FURTHER NOTES ON TOBACCO IN NEW GUINEA

By E. D. MERRILL

IN 1930 I published a short paper on tobacco in New Guinea in which I took exception to the more or less current belief among ethnologists, and apparently among some botanists, that tobacco was known to the aborigines of New Guinea long before the arrival of Europeans in the region, and also to the belief expressed by some ethnologists that the smoking of tobacco originated independently in New Guinea, perhaps on the basis of a native species of Nicotiana. I noted that apparently this myth or series of myths originated with Dr. O. Finsch, in 1886. However up to 1930 only a single species of Nicotiana (N. tabacum) was known from New Guinea, and the very extensive field work that has been prosecuted there since that date has failed to extend the list. All botanists and collectors who have considered the matter, that is, those that have actually been engaged in the exploration of New Guinea, insist that only a single species of Nicotiana occurs there, that this is always a cultivated plant, and that it is the common tobacco, Nicotiana tabacum. This is, of course, a species of American origin, but it may now be emphasized that it is definitely of hybrid origin. It is a cultigen, belonging in the same category as maize, in that for its existence it is largely dependent on man, having lost the ability to maintain itself in nature.

We now have access to the results of Dr. Lam's trip up the Mamberamo River to the central mountain range of Netherlands New Guinea, based on a full year of field work, and I have handled all of the extensive botanical collections made by Mr. L. J. Brass on the three Richard Archbold Expeditions, first in southeastern New Guinea from the coast to the summit of the Owen Stanley Range, second up the Fly River, and third from Hollandia to the central mountain range of Netherlands New Guinea. The total of the Brass collections approximates 10,500 numbers. Dr. Lam, in his year's experience in the field, saw only cultivated Nicotiana tabacum, and Mr. Brass encountered only forms of that species, some at low altitudes, and one from a relatively high altitude. I have also had access to a partial set of the large Carr collection made in southeastern New Guinea, the Kancheira collections made in Netherlands New Guinea, and an extensive series of specimens collected by Mrs. Clemens in Northeastern New Guinea (German New Guinea), all made since 1930. All observers are in agreement that tobacco in New Guinea occurs only in cultivation, that its leaves form an important item in inter-tribal commerce, and that cultivation occurs at both low and high altitudes where proper climatic and soil conditions permit. It is even found in cultivation among the primitive stone-age aborigines (the Pesegem and the Timorini) who inhabit the high and very remote interior valleys.

Dr. Lam reports that the Timorinese name for tobacco is tabo and that the term for the pipe is tabaok, and he correctly surmises that these were derived from the Malay tabako. The word is of American (Caribbean) origin and originally was applied to the cigar, rather than to the plant. Like such names as tea and coffee the name tobacco, variously modified, was disseminated with the plant or its product to all parts of the world, and like tea and coffee this dissemination was modern and not ancient; that is, modern in the sense that the spread of the plants, their names, and their products followed the time of the discovery of America and the expansion of the European colonizing nations. Dr. Lam inferred, correctly in my opinion, that the occurrence of these names, tabo and tabaok, among the Timorini is an indication that the plant, with the name, reached the isolated interior primitive peoples of New Guinea through direct or indirect contact with the Malays. The Pesegem use mbali for tobacco and hanoem for the pipe. Dr. Lam cites Van Nouhuys' report that tobacco was not known by the tribes along the lower course of the Lorentz River, but only by the Pesegem, and notes the fact that Nicotiana tabacum is widespread in New Guinea.

Recently in checking certain botanical references in connection with our New Guinea plant studies, I noted a significant statement regarding tobacco in New Guinea, based on observations made between 1871 and 1877, and actually published in 1886, the same year that Finsch's unfortunate conclusions appeared. This statement is of so much interest that it is quoted in full below. From an examination of it one will readily perceive that the smoking of tobacco is clearly not ancient in New Guinea, and that we may safely infer that the practice was introduced by the white man, in relatively modern times, together with the plant itself, that in New Guinea the use of tobacco proceeded from the west to the east, and that it reached eastern New Guinea in the nineteenth century.

It is admitted that some botanists have reached conclusions corresponding to those of certain ethnologists regarding the occurrence of tobacco in some parts of the Old World in pre-Columbian times. Thus Dr. A. Chevalier in 1927, perhaps misled by certain anthropological dogmas, concluded that the peoples of the southwestern Pacific region and those of southeastern Asia knew tobacco and the sweet potato long before the discovery of America by Columistros.

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1 Merrill, 1930. (See bibliography at end of article.)
2 The highest-altitude tobacco collected by Mr. Brass was his number 11394 from the Bele River, 18 km. northeast of Lake Habbema, at an altitude of 2,260 m., his note bearing the statement "cultivated by the Pesegem tribe." This is a form with relatively small, narrow, lanceolate, petioled leaves. It is a form of Nicotiana tabacum Linn.
3 Editor's note: The general literature usually states that the original word tabako referred to pipe. This is incorrect; pipes were unknown in the Antilles. (See J. A. Mason, Use of Tobacco in Mexico and South America, Field Museum of Natural History Leaflet 16, 1924.)
4 Chevalier, 1927.
bus. Dr. H. Lam	extsuperscript{6} discusses Chevalier's conclusions, taking a conservative attitude:

These and other cultivated plants, according to Chevalier, through the agency of man, perhaps also by birds, and even on driftwood, might have extended via the numerous islands of the Pacific Ocean far to the west. I suppose that here [New Guinea] in particular the influence of man must be considered. Tobacco was first introduced into Java by the Dutch in 1601, but one might assume that it was known much earlier in the Moluccas and seemingly also in New Guinea. Van Nouhuys informs me that, from old travel records, it is apparent to him that tobacco occurred in Ternate in 1599, and that slaves (Papuans?) especially used it.

We know definitely that Rumphius was familiar with tobacco in Ambon between 1670 and 1690. Personally I do not think that we have to go back of the Portuguese colonization of Ambon in 1521 to account for the presence of tobacco in the Moluccas, and presumably also in New Guinea, before it was introduced into Java. After all, Van Nouhuys' date, 1599 for Ternate, is only two years before tobacco was introduced into Java and is nearly ninety years after the Portuguese actually reached Ambon, and seventy-eight years after they established a permanent settlement there.

It is a rather widely accepted belief that the sweet potato occurred in Polynesia and as far to the southwest as New Zealand long before the Europeans crossed the Pacific Ocean, the date of Magellan's arrival in the Philippines being 1521. If this important food plant did reach the same regions before the Magellan date one might expect that it may also have reached New Guinea. I have found no references that lead me to believe that the sweet potato reached any part of Papuasia, Malaysia or tropical Asia before the arrival of the Europeans. As to its early introduction into Polynesia and New Zealand see Messrs. Dixon	extsuperscript{7} and Buck	extsuperscript{8} and Friederici	extsuperscript{9} contra.

Perhaps individuals may be impressed by the relatively large number of different local names applied by aboriginal peoples to manifestly introduced species. Yet these names should be used with caution when such data are utilized to support a theory of early introduction. It is clear that in many places native peoples have coined their own names on a distinctly large scale for certain introduced species which perhaps came to them without names, and yet soon became widely distributed in cultivation.

The situation in New Guinea with its numerous languages and dialects is peculiar. Miss Henriette Neuhaus of New York compiled for me the recorded native names for certain widely cultivated species in eastern New Guinea, including the yam, tobacco, and the sweet potato, from the annual reports of the Territory of Papua = British New Guinea, 1886-1927. Thus for tobacco, in excess of one hundred different names are listed as used in the Territory of New Guinea alone, with an even larger number of different names for the sweet potato. Clearly some of these names were based on those introduced by the Europeans, but in both cases the vast majority of them, to me at least, suggest no genetic relationship with names transmitted through Europeans.

For tobacco, by far the most widely used one, listed about sixty times, is *kuku*, this sometimes indicated as a trade name. But names apparently derived from tobacco include *bakuku, kamake, tabake, tabaken, tabaoak, tafaki, tampaili, tapaki, tampa-la, tosakake, tobake, tohake, and topaka*, probably also *sakaba, sakapo, sakopa, sakupa, sekupa, sikupa, sukuba, suguba, sukaba*, and doubtless others in the compiled list.

The variations in the names of the sweet potato and the yam, both, like tobacco, introduced plants in New Guinea, are just as striking, as is the case with the names of tobacco. The yam, being of Old World origin, was unquestionably of prehistoric introduction into New Guinea. Tobacco, certainly, and I believe the sweet potato, also represent introductions from tropical America in post-Magellan times. The New Guinea sweet-potato names are even more variable than are those of the tobacco, ranging from *atari* to *semblyumagimi*, with those most frequently recorded being *uai, kupa* and variants, *kate, kai-kuka, kawua, mosoro*, and *nori*. It is of interest to note that the Quechua name, *kumara*, is recorded but twice, but some of the listed forms may have been derived from it.

Variants in the name *kumara* as actually used in the Pacific islands include the following: *gumalla* (Tahiti), *gumara* (Hahiti), *kuma'a* (Marquesas), *kumala* (Fiji), *kumara* (Marquesas, Easter, Niu, Fiji, Rarotonga, New Zealand, New Guinea), *jimala* (Niue), *isala* (Hawaii), *umau'a* (Marquesas), *umala* (Samoa), and *umura* (Tahiti, Austral Islands). Within Polynesia the name for the sweet potato seems consistently to have been derived from the Quechua *kumara*. The Spanish introduction of the species into the Orient from Mexico carried the Nahuatl name *camote*, this being the almost universal name for the species throughout the Philippines, and in Guam with such minor variants as *komute* (Guam), *hamett* (Yap), and *kamate* (Marshall Islands).

I am not unduly impressed by Friederici's statement, quoted below, insofar as possible Spanish introductions into the Solomon Islands, Santa Cruz, and the New Hebrides are concerned, for the simple reason that the early Spanish attempts to colonize those islands were abortive.

Friederici states:

Hierzu gehört in erster Linie die Slusskartoffel. Ich habe nachzuweisen versucht...
Clearly the wide use of the Quechua name *kumara* of Peruvian origin in Polynesia has impressed various individuals in favor of the idea that the plant with its name was a pre-Magellan introduction into Polynesia, for this name with minor variants occurs all the way from the Marquises and Hawaii to New Zealand and even New Guinea, and the first European explorers of New Zealand found the plant in cultivation there under that name.

It is true that the Spaniards did discover the Solomon and Santa Cruz Islands at an early date, but they were not exploited. In fact for a period of two hundred years after the Solomon Islands were discovered the very existence of the group was doubted. Gallego sailed from Callao in 1566 and returned to South America in 1568, after exploring the Solomon group, but for some reason his journal was suppressed. It is now fortunately available in Guppy's translation. To me the interesting point in this old narrative is that it is absolutely negative as to the occurrence of the sweet potato in the Solomons in the sixteenth century. Gallego does mention various plant foods that were brought to them by the natives, including *mames* or *naaes* and *panoes* or *panales*. The first was probably his name for the yam (*Dioscorea alata*), but Mr. L. J. Brass suggests a species of *Canarium* now known as *nawi*, the seeds of which are very widely used for food in the Solomon Islands. From the context in Gallego's account one suspects that a root crop was involved. By *panoes* or *panales* Gallego manifestly was using not native names but some Spanish dialectal name for a European root crop, applied by him in the Solomons to the corns of the taro (*Colocasia esculenta*). There is no mention of the sweet potato. It may be assumed that, sailing as he did from Callao, he would have been familiar with the plant and with its Quechua name *kumara*.

Mendaña and Quiros did make a serious attempt to colonize the Solomons, sailing from Peru in 1595, in the course of this voyage discovering the Marquesas Islands. The expedition failed to reach the Solomon Islands, but did discover the Santa Cruz group. The attempt to establish a colony there failed, and after only two months the colonists left for Manila, with perhaps half of the original party of four hundred, which included both men and women, reaching that haven. Quiros' attempt in 1605 was just as abortive, for he never reached the Solomons, nor the Santa Cruz Islands, although he was in the vicinity of both groups. As both the Mendaña-Quiros and the later Quiros

10 Guppy, 1887, pp. 102-245
Elsewhere I have discussed the problem of Polynesian weeds showing rather conclusively, on the basis of the botanical record, that there are two categories. The first includes those "Polynesian" weeds, that is, the relatively few species that were known to occur in Polynesia before 1782, and the second the very much larger number that have been introduced since that date. Most of those in the first category are definitely of Old World origin and represent early accidental introductions into Polynesia by the Polynesians themselves.

In passing, Dr. Lam discusses the ruderal species (weeds) noted by him in the interior of New Guinea and comments on the relative paucity of such species in the paper referred to above. The second and much larger category represents the numerous species that have been introduced into Polynesia within the past 150 years. While some of these are of Old World origin, the vast majority of them came from America. My interpretation of the "Polynesian" weeds, i.e., the early introduced ones, was based on an examination of the Solander lists which in turn were based on the plants collected on Cook's voyages, 1769-82, these being the first botanical collections made in Polynesia.

This first category indicates little or no possible connection between Polynesia and America in early times. If there be a very few weeds of American origin in the early Solande: lists, this is understandable because a great many early European exploring expeditions traversed the Pacific following 1521, these for the most part coming via the Straits of Magellan and the west coast of South, Central, and North America. It would be most surprising if the seeds of a few American weeds were not transmitted to various Polynesian islands in this period, for we know that a very considerable number of aggressive American weeds were introduced into Guam and into the Philippines through the intermediary of the Acapulco-Manila galleons between the latter part of the sixteenth century and the year 1815.

The de Miklouho-Maclay observations that recently attracted my attention were made at Garagass (1871-72) and Bougu (1876-77), near Port Constantine, in eastern New Guinea. The passage regarding the occurrence of tobacco in New Guinea, and one that, in my opinion, refutes the rather widely accepted conclusions of Finsch and others, is as follows:

"Nicotiana tabacum (Kas). The old natives of this Coast remember, that they were told by their fathers, that in their youth they (the fathers) were not acquainted with the use of tobacco and that the seeds and the knowledge of smoking have been introduced and have spread from village to village from the west. There are some villages in the mountains of the Maclay-Coast where the custom of smoking has not been introduced (1). The dried tobacco leaves are, before smoking, dried or a fire, after which they are torn, crushed and rolled in a leaf (2), also previously dried on fire, in the shape of a big cigarette and smoked. In some hill villages, the natives have large bamboo pipes (3), which are filled with tobacco smoke from a cigarette and smoked by many people in turn, everyone trying to inhale and to swallow as much of the cold smoke as he can. The use of the pipe has not been adopted by the coast natives, who prefer to smoke cigarettes."

The footnotes by Baron Ferdinand von Mueller, the eminent Australian botanist, are:

"(1) The use of tobacco in the Louisiade Archipelago has been introduced quite lately. I visited in 1880 some hill villages on the Island Basilaki (or Moresby Island) where the natives were completely unacquainted with tobacco and smoking. (The Louisiade Archipelago is off the eastern end of New Guinea.)

"(2) The natives of the Maclay-Coast use the leaves of several plants as covering for their cigarettes. I am sorry however to say, that I have neglected to ascertain which are these special plants."

"(3) Just like on the South-Coast of New Guinea, where the use of tobacco, according to the authority of Rev. Lawes, has been introduced from the West and only lately has spread gradually to the S. East extremity of New Guinea and now the kuku (the native name for tobacco on the S. E. Coast of New Guinea) is in the greatest demand."

I can only infer from these statements, made by thoroughly competent observers somewhat earlier than Finsch's conclusions were published, that the growing and use of tobacco in New Guinea proceeded from the West, which is exactly what would be expected if, as I believe, the Portuguese first introduced tobacco into the Moluccas, following the period of their establishment of a permanent settlement at Ambon in 1521. Ambon is not far from the west end of New Guinea. The idea that the use of tobacco in New Guinea may have been based on a native species is definitely erroneous, for no native species of the genus occurs in the island. Were Finsch correct in his belief regarding a much earlier introduction of tobacco into New Guinea via the Pacific islands in pre-Magellan times, then logically we would expect that its use there would have proceeded from east to west, and again, would it not be strange indeed if its use persisted in New Guinea, and yet became absolutely lost to the Polynesians? No early explorer of Polynesia mentions either tobacco or its use in Polynesia. Had tobacco been known in New Guinea "from time immemorial" one could only conclude that its use there would have been universal long before 1871-72, yet according to Van Nouhuys, as to some parts of New Guinea, it was unknown well into the present century. Thus there seems to be no reason for perpetuating the expressed belief on the part of some authors that tobacco occurred in New Guinea long before the Europeans arrived in the Pacific region, or that the art of smoking originated independently there. One concludes that it was the hardy European sailor who disseminated the tobacco-smoking habit, and that somewhat later, enterprising tradesmen actu-
ally introduced the plant into cultivation here and there in the orient with an
eye to potential profits; for the smoking habit, once established, made tobacco
a very potent article of exchange in bartering with primitive peoples. This
conclusion may be in the nature of an anthropological or ethnological heresy,
but it is the only one that I as a botanist can draw.

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BIBLIOGRAPHY

BUCK, FREDERICK H.

CIBALIQUE, A.
1927 Les origines du tabac et les débuts de sa culture dans le monde. Revue Internationale
Tabacs, 4, pp. 13-16.

COOK, O. F.
1901 The Origin and Distribution of the Coconut. Contributions from the U. S. National
Herbarium, 7, pp. 257-293.

COOK, O. F., AND R. C. COOK
1918 The Makau or Mahaus as a Trans-Pacific Plant. Journal of the Washington Academy
of Science, 8, pp. 153-170.

DIXON, R. B.
1932 The Problem of the Sweet Potato in Polynesia. American Anthropologist, 34, No. 1,
pp. 40-66.

FRIEDERICI, G.
1929 Zu den vorkolombischen Verbindungen der Südsee-Völker mit Amerika. Anthropos, 24,
pp. 441-487.

1931 Veränderungen in der Südseeskultur seit der Zeit Mendanos. Petermanns Mitteilungen,
77, pp. 138-143.

1936 Die Süsskartoffel in der Südsee. Mitteilungsblatt der Gesellschaft für Völkerkunde, 7,

GUPPY, H. B.
1887 The Solomon Islands and Their Natives. London.

LAM, M.
1945 Fragmenta Papuana [Observations of a Naturalist in Netherlands New Guinea]. Sar­
gentia, 5, pp. 1-196, 52 figs., 2 maps.

MERRILL, E. D.

1941 Man’s Influence on the Vegetation of Polynesia with Special Reference to Introduced

MILKOUN-MACLAY, A. DE
1886 List of Plants in Use by the Natives of the Maclay-Coast, New Guinea (with Botanical
pp. 346-354.

DIFFERENTIATING MYTH, LEGEND, AND HISTORY
IN ANCIENT CHINESE CULTURE

By MAURICE T. PRICE

As long as a great body of myths, legends, and historical facts about a
people remain undifferentiated in a total mass of credulously accepted
tradition, oral and written, that people can be understood by neither itself nor
by others.1 In the case of some of the chief peoples of the Near East and of
ancient Europe, the labor of distinguishing between legend and historical fact,
in particular, has been a long and arduous one. In the case of many of the peoples
of the world, however, as we have been most forcefully reminded of late, it is not merely legends and a people’s legendology (if we may coin the
word) that must be disentangled from historical events and conditions, in the
minds of its own populace, but also myths and a people’s mythology. This is
notoriously true in the case of Japan’s Sun-goddess mythology, which has been
calculatingly supported for nationalist and politico-military purposes. Less
widely recognized, however, is the fact that the understanding of China, both
by its own populace and by others, the understanding of Chinese culture and
of China’s potentialities for socio-cultural development is seriously affected
by various degrees of confusion in this entire sphere of myth, legend, and his-
torical data.

Those familiar with translations of Chinese literature know how permeated
it is with allusions to mythological and legendary figures, as well as authenti-
cated historical ones. Acquaintance with the renowned Classics shows them to
be saturated with references to the personages and conditions in the base,
shadows, and even mirages of tradition. Most important of all for the hard-
bitten realist of today trying to help shape a world in which peace may sup­
plant war, the leaders of the New China arising out of the twentieth century
have gone back, time and time and time again, in their defense of policy and
program, to the precedent and sanction of the Ancients. Chiang Kai-shek’s
speeches to his fellow-countrymen, calling for unity and perseverance and a
world view, sometimes build elaborately on a foundation of Chinese history
and tradition. The speeches and writings of Chinese interpreters of their people
to the citizens of the United States and the rest of the Occident, like Lin
Yutang, trying to impress upon us the humanistic and liberal convictions in
their culture, lean heavily upon the traditions embodying the Confucian
Classics themselves. And American interpreters of the Chinese to the citizens

1 It is admitted that the mere fact that sections of a people are credulous and naïve enough
to believe myths, and that their legends have certain significant meanings for them, does aid
others in understanding that people; but whoever makes such a judgment, obviously, has already
differentiated between myth, legend, and historical events and conditions, and is able to make such
a judgment on the basis of that differentiation.