

The two names most intimately associated with the doctrine of metamorphosis are those of the embryologist Wolff and the poet Goethe, who arrived at the same conclusion—the homology of appendicular organs—by very different paths; but it is important to notice that previous attempts had been made to discover connections between the various structures which spring from the axis of a flowering plant. Thus Cesalpino had called the corolla simply a leaf (“folium”); he and Malpighi had also regarded the cotyledons as leaves; and the keen-sighted Joachim Jung had analysed the plant-body into root and shoot, and the latter into stem and leaf. As Prof. Vines notes, Jung “revealed striking morphological insight”, and “grasped the fundamental ideas of morphology”, but his works, which were not published till after his death (*Isagoge Phytoscopica*, 1678, &c.), had almost no influence. Linnæus also had an idea of the equivalence of the appendicular structures, as suggested, for instance, in the aphorism *Principium florum et foliorum idem est*. He developed his views in two dissertations entitled *Prolepsis Plantarum* (1760 and 1763), but these were obscured by a minor physiological theory, according to which the flower was regarded as an anticipation (*prolepsis*) of several years' growth of vegetative shoots. He did, however, refer all the parts of the flower to leaves, arguing from the numerous transitions, both normal and pathological, that the parts must be homologous. Only homologous parts, he said, can thus change into one another; “the liver cannot become the heart, nor the heart the stomach”. Wolff's *Theoria Generationis* was published the year before the first *Prolepsis* essay, but Linnæus had made similar suggestions in his *Systema Naturæ* (1735) and in his *Philosophia Botanica* (1751).

Caspar Friedrich Wolff, who is best known as the founder of the embryological doctrine of Epigenesis, was led to a study of the development of plants by a desire to test the theory which he had reached from a zoological basis. He investigated the leaf-bud of the cabbage, the flower-bud of the bean, and the like, and showed that the various