modelled, and which have always existed. These types or archetectonic models are capable of certain modifications, which, however, do not affect the main features of the plan. The different classes of these main types, called "embranchements," and designated as backboned, molluscous, articulate, and radiated animals, stand near each other in independence and form no scale.[1]

The morphological view of nature took a somewhat different turn in De Candolle, the successor of Jussieu in botany, who, while greatly indebted to Cuvier, acknow- 84. De Candolle.

Cuvier and his opponent, Geoffroy St Hilaire. In 1816 Blainville gave the "principles of a new classification of the animal kingdom, in which, for the first time, the totality of structure of animals was used to characterise larger divisions." He divides animals first of all into three sub-kingdoms—symmetrical, radiate, and those without regular form. De Blainville seems to have been an inspiring teacher, whose ideas became suggestive and fruitful in many other minds. Nearly the whole of the third volume of Comte's 'Philosophie Positive' is written under a sense of obligation to De Blainville, whose 'Cours de physiologie générale et comparée' (1829-32) Comte considers "comme le type le plus parfait de l'état le *plus avancé de la biologie actuelle*" (vol. iii. p. 269, Paris, 1838). The 'Philosophie Positive' was dedicated to Fourier and De Blainville. How the latter also anticipated the modern conceptions of "Stoffwechsel" and "Metabolism" see Claude Bernard, 'Phénomènes de la vie communs aux animaux et aux végétaux' (1885, vol. i. p. 36).

[1] It is historically interesting to note that about the time when Cuvier was gradually defining more rigidly his four classes, Lamarck was working at his 'Histoire naturelle des Animaux sans vertèbres,' of which the 'Système,' &c. (Paris, 1801), can be considered the first edition, the larger work appearing from 1816 to 1822. With him there is no mention of a plan or a type. His classes form a progressive series, and he was the first to follow the path from the simple to the more complex. In opposition to Cuvier, he thus wrote: "La nature, dans toutes ses opérations, ne pouvant procéder que graduellement, n'a pu produire tous les animaux à la fois: elle n'a d'abord formé que les plus simples, et passant de ceux-ci jusques aux plus composés, elle a établi successivement en eux différents systèmes d'organes particuliers, les a multipliés, en a augmenté de plus en plus l'énergie, et les cumulant dans les plus parfaits, elle a fait exister tous les animaux connus, avec l'organisation et les facultés que nous leur observons. Or, elle n'a rien fait absolument, ou elle a fait ainsi." ('Hist. des Animaux sans vertèbres,' 2nd ed., par Deshayes et Milne Edwards, Bruxelles, 1837, vol. i. p. 42. Cf. also Carus, *loc. cit.*, p. 615.)