gradational relations.   That is, organic forms, recent or fossil, may be arranged in series according to structural relationships. The forms more or less bird-like, for instance, may be ranged in a column beginning with most highly developed birds, and ending with characteristic saurians.   We find, indeed, two series, and may arrange them as follows:

I.   FROM RUNNING-BIRDS BACK TO REPTILES.

1. *Struthious Birds*, ostrich-like, feeble wings, runners.
2. *Brontozo'üm*, bipedal, three toed, with phalanges bird-like.
3. *Laosau'rus*, bird-like in head, ischiac and post-pubic bones and toes.
4. *Compsog'nathus*, bird-like in head, consolidated astragalus and tibia.
5. *Anomœ'pus*, four toes before, three bird-like toes behind.
6. *Hadrosau'rus*, weak fore-legs, attitude bipedal.
7. *Rhynchosau'rus*, saurian with toothless mandibles, bipedal.
8. *Iguan'odon*, tips of premaxillaries toothless, obliquely bipedal.

II.   FROM CARINATE BIRDS BACK TO REPTILES.

1. *Carinate Birds*, sternum keeled, flying birds.
2. *Hesperor'nis*, with poor wings, teeth in grooves.
3. *Ichthyor'nis*, with good wings, socketed teeth, biconcave vertebræ.
4. *Archæop'teryx*, bird or lizard, tail long, teeth socketed, metacarpals separate.
5. *Pteran'odon*, winged reptile, short tail, no teeth, bird-like head.
6. *Ramphorhyn'chus*, winged reptile, distant, sharp and curved teeth, horny tips of mandibles, long tail.
7. *Pterodac'tylus*, winged reptile, bird-like scapula and coracoid.
8. *Thec'odont Saurians*, typical saurians with socketed teeth.

Here are two lines of gradation from reptiles to birds, arranged out of extinct forms.   It must be stated, however, that their order of succession in time does not correspond with their relative position in the gradation.   But we know, as yet, so little about the complete fauna of different ages, that it would be rash to conclude that the actual order of appearance was not accordant with their order in rank.

Let me now present a gradation of forms which corresponds strictly with their order of appearance.