yards,521/5 s.; 100 yards, 1 m. 71/2 s.; 120 yards, 1 m. 281/5 s.; 160 yards, 2 m. 2 s.; 200 yards, 2 m. 411/4 s.; 220 yards, 2 m. 591/4 s.; 400 yards, 5 m. 441/2 s.; 1/4 mile, 6 m. 211/2 s.; 600 yards, 7 m. 191/4 s.; 600 yards, 8 m. 461/2 s.; 800 yards, 11 m. 461/2 s.; 1/2 mile (21 turns), 13 m. 1/2 s.; 1000 yards, 14 m. 561/4 s.; 1200 yards, 18 m. 51/2 s.; 3/4 mile, 20 m. 3/4 s.; 1400 yards, 21 m. 173/4 s.; 1 mile (43 turns), 27 m. 31/2 s. The records of other baths include:—500 yards, 6 m. 55 s. (Oldham Baths); 100 yards, 1 m. 41/5 s. (Blackburn Baths); 1 mile, 26 m. 21 s. (Westminster Aquarium) (80 turns).

*Longest Time under Water, in Glass Tank.*—4 m. 291/2 s.

*Longest Dives.*—109 yards 2 feet 6 inches, and 113 yards 1 foot.

*Longest Plunges.—*From a springboard 5 feet above the level surface of the water, 73 feet 1 inch; from a fixed board, 3 feet 6 inches above the water level, 76 feet 3 inches.

For baths and bathing see Baths, vol. iii. p. 434. For drowning and rescuing life, see Drowning, vol. vii. p. 475. There are two societies with headquarters in London which cons st of delegates from nearly all the swimming clubs in the metropolis. These have framed rules and regulations for the conduct of clubs, races, and other performances included under “swimming." The Professional Swimming Association was successfully floated by Mr Robert Watson on July 6, 1881. The Amateur Swimming Association was reinaugurated in 1886 by the amalgamation of the Swimming Association of Great Britain and the Amateur Swimming Union. There are annual competitions for the amateur champion­ships at 500 yard-, 1/2 mile, 1 mile in still water, and 51/2 miles in the Thames. There are also the Associated Swimming Clubs of Glasgow and the Associated Clubs of Dundee, each similar in its objects and composition to the Amateur Swimming Association.

The literature of the subject of swimming is considerable, and the following works may be mentioned. Thevenot, *The Art of Swimming,* transl. from the French, London, 1789 ; *Swimming,* two letters by Benjamin Franklin, Bungay, 1791; Walker's *Manly Sports,* art. “Swimming,” Loudon, 1836; G. H. Cliss, *Gymnastics and Swimming,* London, 1840; W. H. Leverai, *Swimming and Swimmers,* London, 1861 ; S. W. Higgenson, “ Swimming,” in *The American and Continental Monthly,* May 1870; “Piscator,'’ *How to Swim,* London, 1S72 ; Charles Steedman, *Manual of Swimming,* London, 1873 ; Leahy, *Swimming in the Eton Style,* Nottingham, 1875; J. Bell Pettigrew, *Animal Locomotion,* London, 1874; W. Wilson, *Swimming, Diving, and How to Save Life,* Glasgow, 1876; Torkington, *Swimming Drill,* London, 1876; R. H. W. Dunlop, *Plate Swimming,* London, 1877; Menstery, *New Manual of Swimming,* New York, 1878; W. Wilson, *The Swimming Instructor,* 1S83 ; J. H. Walsh, art. “Swim­ming,” *British Rural Sports,* London, 1886. (H. F. W.—W. WI.)

SWINDON. The towns of Old and New Swindon, in Wiltshire, England, are situated on several railway lines, about 77 miles west of London and 30 east-north-east of Bath. The old town is built on an eminence commanding fine views of the surrounding country. It received a charter for a fair from Charles I., and has weekly markets for corn and cattle. The church was erected in 1851, from the designs of Sir Gilbert Scott. There is a town- hall and a corn exchange. Swindon New Town, to the north from Old Swindon, has grown up since the construc­tion of the Great Western Railway, which has its principal works there. There is a market-house for meat, fish, and vegetables. Connected with the Great Western Railway mechanics’ institution there is a library of about 14,000 volumes. The combined areas of Old and New Swindon, which form separate urban sanitary districts, amount to 2524 acres, with a population in 1881 of 22,374. Old Swindon (area 1214 acres) had a population in 1871 of 4092 and in 1881 of 4696, and New Swindon (area 1310 acres) a population in 1881 of 17,678.

SWINE. The oldest known even-toed or Artiodactyle Ungulates (see Mammalia, vol. xv. p. 429) were neither Oxen, Antelopes, Deer, Camels, nor Pigs, but presented a generalized type, which by modification in various direc­tions has given rise to all these very diverse forms. They were mostly of small size, and had invariably the full number of teeth of the typical mammalian heterodont dentition, viz., 44, of which the incisors were 3/3 on each side, the canines 1/1, the premolars 4/4, and the true molars 3/3. The molars were short and square, crowned with blunt, rounded cusps, and the canines were not remarkably developed. All the feet terminated in four toes, the two middle ones (the third and fourth of the complete typical mammalian extremity) of nearly equal size, the outer ones (second and fifth) smaller, and also equal. The five-toed ancestor of these forms has not yet been discovered. They had no special weapons, as horns or antlers, on their foreheads. Such was the condition of all the hitherto dis­covered animals of this division at the commencement of the Tertiary period. Very early a change took place in the characters of the molar teeth in certain members of the group : the rounded tubercles became sharp ridges curved in a crescentic form, and better adapted for a purely herbivorous diet, especially for cutting and bruising the comparatively dry and hard blades of grass which grow

in open plains. The animals thus separated from the rest —the Selenodont (crescent-toothed) Artiodactyles—have undergone various further modifications of teeth, teet, and other parts, and constitute the diverse forms of ruminat­ing animals mentioned above. Those whose molar teeth retained more of the primitive tuberculated (bunodont) form, were the ancestors of the present family of Swine, some of which, looking upon their organization as a whole, have undergone less change since the Eocene period than almost any other mammals.

Remains of very generalized swine-like animals have been abundantly found in Eocene and early Miocene formations both in America and Europe. In the former continent they never (as far as present evidence indicates) underwent any great diversity of modification, but gradu­ally dwindled away and almost died out, being only repre­sented in the actual fauna by the two closely-allied species of peccary, among the smallest and most insignificant mem­bers of the group, which have existed almost unchanged since the Miocene age at least, if the evidence of teeth alone can be trusted. In the Old World, on the other hand, the swine have played a more important part in recent times, having become widely distributed, and throw­ing off some curiously specialized forms. At the present time, though not very numerous in species, they range through the greater part of the Old World except within or near the Arctic Circle, although, in common with all the other members of the great Ungulate order, they were completely absent from the whole of the Australian region until introduced by man in very recent times.

The existing swine-like animals may be divided natu­rally into three families :—I. *Hippopotamidæ* ; II. *Suidse,* or true Pigs ; III. *Dicotylidæ,* or Peccaries.

I. Family Hippopotamidæ.

*Muzzle very broad and rounded. Feet short and broad, with four subequal toes, with short rounded, hoofs, all reach­ing the ground in walking. Incisors not rooted but con­tinuously growing ; those of the upper jaw curved and directed downwards ; those of the lower straight and pro­cumbent. Canines very large, curved, continuously growing; upper ones directed downwards. Premolars 4/4 ; molars 3/3. Stomach complex. No cæcum.*

This appears to be an exclusively Old-World form,—no animals belonging to it, either recent or fossil, having been found in America. The family has been divided into three genera, according to the number of the incisor teeth. (1) *Hexaprotodon,* incisors 3/3, a type which comes nearest to the generalized or ancestral form of the group, is now extinct, being only known from the early Pliocene formations of the Sub-Himalayan range. (2) *Hippopotamus* proper, incisors 2/2, contains the one well-known species *H. amphibius,* now confined to the rivers and lakes of Africa, but formerly (in the Pliocene period) abundantly distrib­uted, under various minor modifications, in Europe, as far north as England. Remains of an allied form have been found in the island of Madagascar, where it is now extinct. (3) *Choeropsis,* incisors reduced to 2/1, contains one very small and still little known species, from rivers of Liberia, West Africa, *C. liberensis.* See Hippopotamus.

II. Family Suidæ.

*An elongated mobile snout, with an expanded, truncated, nearly naked, flat, oval terminal surface in which the nostrils are placed. Feet narrow ; four completely developed toes on each. Hoofs of the two middle toes with their contiguous surfaces flattened. The outer (second and fifth) digits not reaching to the ground in the ordinary walking position. Teeth variable in number, owing to the suppression in some forms of an upper incisor and one or more premolars.*