includes Shetland; but it is on the north - western coast of the continent, from Jutland to the extreme north of Norway, that the greatest number are reared. The nest, contrary to the habits of most *Limicolæ,* is generally placed under a ledge of rock which shelters the bird from observation,@@1 and therein are laid four eggs, of a light olive-green, closely blotched with brown, and hardly to be mistaken for those of any other bird. A second species of Turn­stone is admitted by some authors and denied by others. This is the *S. melanocephalus* of the Pacific coast of North America, which is said to be on the average larger than S. *interpres,* and it never exhibits any of the chestnut colouring.

Though the genus *Strepsilas* seems to be rightly placed among the *Charadriidae (cf.* Plover), it occupies a some­what abnormal position among them, and in the form of its pointed beak and its variegated coloration has hardly any very near relative. (a. n.)

TURPENTINE consists of the oleo-resins which exude from certain trees, especially from some conifers and from the terebinth tree, *Pistacia Terebinthus,* L. It was to the product of the latter, now known as Chian turpentine, that the term was first applied. The terebinth tree *(τέρμιvθoς* of Theophrastus) and its resin *(ῥητίνη τερμívθιvη)* were well known and highly prized from the earliest times. The tree is a native of the islands and shores of the Medi­terranean, passing eastward into Central Asia ; but the resinous exudation found in commerce is collected in the island of Scio. Chian turpentine is a tenacious semi-fluid transparent body, yellow to dull brown in colour, with an agreeable resinous odour and little taste. On exposure to the air it becomes dry, hard, and brittle. In their general characters, turpentines are soft solids or semi-fluid bodies, consisting of a mixture of one or more resins with essential oils, which, although differing in physical pro­perties, have a composition corresponding to the formula C10H16. They also contain minute quantities of oxygenated oils. Formerly they had considerable reputation in medi­cine, and they still continue to be employed in plasters and ointments ; but their great use is in the arts, for which they are separated by distillation into rosin or colophony (see Rosin, vol. xx. p. 852) and oil or spirit of turpentine.

*Crude or common turpentine* is the commercial name which embraces the oleo-resin yielded by several coniferous trees, both European and American. The principal European product, some­times distinguished as Bordeaux turpentine, is obtained from the sea pine, *Pinus maritima,* in the Landes department of France. Crude turpentine is further yielded by the Scotch fir, *P. sylvestris,* throughout northern Europe, and by the Corsican pine, *P. Laricio,* in Austria and Corsica. In the United States the turpentine- yielding pines are the swamp pine, *P. palustris,* and the loblolly, *P. Tæda,* both inhabiting North and South Carolina, Georgia, and Alabama. *Venice turpentine* is yielded by the larch tree, *Larix europæa,* from which it is collected principally in Tyrol. *Stras­burg turpentine* is obtained from the bark of the silver fir ; but it is collected only in small quantities. Less known turpentines are obtained from the mountain pine, *P. Pumilio,* the stone pine, *P. Cembra,* the Aleppo pine, *P. halepensis,* &c. The so-called *Canada balsam,* from *Abies balsamea* (see Balsam, vol. iii. p. 293), is also a true turpentine.

*Oil of turpentine* as a commercial product is obtained from all or any of these oleo-resins, but on a large scale only from crude or common turpentine. The essential oil is rectified by redistilla­tion with water and alkaline carbonates, and the water which the oil carries over with it is removed by a further distillation over calcium chloride. Oil of turpentine is a colourless liquid of oily consistence, with a strong characteristic odour and a hot disagree­able taste. Its boiling point ranges from 152o to 172o C. at ordinary temperature ; its sp. gr. is between 0∙856 and 0∙870 ; and in optical properties it rotates the plane of polarized light both to right and left in varying degrees according to its sources. It is soluble in alcohol, ether, benzol, other essential oils, and the fixed oils, and itself is a solvent of resins and caoutchouc. On exposure to the air it dries to a solid resin, and when oxidized in the presence of water gives off peroxide of hydrogen—a reaction utilized in the preparation of a disinfectant called “sanitas.” Oil of turpentine is largely used in the preparation of varnishes, and as a medium by painters in their fiat ” colours.

TURPIN, archbishop of Rheims and the supposititious author of *Historia Karoli Magni et Rotholandi,* is probably to be identified with Tilpin, who was archbishop of Rheims towards the end of the 8th century. This Tilpin is alluded to by Hincmar (845-882), his third successor in the see. According to Flodoard *(ob.* 969), Charles Martel drove Ragobert, bishop of Rheims, from his office, putting in his place a warrior-clerk, Milo. The same writer repre­sents Milo as discharging a mission among the Vascones or Basques, the very people to whom authentic history has ascribed the great Carolingian disaster at Roncesvalles. It is possible that we owe the warlike legends that have accumulated round the name of Turpin to some confusion of his identity with that of his martial predecessor. Flodoard says that Tilpin was originally a monk of St Denis ; and we know from Hincmar that, after his appoint­ment to Rheims, he occupied himself in securing the re­storation of the metropolitan rights and landed property of his church, whose revenue and prestige had been im­paired under Milo’s rule. He was, according to the latter authority, elected in the days of Pippin, the son of Charles Martel, *i.e.,* between 752 and 768. He died, if we may trust the evidence of a diploma alluded to by Mabillon, in 794. Hincmar, who composed his epitaph, makes him bishop for forty years and more, from which it is evident that he was elected somewhere about 754. Flodoard, however, states that he died in the forty-seventh year of his bishopric. Tilpin was present at the synod of Rome in 769 ; and Pope Hadrian, at the request of Charlemagne, sent him a pallium and confirmed the rights of his church *(Gallia Christiana,* ix. 28-30). According to Flodoard, he substituted monks for canons in the monastery of St Remigius; and 17th-century tradition ascribed to him an ancient *pontificale,* still extant in Marlot’s days (17th century).

The above is a summary of all that authentic history and trust­worthy tradition teach about the author to whom the common voice of the Middle Ages ascribed the *Ηistoriα Caroli Magni.* A short account of the work has been given elsewhere (Roland, Legend of). But, popular as this production was during the Middle Ages, it was rather the crystallization of earlier Roland legends than the source of later ones. Potthast has enumerated about fifty codices without by any means, according to Μ. Gaston Paris, exhausting the list. The latter writer has made the *Historia Karoli* the subject of a special study *(De Pseudo-Turpino,* Paris, 1865), which may be recommended as a model of brilliant though cautious scholarship. The great popularity of the pseudo-Turpin seems to date from the latter half of the 12th century ; and Μ. Paris enumer­ates at least five French translations belonging to the 13th, and one into Latin verse of about the same age. Mr Ward *(Cat. of Romances,* 549) has recently expressed a doubt as to whether the Turpin chronicle was completed at Vienne.

TURQUOISE, a blue or bluish green mineral, valued, when cut and polished, as an ornamental stone. The finest variety occurs in Persia, whence it originally reached western Europe by way of Turkey, and thus came to be called by the Venetians, who imported it, *turchesa,* and by the French *turquoise.* It is chemically a hydrated phosphate of aluminium, associated with a variable pro­portion of hydrated phosphate of copper, to which it owes much of its colour. The green tints of certain varieties appear to be due to admixture with salts of iron. A fine blue Persian turquoise, analysed by Prof. A. H. Church, yielded—alumina 40∙19, phosphorus pentoxide 32∙86, water 19∙34, cupric oxide 5∙27, ferrous oxide 2∙21, and manganous oxide 0∙36. The most valued tint of the turquoise is a delicate blue, inclining slightly to green ; in many speci­mens the green becomes more pronounced with age. Although the turquoise is practically opaque, sections may be ground so thin as to admit of examination by trans­mitted light. Its microscopic structure was first studied by Prof. Fischer of Freiburg (Baden), afterwards by H. Bücking of Strasburg, and recently by Clarke and Diller.

@@@1 There is little external difference between the sexes, and the brightly-contrasted colours of the hen-bird seem to require some kind of concealment.