responding terms may appropriately define the twofold interest which we take in natural objects. The term morphology [1] was introduced early in the century by

[1] The term morphology was introduced by Goethe to define a series of researches and studies to which he was led by his equal interest in art, nature, and human society. Returning from Italy, which he describes as "rich in forms," to Germany, which he terms in contrast "gestaltlos," he reports that three distinct problems had presented themselves. "Wie die begünstigte griechische Nation verfahren um die höchste Kunst im eigenen Nationalkreise zu entwickeln. . . . Wie die Natur gesetzlich zu Werke gehe, um lebendiges Gebild, als Muster alles künstlichen, hervorzubringen. . . . Wie aus dem Zusammentreffen von Nothwendigkeit und Willkür, von Antrieb und Wollen, von Bewegung und Widerstand ein drittes hervorgeht . . . die menschliche Gesellschaft." For the purpose of finding an answer to the second of these questions, Goethe collected and observed, read and speculated, and formed the conception of a general science of organised beings, termed morphology, which was not to treat merely of external figure, but to comprise also physiology and the study of development. It is the first great attempt to think of nature as a whole, and to break down the rigid lines which divided the several natural sciences. He thus inaugurated the modern view of nature by introducing the general science of morphology. His first literary attempt in this direction was the now celebrated pamphlet on the 'Metamorphosis of Plants,' in which he represents the leaf as the typical formation from which the other parts of the plant can be derived. Whether this derivation is a real process in the sense of modern evolution, or a merely ideal one in the sense of the earlier archetypal view, Goethe does not clearly say. This uncertainty Goethe shares with the whole school of the "Naturphilosophie," as Julius Sachs points out in his 'History of Botany' (German edition, 1875, p. 170). This is not the point to which I want to draw attention at present. More important is the remark which Goethe makes in the further historical account of the gradual development of his morphological ideas. Wolf, the philologist, pointed out to him that his own namesake, Caspar Friedrich Wolf, had anticipated Goethe in the attempt to demonstrate the fundamental identity of the different parts of a plant. In the sequel of his most appreciative analysis of Wolf's expositions, Goethe characteristically notes that Wolf does not include in his conception the "metamorphosis of animals," or introduces it only as something entirely different. That Goethe's idea of morphology as a general science of the forms and change of forms in nature is applicable likewise to inanimate forms—to geological, geographical, and many other formations, nay, even to rigid things like crystals, and to such unstable formations as the parts of speech and language—has in the course of the century been abundantly recognised. It is known how, guided by the same general interest, Goethe studied the formations and transformations of animals, rocks, and clouds, though, according to Zittel ('Gesch. der Geologie,' 1899, p. 275), C. F. Naumann first used the expression, "morphology of the surface of the earth," in 1850. Goethe's