

A NOTE ON THE APPLICATION OF SCIENTIFIC METHOD  
TO LITERATURE.

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PEOPLE have lately begun to study literary products inductively; but that study has been almost entirely systematic. Words, sentences, paragraphs, figures of speech, etc., are counted and classified, and from the results obtained some slight conclusions are drawn as to the development of style. This is undoubtedly good work. But it is easy work and perhaps it is on that account that we so readily see that it is good.

In the present paper I wish to propose something more difficult. I wish to indicate the use of a science as a tool in the study of literary products scientifically. The history of any science is a story of development by stages, each successive stage of advance caused by the application of another department of science to the investigation of the one in question, for example, mathematics to electricity.

Literature is a product of the mind, and its use and purpose are by and for the mind. Is it not then intimately connected with psychology, and should not an investigation and comparison of the facts of each be of benefit in determining the laws of each?

Let us take, for example, that exceedingly important part of most literary products, Plot. As an outline for the study of plot (not to be confounded, of course, with plot content), I would propose the following:—

(A.) *The psychological bases of plot.* Here the main part of the work is to be done. The exceedingly delicate mental phenomena included loosely under such terms as attention and interest are to be investigated by experiments as wide in range as possible; and from all this should result facts enough for the construction of the ideal plot and the determination of its structure. This we might call

*The typical plot*, that is, plot stripped of all accidental factors and limitations. The next step would be to consider the various adaptive modifications which this typical plot would undergo when subjected to the restraints and environment of the various great classes of literary products; and our investigations under the first head, and I think I may say such investigation only, will enable us to understand the differentiation. We should thus be led to consider the plot of the lyric, the epic, the drama, the novel, etc.

B. *The temporal development of plot.* Here we should commence from the other end as it were, and from the existing literary products trace the growth of plot from its beginning to the present; and from these records obtain the history of the development of those mental functions which plot presupposes. This second division is the natural and necessary complement and check of the first and should be as useful to psychology in this department and, in an analogous way, as paleontology is to zoölogy or botany.

That the method here outlined is merely tentative I confess. It would, of course, be severely limited and the conclusions impaired by any limitation in the range of experiments under the first head; and in the present state of scientific psychology to be at all possible, the method would have to be materially modified to produce any result at all. I have, however, in this present note, only attempted to be suggestive, not conclusive.

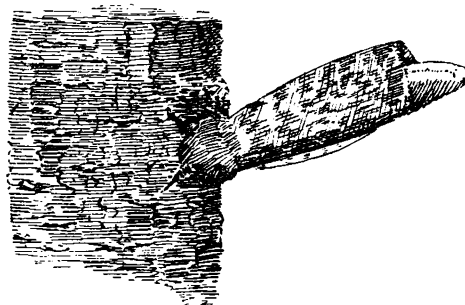
## LETTERS TO THE EDITOR.

## A Case of Protective Mimicry.

THIS morning, as I was passing a small apricot tree standing in my yard, my attention was arrested by what appeared to be a short stub of a branch, about 1½ inches long, projecting from the side of the tree about 20 inches from the ground. Having recently pruned the tree carefully, I wondered how I had happened to leave that stub, and at once applied my pocket-knife to remove it. Much to my surprise, I found that the supposed stub of a branch was a moth attached by its head to the side of the tree. The accompanying sketch represents its appearance.

The grayish-brown mottled color of the closed wings of the moth matched the color of the bark completely, and the angle

made by the axis of its body with the tree was such as a branch would naturally make. It was attached, with its ventral surface uppermost, and the extremity of the abdomen, which projected beyond the closed wings, was nearly white, as seen from above, thus imitating very perfectly the central woody portion of the broken branch. Having turned the moth over in my attempt to remove the supposed branch, it assumed the natural position of such insects on the side of the tree, but upon returning a half-hour later I found it again in the position shown in the figure. Several



other persons who saw it were as completely deceived by its appearance as I had been, and it is easy to believe that the keen eyes of a hungry insect-eating bird might see there only the stub, and thus be cheated out of a breakfast.

GEO. H. COLTON.

Hiram, O., June 11.

## A Maya Month Name.

As every additional find in reference to the Maya manuscripts is of interest to some of the readers of *Science*, I submit the following item.

In the bottom line, Pl. 46, Dresden Codex, is the glyph shown in Fig. 1, which, as all students of these Codices admit, is the symbol for the Maya month *Kayab*. Here it is without the appendage which sometimes accompanies it. In Fig. 2, from the bottom line of the Dresden Codex, Plate 61, the form is more complete, and the appendage is present.

The signification given by Perez to the name of this month is "singing," from the Maya word *Kay*, "to sing, to warble," but a study of the symbol leads to quite a different interpretation. According to the interpretation heretofore given by me (*American Anthropologist*, July, 1893, p. 246) the character in the upper right-hand corner of the glyph has *b* as its chief phonetic element,



which is also one of the consonant sounds of the word *Kayab*, and the appendage is the month determinative. But I was unable at the time the article referred to was written to indicate the portion of the symbol denoting the *k'* element. A more thorough examination, as given in Fig. 2, has called my attention to the fact that in the left portion and general form we have precisely the symbol for *Aac* (*Ac*, *Ak*), the "turtle," as given in the upper division of Plate 17, Cortesian Codex. Following this interpretation, the true name of the month is *Acyab* or *Akyab*, which, for the sake of euphony, has been changed to *Kayab*. The derivation, according to this interpretation, will be from *Ac* or *Ak*, "turtle," and *Yab* or *Yaab*, "many, abundant, plentiful." Adding the month determinative, we obtain as the full signification, "The month when turtles abound." Whether or not turtles are most abundant on the coast of Yucatan during the month of June I am unable to say. The only evidence I have at hand relating to the subject is found in Mrs. LePlongeon's charming little work, "Here and There in Yucatan." In this she describes a trip along the coast in June, at which time turtle catching was in progress and attended with great success, the fishermen's pens being full. Dr. Schellhas (*Zeitschrift für Ethnologie*, 1892) notices the resemblance of this character to the turtle symbol.