became filled with a deposit of clays, gravels, and sands; and on the return of a temperate climate, Buffalo and the surrounding country was covered by water to the height of at least 1,000 feet, as demonstrated by beaches found in Canada 1,500 to 1,600 feet above the ocean. We need not follow the slow subsidence of the waters, but begin our observations again when Lakes Erie and Ontario stood at the same level

at the height of Lewiston ridge, about thirty feet higher than our lake-level to-day. Then the waters flowed in a broad sheet over the mud-flat that separated the two lakes. And as this outflowing water gradually cut down into the old river-beds as the lakes subsided, the top of the clay deposit that covered the ancient peninsula appeared above the surface of the water as the earliest portion of what is now known to us as Grand Island; and as the outlet into Lake Ontario lowered, the island grew larger with the increasing depth and the narrowing of the channels on either side. But long before the island had attained any dimensions, the waters of the eastern branch of the present river had to force an outlet through the clay deposit between Tonawanda and the head of the rapids; and this outlet, deepening with the subsidence of the waters, cut off the area of Grand Island from the mainland; and the proof of this we find in the sudden decrease of the depth of the river from Tonawanda northward. —— Professor Kellicott called attention to a modification of the usual pipette. The glass tube passed completely through the ball, the end of the tube being closed with a cork, or hermetically sealed; holes for suction being drilled through that portion of the tube enclosed within the ball. The advantages of this contrivance lie in the increased firmness in handling the pipette, and consequently greater suction-power.

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