only three small ponds have remained, the largest of them being hardly one mile and a half wide. The drying up has been going on with remarkable rapidity. Even twenty-five years ago there were several lakes ten and eight miles long and wide, where there are now but little ponds. Lake Tchebakly, which was represented in 1784 as an oval forty miles long and thirty miles wide, has an elongated irregular shape on the map of the beginning of our century; it measures, however, still forty miles in length, and its width varies from seven to twenty miles; while several small lakes to the east of it show its former extension. Thirty years later we find in the same place but a few small lakes, the largest of which hardly has a length and width of three miles; and now, three small ponds, the largest of them having a width of less than two miles, are all that remain of a lake which covered about 350 square miles a hundred years ago. The same process is going on throughout the lakes of West Siberia, and throughout the Aral-Caspian depression. No geologist doubted upon, but we cannot but heartily thank M. Yadrintseff for having published documents which permit to estimate the rapidity of the process. P. K.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE

WE understand that Mr. Granville Cole has been appointed to the Professorship of Geology at the Bedford College, London, and Miss C. A. Raisin to the Demonstratorship in Botany at the same institution.

SCIENTIFIC SERIALS

THE *Journal of Botany*.—The number for July commences with the first part of an important article (illustrated), by Messrs. Roy and Bisset, on Japanese Desmids, chiefly obtained from a lake in the Island of Yesso. The majority of the forms obtained are cosmopolitan, but some of them of great rarity in Europe. There are also some new species. Papers follow on British *Rubi*, on the *Rubi* of Somersetshire, and on the flora of St. Kilda.

American Journal of Science, July.—Memorial of Edward Tuckerman, by Asa Gray. This botanist, who was born in Boston, December 7, 1817, and died March 15, 1886, was distinguished especially in the field of lichenology, to which he devoted most of his life. He was the author of a "Synopsis of the Lichens of New England, the other Northern States, and British America," of "Lichenes Americæ Septentrionalis exsiccati" (3 vols.), and many other papers on this branch of botany, in which he has left behind him no superior.—Notes on American earthquakes (No. 15), by Prof. C. G. Rockwood, jun. This fifteenth paper of the series gives a summary of such information as the author has been able to gather on the earthquakes of North and South America during the year 1885. It tabulates seventy-one shocks, classed according to their intensity as very light, light, moderate, strong, severe, or destructive. Of these as many as thirty-four occurred on the Pacific coast of the United States, where the Bay of San Francisco appears to be a chief centre of seismic disturbance.—Observations on the Tertiary and Grand Gulf of Mississippi, by Dr. Otto Meyer. The author finds no place where Grand Gulf strata overlie the Marine Tertiary, although there are two districts where strata undistinguishable from unquestioned Grand Gulf are overlain by Marine Tertiary. The Grand Gulf is not, generally speaking, a marine formation, for it contains fresh-water shells. In Eastern Mississippi occurs a thick and extended marine green-sand formation parallel to the strata immediately below the Claiborne profile. Its fauna is Claibornian, but approaches the Jacksonian.—Notes on the volcanic rocks of the Republic of Salvador, Central America, by Arnold Hague and Joseph P. Iddings. This study is based on specimens gathered by Mr. W. A. Goodyear in the course of his explorations in Salvador. They are of a highly diversified character, ranging from very basic to highly acidic forms, from rocks rich in olivine to others abounding in quartz, and may be classified under the heads of basalt, pyroxene-andesite, hornblende-pyroxene-andesite, hornblende-mica-andesite, dacite, and possibly rhyolite, basalt and dacite being best represented. Nearly all have their counterpart in Nevada, although there occur many varieties in Nevada not found in the limited series from Salvador.—The genus Strephochetus: distribution and species, by Henry M. Seely. Since reporting last year the presence of the fossil sponge, *Strephochetus occellatus*, at one or two places in Vermont and New York, the author has traced it to many other districts in those States. To the type of the genus, *S. occellatus*, he now also adds three new species—*S. brainerdi*, *S. atratus*, and *S. richmondensis*.—Preliminary report on the geology of the Cobscook Bay district, Maine, by N. S. Shaler. This paper, published by permission of the Director of the U.S. Geological Survey, gives a portion of the general results of two months' exploring work on the shore-line of Cobscook Bay during the summer of 1884. The fossiliferous strata have a special interest as throwing light on the position of the shore-line in past times. A conglomerate apparently of the Clinton or Niagara age on the west side of South Bay seems to show that the shore in this district was not far away during a portion of the time when the Cobscook series was forming. In the age of the Perry section there is also evidence that the coast was near its present position and that the rocks exposed to erosion were chiefly of the Laurentian epoch.—On the well-sperometer, by Alfred M. Meyer. The instrument here described, with numerous illustrations, has for the last ten years been used by the author in his laboratory for the purpose of measuring the radius of curvature of a lens of any linear aperture.—On some general terms applied to metamorphism and to the porphyritic structure of rocks, by James D. Dana. The three recognised forms of metamorphism are described and characterised as (1) crystallinic; (2) paramorphic; (3) metachemic. A full terminology of porphyritic varieties is given, based in plan on such terms as *orthophyre*, *augitophyre*, &c.

Bulletin de l'Académie Royale de Belgique, May.—On the transparency of platina, by Ed. van Aubel. After ascertaining by experiment that a sheet of cobalt, iron, or nickel obtained by electrolysis on a transparent sheet of silver, is not really transparent, as is now generally assumed, the author here endeavours to settle the question as regards mirrors of platina chemically produced, that is, by a deposit of platina on a sheet of glass, and the transparency of which is admitted by Kundt. Working with a large mirror supplied by Paul Lohmann of Berlin, from whom Kundt also obtained those used by him, M. van Aubel found, by means of spectroscopic observations, that the metal of these mirrors is not really transparent, the light merely filtering through the interstices left between the particles of platina deposited on the surface.—A contribution to the study of the salts of platina, by M. Eugène Prost. The author deals especially with the action of nitric acid and of perchloric acid on platinic hydrate, and with the action of nitric acid on the precipitated bisulphuret of platina, his object being to form the so-called normal platinic nitrates, perchlorates, and sulphates. Failing to obtain these substances, he endeavoured to get double salts of normal composition by combining them with alkaline salts having corresponding acids. The results show that all the compounds thus obtained still correspond with basic platinic salts, so that it would so far appear that a normal platinic nitrate cannot be obtained.—On the unstable equilibrium of the surface-layer of a fluid, by G. van der Mensbrugghe. The absolute instability of surface-layers exposed to the free action of the atmosphere is demonstrated on theoretical grounds. From this theory the author proposes in another paper to deduce the existence of superficial tension on the free surface of a fluid, or on the surface common to two fluids, or to a fluid and solid, thence deriving a rational explanation of the phenomenon of evaporation.—On the heat of the alloys of lead and tin, by W. Spring. Continuing the researches of Ermann, Rudberg, Regnault, Wiedmann, and others, the author seeks to determine for restricted intervals of temperature the total heat of these alloys relatively to that of their constituents. Further light is thus thrown both on the constitution of these bodies, and on the question why their point of fusion is lower than that of their constituents.

Rendiconti del Reale Istituto Lombardo, June.—On some unconscious intervals in a co-ordinate series of psychic acts, by Tito Vignoli. The object of this essay is to ascertain experimentally whether in the co-ordinate exercise, or logical sequence, of thought, it sometimes happens that some of the connecting links of the argument are supplied unconsciously. Several instances are quoted, together with the author's personal experience, showing that this really is the case. It is incidentally argued that, in its complexity, the brain is a large organ of compensation, so that, if any of its parts in which special functions are localised become disturbed or injured, these may, within