marriage, but on both occasions it ended in disappointment, and his home after his father died was cheerless and solitary, without solace or comfort of any kind.

If Turner had died early his reputation as an artist would have been very different from what it ultimately became. He would not have been recognized as a colourist. It was only after the year 1820 that colour began to assert itself strongly in his work. He painted for many a year in greys and greens and browns, went steadily through “the subdued golden chord,” and painted yellow mists and suns rising through vapour ; but as time went on that was no longer enough, and he tried to paint the sun in his strength and the full glories of sunshine. The means at the painter’s dis­posal are, however, limited, and Turner, in his efforts after brilliancy, began to indulge in reckless experiments in colour. He could not endure even the slightest restraints which technical limitations im­pose, but went on trying to paint the unpaintable. As a water­colour painter Turner stands pre-eminent ; he is unquestionably the greatest master in that branch of art that ever lived. If his work is compared with that of Barrett, or Varley, or Cozens, or Sandby, or any of the earlier masters, so great is Turner’s superior­ity that the art in his hands seems to be lifted altogether into a higher region.

In 1843 a champion, in the person of Mr Ruskin, arose to defend Turner against the unjust and ignorant attacks of the press, and what at first was intended as a “short pamphlet, reprobating the manner and style of these critics,” grew into the five volumes known as *Modern Painters.* The writer employs all his eloquence and his great critical faculty to prove how immeasurably superior Turner was to all who had ever gone before, hardly restricting his supremacy to landscape art, and placing him among the “ seven supreme colourists of the world. ” Two lives of Turner have been written, one by Mr Thornbury, the other by Mr Hamerton. The work of the latter deserves the highest commendation ; it gives a clear and consistent history of the great artist, and is characterized by refined thought and critical insight. An excellent little book by Mr W. C. Monkhouse should also be noticed. (G. RE.)

TURNHOUT, a town of Belgium, in the province of Antwerp, 25 miles east-north-east from Antwerp and 6 from the Dutch frontier, stands in the middle of a wide plain. It is a prosperous manufacturing and commercial centre, the chief industries being the weaving of cottons and linens (especially ticking), lace-making, paper-making, brick-making, dyeing, bleaching ; there is also an establish­ment for the rearing of leeches. The population of the commune in 1876 was 15,743..

TURNING. See Lathe.

TURNIP. See Agriculture, vol. i. pp. 365-368, and Horticulture, vol. xii. p. 288.

TURNIP-FLY, Turnip-Flea, or Earth Flea-Beetle, the name applied to several species of *Haltica* which infest turnip fields and do considerable damage to crops. The genus belongs to the family *Chrysomelidæ,* and includes about 100 species. The turnip-fly most usually met with, *Haltica nemorum,* is scarcely 2mm. in length and of a shining black colour, with two och­reous yellow longitudinal bands run­ning along each wing-case; the bands are slightly sinuous and bend inwards at the hinder end. Of the eleven- jointed antennæ the first three seg­ments are yellow and the remainder black. The coxæ are black, the rest of the legs having a yellowish hue. The coxæ and tibiæ are stout and formed for leaping, especially in the posterior pair of legs. The remarkable power of jumping has given rise to the name turnip-flea. The females are slightly longer and decidedly stouter than the males.

Another species, *H. concinna,* has a greenish yellow or brassy appearance, and the tibiæ of the two posterior legs are armed with a thorn-like hook. A third species, *H. consobrina,* is of a dark blue colour above, whilst another species, *H. obscurella,* often very abundant, is of a lighter blue colour, and larger than those mentioned above.

The life-history of *Ηaltica nemorum* may be taken as an example of that of the genus. The beetles begin pairing during April, and continue all through the summer. The female lays but few eggs, usually one a day. The eggs are deposited on the under surface of a leaf, close under one of the projecting veins ; they possess a pro­tective colouring. The development within the egg lasts ten days, at the end of which a small larva creeps out, and at once eats its way through the lower epidermis of the leaf into the mesophyll and there forms long winding burrows. The larva or maggot is of a yellowish colour and somewhat cylindrical in form. It has three pairs of legs anteriorly and a pair of pro-legs at its hinder end. The most anterior and the most posterior segment bear a black spot. The mouth is provided with a pair of mandibles, by means of which the larva eats its way through the soft tissue of the leaf. This larval condition lasts about six days ; the maggot then leaves the leaf and buries itself some one or two inches beneath the surface of the earth ; here it turns into a chrysalis. From this the full- grown beetle emerges after an interval of fourteen days, and it is in this stage of its life-history that it proves most destructive to the turnip crop. Several broods may be produced each season ; the beetle lives through the winter sheltered under fallen leaves, pieces of wood, clods of earth, &c., until the warmth of spring awakens it, when it soon begins to lay eggs.

Since the chief damage to the crop is due to the perfect beetle devouring the young leaves of the turnip plant, one of the most important methods of dealing with the pest is to ensure a strong and healthy growth of the plant, by means of manuring, watering, &c. Another preventative is the removal of such weeds as the shepherd’s purse and charlock, which harbour the insect in great numbers, and the removal of any stubble in which it might pass the winter. When a crop is badly attacked dressings of soot and gas-lime mixed with sulphur and lime, or of soot or lime alone, prove efficacious, but these must be applied whilst the dew is on the leaves or the “fly” will escape.

TURNSTONE, the name long given@@1 to a shore-bird, from its habit of turning over with its bill such stones as it can to seek its food in the small crustaceans or other animals lurking beneath them. It is the *Tringa interpres@@2* of Linnæus and *Strepsilas interpres* of most later writers, and is remarkable as being perhaps the most cosmopolitan of birds ; for, though properly belonging to the northern hemisphere, there is scarcely a sea-coast in the world on which it may not occur : it has been obtained from Spitzbergen to the Strait of Magellan and from Point Barrow to the Cape of Good Hope and New Zealand— examples from the southern hemisphere being, however, almost invariably in a state of plumage that shows, if not immaturity, yet an ineptitude for reproduction. It also, though much less commonly, resorts to the margins of inland rivers and lakes ; but it is very rarely seen except in the neighbourhood of water, and salt water for preference.

The Turnstone is about as big as an ordinary Snipe ; but, com­pared with most of its allies of the group *Limicolæ,* to which it be­longs, its form is somewhat heavy, and its legs are short. Still it is brisk in its movements, and its variegated plumage makes it a pleasing bird. Seen in front, its white face, striped with black, and broad black gorget attract attention as it sits, often motionless, on the rocks ; while in flight the white of the lower part of the back and white band across the wings are no less conspicuous even at a distance. A nearer view will reveal the rich chestnut of the mantle and upper wing-coverts, and the combination of colours thus ex­hibited suggests the term “ tortoise-shell ” often applied to it—the quill-feathers being mostly of a dark brown and its lower parts pure white. The deeper tints are, however, peculiar to the nuptial plumage, or are only to be faintly traced at other times, so that in winter the adults—and the young always—have a much plainer appearance, ashy-grey and white being almost the only hues observ­able. From the fact that Turnstones may be met with at almost any season in various parts of the world,@@3 and especially on islands as the Canaries, Azores, and many of those in the British seas, it has been inferred that these birds may breed in such places. In some cases this may prove to be true, but in most evidence to that effect is wanting. In America the breeding-range of this species has not been defined. In Europe there is good reason to suppose that it

@@@1 The name seems to appear first in Willughby’s *Ornitholοgia* (p. 231) in 1676 ; but he gave as an *alias* that of Sea-Dottrel, under which name a drawing, figured by him (pl. 58), was sent to him by Sir Thomas Browne.

@@@2 Linnæus (*Œl. och Gothländska Resa,* p. 217), who first met with this bird on the island of Gottland, 1st July 1741, was under the mis­taken belief that it was there called Tolk ( = *interpres).* But that name properly belongs to the Redshank *(q.v.),* from the cry of warning to other animals that it utters on the approach of danger.

@@@3 The authors of *The Water Birds of North America* (i. p. 123) in reference to this fact raise the ingenious question, “ Do birds, after they have become old, effete, or barren, prefer to stay in a warm climate ? ”