

ETHNOLOGY

# New Laws of Indian Speech Gained From Cheyenne Study

With Researches in Oklahoma, Dr. Michelson Begins to Examine Indian Dialects, of Which There are About 150

**N**EW FACTS regarding the natural laws that shaped the language of an Indian tribe have been established by Dr. Truman Michelson, noted specialist in languages, of the Bureau of American Ethnology, who has just returned to Washington from researches among the Cheyennes of Oklahoma.

Aboriginal America contained many different tribes, each speaking its own distinctive language. According to one classification there were approximately 150 of these unrelated Indian languages spoken by Indian tribes of North and South America. The situation was further complicated in that some of the languages were subdivided into dialects spoken by related tribes.

## Salvaging Language

Now, centuries after this great complex language system has passed out of active importance, ethnologists are studying what they can salvage of the surviving Indian languages, and learning valuable facts about the migrations and relationships of certain tribes and the manner in which human languages have evolved.

Describing his researches among the Cheyenne, Dr. Michelson explained that the Cheyenne are known to be a branch of the great Algonkian Indian family. He has been engaged in identifying the words and stems of Algonkian origin in Cheyenne speech that he could find, and then in trying to work out the laws governing the changes of the sounds from Algonkian into Cheyenne speech.

Before going to Oklahoma, Dr. Michelson pored over the only available guidebook to Cheyenne language, the Cheyenne dictionary made by a Menonite missionary named Rudolf Petter. Petter was a practical person, and his dictionary would have been useful as an aid to communication, but it lacks features that the scientist considers essential in a study of an Indian language. Nevertheless, Dr. Michelson was able to identify several hundred Cheyenne words and stems as being definitely Algonkian, among them some parts of the

body, a few numerals, a few terms of kinship. With this information, the ethnologist set out to stay among the Cheyenne, to hear them say the words that Petter had tried to write down, and to learn more about the organization of their language, first-hand.

One fact which Dr. Michelson at once observed was the importance of tone. A word in Cheyenne may not mean anything at all if it is spoken in the wrong tone—just as with us a badly misspelled word is not recognizable on a written page. To the ethnologist, that special use of tone meant some change had taken place long ago in the tribal speech. He found sufficient evidence to demonstrate that the high tones in Cheyenne are the result of dropping out a consonant, generally the letter "p." The Algonkian word would have contained the consonant.

A long vowel in Cheyenne is another clue to a law of language formation. It means that some phonetic change has taken place. In some other words of Algonkian origin, the "k" between vowels has been lost. Altogether, Dr. Michelson has established 80 examples of phonetic shifts from Algonkian to Cheyenne. So far, only a small fraction of the Cheyenne vocabulary has been demonstrated to be Algonkian in origin, he stated, but more words may be found, he believes.

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PHYSIOLOGY

## Car Sickness is Due To Defect of Ears

**I**T HAS LONG been said that the way to a man's heart is through his stomach. But it is less generally known that one way to the stomach is through the ears—at least, one way to upset it. Dr. J. E. Lebensohn, of Chicago, has shown this in a recent study of car sickness.

One idea that has been prevalent about the cause of car sickness is that the primary trouble is with the mus-

cles of the eyes, which move continually in following objects on the landscape.

The question was whether or not this movement of the eyes upset the stomach. Dr. Lebensohn brought about nystagmus, to and fro movement of the eyes, by having persons watch a revolving drum on which black and white stripes were painted. He knew that things happen in the stomach that is going to be nauseated before the owner of the stomach is aware that anything is wrong. Accordingly he arranged for registering these changes in the stomachs of his subjects by having them swallow little balloons and connecting the balloons with manometers, which serve as pressure gauges. His conclusion was that the movements of the eyes did not cause nausea.

The other prevailing idea about car sickness is that the trouble is with the balancing mechanism. To bring about disturbance of this mechanism, which is within the ear, the investigator ran cold water about the ear and into its external canal. The changes in the stomach which he had been looking for occurred in this experiment.

Therefore, he believes that car sickness is primarily due to disturbance of the balancing mechanism, although persons with certain eye troubles may be more susceptible than others.

*Science News Letter, October 3, 1931*

## BEHAVIOR OF THE LOWER ORGANISMS

BY

Herbert S. Jennings

*A description of the general body movements exhibited in the behavior of the Protozoa and Coelenterata as representative of the lowest Metazoa, this book answers the questions: What lasting changes are producible in organisms by their environment of otherwise, and what are the principles governing such modifications. (Third printing, price \$4.50)*

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