with windows. The thrust of the vaulting is borne by four massive pinnacles, and over the inner dome is an outer pointed one covered with tiles. The whole forms a most effective and graceful group. On the vault of the apse is a fresco of Our Lord in Judgment by Nicolas Florentino. The reredos, which has the peculiarity of fitting the curve of the apse, contains fifty-five panels with paint­ings mostly by the same artist. There are many fine monuments in the south transept and cloister chapels. An adjoining building, the Capilla de Talavera, is used as a chapel for service according to the Mozarabic rite, which is celebrated there six times a year. On the north of and adjoining the old church stands the new cathedral, built from designs by Juan Gil de Ontañon. Begun in 1513 under Bishop Francisco de Bobadilla, but not finished until 1734, it is a notable example of the late Gothic and Plateresque styles. Its length is 340 feet and its breadth 160 feet. The interior is fairly Gothic in character, but on the outside the Renaissance spirit shows itself more clearly, and is fully developed in the dome. Everywhere the attempt at mere novelty or richness results in feebleness. The main arch of the great portal consists of a simple trefoil, but the label above takes an ogee line, and the inner arches are elliptical. Above the doors are bas-reliefs, foliage, &c., which in exuberance of design and quality of workmanship are good examples of the latest efforts of Spanish Gothic. The church contains paintings by Navarrete, Becerra, and Morales, and some overrated statues by Juan de Juni. The treasury is very rich, and amongst other articles pos­sesses a custodia which is a masterpiece of goldsmith’s work, and a bronze crucifix, of undoubted authenticity, which was borne before the Cid in battle. The tower is too unsafe to allow of the ring­ing of its great bell, which weighs over 23 tons. The interest of Salamanca centred in its university, founded by Alfonso IX. about 1200 and for four centuries one of the chief seats of European learning. Of the university buildings the façade of the library (80,000 volumes, exclusive of MSS.) is a peculiarly rich example of late 15th-century Gothic. The cloisters are light and elegant ; the grand staircase ascending from them has a fine balustrade of foliage and figures. The Colegio de Nobles Irlandeses, formerly Colegio de Santiago Apostol, was built in 1521 from designs by Ibarra. The double arcaded cloister is a fine piece of work of the best period of the Renaissance. The Jesuit College is an immense and ugly Renaissance building begun in 1614 by Juan Gomez de Mora. The Colegio Viejo, also called San Bartolomé, was rebuilt in the 18th century, and now serves as the governor’s palace. The convent of Santo Domingo, sometimes called San Esteban, shows a mixture of styles from the 13th century onwards. The church is Gothic with a plateresque façade of great lightness and delicacy. It is of purer design than that of the cathedral ; nevertheless it shows the tendency of the period. The reredos, one of the finest Renaissance works in Spain, contains statues by Salvador Carmona, and a curious bronze statuette of the Virgin and Child on a throne of champlevé enamel of the 12th century. The chapter-house, built by Juan Moreno in 1637, and the staircase and sacristy arc good examples of later work. The convent of the Augustinas Recoletas, begun by Fontana in 1616, is in better taste than any other Renaissance building in the city. The church is rich in marble fittings and contains several fine pictures of the Neapolitan school, especially the Conception by Ribera over the altar. The convent of the Sancti Spiritu has a good door by Berruguete. There is also a rather effective portal to the convent of Las Duenas. The church of S. Marcos is a curious circular building with three eastern apses ; and the churches of S. Martin and S. Matteo have good early doorways. Many of the private houses are untouched ex­amples of the domestic architecture of the prosperous times in which they were built. Such are the Casa de las Conchas, the finest example of its period in Spain ; the Casa de la Sal, with a magnificent courtyard and sculptured gallery ; and the palaces of Maldonado, Monterey, and Espinosa. (H. B. B.)

SALAMANDRA. In the nomenclature of zoology this name designates a genus of animals belonging to the verte­brate class *Amphibia.* The genus was first defined under this name by Laurenti. @@1 It will be seen on referring to the taxonomic synopsis of the class given at the end of the article Amphibia that the genus *Salamandra* belongs to the first tribe *Mecodonta* of the fifth division *Salamandrida.* The diagnosis of the genus is as follows :—no fronto-squamosal arch in the skull; tongue large, adherent below, free at the sides and slightly so behind ; toes five ; tail cylindrical. There are three species, distinguished as follows :—(1) *S.* *maculosa,* Laurenti, tail not so long as rest of body, colour black with yellow spots ; (2) *S.* *atra,* Laurenti, tail not so long as rest of body, colour uniform black ; (3) *S. caucasica,* Waga, tail longer than rest of

body. In all the species the body is plump and rounded, and there is no dorsal crest or fin; the head is depressed, its greatest width being at the angle of the jaws ; the snout is rounded. The vent is a longitudinal slit, the borders of which in the male are slightly swollen. The skin is smooth and shining; at the junction of the head and neck is a pronounced fold of skin called the gular fold. The swollen patches of skin behind the tympana, caused by the presence of large cutaneous glands, and known as parotids, are well developed and exhibit the openings of the glands as distinct pores. Similar gland-openings form a series along either side of the body. In the first two species there is also a longitudinal series of warts on each side; these are wanting in *S.* *caucasica.* Depressions of the skin between the vertebrae are present, and are known as costal grooves. The palatine teeth-series are S-shaped, and the anterior ends of the two series do not meet. @@2 *S. maculosa* is the largest of the three species, attaining a length of 7 to 81/2 inches. *S. atra* is about 41/3 and *S. caucasica* about 6 inches in length.

The genus is confined to the western sub-region of the palæarctic region, extending over almost the whole of Europe, especially the central and southern parts, and occurring also in Algiers and Syria. The spotted species is the commonest and most widely distributed, being found in nearly all parts of Germany, France, Italy, and Spain. The genus is entirely absent from the British Islands. The black salamander, *S.* *atra,* is confined to the Alps of Central Europe, and there only occurs between the limits of 2500 to 10,000 feet of altitude; it is found in the mountains of South Germany, France, Switzerland, and Austria. *S. caucasica* is only known from one specimen, which was obtained from the Caucasus and was sent to the Paris Museum by Dr Waga. @@3

The food of *Salamandra* consists of worms and insects, and, like British frogs and toads, the animals can only exist in damp shady localities. As in all *Salamandrida,* the process of reproduction is commenced by a true copu­lation, which takes place in spring and summer. The seminal fluid is passed into the female cloaca, where it is received into a tube-shaped receptaculum seminis. The eggs are thus fertilized in the oviduct, but the development takes place under somewhat different conditions in the two species *S. maculosa* and *S. atra.* Both species are vivipar­ous ; in the former thirty to forty eggs undergo develop­ment in the oviducts at one time, and they are brought forth and deposited in stagnant or sluggishly-flowing water when they have reached a stage similar to that of adult *Perennibranchiata,* the newly-born larvae having long feather-like external gills and a length of 12 to 15 mm. (one-third to one-half an inch). After a period of aquatic life, the larvae pass through a metamorphosis : the limbs appear; the gill slits close up; and the young animals, having reached the adult condition, leave the water for a terrestrial life. In *S. atra* only the two lowest eggs which pass into the oviducts, one in the duct of each side, under­go development. The rest of the eggs fuse into a mass of yolk material and are devoured by the two developing larvae. In this way the larvae are provided with nutriment during the later stages of development, for in this species they are retained within the body of the mother until they have reached the air-breathing condition and are in all respects similar to the parents. This peculiarity in the process of reproduction bears an obvious relation to the physical conditions of the habitat of *S. atra.* In the elevated regions that the species inhabits stagnant and

*@@@*1 *Synopsis reptilium emendata,* &c., Vienna, 1768.

@@@2 For a figure of *S. maculosa,* see Latreille, *Hist. Nat. des Sal. de France,* Paris, 1800, pl. i. ; Daudin, *Hist. Nat. d. Reptiles,* pl. xcvii. f. 1. For *S. atra,* see Laur., *op. eit.,* pl. i. f. 2.

@@@3 See Waga, *Rev. Mag. Zool.,* 1876, p. 326.