

they could be mistaken, while clinging to the limbs of trees, for short stubs of broken branches, and thus cheat their enemies out of a meal.

Taking this as the same species as described and figured in the article, it may be noticed that the distribution is wide, Ohio to Kansas, though it may be expected wherever apples are grown. From the adults, several lots of eggs were found on underside of leaves, and their development will be watched.

E. S. TUCKER.

Lawrence, Kansas, Aug. 16.

#### EXPLOSIVE GAS IN LOCOMOTIVE ENGINES.

In the article on p. 79 of *Science*, Aug. 11, 1893, concerning "Explosive Gas in Hot Water Apparatus," are some very pertinent questions to which I would like to add several in regard to high-pressure engines.

Assuming the facts stated as true, as they probably are, in the case of heating furnaces in houses, may they not be true also in, for instance, a locomotive engine under certain circumstances?

May not the hydrogen in a locomotive become mixed with common air?

May not this mixture be exploded under certain circumstances likely to occur in locomotives?

May not this be the real explanation of those sudden and terrific explosions that occasionally occur, where no apparent cause can be assigned?

M. W. V.

Ft. Edward, N. Y., Aug. 16

#### COYOTE OR BEAR?

COYOTE or bear? "that is the question" which has apparently agitated Dr. Franz Heger, Curator of the Ethnographical Museum at Vienna, ever since Mrs. Zelia Nuttall, Special Assistant in Mexican Archaeology of the Peabody Museum, Cambridge, Mass., described and figured an ancient Mexican shield inlaid with feather-work and gold and bearing an animal device of a blue "monster" on a red field. (*Internationales Archiv für Ethnographie*, Vol. V., Part 1, 1892).<sup>1</sup>

This shield Mrs. Zelia Nuttall found preserved at Castle Ambras, in Tyrol, and, recognizing its unique character, obtained permission from the Imperial Oberhofmeis-

teramt at Vienna to have it sketched and photographed. It proved to be an ancient Mexican feather-work shield, with an authentic history, like the head-dress of the time of Montezuma, still exhibited at Vienna, "unfortunately always upside down." This was restored by Dr. Ferdinand von Hochstetter and described by him as a standard or banner.<sup>2</sup> Both head-dress<sup>2</sup> and shield were sent by Cortez to Charles V., and subsequently formed part of the historical collection of armor formed by his nephew, the Archduke Ferdinand of Tyrol, and were duly recorded in the Inventories of that famous collection. Strangely enough, the shield was supposed to be lost, and Professor Hochstetter lamented "its total disappearance." All the while it was lying *perdu*, in a case labelled "Transatlantic and Oriental Curiosities," at Castle Ambras in Tyrol, until its importance was recognized by Mrs. Nuttall on a chance visit to the Museum Ambras. Soon after Mrs. Nuttall announced the continued preservation and whereabouts of this valuable Ancient Mexican relic to the Anthropological Society of Berlin, and the shield was consequently removed to Vienna. Some other Ancient Mexican objects were also transferred there at the same time, and these Dr. Franz Heger has described in a memoir published in the *Annals of the Imperial Natural History Museum of Vienna*, 1892.<sup>3</sup>

It is not altogether surprising that the Austrian curators should have felt a little sore that the real history of so valuable a relic should have been forgotten, although the specimen was duly taken care of, and that its whereabouts and unique value should have been made known by a foreign visitor and Mexicanist scholar. But that is no reason why Mrs. Zelia Nuttall's critical and searching investigations on "ancient Mexican shields" in general, and the Ambras shield in particular, should be misrepresented and misquoted. Any one reading Mrs. Nuttall's original memoir, and Dr. Heger's more recent article, cannot help seeing such to be the case. For instance, Dr. Heger curtly states, "According to Z. Nuttall the mon-

1. See "Ancient Mexican Heraldry," by Agnes Crane. *Science*, Vol. XX., No. 503, Sept., 1892.

2. "Standard or Head-dress," by Zelia Nuttall, Peabody Museum Papers. Vol. I., No. 1, 1888.

3. *Alt mexikanische Reliquien aus dem Schlosse Ambras in Tirol*.

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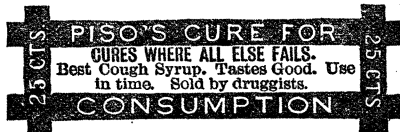
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