

The Saharan Sea.—Commandant Roudaire has finished the investigations, which were indicated by the commission of the French Academy, in relation to the filling of the Tunisian and Algerian chotts by the sea. His conclusions are entirely favorable to the project, and would lead to the establishment of an interior sea, 400 kilometres (248·55 miles) long and 1600 kilometres (994·2 miles) in circumference.—*Comptes Rendus*. C.

New Lubricants.—K. Drechsler mixes graphite thoroughly with the whites or yolks of eggs, dries the mixture, pulverizes it and scatters it upon the parts of machinery which move slowly. G. Lieckfeld mixes graphite with soluble glass, so as to make a stiff broth. The mass is spread upon worn surfaces, where it soon hardens and can be filed or turned, so as to restore the machinery to its original perfection.—*Dingler's Journal*. C.

Difference in Galvanic Batteries.—Fr. Exner gives the following reasons why a Daniell battery does not show the influence of free oxygen so evidently as a Smee: 1. a concentrated solution of blue vitriol absorbs considerably less oxygen than acidulated water; 2. the hydrogen, which rises from the decomposition of the water, is abundantly supplied with CuSO_4 for the reduction of the copper; 3. it is well known that a Daniell element, if it remains long open, possesses a somewhat greater electro-motive force than if it was kept closed. This is an indication that the difference between a Daniell and a Smee element is only quantitative and not qualitative.—*Wiedem. Ann.* C.

The Place of Boron in the Series of Elements.—A. Etard gives satisfactory reasons for substituting glucinium, in the tabular position which Mendelejeff has assigned to boron. He finds that by the action of zinc ethyl upon boric ether we get triethylbromine, which, by its properties and its composition, corresponds very completely with triethylphosphine. After comparing successively the properties of boron and the phosphorus groups of elements, he unhesitatingly places boron at the head of the vanadium group, very near the phosphorus group. The resemblance of these two groups has already been established by Deville and Troost for niobium and tantalum, and by Roscoe for vanadium. These bodies, like boron, give volatile chlorides and oxychlorides, the density of which has already been measured, and they exhibit various other evidences of similarity in their respective salts and acids.—*Comptes Rendus*. C.