The method of using the two plants is the same. Speaking of pitchuri, he says, Die Zubereitung der Prieme gleicht ganz der aus Tabak: zunächst erwärmt man die zerkauten Blätter und vermengt sie dann mit Akazienasche.

Although Dr. Hartwich\textsuperscript{18} regards the New Guinea tobacco as of American origin, of Australia he says:

Australien muss uns dabei von grösstem Interesse sein, weil es derjenige Erdeit ist, in welchem die Menschen vor Aukunft der Europäer zweifellos Tabak benutzten und zwar einheimischen, der also nicht auf irgendeine Weise von America gekommen war.

And yet Dr. Merrill, apparently basing his statement solely on an opinion of Professor A. R. Radcliffe Brown, says categorically that “the aborigines in Australia made no use of the Australian native \textit{Nicotiana},” and he uses this “fact,” as he calls it, to help prove how highly improbable a local discovery of smoking in New Guinea would be!

The somewhat polemic character of the discussion so far is because it seems to me that Dr. Merrill has not correctly represented either my own paper or the problem as a whole. Any new evidence is welcomed by no one more than by myself. The question is not yet decided, however. There are too many unknown regions and unidentified tobacco plants in New Guinea, New Britain, and Bougainville, and the difficulties of cultural diffusion too great, to admit of guesswork. It is the calm assumption by nearly every one, including the ethnologists, that all cultivated tobacco must have come from America, that prevents the acquiring of real evidence. Dr. Merrill’s paper is an illustration of this.

If the cultivation and use of tobacco does owe its origin to America, its spread, as shown in New Guinea and the other islands, is a remarkable case of cultural diffusion, and more interesting and important to the ethnologist than the other supposition. If one cultural element can pass independently from tribe to tribe, from culture area to culture area, through or over sharp cultural boundaries, and across many almost isolated regions, and all in two or three hundred years, what mixtures may not have arisen in the past centuries, and why worry about the migration of peoples when cultural elements are so independently migratory?

\textbf{Albert B. Lewis}

\textbf{Tobacco in New Guinea: An Epilogue}

As Dr. Lewis’ contribution to the use of tobacco in New Guinea is one of six leaflets prepared by various members of the Museum staff under my direction and edited by me in the Field Museum series of Anthropology Leaflets (15–19 and 29), I may be allowed to add a few remarks to my colleague’s rejoinder to Dr. Merrill. No one who has read these six leaflets will accuse me or even suspect me of being an anti-American heretic, for I have strictly upheld and, I venture to hope, have also proved the introduction of both \textit{Nicotiana tabacum} and \textit{N. rustica} from America into Asia, Europe, and Africa. In regard to Melanesia and Australia, however, I

\textsuperscript{18} C. Hartwich, Die menschlichen Genussmittel (Leipzig), p. 117, 1911.
believe the situation is somewhat different, and this despite Dr. Merrill’s criticism, which is not convincing to me. Dr. Merrill is well known as an eminent botanist from whose writings I have learned a great deal, especially with reference to the cultivated plants of the Philippines, a subject in which he is an undisputed authority. The “ethnological myth” invented by Dr. Merrill has been refuted above by Lewis. The botanical data of Engler-Prantl to which he refers, combined with a statement of A. de Candolle (Origin of Cultivated Plants, p. 142), who records two native species, *Nicotiana suaveolens* for New Holland and *N. fragrans* for the Isle of Pines near New Caledonia and who states that these two are foreign to America, were sufficient botanical evidence to an ethnologist for assuming a native *Nicotiana* species in Melanesia and Australia.

Dr. Merrill states from hearsay that *N. tabacum* occurs in New Guinea. I should be the last to doubt it; its non-occurrence there would be next to a miracle. This fact, however, does not disprove that a native species might not occur there. Dr. Merrill’s informants have assuredly not explored the entire length and breadth of New Guinea.

Tobacco was known in New Guinea at least in the beginning of the seventeenth century, for it is mentioned by Jacob Le Maire, who sailed along the coasts of the island in the year 1616 (Australian Navigations, ed. by De Villiers, pp. 223, 226). On the 23rd of July of that year Le Maire, when he was a short distance from the land, reports that he was followed by six big canoes of natives bringing dried fish, coconuts, bananas, tobacco, and small fruit-like plums. The date in question is rather early and almost coincides with the first introduction of the tobacco plant or plants into Japan, China, Java, India, and Persia. Le Maire’s notice, of course, is inconclusive as to whether the tobacco to which he alludes was imported or indigenous. Dr. Merrill’s supposition that tobacco was introduced into New Guinea from Amboina is purely subjective and does not constitute historical evidence. I have written a very detailed history of the American cultivated plants in their distribution over the Old World mainly for the purpose of doing away with all the wild guesswork and speculation from which this subject has hitherto suffered, and replacing it with facts based upon documentary evidence; it will be seen that many of the guesses made, especially with reference to Spanish and Portuguese agency, are wrong and that the transmission of American plants was frequently effected through quite different channels.

The worst of Dr. Merrill’s guesses is his suggestion that “the type of pipe and method of smoking tobacco in New Guinea is merely an adaptation of the pipe and opium smoking.” In the first place, there is not a ghost of resemblance or affinity between the New Guinea method of tobacco smoking and opium smoking. In the second place, this alleged interaction is historically impossible, for opium smoking sprang up as a sequel of tobacco smoking only in the beginning of the eighteenth century, when the opium-pipe was first invented by Chinese in Formosa (see our Leaflet 18, pp. 23–24). In other words, opium-pipe and opium smoking are rather recent events, hardly two hundred years old, while the peculiar method of smoking tobacco in New Guinea from tubes in which the smoke is stored must be
many centuries old. This method does not occur anywhere in America, Asia, Africa, or Europe; it is unique and peculiar to and characteristic of New Guinea, and must therefore have originated in New Guinea.

Chinese contacts with New Guinea are not of ancient date, as supposed by Dr. Merrill. New Guinea is not even mentioned in any Chinese records, nor do early Chinese contacts in the Philippines, as Dr. Merrill boldly asserts, antedate or at least approximate the beginnings of the Christian era. Chinese trade with a few of the Philippine islands was established from the tenth to the thirteenth century, but closer relations and foundations of Chinese trading posts in the islands are not earlier than the end of the fourteenth and the fifteenth century.

BERTHOLD LAUFER

RECENT DISCOVERIES OF FOSSIL HUMAN REMAINS

Through the courtesy of Mr. Henry Field, we are able to publish the following note, quoted from a letter written by Professor Wilhelm Freudenberg regarding his recent discoveries near Heidelberg.

"I may tell you that Professor Boule in Paris suggested that part of my fossils from Bammenthal belong to Homo heidelbergensis, while the other fossils, which I named Hemianthropolis osborni, suggested to him some resemblances to Homo sapiens and not to the anthropoids. The jugal bone resembles cynocephalid forms in the direction of the squamose processes, while the cheek part is truly human but very convex. This may be a transitional form in some respects, like Eoanthropus dawsoni, which is also suggested by the very short diaphysis of the femur, which resembles that of a chimpanzee. A new genus occurs with Elephas trogontheri, the steppe elephant. Homo heidelbergensis, however, is found with Elephas antiquus, the woodland elephant. The former may, on the other hand, be a relation to Pithecanthropus and Sinanthropus, which is proved apparently by the very large brain case, of which a fragment has been found, together with an isolated part of the orbits, which are very large and round, and in this respect similar to the African anthropoids. The jugal bone combined with the orbits is of a different type compared to that of Hemianthropus.

"While with Professor Sir Arthur Keith, F. R. S., it was stated in the Royal College of Surgeons that the gorilla is not present at Bammenthal or Mauer, as the cancellae on the side part of the supraorbital ridge are present in the fossil Homo heidelbergensis or related form but not in the gorilla. They are present in Sinanthropus, as I saw in photographs sent to Professor G. Elliot Smith of London by Professor Davidson Black of Peking. This information throws a new light on the earliest history of mankind."