The custom of dusting the female date-palm with the pollen from the male flowers, and the more complicated process of caprification in the case of fig-trees, were doubtless quite empirical at first. By and by they seem to have been dimly understood by a few, as may be inferred from Pliny's description of pollen as the material of fertilization, or from the verses of Ovid; but there was little more than confused conjecture until the seventeenth century. A few experiments would have settled the question, but the day of experiment had not yet dawned.

Ancient Conjectures as to Sexuality of Plants.

Rudolph Jacob Camerarius (1665–1721), professor at Tübingen, showed experimentally (1691–1694) that seeds capable of germination cannot be formed without the co-operation of pollen. His first observations were on the mulberry and the dog's mercury (both diœcious, *i.e.* with separate sexes), and he soon extended his experiments to other plants. He called the anthers the male sexual organs, and the ovaries the female sexual organs, and insisted that these terms were not to be taken figuratively. This would be held as rather rough-and-ready terminology nowadays, but at the time Camerarius was justified in his insistence.

Camerarius.

Joseph Gottlieb Kœlreuter (1733–1806), professor of natural history at Carlsruhe, may be said to link Camerarius with such modern workers as Nägeli. Indeed, as Sachs says, "his works seem to belong to our own time; they contain the best knowledge which we possess on the question of sexuality". "He made the first careful study of the different arrangements inside the flower in their connection with the sexual relation, discovered the purpose of the nectar and the co-operation of insects in pollination, and proposed that view of the sexual act which, with some considerable modification, we must still in the main consider to be the true one, namely, that it is a mingling together of two different substances." He is best known by his extensive and fundamental experiments on hybridization in plants,—experiments which should have exerted an even greater influence than they have

Kœlreuter.