

S-Am  
621

REPRINTED FROM

ETHNOS

1964: 1-2

*The Ethnographical Museum  
of Sweden, Stockholm*

INST. N°	27 885
Sta. N°	S-Am 621

# Some General Viewpoints in the Study of Native Drugs Especially from the West Indies and South America

S. HENRY WASSÉN

*Göteborg*

## I

In our paper "The Use of Paricá, an Ethnological and Pharmacological Review", Professor Bo Holmstedt, M. D., as a pharmacologist and I myself as an anthropologist specialized in the study of American Indians, have touched on the difficulties in classifying, medically satisfactorily, vague expressions as regards the descriptions of the symptoms of a snuff taken by the Indians for specific purposes (Wassén and Holmstedt: 1963, p. 35-36). If we turn to the old written sources this difficulty becomes still more accentuated. To exemplify this I first want to refer to the discussion of the *cohoba* powder used as a snuff by the natives of Española or Haiti at the time of the arrival of the Whites and first mentioned by name in the small but invaluable treatise by Friar Ramon Pane. A more complete treatment of narcotic drugs and related paraphernalia used by the South American Indians will be presented on a later specific occasion from a manuscript which already has been prepared.

As has been pointed out by Bourne in his edition of Pane's work and observations in Haiti where he came with Columbus during the second voyage in 1493 (Bourne: 1906) we know Friar Ramon's notes only in a transcript in Ferdinand Columbus' biography of his famous father, the Admiral, whom the historian Bourne correctly credits with his words that "Christopher Columbus not only revealed the field of our studies to the world but actually in person set on foot the first systematic study of American primitive custom, religion

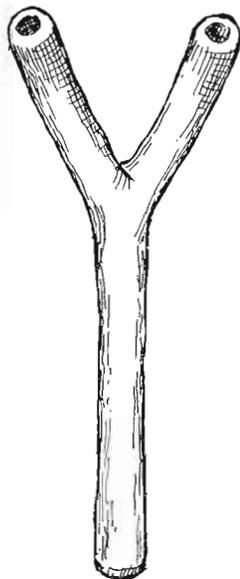


Fig. 1. Y-shaped snuffing tube form Haiti.  
After Oviedo.

and folklore ever undertaken" (Bourne: 1906, p. 3). I continue to quote: "The observations of Columbus first referred to were recorded in his narrative of his second voyage which we possess only in the abridgments of Las Casas and Ferdinand Columbus. Both of these authors in condensing the original, incorporated passages in the exact words of the Admiral, and it is from such a passage in Ferdinand's abridgment that we derive the Admiral's account of the religion of primitive Hayti" (Bourne: 1906, p. 4). For us it is interesting to note that even the discoverer of the West Indies observed the use of a powder and the way of taking it, even if he doesn't mention it by name. He had observed that wooden images called *cemi* were kept in special houses and one of them is described in the following way: "In this house they have a finely wrought table, round like a wooden dish in which is some powder which is placed by them on the heads of these *cemis* in performing a certain ceremony; then with a cane that has two branches which they place in their nostrils they snuff up this dust. The words that they say none of our people understand. With this powder they lose consciousness and become like drunken men" (Bourne: 1906, p. 5). At the end of his report the Admiral himself refers to an account he

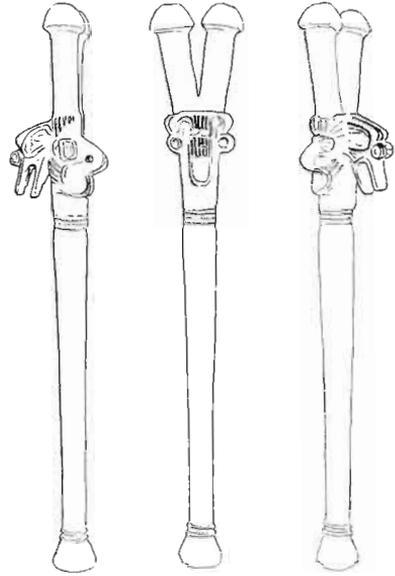


Fig. 2. Forked snuffing tube of wood, length 24 cm. Haiti. Sketch from photos in Mangones and Maximilien: 1941, pl. 50.

had ordered from "one Friar Roman (Ramon) who knew their language". It is in his report which we unfortunately know in full only in the *Historie*, an Italian translation of the work by Ferdinand Columbus published in Venice in 1571 by Alfonso Ulloa (cf. Bourne: 1906, p. 4) that we first find the native name of a powder when we read: "The *cogioba* is a certain powder which they take sometimes to purge themselves, and for other effects which you will hear of later. They take it with a cane about a foot long and put one end in the nose and the other in the powder, and in this manner they draw it into themselves through the nose and this purges them thoroughly" (Bourne: 1960, p. 17). Pane wrote several small chapters and this quotation was taken from chapter XI.

In chapter XV he also mentions a powder called *cohoba* when it is said that a *buhuitihu* (*bohuti*) or physician "is obliged to abstain from food like the sick man himself" and also that "he must needs purge himself like the sick man and to purge himself he takes a certain powder called *cohoba* snuffing it up his nose which intoxicates them so that they do not know what they do and in this condition they speak many things incoherently in which they say



Fig. 3. Mass suicide among the Indians of Española. After Benzone (1565), facsimile edition, 1962.

they are talking with the *cemis* and that by them they are informed how the sickness came upon him" (Bourne: 1906, p. 20). Further on, in chapter XIX, more information on the use of the *cogioba* powder is given: "And when they want to know if they will be victorious over their enemies they go into a cabin into which no one else goes except the principal men; and their chief is the first who begins to make *cogioba*, and to make a noise; and while he is making *cogioba*, no one of them who is in the company says anything till the chief has finished; but when he has finished his prayer, he stands a while with his head turned (down) and his arms on his knees; then he lifts his head up and looks toward the sky and speaks. Then they all answer him with a loud voice, and when they have all spoken giving thanks, he tells the vision that he has seen intoxicated with the *cogioba* which he has inhaled through his nose, which goes up



Fig. 4. Curing methods, Indians on La Española. After Benzoni, facsimile edition, 1962. As the text speaks of curing with smoke (*il fumo*) the man sitting to the right is probably holding a cigar.

into his head. And he says that he has talked with the *cemi* and that they are to have a victory; or that his enemies will fly; or that there shall be a great loss of life, or wars or famine or some other such things which occur to whom who is intoxicated to say. Consider what a state their brains are in, because they say the cabins seem to them to be turned upside down and that men are walking with their feet in the air" (Bourne: 1906, p. 24).

As pointed out by Wassén and Holmstedt (1963) several authors have been discussing what *cohoba* really stands for, if it is tobacco powder as stressed by Sven Lovén, the eminent scholar on the West Indies (1935, p. 386-398, 681-682 and Addenda 1, p. 697) or a powder prepared from the seeds of *Piptadenia peregrina* as taken

for granted by Safford (1916) and suggested by several authors before him (see Wassén and Holmstedt: 1963, p. 27-32). It was earlier generally understood that the words *cohoba* and *cogioba* meant the same thing, which, however, seems doubtful. Due to the analysis by Friederici, we can now assume that the *Tainan* (Lovén defines Tainos as "the Arawaks on the Greater Antilles and the Bahamas") word *cahoba* probably stands for tobacco while the word *cogioba* used by the *Mazoriges* (the "People of foreign language" according to Lovén: 1935, p. 43, at the time of the Conquest still regarded as foreign intruders whose relations "with the Taino Haitians had not yet been peacefully established") should stand for *Piptadenia*, even if one can not determine with certainty what kind of material the natives of Haiti snuffed under the name *cohoba*, whether it was tobacco or powder from *Piptadenia*, or why not a mixture of both? From the mainland we have many examples that show the use of taking both tobacco powder and the powder of *Piptadenia* seeds together. We must under all circumstances very much regret, that the first eyewitness who wrote about the snuffing customs in Haiti did not go into further details as to the material.

Friar Ramon Pane who has said "all that I write is related by them as I write it and so I set it forth as I have understood it from the people of the country" (Bourne: 1906, p. 15), was known personally by Bartolomé de Las Casas, the famous Bishop and Historian whom Lewis Hanke, the expert on his work and life counts among the "distinguished forerunners" of the anthropologists of our time (Hanke: 1951, p. 89). Las Casas as a matter of fact speaks in the plural when he mentions that they "had certain powders of certain herbs well dried and ground" ("tenian hechos ciertos polvos de ciertas yerbas muy secas y bien molidas", Las Casas: 1909, p. 445). He speaks about "povos" which were taken into the nose evidently in finely worked Y-shaped instruments (for a discussion of these instruments used by the *caciques* and more simple ones used by the other Indians, I refer to Lovén: 1935, p. 393-394). Already here I want, however, to refer to the drawing of an Y-shaped snuff-tube shown in the work by Oviedo (1851-55, vol. 1, pl. I: 7, fig. 1 in this paper). This type of instrument was according to him used by the chiefs and principal men ("los caciques e hombres principales tenian unos palillos huecos del tamaño de un xeme ó menos

de la grosseza del dedo menor de la mano, y estos cañutos tenían dos cañones respondientes a uno como aquí está pintado e todo en una pieza", Oviedo, vol. 1, p. 130). Lovén combines this with the statement by Las Casas (1909, p. 445) "that the snuff-apparatus was made of the same kind of dark wood as the snuff-platter" (the latter described by Las Casas, p. 445, as a "plato redondo, no llano, sino un poco algo combado ó hondo, hecho de madera, tan hermoso, liso y lindo, que no fuera muy más hermoso de oro ó de plata; era cuasi negro y lucio como de azabache"), and the description given by Las Casas of such a snuffer, "made in the size of a small flute, all hollow as is a flute", and "de los dos tercios de la cual en adelante se abría por dos cañutos huecos, de la manera que abrimos los dos dedos del medio, sacado el pulgar, cuando extendemos la mano" (Las Casas: 1909, p. 445) adding that "how the Haitians succeeded in hollowing out the forked branches is not explained in the sources. Undoubtedly it was a very difficult piece of work, as only the caciques could call such a snuff-apparatus their own" (Lovén: 1935, p. 394). I am using this opportunity to show a finely sculptured 24 cm. long snuffing tube of wood (corresponding to the description of Las Casas) found at La Gonâve and first published in the work from 1941 by Mangones and Maximilien on the pre-Columbian Art of Haiti (plate L, fig. 2 in this paper), recently also by Rouse (1964, fig. 18). In a future paper of mine I'll return to this highly interesting specimen from Haiti because of its sculptured motives described by the Haitian authors as "mi-zoomorphique, mi-anthropomorphique" and as an eloquent proof of an "antique réputation avec la sculpture sur bois" (Mangones and Maximilien: 1941, p. 8 and 29).

It is important that according to Oviedo (vol. 1, p. 131) it was the Y-shaped snuff-instrument, "las cañuelas", and not the plant which was called *tabaco* by the Indians on Española (Ernst: 1889, p. 134, proposes "or more correctly *taboca*"?). When taking these powders they behaved as if they were drunk or nearly drunk: they spoke in a strange and incomprehensible way ("hablaban como en algarabía, ó como alemanes, confusamente, no sé qué cosas y palabras", Las Casas: 1909, p. 445). "These powders and these ceremonies or acts we called *cohoba* in their language, the middle syllable long" ("estos polvos y estas ceremonias ó actos se llamaban cohoba, la media sílaba luenga, en su lenguaje", Las Casas: 1909,

p. 445). Pedro Martir de Anglería who also read and used Ramon Pane's manuscript for his own *Décadas* wrote the word *cohobba*, in the edition of MacNutt (1912) spelled *kohobba*. As we here again meet the description of the effects, I think it worthwhile to quote it: "When the caciques wish to consult the *zemes*, concerning the result of a war, about the harvest, or their health, they enter the houses sacred to them and there absorb the intoxicating herb called *kohobba* (in the Argentine edition of Pedro Martir: 1924, p. 101, it is clearly stated that the *cohobba* was taken through the nose: "absorbiendo por las narices la *cohobba*"), which is the same as that used by the bovites to excite their frenzy. Almost immediately they believe they see the room turn upside down, and men walking with their heads downwards. This *kohobba* powder is so strong that those who take it lose consciousness, when the stupefying action of the powder begins to wane, the arms and hands become loose and the head droops" (MacNutt: 1912, vol. 1, p. 174; the edition of 1924, p. 101, translates the last passage as follows: "Así que se le pasa la locura se pone cabizbajo, cogiéndose las piernas con los brazos", . . .).

A modern anthropologist facing all the insufficient and many times contradictory statements in the old sources must first keep in mind that he can hardly ever be sure of the chroniclers' way of having spelled the words used for describing special things. As to *cohoba* we have the remark of Las Casas as to the manner of pronunciation, and we know that he was an eyewitness ("yo los ví algunas veces celebrar su cohoba, y era cosa de ver cómo la tomaban y lo que parlaban", Las Casas: 1909, p. 446). Friederici (1947, p. 198) gives the forms *cohoba*, *cohobba*, *cahoba*, *cojoba-cogioba*, *cojioba*, *cohiba*, *coiba*. Lovén has connected the Tainan word *caoba* for tobacco with a word for "to chew", arguing that "the Tainan forefathers, like the Island-Caribs, originally had only chewed tobacco. But later and in the Ignerian time" (the *Igneris* are to Lovén the pre-Caribbean Arawak on the Lesser Antilles and the pre-Tainan on the Virgin Islands) "the Tainos adopted the snuff-taking and snuff-tubes. They preserved without interruption their old word for tobacco, *caoba*, long after the chewing of tobacco had disappeared among them" (Lovén: 1935, p. 390). Such a reconstruction—if correct—naturally can only be made if comparative forms have been saved from other tribes and regions. Many times a word for one and the same thing

appears differently spelled in the same work. We have an example in Pane's *buhuitihu* for medicine-men, also written *bohuti*. This evidently Island-Arawak word has been latinized to *boitius* (plur. *boviti*) by Pedro Martyr and is written *buhuti* by Oviedo and *bohique* or *behique* by Las Casas. If we try to connect it with other known words, we are probably safe to do so with the also Island-Arawak *buhio*, *bohio*, a common word in the Spanish reports for house but sometimes a designation for special houses, very probably also those for the medicine-men's cures. Such a supposition is sustained by the information we have on the two Arawakan tribes Jirajara and Caquetío in N.W. Venezuela between Lake Maracaibo and Cabo Codera, which according to Steward (1948, p. 21) had "certain specific resemblances to the Arawakan Taino of the Antilles". "The houses were rectangular huts of poles, vines, and grass, and there was a separate house for the shaman" (Hernández de Alba: 1948, p. 471; cf. Antolínez: 1943, p. 443: "El piache o hechicero usaba una casa aislada para invocar a los espíritus"). With reference also to what has already been said in this paper that the Tainos were using *cohoba* (tobacco) as well as *cogioba* (probably *Piptadenia*) it is most interesting to learn that the Caquetío and Jirajara medicine-men "practiced divination with tobacco ash and communed with spirits *while taking tobacco and a narcotic herb*" (Steward: 1948, p. 21; Italics by the author). Hernández de Alba (1948, p. 473) says that "the Caquetío shaman smoked tobacco together with various herbs which "robbed him of his senses". The word for the shamans among the Caquetío is given as *boratios* (Span. plur.). Evidently this word should be connected with *bohuti* as given by Friar Ramon Pane in 1493.

In this paper the genus name *Piptadena* has been used, but a new nomenclature should perhaps most properly have been used as a consequence of the publication in 1964 of the botanical thesis by Dr. Siri von Reis Altschul. She writes (p. 3): "The small, tropical to subtropical, and strictly New World genus *Anadenanthera* formerly was considered as section *Niopa* of the genus *Piptadenia* and is the common leguminous source of the so-called narcotics known as *Cohoba*, *Vilca* and *Yopo*." Of direct interest for the discussion in this paper is her statement that the *Anadenanthera peregrina* var. *peregrina* "probably is naturalized where found in the West Indies",

"the one region where man more reasonably accounts for the distribution of *Anadenanthera* than does distribution by natural means." After having stressed the ritual importance of the var. *peregrina* to the Island Arawak, this botanist deducts that "those Indians may have found it easier to plant the trees than to maintain communication with the mainland for their source of supply" (von Reis Altschul: 1964, p. 42).

## II

If we leave the details about the narcotic powders, we can for a few other details look into the "Natural History of the West Indies" excellently translated from Oviedo's original by Sterling A. Stoudermire (Oviedo: 1959). Among the data given by Oviedo is the information that the poisonous yuca was used as a suicidal agent, naturally because of its contents of hydro-cyanic acid. "The chief, through the exhortations of the devil, would tell all those who wanted to die with him the reason that he thought would draw them to their diabolical end. Then each one would take swallows of the water or juice of the yuca and suddenly they would all die without any help whatsoever" (Oviedo: 1959, p. 17). Friederici says that the Indians have a marked inclination for committing suicide, using several methods for the accomplishment. "The Arawaks on the Greater Antilles and the Bahamas in desperation committed wholesale suicide" (Friederici: 1925, I, p. 299). The Italian 16th century chronicler Benzoni (1857, p. 77-78) gives a detailed description of the various mass suicide methods among the Indians on *La Española*, adding that the women "with the juice of a certain herb, dissipated their pregnancy, in order not to produce children". In his *Historia General*, vol. III, p. 155, Oviedo relates from the Cueva region in Darién that the servants of a cacique upon his death drank poison kept in vases which were called *toreba*. The poison was so strong that they fell down dead immediately after having been poisoned ("é toman un trago de la ponçoña, ó dos, que está en aquella olla; y encontinenti caen muertos, segund es grande la potència de aquel veneno ponçoñoso").

As we know the Indian arrow poisons are deadly effective (see e. g., Märki and Witkop: 1963, on the Colombian Arrow Poison Frog

*Phyllobates bicolor*; cf. Wassén: 1957, 1963). Generally the old descriptions are vague in details about the various poisons, quite naturally as the arrow poisons were kept secret among the Indians. A few lines about the symptoms of an arrow poison used by "the bowmen" who "inhabit the land from the Gulf of Urabá, or Caribana Point, to the east" as given by Oviedo are interesting. "They shoot arrows poisoned with an herb that is so poisonous that it is miraculous if a man wounded by such an arrow does not die. Usually the wounded man dies in delirium, chewing his own flesh and biting the earth" (Oviedo: 1959, p. 26-27). Having these symptoms in mind we can remember that Thorell and Santesson were able to prove the appearance of bacilli and spores of tetanus type in an arrow poison from the Guajira (Thorell and Santesson: 1927).

On some occasions the Indians seem to have had a storage of arrow poisons and the respective weapons. Oviedo relates such a case: "I have been told by Indians that the poison that they use to tip their arrows is made from sweet-smelling apples (manchineel) and certain large ants, which will be described further on, and the venoms of vipers, scorpions, and other poisonous ingredients which they mix. It appears to be a very black pitch. In 1514 in Santa Marta, in a village about two leagues or more inland, I burned a great quantity of this poison, as well as many arrows and the house in which it was stored" (Oviedo: 1959, p. 27). As we know the manchineel-apple (*Hippomane mancinella* L.) was under a long period of the conquista and up to the middle of the 18th century considered so highly poisonous that even its shadow was looked upon as dangerous (see Oviedo, vol. I, p. 346). Similar poisonous qualities were ascribed to the *gao* tree (*Comocladia integrifolia* Jacq.), the native name taken from the language of the Island Arawak (see Oviedo, I, p. 359-360, and Friederici: 1947, p. 276). Lévi-Strauss (1950, p. 483) considers it "doubtful if the poisonous manceniller (*Hippomane mancinella*) was ever used for arrow poison", but I want, however, to refer to the discussion in Blohm: 1962, p. 49-51, regarding one of the "most famous poisonous plants of tropical America."

Sometimes a chronicler as Oviedo can present a realistic piece of information adding his personal opinion, e. g., when he describes the habit of aborticide. "When they become pregnant, many of the

Indian women eat of an herb that moves and expels the pregnancy. They say the old women are the ones who should bear children. The young women do not want to give up their pleasures, or to become pregnant, because childbearing causes their breasts to become flabby. They have very beautiful breasts and are quite proud of them" (Oviedo: 1959, p. 32).

The same famous chronicler has also given us a description of how to cure syphilis with splinters or filings of the *guayacán* which were boiled in water "according to the amount of wood used". The *guayacán*, botanically *Guaiacum*, was as we know under the name of *guaiac* used in the European pharmacopeia for a long period (see for instance the chapter on *Guayacan* and details about its supposed properties and therapeutic use in Monardes: 1895, and p. 28-33 in the edition of 1925; also, article *Guaiac* in Osol and Farrar Jr.: 1955, p. 628-629). Oviedo who had observed the trees in the West Indian islands but not in Tierra Firme added to his description that the Indians there used other herbs they know, "for they are expert herbalists" (Oviedo: 1959, p. 88-89). Lovén who in his work has dedicated a section to the occurrence of syphilis among the Tainos (Lovén: 1935, p. 535-540) exemplifies with several of the *guayacán* recipes. He can naturally only conclude that "the guayacan cures were regarded as magical by the Tainos; to them the guayacan was a holy tree, of whose wood they used to make their idols and sacred chairs" (Lovén: 1935, p. 540). Ackerknecht (1949, p. 627) places guaiac, jalap, sarsaparilla, and sassafras among those "once most-respected discoveries of the South American Indians" which have become obsolete. Still some of them can be reckoned to economic plants, or according to the second addition of "Standardized Plant Names" by Kelsey and Dayton (1942), *Guaiacum officinale* (= Common Lignumvitae) and *Guaiacum sanctum* (= Holywood L.) among Gums and Resins, and sarsaparilla (*Smilax* sp.) and sassafras (*Sassafras albidum*) or Common sassafras among Spices and other Flavoring Materials. All appear in the list of Drug Plant Names ("those dye and spice plants which are used for medicinal and pharmaceutical purposes") in the same work.

## III

Ackerknecht who says that the "knowledge of the South American Indian's pharmacopeia brought some of the most momentous changes in our own" has also said that "unfortunately, the quantity and quality of our information concerning the South American Indian drug and herb lore has continuously decreased during the last 400 years", adding that "the responsibility lies with our civilization itself, which unjustly underestimates the value of such studies rather than with the ethnographers" (Ackerknecht: 1949, p. 628). When treating the medical practices of the Inca and earlier Central Andean civilizations he writes that "the conquistadors were greatly impressed by the Indians' wealth of drugs and tried immediately to gain as complete a knowledge of the native materia medica as possible. They were little disturbed that the action of the drugs was explained by magic powers, the less so because the effect of many of their own drugs was still understood the same way" (Ackerknecht: 1949, p. 635). He also points out (p. 656) that "a great many of the vegetable drugs were emetics and purgatives (*Euphorbia huachhanchana*; *Jatropha curcas*; *Schinus molle*)" and with all right refers to Cobo's imposingly long list of Peruvian drugs. The Jesuit Father Bernabé Cobo (born in Spain 1580, died in Lima 1657) who spent more than 50 years in America incorporated his scientific observations mainly in his famous "Historia del Nuevo Mundo" where we find his "drug list" (by no means restricted only to Peru) in books 4, 5 and 6 (p. 152-284, in the Madrid edition of 1956, vol. 1). The wealth of information not only in Cobo's work but in other historical documentation on Peru has for the great benefit of everybody interested in this field been put in chronological order according to the date of the sources in the work by Yacovleff and Herrera (1934-1935) covering the years 1533 (Hernando Pizarro) - 1703 (anonymous Jesuit). A modern contribution covering the whole field of ethnobotany of pre-Columbian Peru is the work by Towle (1961). A wealth of local denominations and popular medicine ideas of the Peruvian Indians is found in Valdizán and Maldonado (1922).

Ackerknecht has counted coca and tobacco as two outstanding drugs from the American Indians, "of which the one has opened a new era in surgery and the other has faded from medicine only to

rule the life of the healthy all over the world" (1949, p. 628). He further states that "ipecac, curare, cascara sagrada, *Chenopodium*, *Lobelia* and Peruvian and Tolu balsam still hold an eminently honorable place in our own pharmacopeia in spite of the dominant fashion of synthetic drugs". --- "The abundance of new drugs is commensurate with the other treasures which our culture has borrowed with important consequences from South American Indian ethnobotany—the wealth of new nutritive plants, poisons and narcotics" (Ackerknecht: 1949, p. 628). For Lévi-Strauss (1950, p. 484) "few primitive people have acquired as complete knowledge of the physical and chemical properties of their botanical environment as the South American Indians". He has a long list of emetics, purgatives, remedies for gastric disturbances and wound healing, astringents, medicines to stop bleeding and to cure eye pains, febrifuges, sedatives, and curatives for diarrhea and dysentery (Lévi-Strauss: 1950, p. 478-486).

The late American anthropologist, Professor Robert H. Lowie, has in 1948 published two lists of obvious interest in this connection, one of *Cultivated plants of South American tropical forests*, the other of *Useful wild plants of the same region* (Lowie: 1948, p. 3-10). If we compare the 35 *Food Plants* in Lowie's first list with the *Drug Plant Name* list including "dye and spice plants which are used for medicinal or pharmaceutical purposes" in Kelsey and Dayton (1942, p. 175-202) we find that many of Lowie's "food plants" also could be grouped with the "drugs". In Lowie's second list, that of "Useful Wild Plants", we find the following entries and number of plants (after eliminating synonymous names and adding other information):

*Drugs and Poisons, 10, or:*

Assacú, possumwood or sandbox tree, *Hura crepitans*. Drug name: Hura (Sandbox tree). "Widely used for drugging fish." For the distribution of this S. American piscicide, its popular names, etc., see Heizer: 1949. For Heizer "a South American origin of the use of plant piscicides seems likely", "in view of the isolation of New World fish poisoning, and because of the great weight of numerical occurrence and continental spread" (Heizer: 1949, p. 281). For a detailed description see Heizer: 1953.

Ayahuasca, cayapi, yagé, huni, hayachuasca, *Banisteriopsis caapi*, *B. inebrians*, and *B. quitensis*. *B. caapi*. Drug name: Caapi. "A

- strong drug used especially among tribes of the upper Amazon." For more details see Cooper: 1949, p. 552-554.
- Cunambí, *Clibadium surinamense*. (Not in "Drug Plant Names", 1942.) "A small tree, the leaves of which are used to drug fish." Another folk name conami, see Heizer: 1953, p. 268; cf. Heizer: 1949, p. 278, for details.
- Curare, curari, *Strychnos toxifera*. Drug name: Curare. "A deadly poison used generally for blowgun darts, made from a liana." For other species of *Strychnos* used for the preparation of arrow poison see Lévi-Strauss: 1950, p. 483.
- Floripondia, huanto, campa, datura, *Datura arborea*. "A strong intoxicating drug, used especially among tribes of the upper Amazon." See Cooper: 1949, p. 555-557. For the use of *Datura* see also Argumosa: 1963.
- Guayusa (*Ilex* sp.). "An anesthetizing drug, used in eastern Ecuador." See Cooper: 1949, p. 546.
- Parica, yupa, niopo, curupa (etc.). According to Lowie, *Mimosa acacioides*, according to Wassén and Holmstedt: 1963, *Piptadenia peregrina* Benth., one of the sub-order Mimoseae (cf. Paris and Dilleman: 1960, p. 73). Lowie makes a distinction between "curupa", "the leaves of *Mimosa acacioides*, powdered and taken as snuff or as an enema for magical and therapeutic effects" and "parica", "the seeds of *Mimosa acacioides*, powdered and taken as snuff for a stimulant." Cf. p. 7.
- Phyllanthus conami*. "A fish drug." Cf. above, *Clibadium*.
- Yoco, *Paullinia yoco*. "A stimulating drug, used in Colombia." See Cooper: 1949, p. 547-649.
- Timbó, *Paullinia pinnata* or *Serjania* sp. "Fish drug." See Heizer: 1953, p. 269.

The lists published by Lowie as well as other similar information of ethnobotanical interest in the six comprehensive volumes of "Handbook of South American Indians" (Vols. 1-6, Washington, D. C., 1946-50; vol. 7, Index, 1959, specially the contributions by Lévi-Strauss: 1950, and Sauer: 1950) have, except for the purely historical notes taken from the chroniclers, mainly been based on published reports by various travellers and ethnographers, who have thus demonstrated their interest in the very important field of ethnobotany (see for instance the bibliography to Lévi-Strauss: 1950, p. 486, and Steggerda: 1943). In this connection I would also like to draw attention to information left by anthropologists who have dedicated themselves to the study of rapidly disappearing tribal

groups in regions which from the specific viewpoints of ethnobotany and pharmacology are much less known as e. g. the above mentioned Amazonian regions. I can for instance refer to the work by Doris Z. Stone on the Boruca of the southeastern section of Costa Rica, a remnant of a once important tribe which in 1945 only contained a total of 641 Indians and *ladinos* (Stone: 1949, p. 3). In the work by Stone there is interesting information on "certain liquid preparations" used as "a preventive or a provocative, as the case might be", as "the Boruca have long been famous for having children only when they feel like it" and as "one of the most important functions of the witch doctor appears to be the control of birth" (Stone: 1949, p. 26). "Both remedies are drinks made from certain leaves, fungi, roots, and ferns" and "the neighbors of the Boruca all have, at least, the remedy to stop conception" (Stone: 1949, p. 26). The same author has also reported that the Chiricano women at a place called Buenos Aires situated between Boruca and Talamanca "are said to drink a preparation made by boiling the leaves and stem of *Justicia tinctoria* (Oerst. Hemsl.) and drinking a gourd of this three times daily the first day of menstruation. As yet, we have not been able to verify this usage, but it is a curious fact that in the majority of the yards of these people this plant is found. The excuse given for the plant is that it is used to wash clothes, serving as bluing" (*op. cit.*, p. 27). An analysis of a medicine to induce pregnancy was made at a United Fruit Company laboratory but it gave no conclusive results. Some tannins were, however, found, indicating "that some bark or barks were used in the preparation" (p. 27).

In her report of the Boruca, Doris Stone has also given a list of "the more generally known cures by the Boruca and usually prescribed by the *curandera*" (female witch doctor) and she has in many cases been able to identify the specific plants used. All the questions which, however, have been raised in her interesting report seem to recommend a further investigation for ethnobotanical and pharmacological purposes among the rapidly acculturating, and as Indians diminishing, Boruca, as this little group in spite of all can be taken as representative of many now totally extinct groups of Indians in the southern parts of Central America. What I am stressing here has recently also been pointed out by Doris Stone (1962, p. 68) in her report on Urgent Tasks of Research in which she says: "Con-

cerning a certain aspect of culture, we consider of particular importance the medicines used and cures brought about by native medicine men throughout Central America, but especially in Alta Talamanca, Costa Rica, where among other things, temporary sterility is effected when desired." On the praiseworthy initiative of this anthropologist have also two symposia on the culture and the cultural relations of the Talamanca groups been organized at the 34th and 36th International Congress of Americanists held in Mexico and Spain in 1962 and 1964 respectively.

With help of the anthropologists a list of reports with specific indications as those given by Stone for Costa Rica could probably be had and such a list could be used for a selection of urgent research by ethnobotanists and pharmacologists. It must, however, be admitted that the possible hints of the anthropologists sometimes only can be vague and many times without direct consequences for drug research as such. I shall here permit myself to mention an example of my own which in any case also shows how widespread the knowledge of supposed or factual properties of certain plants can be among the Indians.

In 1962 I obtained myself in Panama an ethnographical collection from the Cuna Indians which had been made by my Cuna friend Guillermo Hayans of the Island of Ustupo, San Blas, partly during an expedition that he himself in the previous year had undertaken to other Cuna Indians (in Colombia). In the collection were two pieces of a liana, by Hayans in his list in Spanish of the specimens called "escalera del diablo". He indicated that the pieces which he had acquired at a high price in Ustupo (probably from a curer) were used "para jurar las locuras", that is for conjuring in cases of mental disorder. As Professor Nils M. Holmer and I myself earlier had published a work on a Cuna Indian medicine text for curing "locura" (Holmer and Wassén: 1958), I naturally got interested and tried to get more specific information. Botanically no one in Panama could help or took enough interest. The term "escalera del diablo" would give no immediate clue for a botanical determination and I later found that the Indian simply had translated the Cuna *nia* ('devil' 'evil spirit') *arsan* ('ladder' or 'notched log') to Spanish. Hayans explained that the *nia arsan* was used both for cutting pieces to be placed under the hammock of the

sick person and for washing the eyes with water in which small pieces of the liana had been put. Besides, there were several forms of these lianas. Following a personal inspection of the two somewhat different pieces of lianas (Cat. No. 62. 47. 48 and 49 in the Gothenburg Ethnographic Museum) my botanist friend in Stockholm, Professor Erik Asplund (a specialist on the flora of S. America) in a letter of October 25, 1963, declared the specimens to be "a species (or, considering the stem, possibly two similar species) of the genus *Bauhinia*, sub-genus *Schnella*, often considered a genus of its own". I then found that Lewin in his "Gifte und Vergiftungen" (p. 710) has listed *Bauhinia guianensis* Aubl. as a piscicide and I remembered a for me, in this specific connection, still more interesting piece of information by Koch-Grünberg 1916, (p. 64 and illustration of *Bauhinia caulotretus* in pl. IV) that among the Cariban Arecuna in the Roroima region this "peculiar liana shaped as a ladder" "on which the Moon climbed to Heaven" is used by the medicine-men as an emetic by drinking a decoction prepared from this plant. "Through this, the liana of which he has been drinking, becomes for him, that is, for his shadow, a ladder on which he can reach the land of spirits willing to help him in his cure" (transl. from Koch-Grünberg: 1916, p. 64, foot-note 1). I wouldn't be surprised at all if the same ideas lay behind the use of the *nia arsan* among the Cuna, even if Hayans seems to believe that the washing of the eyes has as an objective of preventing the evil spirits from seeing the sick person.

The writer of this paper had the great privilege of beginning his studies in anthropology under Professor Erland Nordenskiöld (1877-1932) of the Gothenburg Ethnographic Museum and the Gothenburg University, who was always deeply interested in Indians drugs, arrow poisons, etc., and to find thereafter two pharmacologists of the Caroline Institute, Stockholm, the late Professor C. G. Santeson (1862-1939) and Professor Bo Holmstedt, friends to whom I feel deep gratitude for the interest taken in material and observations brought from the Indians. As naturally very few teachers in anthropology have a real interest in or knowledge of drug lore, I have a feeling that an interest in what would benefit pharmacology could be furthered if the anthropologists could be provided with concise information on the most important facts and problems relevant to

this broad field. Such information should if possible be written and printed separately for the greater cultural regions of the world so that a reader not himself a pharmacologist but with the good will to help to procure useful material for research, would not run the risk of losing himself in too many details. A work of the type "Drug Plants of Africa" by Githens (1948), I consider very useful for an anthropologist doing field work on that continent. For those not specifically trained in botany wishing to get an idea of useful plants and common plant names in a certain geographical region a work like that of Blake and Atwood (1942) offers good help. The work by Thomas S. Githens is according to him "the first attempt to gather the medical botany of the entire continent (Africa) into one volume" (Githens: 1948, p. 4). Recently the enormously comprehensive work of Watt and Breyer-Brandwijk (1962) on Southern and Eastern Africa has been published. For North America the work by Eric Stone, M. D., "Medicine among the American Indians" first published in 1932 has provided us with a guide to medical practices among the Indians there, as the author has included a series of useful tables classifying several Indian medicines according to their use, then also giving their common and scientific names, "how used" and "by what tribes". Dr. Stone's book seems, however, to be somewhat limited as to the selections of tribes. After all the publications on the *Psilocybe mexicana* (the famous *teonanácatl* of the Aztecs) after the rediscovery in the nineteen-thirties of the use of this mushroom among native groups in Mexico, it is somewhat astonishing to read also in a 1962 edition of Stone's work (p. 55): "The early travelers describe a mushroom used by the Indians of New Mexico, the decoction of the plant acting as an intoxicant. As no mushroom possesses such properties, it is believed that they referred to a mushroom-like cactus (*Laphophora williamsii*) which does act as an intoxicant."

When the mushrooming Wassons in their work from 1957 (vol. II, p. 215) begin their chapter on the *teo-nanácatl* of the Nahuatl with a criticism of an anthropologist who only with a few words and practically no details mentions an intoxicating mushroom called *nonda* by the Mount Hagen tribes in New Guinea, they are obviously right when they exclaim: "How odd that professional anthropologists should so often ignore in this way the obvious questions of fungi." Even without the restrictions to the world of fungi such a criticism

could be applied in many cases, but as I already have said it is also a question of the professional ethno-botanists and pharmacologists supplying information to the social anthropologists.

Finally there should be credit given to the keen interest taken by early explorers in the field of for them new medicinal plants. I would therefore like to refer to Vásquez de Coronado's report from his overland expedition in 1562 to the territory of the Quepo on the Pacific side of Costa Rica. Peralta (1883, p. 267-293) has published a report by this Spaniard and S. K. Lothrop utilizing it for his work on the archaeology of the Diquís delta (1963, p. 9) summarizes in saying that "the province was said to have a fine climate and very rich soil which produced cacao and cotton, cloves and peppers". In his report signed July 2nd, 1563, Vásquez de Coronado says that the natives of Quepo used a spice called *chirob* against headache. He finds it useful (*provechosa*) and effective for some constitutions ("*y hace su efecto en algunas complisiones*", this latter word in modern Spanish = *complexión*). Peralta (p. 772) puts a question mark as to the possibility of considering *chirob* identical with *Juliana caryophyllata* (cf. Lehmann: 1920, p. 238).

Somewhat earlier, on May 4th, the same conquistador sent a report to his superior, Lic. Landecho, on his discoveries and *conquistas* in Costa Rica (Peralta: 1883, p. 230-242) saying that "in this province (evidently Quepo) we have found a spice called *chiro*, of which I have sent a sample to you from this village so that you could experience it. We have all used it, found it good for headache; it seems to us tasty but I don't know if it caused me to lose my taste for good things. Barahona is again bringing a little of it. There is plenty of it in this province as well as in Couto and in Turucaca, and I have a notice that it exists in Guinea. Will your Lordship kindly inform me if it is to be taken into account" (transl. from the Span. text. in Peralta: 1883, p. 233). It is this feeling of curiosity for something unknown and completely new that I hope will follow many anthropologists to the benefit of drug research among native peoples.

## BIBLIOGRAPHY

- (Abbreviation: HSAM = Handbook of South American Indians, Bureau of American Ethnology, Bulletin 143.)
- ACKERKNECHT, ERWIN H.  
1949. Medical Practices. (HSAM, vol. 5: 621-643). Washington, D. C.
- ANTOLÍNEZ, GILBERTO  
1943. Aporte etnográfico de la Relación Geográfica de Nueva Segovia 1579. (Acta Americana, vol. 1: 442-447). México, D. F. and Los Angeles.
- ARGUMOSA, J. A. DE  
1963. La anestesia en la medicina aborigen. (Boletín Indigenista Venezolano, vol. 8: 129-153). Caracas.
- BENZONI, GIROLAMO  
1857. History of the New World. (Works issued by The Hakluyt Society, No. 21). London.
- BLAKE, S. F. and ATWOOD, ALICE C.  
1942. Geographical Guide to Floras of the World. An annotated list with special references to useful plants and common plant names. Part. 1. (U. S. Department of Agriculture, Misc. Publications No. 401). Washington, D. C.
- BLOHM, HENRIK  
1962. Poisonous Plants of Venezuela. Stuttgart.
- BOURNE, EDWARD GAYLORD  
1906. Columbus, Ramon Pane and the beginnings of American Anthropology. (Reprinted from the Proceedings of the American Antiquarian Society). Worcester, Mass.
- COBO, BERNABÉ  
1956. Historia del Nuevo Mundo, I-II. (Francisco Mateos, editor. Biblioteca de Autores Españoles, Cont., Vols. 91-92). Madrid.
- COOPER, JOHN M.  
1949. Stimulants and Narcotics. (HSAM, vol. 5: 525-558). Washington, D. C.
- ERNST, A.  
1889. On the etymology of the word tobacco. (The American Anthropologist, vol. 2: 133-142). Washington, D. C.
- FRIEDERICI, GEORG  
1925-36. Der Charakter der Entdeckung und Eroberung Amerikas durch die Europäer (3 vols.). Stuttgart-Gotha.  
1947. Amerikanistisches Wörterbuch. Hamburg.
- GITHENS, THOMAS S.  
1948. Drug Plants of Africa. (African Handbook, Univ. Museum). Philadelphia, Pa.
- HANKE, LEWIS  
1951. Bartolomé de Las Casas. An interpretation of his Life and Writings. The Hague.
- HEIZER, ROBERT F.  
1949. Fish Poisons. (HSAM, vol. 5: 277-281). Washington, D. C.  
1953. Aboriginal Fish Poisons. (Bureau of American Ethnology, Bulletin 151: 225-283, Anthropological Papers, No. 38). Washington, D. C.
- HERNÁNDEZ DE ALBA, GREGORIO  
1948. Tribes of Northwestern Venezuela. (HSAM, vol. 4: 469-474). Washington, D. C.
- HOLMER, NILS M. and WASSÉN, S. HENRY  
1958. Nia-Ikala, Canto mágico para curar la locura. Texto en lengua cuna, anotado por el indio Guillermo Hayans con traducción española y comentarios. (Etnologiska Studier: 23). Gröteborg.

- KELSEY, HARLAND P. and DAYTON, WILLIAM A.  
1942. Standardized Plant Names. Second edition. (Prepared for the American Joint Committee on Horticultural Nomenclature). Harrisburg, Pa.
- KOCH-GRÜNBERG, THEODOR  
1916. Vom Roroima zum Orinoco. Ergebnisse einer Reise in Nordbrasilien und Venezuela in den Jahren 1911-1913. Vol. 2: Mythen und Legenden der Taulipang- und Arekuna-Indianer. Stuttgart.
- LAS CASAS, BARTOLOMÉ DE  
1909. Apologética historia de las Indias. (Historiadores de Indias, tomo I, M. Serrano y Sanz, editor). Madrid.
- LEHMANN, WALTHER  
1920. Zentral-Amerika. I. Teil: Die Sprachen Zentral-Amerikas (vol. 1). Berlin.
- LÉVI-STRAUSS, CLAUDE  
1950. The Use of Wild Plants in Tropical South America. (HSAM, vol. 6: 465-486). Washington, D. C.
- LOTHROP, S. K.  
1963. Archaeology of the Diquís Delta, Costa Rica. (Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, vol. 51). Cambridge, Mass.
- LOVÉN, SVEN  
1935. Origins of the Tainan Culture, West Indies. Göteborg.
- LOWIE, ROBERT H.  
1948. The Tropical Forests: An Introduction. (HSAM, vol. 3: 1-56). Washington, D. C.
- MACNUTT, FRANCIS AUGUSTUS  
1912. De Orbe Novo. The Eight Decades of Peter Martyr d'Anghera. Translated from the Latin with Notes and Introduction. (Two vols.). New York and London.
- MANGONES, EDMOND and MAXIMILIEN, LOUIS  
1941. L'Art Précolombien d'Haiti. Port-au-Prince, Haiti.
- MÁRTIR DE ANGLERÍA, PEDRO  
1924. Décadas del Nuevo Mundo. (Translation from the Latin by D. Joaquín Torres Asencio). Buenos Aires.
- MONARDES  
1895. Die Schrift des Monardes über die Arzneimittel Americas nach der lateinischen Übertragung des Clusius aus dem Jahre 1579 (simplicium medicamentorum ex novo orbe delatorum, quorum in medicina usus est, historia). Transl. by Kurt Stünzer. Halle a. S.  
1925. Joyfull Newes out of the Newe Funde Worlde written in Spanish by Nicholas Monardes Physician of Seville and Englished by John Frampton, Merchant anno 1577. (Two vols. The Tudor Translations, second series, edited by Charles Whibley, IX and X). London and New York.
- MÄRKI, F. and WITKOP, B.  
1963. The Venom of Colombian Arrow Poison Frog *Phylllobates bicolor*. (Separatum Experimentia 19, 329, 10 pages). Basel.
- OSOL, A. and FARRAR JR., G. E.  
1955. The Dispensatory of the United States of America. (25th edition). Philadelphia, Pa.
- OVIEDO, GONZALO FERNÁNDEZ DE  
1851-55. Historia general y natural de las Indias, Islas y Tierra-Firme del Mar Océano. (Vols. 1-4, Real Academia de Historia). Madrid.  
1959. Natural History of the West Indies. (Translated and edited by Sterling A. Stoudemire. Univ. of North Carolina, Studies in the Romance Languages and Literatures, No. 32). Chapel Hill, N. C.

- PARIS, R. and DILLEMAN, C.  
1960. Medicinal Plants of the Arid Zones. Part Two: With particular reference to the pharmacological aspects. (P. 55-96 in Arid Zone Research XIII published by UNESCO). Paris.
- PERALTA, MANUEL M. DE  
1883. Costa-Rica, Nicaragua y Panamá en el siglo XVI. Madrid and Paris.
- VON REIS ALTSCHUL, SIRI  
1964. A Taxonomic Study of the Genus *Anadenanthera*. (Contributions from the Gray Herbarium of Harvard University, No. CXCIII). Cambridge, Mass.
- ROUSE, IRVING  
1964. Prehistory of the West Indies. (Science, vol. 144, number 3618, p. 499-513, 1 May, 1964). Washington, D. C.
- SAFFORD, WILLIAM EDWIN  
1916. Identity of cohoba, the narcotic snuff of Ancient Haiti. (Journal of the Washington Academy of Sciences, vol. VI: 547-562). Baltimore, Md.
- SAUER, CARL O.  
1950. Cultivated Plants of South and Central America. (HSAM, vol. 6: 487-543). Washington, D. C.
- STEGGERDA, MORRIS  
1943. Some Ethnological Data Concerning One Hundred Yucatan Plants. (Bureau of American Ethnology, Bull. 135: 189-226, Anthropological Papers No. 29). Washington, D. C.
- STEWART, JULIAN H.  
1948. The Circum-Caribbean Tribes: An Introduction. (HSAM, vol. 4: 1-41). Washington, D. C.
- STONE, DORIS Z.  
1949. The Boruca of Costa Rica. (Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, vol. 26: 2). Cambridge, Mass.  
1962. Urgent Tasks of Research Concerning the Cultures Languages of Central American Indian Tribes. (Bulletin of the International Committee on Urgent Anthropological and Ethnological Research, No. 5, p. 65-69). Vienna.
- STONE, ERIC  
1962. Medicine among the American Indians. (Clio Medica, A series of primers on the History of Medicine, VII, reprint edition). New York.
- THORELL, GOTTFRID and SANTESSON, C. G.  
1927. Ein eigentümliches „Pfeilgift“ aus Guajiro (Kolumbien, Südamerika). (Skandinavisches Archiv für Physiologie, 50: 14, p. 197-204). Berlin and Leipzig.
- TOWLE, MARGARET A.  
1961. The Ethnobotany of pre-Columbian Peru. (Viking Fund Publications in Anthropology: 30. Wenner-Gren Foundation for Anthropological Research). New York.
- VALDIZÁN, HERMILIO and MALDONADO, ANGEL  
1922. La medicina popular peruana. Contribución al "Folk-lore" médico del Perú. (Three vols.). Lima.
- WASSÉN, S. HENRY  
1957. On *Dendrobates*-Frog-Poison Material among Emperá (Chocó)-speaking Indians in Western Caldas, Colombia. Appendix: Short Emperá Word List. (Etnografiska Museet, Göteborg, Årstryck för 1955 och 1956, p. 73-94). Göteborg.  
1963. Colombianska pilgiftsrodor toxikologiskt högintressanta. (Nytt och Nyttigt, a medicinal review published by Hässle, 1963, No. 4, p. 7-13). Göteborg.

- WASSÉN, S. HENRY *and* HOLMSTEDT, BO  
1963. The Use of Paricá, an Ethnological and Pharmacological Review.  
(Ethnos 1963: 5-45). Stockholm.
- WASSON, VALENTINA PAVLONA *and* R. GORDON  
1957. Mushrooms Russia and History. Vols. I-II (Pantheon Books). New  
York.
- WATT, JOHN MITCHELL *and* BREYER-BRANDWIJK, MARIA GARDINA  
1962. The Medicinal and Poisonous Plants of Southern and Eastern Africa,  
Being an Account of Their Medicinal and Other Uses, Chemical Com-  
position, Pharmacological Effects and Toxicology in Man and Animal.  
(2nd edition, 1457 pp.). Edinburgh and London.
- YACOVLEFF, E. *and* HERRERA, F. L.  
1934-35. El mundo vegetal de los antiguos peruanos. (Revista del Museo Na-  
cional, vol. 3: 241-322 and vol. 4: 29-102). Lima.

UB WIEN



+AM420151200