depth of 1000 feet, with a probable 100 or 200 feet more covered with sediment 600 feet above tide-water, which would make its bottom 500 feet below sea-level. To conceive it as an old river channel would require an elevation of the continent of 1500 feet above its present level. It is, moreover, surrounded by high rocky shores having few rivers coming into it, as its watershed was never large and not channeled by fjords.

There may have been an elevation of the continent, but the lakes went up with it; there was undoubtedly ice but the lakes were there before it. They are pools left by the old Azoic Sea.

Clinton, Iowa.

NOTES AND NEWS.

IN the latest quarterly statement of the Palestine Exploration Fund as we learn from *Nature*, it is said that considerable progress is being made with the Akka-Damascus Railway, the route of which, after various expensive surveys, has been definitely decided upon. The line chosen is practically that first suggested by Major Conder, R.E. several years ago. Beginning at the great fortress of Acre, the railway will run down the plain of Acre parallel with the sea, throwing out a branch to Haifa, at the northern foot of Mount Carmel, and thence to and across the plain of Esdraelon, passing near Nazareth to Shunem and Jezreel, and through the valley of Jezreel, skirting the slope of the hills, to the river Jordan, which will be crossed within sight of Bethshean. The Jordan here offers exceptional facilities for the erection of the railway bridge, consisting of two spans. Not only are the two opposite banks of the river formed of solid rock, but the centre of the river contains a large block of similar rock, from which each span of the bridge will be thrown to the east and west bank respectively. From the Jordan the railway will ascend the slope of the Jaulan Plateau, along the crests that close the eastern shores of the Sea of Galilee, this ascent constituting the only difficult portion of the line, but which the surveys now made show to be much easier of accomplishment than was originally anticipated. The plateau near El'Al being reached, an easy gradient will carry the line by Seil Nawa and Kesweh to Damascus. Passing through the finest plains of western and eastern Palestine, the railway will be one of great importance. The authorities of the Palestine Exploration Fund are of opinion that its construction can hardly fail to lead to important archæological discoveries, and the committee hope to make arrangements for obtaining full information respecting these.

— The *Kew Bvlletin* for May and June, according to *Nature*, contains several contributions which will be of great interest to botanists and to various classes connected with the industrial applications of botany. One of these contributions is a valuable report (with a plate) by Mr. George Massee on a disease that has attacked vanilla plants in Seychelles. In the same number are printed the second of the Decades Kewenses Plantarum Novarum in Herbario Horti Regii Conservatarum, and the second decade of new orchids. An excellent illustration of the way in which the authorities at Kew seek to promote industry is afforded by a correspondence on Sansevieria fibre from Somali-land. The increased attention devoted to the production of white rope fibres in the western tropics appears to have had a stimulating effect in the East Indies, and now the production of fibre from *Agave vivipara* in Bombay and Manila is followed by a fibre obtained from Somaliland from a singular species of Sansevieria. This fibre was first received in this country as an "Aloe" fibre. It was soon noticed, however, that it possessed characteristics differing from all ordinary "Aloe" fibre, and a request was made to the Foreign Office that Colonel Stace should be invited to obtain for the Royal Gardens a small sample of the fibre, a large leaf from the plant yielding it, and, if possible, a few small plants for growing in the Kew collection. In due time the specimens arrived in excellent order, and it was found that the fibre is one of the many so-called Bowstring Hemps, and probably yielded by *Sansevieria Ehrenbergii*, a plant first collected by Dr. Schweinfürth. Little or nothing was known of it until it was described by Mr. J. J. Baker, F.R.S., in the Journal of the Linnean Society, Vol. xiv., p. 549. Its locality is there stated as "between Athara and the Red Sea." The plant is described in a letter to the Foreign Office, written by Mr. D. Morris, as a very interesting one, and he adds that its existence as a source of a valuable supply of fibre will be sure to awaken attention among commercial men in Great Britain. Messrs. Ide and Christie, writing to Mr. Morris, speak of the fibre as an excellent one of fair length and with plenty of "life." "In character," they say, "it strongly resembles the best Sisal hemp, with which we should have classed it but for your statement that it is derived from Sansevieria. With the exception of its color, its preparation is perfect, and, even as it is, we value it to day at £25 per ton. We are of opinion that if care were taken to improve the color a considerably higher price would be readily attainable, perhaps as much as £50 per ton, if a pure white fibre could be attained without loss of strength and lustre."

— The Harvey process of case-hardening, which has been so successfully applied to giving a hard surface to armor plates, is carried out as follows, according to *Engineering:* The plate to be treated is made out of mild steel, containing, say, 0.10 per cent to 0.35 per cent carbon, and, after being formed to its final shape, is laid flatwise upon a bed of finely-powdered dry clay or sand, which is deposited upon the bottom of a fire brick cell or compartment erected within the heating chamber of a suitable furnace. The upper surface of the plate is then covered with powdered carbonaceous material, which is tightly packed. Above this is a layer of sand, and over the sand is laid a heavy covering of fire-bricks. The furnace is then lighted and raised to a temperature sufficient to melt cast-iron, and this heat is maintained for a greater or lesser period, according to the amount of carbonizing to be effected. About 120 hours are said to be required for a plate 10½ inches thick. On removal from the furnace such a plate is found to have had the composition of its upper surface changed. At a depth of about 3 inches from this surface the percentage of carbon has been raised by about 0.1 per cent, which increases progressively as the outer surface is neared, when the amount of carbon may rise to 1 per cent. It is said that this process, though, as will be seen, it resembles the ordinary cementation process, does not cause any blistering of the surface of the plate. This the inventor attributes to the high temperature at which it is carried out; but it is also suggested that the absence of blisters may be due to the homogeneity of the metal used, which, unlike the wrought-iron bars used in the cementation process, is free from cinders.

— An interesting addition to the much-vexed Sumero-Akkadian question has recently been made by an Ottoman scholar. Ohannes Sakissian Effendi, an official in the Treasury department at Constantinople, has issued privately the first instalment of a work intended to prove that the non-Semitic idiom of the cuneiform inscription is related linguistically to Armenian, Turkish, and ancient Egyptian. He strenuously combats the theory of the Rev. C. J. Ball, of the affinity of Akkadian and Chinese. That Akkadian or rather Sumerian was related to Turkish or to Armenian is by no means inherently improbable. We can hardly admit being convinced by the author as yet, and would prefer awaiting some ethnologic evidence before reaching a conclusion. But we cannot fail to welcome to the ranks of students of the ancient civilization of Mesopotamia the first subject of the Empire of which Mesopotamia is a part, who has busied himself with cuneiform studies. Turkey has produced investigators in all branches of modern science, a classical archæologist and explorer like Hamdi Bey, a Turkish lexicographer like the late Ahmed Vefik Pacha, or a man like Tewfik Bey Ebuzzia, the historian of Turkish literature, a writer on military matters like Djeva Pasha, the present Grand Vizier, or a student of pure mathematics like Tewfik Pasha, the present minister of public works. Sakissian Effendi is the first Ottoman who, to our knowledge, has written on a subject connected with cuneiform research, and we take the appearance of his brochure as an omen that these studies will be seriously taken up at the Imperial Museum in Constantinople. A catalogue of the cuneiform objects preserved in that museum would be eagerly welcomed by the learned world.