

## Early Science at Oxford.

December 21, 1683. Mr. Ballard was desir'd to try some experiments, in ye Holy daies, in order to the solution of the question: Whether cast-Iron will draw ye needle, as readily as that which is forg'd? Dr. Smith was pleased to shew us some observations, which he made in his voyage to Constantinople, año 1668; when among other things, ye Dr. observed a great number of Porcpisces, which almost covered a good part of ye Propontis, from ye Seraglio point, towards ye Islands, that lye over against the bay of Nicomedia; for which reason (as also because he never heard that any Dolphins are caught there by ye Greeks, the good fishermen; nor saw any sold in their Markets) He thinks, that Solinus, cap 12, is to be understood of Porcpisces, not of Dolphins; although he says (speaking of ye Bosphorus, and Hellespont) *hæc profunda Delphinus plurimos habent*. As for that vast quantity of water, which runs into ye Mediterranean, he conjectures that a great part of it may run out again, by an under-current, at ye Strait's mouth.

Wee then examin'd ye effects of a distillation of brine, from salt of Tartar, which Mr. Ballard at ye request of ye Company had performed; The brine was made of a pint of common water, and 3iij of white salt, which, after sufficient heating, was distilled from Salis Tart: 3i: we saw about ½ lb. of ye distilled water; it was not in ye least brackish, but rather like an emulsion of sweet almonds.

1686. A Letter from Dr. Bagley to Mr. Musgrave was read: it gave an account of the dissection of ye *Hedghog*, male and female.

An account of a *horn* growing on the head of one Mary Davies of Soughal, of Wyrehall Hundred in Cheshire, aged 71. in 1668. The compasse of the horn at the root was 3 inches and more than half; the length of the horn layd out straight 5 inches and a half. An account of the Duke of Tuscany's *Diamond*, which weighs 138 carats.—An account given by Dr. Plot of *ale* made with *Walnut leaves* instead of Hops in Staffordshire: there being great scarcity of these, last Summer; he says 'twas pleasant and kept very well.

The Society resolved that *Aristarchus* be printed in Greek and Latin at ye charge of this Society; Dr. Plot having promised to provide paper, and Mr. Deeds to collate the MSS.

A resolution of a question of compound *Interest*, at one operation of Logarithms, likewise a solution of this problem viz. from the different weights of the same heavie body in different fluids.

December 23, 1684. Mr. Musgrave acquainted ye Society concerning ye colour of ye liquor conveyed by ye Lacteals. In this letter he endeavors to prove, that a great part of ye Chyle passes *pellucid* through ye Lacteals, (contrary to ye opinion of those, who thought it to be *always white* in those vessells;) and that a pellucid Liquor *Refluus* does constantly fill *some* of them, when no flash of Chyle can be supposed to extend them. He then read Dr. Lister's answer to this Letter; The Dr. is willing to think that the *liquor Refluus* may be of ye nature of *Lympha* but he takes ye greatest part of what fills the Lacteals in sicklie and empty animals to be *Pituita*, and sometimes *Bilis*.

Mention was made of a proposall of Dr. Lister's, which was to try Kunckel's experiment [of coagulating milk, by adding spirit of wine to it,] both with a spirit, drawn from pure Nants-Brandy, and also with a spirit drawn from an eager wine: it being possible, as ye Doctor thinks, that ye experiment may succeed with ye one of them, and not with ye other.

## Societies and Academies.

LONDON.

Faraday Society, November 16.—E. D. Campbell: A study of the correlation of the permanent magnetism and specific resistance of some pure iron-carbon alloys.—J. A. V. Butler: Co-ordination and co-valency. The formation of co-ordinated complexes cannot be due in general to the tendency of the central atom to attain the configuration of the next higher inert gas. The electrons contributed by co-ordinated groups form a distinct group round the central ion. A distinction is drawn between (a) *Co-valency*: the mutual sharing of electrons by two atoms so as to complete already existent groups, therefore involving negative valences, and (b) *Co-ordination*: the formation of a new group of electrons outside the last group represented in the ion. It is proposed to use the specific term *co-ordination valency* for the number of co-ordinated groups. It is assumed that the co-ordination electrons enter the main "quantum group" next to that represented in the central ion.—J. R. Partington and N. L. Anflogoff: An improved form of electric vacuum furnace. A vacuum furnace of the Ruff type was used for studying reactions at high temperatures. The reacting substances, if solids, are contained in a graphite crucible turned from the same material as the hot tube and maintainable either in a high vacuum or in an atmosphere of an inert or reacting gas. The issuing gas is capable of analysis.—J. R. H. Coutts and E. M. Crowther: A source of error in the mechanical analysis of sediments by continuous weighing. The low density of suspension immediately below the balance pan after the sedimentation has proceeded for a few minutes inevitably sets up a flow of liquid which interferes with the free vertical fall of the particles. With the large narrow-rimmed pans hitherto used, the observed yields are appreciably below the theoretical values. With the pan close to the base there is a very rapid change of yield with very small changes in the position of the pan.—Donovan Werner: A simple method of obtaining the size distribution of particles in soils and precipitates. The method has been developed in researches on the reaction mechanism during the formation of precipitates. It has been necessary to know the total surface of a precipitate as a function of time while the precipitate is forming. At first the particles can be measured by an ocular micrometer, but just as the particles become larger and more irregular in size during the precipitating process, at the same time forming aggregates, it becomes correspondingly difficult to get values sufficiently exact. The measuring of the velocity of the sedimentation gives an "accumulation curve," and from this curve the size distribution can be calculated according to the mathematical theory developed by Odén.—F. G. Tryhorn and W. F. Wyatt: Adsorption by coco-nut charcoal from alcohol-benzene and acetone-benzene mixtures. Adsorption isotherms for each component of such mixtures have been determined at 20°. By an analogous method, measurements have been made of the composition of the vapours in equilibrium with mixtures of the above liquids at 20°. A comparison of the results of adsorption by charcoal from the liquid and the vapour phases supports the conclusion that an adsorbed film in equilibrium with a saturated vapour must be also in equilibrium with the liquid in contact with that vapour. Alcohol is selectively adsorbed from all mixtures of alcohol and benzene. From acetone-benzene mixtures, acetone is selectively adsorbed from mixtures containing up to 72 molar percentage