Early Science at the Royal Society.

February 10, 1663. Mr. Hooke being called in, and desired to suggest some experiments that might be acceptable and useful to the public, suggested, that the experiment of land-carriage, and of a speedy conveying of intelligence, might be considered of.

1669. Three dwarf oaks, with cups or acorns in them (received from Mr. Winthrop, of Connecticut), whereof two were given to Mr. Charles Howard, and one to Mr. Evelyn to plant them here.

1685. Sir Robert Gordon said he had seen the 1oooth part of a grain weighed.

February 11, 1662. To recommend to Dr. Wren from the Society the continuance of the observations of the eclipses of Jupiter's satellites. The eclipse of the moon of Feb. 12th was directed to be observed by as many as had conveniency.

1674. Dr. Croune read a discourse how flying is performed by birds. Some said, that it would be of real use to contrive something for flying, if it were but to raise a man so high, as to fly over a wall, and the besiegers of a town to carry and bring back intelligence.

February 12, 1661. Dr. Wren proposed black-lead as a better means than oil for preserving the pivots of the wheels of watches or clocks from grating or wearing out.

1672. Being Ash-wednesday, the Society did not meet.

1673. The Society inspected the dog upon whom the experiment had been made with Mr. Lister's styptic water, and found the dog very well and the wound in a manner quite healed up.

1679. Mr. Houghton presented several prints of the line of the Norfolk family, as also the copper plate itself; and a pane of glass on which the picture of the first duke of Norfolk was drawn.

February 13, 1660. The Danish Ambassador visited the Society, being introduced by Mr. Evelyn.

1667. The experiments appointed for the next meeting were:—The wind-gathering vessel.—The cutting out the tympanum of a dog's ear.—Shining wood and fish.—Weighing mineral bodies.

1678. The Society again entered upon a debate concerning the causes and reason of the motion of the mercury in the barometer.

1683. Mr. Paget gave in a paper of the force of heat upon magnetical bodies.

February 14, 1666. Dr. Croune's chariot was produced, and generally approved of by the members; only some fence was proposed to be made for the coachman against the kicking of the horses.

1677. Mentioned, a letter from Mr. Halley from Saint Helena as to his observation of the last visible conjunction of the Sun and Mercury.

February 15, 1664. Mr. Pepys was unanimously elected and admitted. It was ordered that a body be procured at the next sessions and that Dr. Charlton endeavour to get a meeting of some physicians of the society, in order to consider of experiments and inquiries.

1676. Mr. Oldenburg produced the sequel of Mr. Leewenhoeck's letter concerning the great plenty of very little animals observed in rain, well, sea, and snow-water.

1681. Sir Christopher Wren in the chair. Mr. Flamstead having cavilled against the method shewn by Mr. Hooke of describing a parabola, the Society desired it again. Upon which the president declared it was true and certain.

February 16, 1670. Mr. Hooke produced a model of a little box to be thrust into the body of a tree, bored, to find out the ascent and descent of the sap.

Societies and Academies.

LONDON.

Royal Society, February 7.—G. Udny **Yule**: A mathematical theory of evolution based on the conclusions of Dr. F. C. Willis, F.R.S. The fundamental assumptions are that: (1) Within any species, in any interval of time, an "accident" may happen that brings about "specific mutation," *i.e.* the throwing of a new form, regarded as a new species within the same genus; (2) within any genus, in any interval of time, an "accident" may happen that brings about "generic mutation," *i.e.* the throwing of a new form so different from the parent that it will be placed in a new genus. Both chances are taken as invariable within the group considered and constant for all time. Sections I.-III. of the paper lead up to the expression for frequency-distribution of size of genus at any given time. In Section IV. the expression is tested on data for four cases, and gives very good agreement with facts, but there are serious difficulties of interpretation. In Section V., frequency-distributions of age for genera of a given size are determined. Approximately for large genera after infinite time, the mean age varies as the logarithm of the number of species, but the dispersion is considerable. When time is limited, primordial and derived genera form distinct groups. Finally in Section VI. an attempt is made to estimate the doubling period for species in flowering plants, which is placed at probably some two or three million years, the present rate of production of specific mutations probably lying between 1 in 15 and 1 in 30 years, among all flowering plants on the whole surface of the globe.—L. B. **Winter** and W. **Smith**: Studies on carbohydrate metabolism. I. Variations in the nature of the blood sugar. Marked differences exist between the blood sugar of normal persons and those suffering from diabetes mellitus. The sugar was extracted from considerable quantities of blood and a comparison made between the observed optical rotation (P) and that calculated from the reducing power of the carbohydrate, on the basis that glucose is the only reducing substance present (C). In diabetic cases, P is usually greater than C, and is increased by mild hydrolysis with weak hydrochloric acid, whereas C is unaltered. This may be evidence for the existence of complex sugars in diabetic blood. Similar substances are present in the blood of rabbits after injection of either adrenaline or thyroid alone. Injection of thyroid and adrenaline together usually causes an increase in the total blood sugar, but no change from the normal; P is low and complex sugars are absent. After injection of insulin into rabbits the blood sugar is dextro-rotary, but has no copper reducing power. Insulin convulsions in rabbits are relieved by adrenaline alone or by a mixture of thyroid and adrenaline.—J. W. **Pickering** and J. A. **Hewitt**: The action of "peptone" and of nucleic acids on the coagulability of the blood. Intravascular injection of Witte's "peptone" into tortoises deprived of hepatic activity inhibits coagulation of blood subsequently shed. Addition of moderate concentrations of "peptone" to blood of the tortoise *in vitro* causes prolonged inhibition of clotting, provided the blood has not been in contact with damaged tissues. As regards rats, partly pigmented animals are more resistant to the anti-coagulant action of peptone and to its toxic effect on the heart than are animals with completely pigmented fur. Albino rats are still more resistant. The rapid intravascular injection or addition *in vitro* of thymus or yeast nucleic acids inhibits coagula-