

## DISCUSSION AND CORRESPONDENCE

### NAVAHO SAND-PAINTINGS

In the fall of 1929, I worked in the Black Mountain region copying sand-paintings for the Navaho section of the Santa Fé laboratory.

Hasteen Ayon de leh was my informant and Haske Nas-Wood, my interpreter. I was able to record seventy-six paintings from fourteen different chants.

After the three months' work was finished, Hasteen Ayon de leh asked if I would like to have two sand-paintings used in Star gazing. Of course I was deeply interested, not knowing that sand-paintings were used in prognostication.

My informant told me that the painting is made on the west side of the hogan floor. The patient sits on the painting, facing the east, and keeps his eyes fastened on a rock crystal placed on the floor directly under the sky hole. Eagle feathers stand in the sand at the four points of the compass. They are payment to the Star people.

The prognosticator goes outside of the hogan with another rock crystal in his hand, which he holds up to the sky while he addresses the stars in song. The song commences with the words: "Big Star, I am your child."

Both he and the patient inside watch the rock crystal for a sign. If the rays of a star shine through the crystal to a certain part of the body, that is a sign that the illness is located in that part of the body. This knowledge helps to determine which chant should be given.

I am writing this because I note that William Morgan, in his article, Navaho Treatment of Sickness: Diagnosticians (AA 33: 390-402, 1931), states:

Diagnosticians do not use sand paintings or masks, nor do they possess tribal legends about their work.

The two paintings that I made are similar in design, one being male in color (black), the other female (blue). A rectangle of solid color represents the rock which reaches to Heaven. On it are four bear tracks. The stars visit with bear friends.

I have five hundred feet of film which record the Star Gazing ceremony outside the hogan. I have not the translation of the prayer but could procure it.

Laura Adams Armer

### TOBACCO IN NEW GUINEA

For many years I have been accumulating material for an investigation on the decorated bamboo tobacco pipes of New Guinea and incidentally on the distribution of the methods of smoking in the island. I have collected also the native names for the pipes and for tobacco, but it will be some time before I can publish my conclusions. As there was some ambiguity concerning the species of the native tobacco, in 1928 I requested my friend Sir Hubert Murray, the Lieutenant-Governor of Papua, and Brigadier-General E. A. Wisdom, Administrator of the Territory of New Guinea, to obtain specimens of the plants grown by the natives in widely separated areas, in order that they might be identified. They immediately requested numerous government officials to collect specimens for me, and these in due course sent

me a large amount of material—dried leaves, flowers, and seeds. I asked Mr. J. S. L. Gilmour, Curator of the Cambridge University Herbarium, to study the specimens and rear plants from seed. His report, with ten illustrations, has just been published (*The Species of Tobacco grown in New Guinea, Territory of Papua, Anthropology, Report 11, 1931* [E. G. Baker, Government Printer, Port Moresby]), and it is from this that the following information is taken.

Mr. Gilmour follows the terminology adopted by Dr. O. Comes in his work, *Della Razze dei Tabacchi*, Naples, 1905. Dr. Comes recognizes six main varieties of *Nicotiana Tabacum* Linn. and a large number of subsidiary forms regarded by him as hybrids between them. In the New Guinea plants examined, three of these subsidiary forms are represented: (1) "China" tobacco (according to Comes) is a hybrid between the varieties *fruticosa*, *brasiliensis*, and *lancifolia*, and is one of the petiolate forms; (2) "Java" tobacco, a hybrid of *fruticosa*, *brasiliensis*, *havanensis*, and *macrophylla*, is also petiolate but has broader leaves than "China"; (3) "Manila" tobacco is a simple hybrid between *havanensis* and *macrophylla* and has leaves tapering to the stem in a broad wing. One of the petiolate varieties must have been the original cause of the uncertainty regarding New Guinea tobacco and it is clear that it was Maiden who made the original mistake.

Mr. Gilmour has dealt with 36 samples (four of which were determined after his paper was in print) and has tabulated their distribution, native names, and the forms to which they belong. The latter, however, do not appear to follow any recognizable order of distribution. The localities include the upper Morehead river in the extreme west of Papua (British New Guinea); the middle region of the Fly river; near the Kiko river; Sambrigi valley, north of Mt. Murray, altitude 5000 feet; neighborhood of Mt. Yule; the upper Waria and Gira rivers; Chirima valley; the region east of the Owen Stanley range including the headwaters of the Mamba and Kumusi rivers, all in Papua; the Markham valley; Madang district; and Sepik river, in Mandated New Guinea; and Rabaul in New Britain. Thus the material has been gathered from a sufficiently wide area to satisfy any reasonable demands and most of it has been obtained from inland mountain country.

Mr. C. T. White, the Government Botanist, Botanic Museum and Herbarium, Brisbane, Queensland, says in a letter dated November, 19, 1928:

The Australian plant *Nicotiana suaveolens* has not been recorded for New Guinea. The common plant there is *N. Tabacum*. This is a native of America but is recorded as having been planted in native gardens in New Guinea before the time of white occupation. I have no references to *N. rustica* as a Papuan plant.

Mr. Gilmour says

that on this evidence, the only species cultivated in New Guinea is *Nicotiana Tabacum* Linn, and that there is no indigenous species present.

He also makes a few remarks about the introduction of tobacco into New Guinea based on Comes's *Histoire du Tabac* and Dr. Merrill's article in the *American An-*

thropologist (32:101, 1930). I do not propose to say anything on this subject until I have worked over my notes. I may however express my belief that tobacco was introduced into the northwest of New Guinea and that it spread southeastward down the mountainous interior and filtered down to the coast along various rivers. In 1888 it does not appear to have reached the north coast of Papua from Ipote, near Cape Vogel, westward. Though there is a native species of tobacco in Australia and, according to de Candolle, another species in the Isle of Pines, there is absolutely no evidence of an indigenous tobacco in New Guinea, however much one might expect to find an indigenous species there. There is also no evidence that the Australians smoked tobacco or any other plant until smoking was introduced by Europeans, nor is there any indisputable evidence that the natives of New Guinea discovered by themselves the art of smoking tobacco; so far as our evidence goes, that art was first acquired in America and thence spread all over the world.

The well-known characteristic method of smoking, or rather of inhaling, appears from my evidence to have been first practiced somewhere in the upper reaches of the Fly river, and it is almost confined to Papua. It has however crossed for a short distance into Netherlands New Guinea west of the Fly and is practiced by the Marind-Anim; it has also spread into the extreme south of Mandated New Guinea. Elsewhere tobacco is smoked in the form of cigars or cigarettes and in some places the rolled-up tobacco is smoked in tubes; the use of pipes for smoking in the Arfak mountains is quite different and belongs to another cultural influence, as is the case at Bougainville.

I quite agree with Dr. Lewis in regarding the use of tobacco in New Guinea as "a remarkable case of cultural diffusion." It was this aspect of the problem that especially attracted me as it has been entirely uninfluenced by a racial movement or by any religious cult. It is simply a secular cultural trait that has spread solely by its own merit as an individual pleasure and as tending to sociability.

A. C. HADDON

#### WINNEBAGO BELIEFS CONCERNING THE DEAD

The Indian warrior believed that he controlled the spirits of his slain enemies. This is known to ethnologists, but its application in modern life may be of interest.

On August 26th, 1931, at Kilbourn, Wisconsin, occurred the death of Mrs. Tom Thunder, a Winnebago woman. She was a good dancer and had many friends throughout the tribe. Moreover, her death occurred in a large camp and a man from Nebraska who knows the ritual for the dead was present. He and a relative named Andrew Black Hawk had charge of the native rites. Everything that pertained to the burial was according to the custom of the white race and the little body was laid to rest in a cemetery, but the rites for the spirit were in the hands of her own people.

The writer had known Mrs. Thunder for several years and was in the camp during the days that followed her death, being kept informed of the various events though their meaning was not fully understood until after it was all over. Then Sam Carley, who recited the prayers and speeches, sat down quietly and described it all.