

Science Notes.

PECULIARITIES OF COLD-BLOODED ANIMALS.

Among the higher animals the association between life and warmth is so familiar as to account, perhaps, for the very general feeling of repulsion excited by cold-blooded animals, such as reptiles and amphibians. This feeling of repulsion has led to a great deal of injustice with regard to the animals in question. Shakespeare described the toad (presumably English) as "ugly and venomous," and it is remarkable that some country people, even at the present time, firmly believe the toad to be poisonous, and also given to persistently following persons about and making savage and unprovoked attacks on them. Snakes also are sometimes spoken of as "slimy," an adjective which could not be applied to a snake by any person who had handled one.

If, however, we consider cold-blooded animals as a whole, it must be admitted that, with one small exception, they include every venom-secreting creature known. Offensive poisons are common among reptiles, amphibians, fishes, insects, and arachnids; while the one exception referred to above is an animal which, though classed as a mammal, is very far removed from all other members of the group. It is the ornithorhynchus, or duck-billed platypus of Australia, the male of which secretes a venomous fluid in the tarsial spur. This animal, however, differs so far from other mammals, that it lays eggs, and its blood is said to be 150° Fahr.—colder than that of more normal mammals.

Other curious phenomena, of a chemical or physical nature, are observed in the case of cold-blooded animals only. There are at least two well-known examples of fish which kill their enemies, or, at all events, paralyse them, by giving off electric shocks. The electric ray, "torpedo" or "cramp fish," weighs about 100 lbs., and can, by its electric shock, kill a duck. The electric eel, of South America, is five feet long, and has been known to throw a man down by its shock. It is even said to kill horses; but, in the cases described, it is, perhaps, more probable that the horses were only paralysed by the electric force, and then fell and were drowned or trodden to death by the frantic struggles of their companions in misfortune.

Other fish, especially those living in the deep sea, where no sunlight ever reaches, emit shafts of light before their eyes. In some cases they are provided with rows of "lamps" fitted with lenses and reflectors.

Among the higher and hot-blooded animals, there is no instance of an animal surrounding itself by a protective material secreted from its own body, in any way comparable to the cocoon of the silk-worm or the web of the spider.

It is said, also, that dyes abound among such cold-blooded animals as molluscs and insects; and had not attention been drawn to a different quarter by the discovery of coal tar colours, these would have been more generally studied and employed.

A writer in the *Chemical News* suggests, as a sphere of research for chemists and biologists, that they should attempt to ascertain how far all these varied and

remarkable chemical and physical phenomena may be regarded as the outlet for energy, which, in the hot-blooded animals, is used up in maintaining their high temperature.

Notes on Art.

EXHIBITION OF VENETIAN ART AT THE NEW GALLERY.

The Winter Exhibitions have opened, and we are, indeed, somewhat behind hand in our description of them; but we are not too late, for the Royal Academy has only just appeared in what has been called its "winter garb of penitence." We will take the exhibition of Venetian Art at the New Gallery, first—where the Directors hope, they tell us, to continue next winter their exhibitions, illustrating the art of Europe. In some respects, the present exhibition is less interesting than the Florentine one which preceded it. There is, however, much to see. First, who were the prominent men of the Venetian School? Bellini, born 1426; Mantegna, 1431; Titian, 1477; Giorgione, 1476; Tintoretto, 1518; Bordone, 1520; Veronese, 1528; Caneletto, 1697; and many others, a goodly list; the greatest of them being Titian. Of his work—although there is nothing to compare to the famous pictures in Venice, and to the "Bacchus and Ariadne," "The Marriage of Catherine," and the "Venus and Adonis" in our own National Gallery—still, among many of the doubtful or early works of this Master's at the New Gallery, there are two grand pictures. These are No. 252, *A Portrait of Caterina Cornaro*, Queen of Cyprus. She married, in 1472, Giacomo Lusignano, King of Cyprus; and at his death, was proclaimed Queen, but abdicated in favour of the Republic in 1489. "When Titian or Tintoretto look at a human being, they see at a glance the whole of its nature outside and in, all that it has of form, of passion, or of thought; saintliness or loveliness . . . or whatever other quality . . . and every one may, if he chooses, find his own special pleasure in the work." We need not say from whom we are quoting. In *Caterina* is found the intense womanly charm and dignity of a Queenly lady. In the same gallery, there is a different picture by Titian, No. 248, *Andrea Gritti*, Doge of Venice. In him is seen the astute worldly face of a leader of men, one of Titian's leaders who knew how to guide, and, what is more difficult, to steer in troubled waters a bark filled with men who were themselves great.

Giorgione comes next; the catalogue tells us that there are fourteen works by him in the New Gallery, but competent authorities hesitate to admit that the whole of Europe contains more than ten undoubted pictures by his hand. Nurses will look with great interest at No. 91, called *Portrait of a Lady Professor at Bologna*, whose hand rests on a skull. Were it not for the delicacy of this hand, we should certainly doubt whether the attribution of sex is correct. It would be gratifying to think that it was a learned lady by Giorgione, but, on the whole, one feels inclined to accept the verdict recently expressed by a critic, that the picture is probably by Bernardino Lincino, whom the catalogue does not credit with a

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