

based on brines and gypsum. Whether an oil field lies under the surface is a question which only the explorations of the future can solve.

J. F. KEMP.

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The above named publication by the Museum of Ethnography in Berlin appears quarterly in large folio form, and consists of special studies by experts in some of the lines of anthropologic science.

The last number, Band IV., Heft 1., deserves separate mention for the valuable contributions it contains to American archaeology. It presents three articles, each of which is a model in its way.

The first is a descriptive catalogue of a collection of idols, fetishes and priestly ceremonial objects from Zúñi, collected and explained by Mr. Frank Hamilton Cushing, and now deposited in the Berlin museum. It is illustrated with 26 drawings inserted in the text, and the purposes of the objects with their mythological associations are accurately set forth.

The second article is by Dr. Carl Sapper, on 'Ancient Indian Settlements in Guatemala and Chiapas.' It is accompanied by a most useful map of Chiapas, Tabasco, Guatemala and part of Honduras, giving the locations of the ancient native towns, caves containing remains, rock-drawings and localities deserving further investigations. To this are appended 20 plans of ancient ruined cities within the area mapped, a number of them entirely new, others more accurately drawn than in previous publications. Among them may be mentioned the famous Iximche, the capital of the Cakchiquels; Sacabajá, a city of the Quiches; Los Cuyes in the department of Huehuetenango; the rock-inscriptions of Zacualpa in Chiapas, and others. This archæological study will be of great use to future investigators.

The third article is an interesting study,

by the eminent Americanist, Dr. Carl Seler, of a series of vases and similar objects brought by Dr. Sapper from Guatemala. It is illustrated by 104 drawings inserted in the text, and the subject is elucidated by the thorough acquaintance with the literature of the conquest which the author always has at command. A number of these vases are decorated with hieroglyphs of the form characteristic of the Mayan tribes. Some of these the author identifies with others in the manuscripts and sculptures, and suggests explanations for them. He is inclined to believe that such inscriptions indicate that the vases were manufactured elsewhere than where they were found; an opinion which will not hold, in view of the large number of sherds bearing glyphs obtained from the southern Mayan territory. This essay is a most important contribution to the study of the Mayan hieroglyphs.

D. G. BRINTON.

#### *SOCIETIES AND ACADEMIES.*

##### THE ASTRONOMICAL AND PHYSICAL SOCIETY OF TORONTO.

At a meeting on June 11th the following notes on mass and temperature in the solar system were read by Mr. A. Elvins:

I have long thought that a relation exists between the masses of the heavenly bodies and their temperatures, the heat rising as the mass increases. Mercury is too near the Sun to be observed with much chance of success. Venus is somewhat better situated, but its brilliancy is so great that it is a difficult object to observe; its atmosphere, however, often shows dark patches, which I think may be openings through the general mass of clouds which seem to envelope the planet, reflecting light from their outer surface. Like the earth, I think it has polar caps of snow; I have seen a bright spot at the north pole on several occasions during the past fortnight, and similar observations have been previously