identify him, as he probably has a variety of both. He claimed to be on his way to Albany.

Perhaps if he can be exposed all along the line, he may soon be rendered harmless. F. W. STAEBNER.

Westfield, Mass., Jan. 8.

The West Indian seal.

Mr. Henry L. Ward, a son of Prof. Henry A. Ward of Rochester, N.Y., has recently returned from a special trip to the Gulf of Mexico in search of the little-known West Indian seal, Monachus tropicalis, bringing with him a good series of skins and skeletons, including those of both sexes and a suckling. Professor Ward, who has been on the alert for several years for this, until recently, almost mythical species, on learning of the probable locality of a small colony of them, promptly organized, with his usual energy in such matters, an expedition to procure specimens, in which enterprise he was joined by Mr. Fernando Ferrari-Perez, naturalist of the Mexican geographical and exploring commission, who, with Mr. Ward, procured a schooner at Campeachy for a trip to the three little keys north-west of Yucatan known as The Triangles (Los Triangulos). Owing to bad weather, they had but three days at the keys, but their efforts were well rewarded; and the West Indian seal is now in a fair way to be soon represented in several of our leading museums. The only specimens hitherto known to be extant in collections are the one recently acquired by the U. S. national museum (see *Science*, iii. 752), and the imperfect skin without skull presented many years ago by Mr. P. H. Gosse to the British museum. So little was known of the species until recently, that even its generic relations were in doubt, its reference to the genus Monachus having been regarded as provisional.

The material obtained by Mr. Ward, at much risk and expense, having been kindly placed in my hands for description, I am able to throw some further light upon this interesting species. Its cranial as well as external characters show it to be unquestionably referable to the genus Monachus. The color of the animal proves to vary much with age. The young are at first wholly intense black, remaining of this color doubtless during their first year. As they become older, the color changes to lighter; the dorsal surface becomes grayish black, through a slight gray tipping to the black hairs, shading on the sides of the body into the yellowish white of the ventral surface. The front and sides of the muzzle, and the edges of the lower lip, become yellowish brown; the whiskers change from black or blackish to yellowish white, a few only of the shorter ones remaining dark, either wholly or only at the base. In the younger animals the whiskers are not only much darker than in the adult, but much longer and heavier.

The skull is depressed, broad, and heavy. In general proportions it differs from that of Phoca vitulina in the longer, more sloping, and much broader ante-orbital portion, and the much greater thickness of the inter-orbital region, and the auditory bullae are less swollen and relatively much smaller. The dentition is very heavy, the length of the largest molars being 16 mm., with a breadth of 10 mm. The molars are crowded, set somewhat obliquely to the axis of the jaw; the second, third, and fourth have one small accessory cusp before, and two behind, the larger or principal one. These are well marked in the younger or middle-aged specimens, but become worn and even wholly obliterated in old age. Gray's description of the dentition of the Mediterranean species (M. albiventer) applies in every particular to that of the present species.

The nails of the fore-feet are large and strong, the largest being from three-fourths of an inch to an inch in length; those of the hind-feet are rudimentary, being reduced to minute horny points, scarcely visible except on close examination.

The flat skin of the full-grown male measures about seven feet in a straight line from the end of the nose to the point of the tail, the free portion of which latter has a length of three inches. The adult female has a length of about six feet.

Mr. Ward obtained a young one only a few days old, and found nearly ripe foetuses in several of the females taken. This would indicate that the young are born in December.

The Triangles are about a hundred and fifty miles from the Alacrane Reefs, where the species was found in abundance by Dampier about two hundred years ago. Small colonies doubtless still exist on the uninhabited reefs and keys of the Gulf of Mexico and Caribbean Sea. It has been met with off the coasts of Cuba and Jamaica, and has been reported as an occasional visitor to the Bahamas and the Florida Keys.

Mr. Ward calls my attention to the fact that Columbus not only met with it in the West Indian waters, but that his sailors killed these seals for food, nearly four hundred years ago. It is therefore a remarkable fact that the first discovered American seal should be the latest one to become known satisfactorily to science.

The present notice is preliminary to a more elaborate account of the species now in preparation, which will be illustrated with plates of its osteological and external characters. The American museum of natural history of this city has secured skins of an adult male, an adult female, and a young example, and a fine adult male skeleton, which will soon be mounted for exhibition. J. A. ALLEN.

New York, Jan. 6.

Early forms of writing.

Your remarks (*Science*, viii. No. 202) on Dr. Brinton's paper relating to the early modes of writing must form my excuse for this note.

I have made some discoveries, since the publication of my 'Notes on certain Maya and Mexican manuscripts,' which seem to confirm Dr. Brinton's opinion that the mode of writing which he designates the 'ikonomatic system' was practised to some extent by the Maya scribes,—a fact I had noticed previous to seeing his paper. For example: I find on plate xvii. of the Codex Troano the name of a bird (*Kuch*, in Maya) designated by a compound hieroglyph consisting of two parts, one of which is Landa's letter-character *Ku*, the other the symbol for the cardinal point west, or *Chikin* (according to Rosny). The name of another bird (the quetzal or *Kukuitz*) is denoted simply by a duplication of Landa's *Ku*. A few other characters formed in the same way have been discovered. But, so far as determined, most of the characters are symbolic, where the object intended is designated by a single characteristic, the head being the part or feature usually selected to represent persons and animals. For ex-