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TOBACCO AND ITS USE IN ASIA

BY
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CURATOR OF ANTHROPOLOGY



ANTHROPOLOGY
LEAFLET 18

FIELD MUSEUM OF NATURAL HISTORY
CHICAGO
1924

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LIST OF ANTHROPOLOGY LEAFLETS ISSUED TO DATE

1. The Chinese Gateway	\$.10
2. The Philippine Forge Group10
3. The Japanese Collections . . . . .	.25
4. New Guinea Masks . . . . .	.25
5. The Thunder Ceremony of the Pawnee . . . . .	.25
6. The Sacrifice to the Morning Star by the Skidi Pawnee . . . . .	.10
7. Purification of the Sacred Bundles, a Ceremony of the Pawnee . . . . .	.10
8. Annual Ceremony of the Pawnee Medicine Men . . . . .	.10
9. The Use of Sago in New Guinea . . . . .	.10
10. Use of Human Skulls and Bones in Tibet . . . . .	.10
11. The Japanese New Year's Festival, Games and Pastimes . . . . .	.25
12. Japanese Costume . . . . .	.25
13. Gods and Heroes of Japan . . . . .	.25
14. Japanese Temples and Houses . . . . .	.25
15. Use of Tobacco among North American Indians . . . . .	.25
*16. Use of Tobacco in Mexico and South America . . . . .	.25
*17. Use of Tobacco in New Guinea . . . . .	.10
18. Tobacco and Its Use in Asia . . . . .	.25
19. Introduction of Tobacco into Europe25
*20. The Japanese Sword and Its Decoration25

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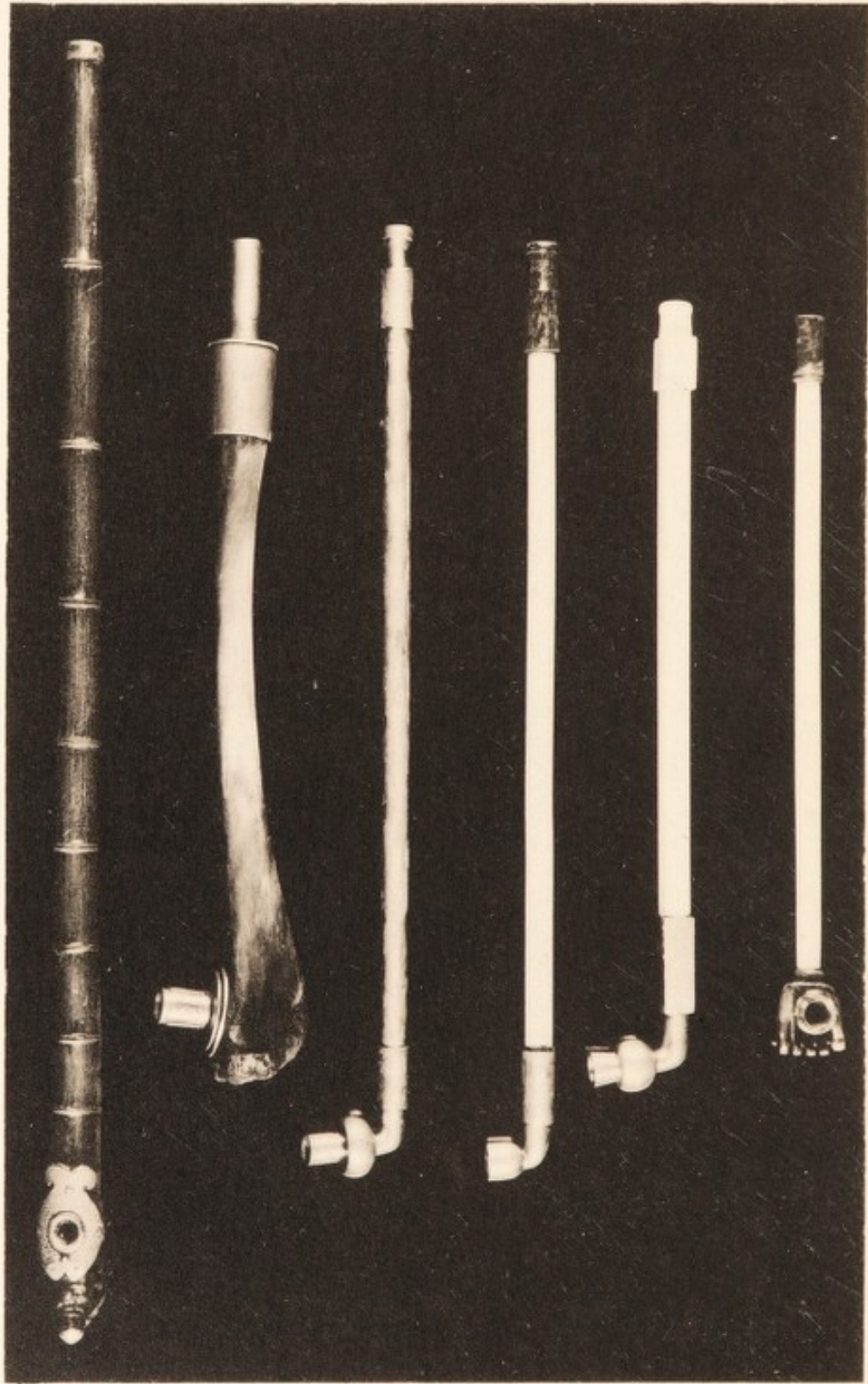
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CHINESE DRY TOBACCO PIPES.
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FIELD MUSEUM OF NATURAL HISTORY

DEPARTMENT OF ANTHROPOLOGY

CHICAGO, 1924

LEAFLET

NUMBER 18

Tobacco and Its Use in Asia

In this sketch conditions, as they prevailed in the seventeenth and eighteenth centuries, and the use of tobacco, as it grew out of native customs, are briefly set forth, but modern conditions, as created by international commerce and colonial enterprise, are disregarded.

The earliest datable reference to the use of tobacco in the Far East occurs in an entry under August 7th, 1615, in the diary of Captain Richard Cocks, who was chief of the English Factory of Hirado in Japan from 1613 to 1621.

"Gonosco Dono came to the English house, and amongst other talk told me that the King [that is, the Daimyo of Hirado] had sent him word to burn all the tobacco, and to suffer none to be drunk in his government, it being the Emperor's pleasure it should be so; and the like order given throughout all Japon. And that he, for to begin, had burned four piculls or hundredweight this day, and had given orders to all others to do the like, and to pluck up all which was planted. It is strange to see how these Japons, men, women, and children, are besotted in drinking that herb; and, not ten years since it was in use first."

"Four tobaka pipes purchased at Kyoto" are entered in the Log-book of William Adams (1614-19). Tobacco, accordingly, was smoked from pipes by the Japanese at that early date.

It follows from Cocks' contemporaneous notice that tobacco was introduced into Japan about the year 1605 and that it was planted and eagerly indulged in by all classes of the population within a decade after its introduction. On the whole, this inference agrees with Japanese records. We are informed by these that the tobacco plant is not a native of Japan and that tobacco-leaves were first traded to the country by the Portuguese (Namban) toward the close of the sixteenth century. About 1605 the first tobacco plantations were established at Nagasaki, the habit of smoking spread rapidly despite prohibitory decrees, and in the latter part of the seventeenth century the cultivation was practised on an extensive scale. Tobacco was also utilized for medical purposes. The word *tabako* used by the Japanese in both their literature and colloquial speech is based on the Spanish-Portuguese form *tabaco* and confirms the correctness of Japanese tradition.

The Portuguese, however, are not responsible for the transmission of the tobacco plant into China. This is outwardly demonstrated by the word *tan-ba-ku* or *tam-ba-ku* under which tobacco first became known in Fu-kien Province in the beginning of the seventeenth century when the Ming dynasty was still in power. The Fukienese were enterprising mariners and maintained regular intercourse with the Philippines, in particular with the island of Luzon, several centuries prior to the Spaniards' conquest and colonization. In the same manner as they obtained on Luzon the peanut and the sweet potato, they also got hold there of tobacco seeds which were transplanted into their native country, first into the province of Fu-kien, whence the novel plant was diffused southward into Kwang-tung and northward into Che-kiang and Kiang-su. The first author who has left an interesting account of

tobacco is Chang Kiai-pin, a reputed physician from Shan-yin in the prefecture of Ta-t'ung, Shan-si Province. He carefully studied the physiological effects of smoking and made a number of correct observations. He felt somewhat sceptical when he first came into possession of the plant, but several trial smokes convinced him of its usefulness and superior quality. He highly recommends it as a remedy in expelling colds, for malaria caused by mountain mists, for reducing the swellings brought about by dropsy, and for counteracting cholera. "In times of antiquity," he writes, "this plant was entirely unknown among us; only recently, during the period Wan-li (1573-1620) of our Ming dynasty, it was cultivated in Fu-kien and Kwang-tung, and from there spread into the northern provinces. Wherever it may be planted, it does not come up in quality to that of Fu-kien which is a bit yellow in color and so fine that it has received the name 'gold silk smoke'; it is very strong and of superior aroma. Inquiring for the beginnings of tobacco-smoking, we find that it is connected with the subjugation of Yün-nan Province. When our forces entered this malaria-infested region, almost every one was infected by this disease, with the exception of a single battalion. To the question why they had kept well, these men replied that they all indulged in tobacco. For this reason it was diffused into all parts of the country. Every one in the south-west, old and young without exception, is at present addicted to smoking by day and night."

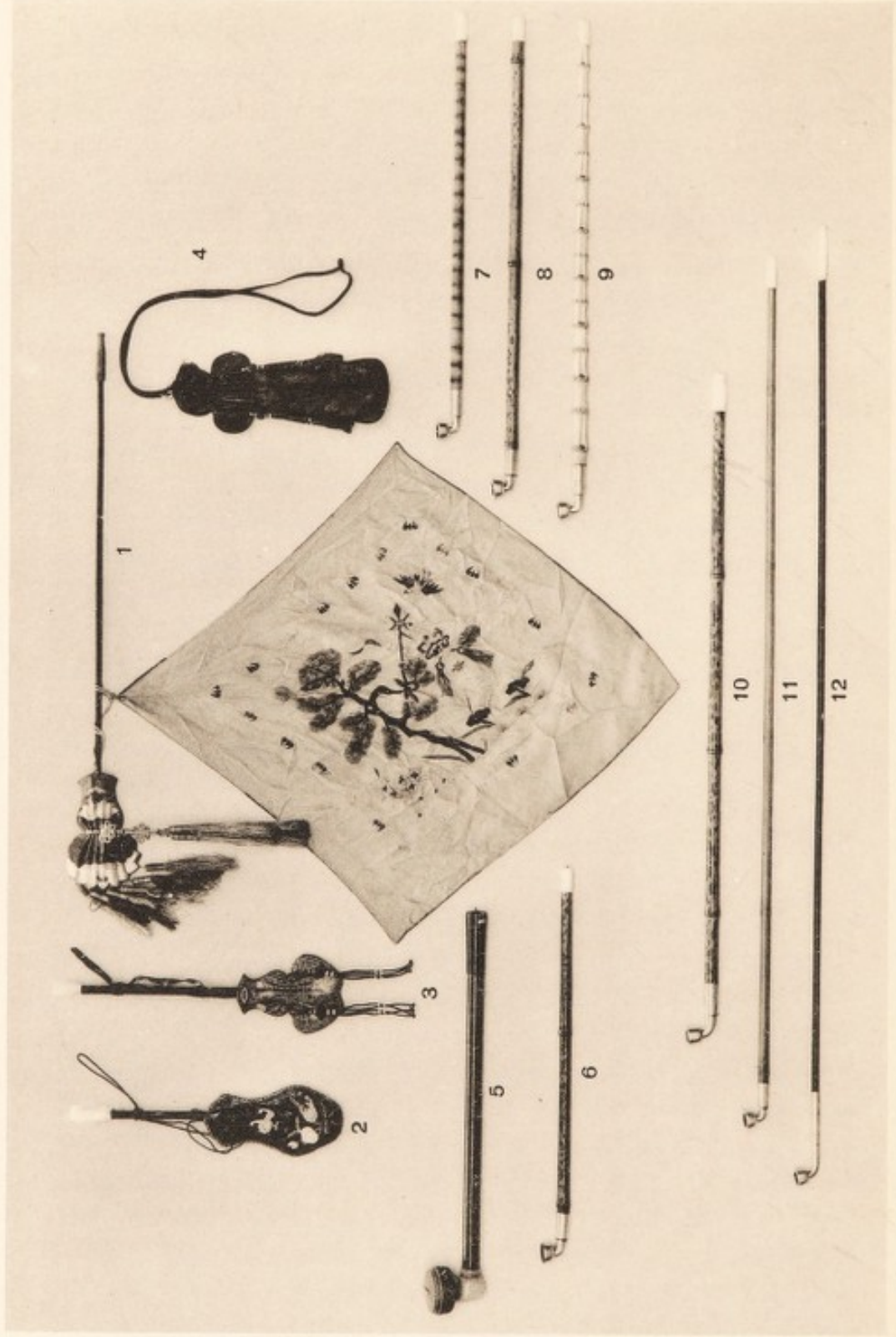
Therefore, in the same manner as in Europe, tobacco first served as a remedy in China and gained its first adherents among the men of the army. An imperial edict issued in 1638 prohibited the use of tobacco and threatened decapitation to those who would clandestinely hawk it. As everywhere, such decrees remained inefficient, and a contemporaneous

author writes that this order was soon rescinded, because there was no better remedy than tobacco for colds in the army. The cultivation has never been discontinued, as the labor was easy and the profit to be made was considerable. The same writer says that in his childhood he was entirely ignorant of what tobacco was, while in the closing years of the period Tsung-cheng (1628-43) there was hardly a boy three feet tall who did not smoke tobacco, so that he concludes that from this period onward tobacco culture was in a flourishing condition. This state of affairs was not altered by another edict promulgated against smoking in 1641, where the pointed paragraph occurs that this practice is a more heinous crime than the neglect of archery, which was regarded as the chief exercise of the army. Addressing the princes and high officers, the emperor laments, "It has become impossible to maintain the prohibition of tobacco-smoking, because you princes and others smoke privately, though not publicly; but the use of the bow must not be neglected."

No species of the genus *Nicotiana* is a native of China; in fact, none is indigenous in any other part of Asia. Nor can there be any doubt that the species first introduced into China from Luzon was *Nicotiana tabacum*, the typical species of America, the species with large cabbage-like leaves and purple flowers. This becomes perfectly evident from the descriptions of the plant in the early Chinese sources. Moreover it is this species which at present is most commonly cultivated all over China and the adjacent territories. *Nicotiana rustica*, the species with yellow flowers and broader leaves, is cultivated only to a limited extent, chiefly in northern Shen-si and in the mountainous districts of Hupeh and Se-ch'wan, in the latter province up to an altitude of 9,000 feet for



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CHINESE DRY TOBACCO PIPES AND POUCHES. 5, OPIUM-PIPE.
About one-tenth actual size.

purely local consumption. At these high elevations the other species would not succeed. The leaves of *N. rustica* receive no preparation beyond being dried in the sun, and the quality of this tobacco is naturally inferior.

In the cultivation of *N. tabacum*, which by the end of the seventeenth century was firmly established throughout the length and breadth of the land, the Chinese have displayed a great deal of natural acumen and aptitude without receiving lessons from foreign nations. Skilful and experienced farmers as they are, they have conceived rational methods comparable to our own and resulting in an excellent leaf. Fertile soil and land beyond the reach of inundations are selected for the successful culture of the plant. To produce a luxurious growth, the farmer will trench his fields deeply, and will manure them with bean-cake. Manure of vegetable origin is preferred to cattle dung which has a tendency to impart to the leaves a rather disagreeable flavor. In the spring the seeds are sown in a well-cultivated bed, and in those provinces where the nights of the vernal season are still cold, the seed-beds are carefully covered with straw or mats. The fields into which the seedlings are to be transplanted are formed into narrow ridges, each about two feet wide and a few inches apart. The seedlings are carefully removed from the seed-bed by means of small spades, great pains being taken not to shake the earth from their roots, and are set in holes previously dug in the field. The plants are arranged in two rows at a distance of sixteen inches from one another. The farmers endeavor to keep the field clean of weeds which would greatly interfere with the growth of the crop. The soil between the plants is loosened at frequent intervals. A few plants are set aside and allowed to blossom for the purpose of gaining seeds. The buds

of all other plants are removed, so that the leaves, as the Chinese say, may "gather all strength, grow thick, and improve their flavor." The leaves which occupy the lower parts of the stems are plucked, so that those which cluster around the upper parts may have a chance to expand. The bunch of leaves that grows in the crown of the plant is regarded as especially fine and aromatic, and the tobacco from such leaves is known as *kai-lu* ("covered with dew"). The stems grow to a height of four or five feet, each producing from ten to twenty leaves. In the autumn, the latter assume a very pale green color with a slight tinge of yellow. The appearance of the yellow tinge is the signal for the harvesting of the leaves. The stems are cut very close to the ground, and are left in their places for a few hours to dry. Before the close of the day, however, they are gathered into the garner, as exposure to the night-dew would prove injurious to them.

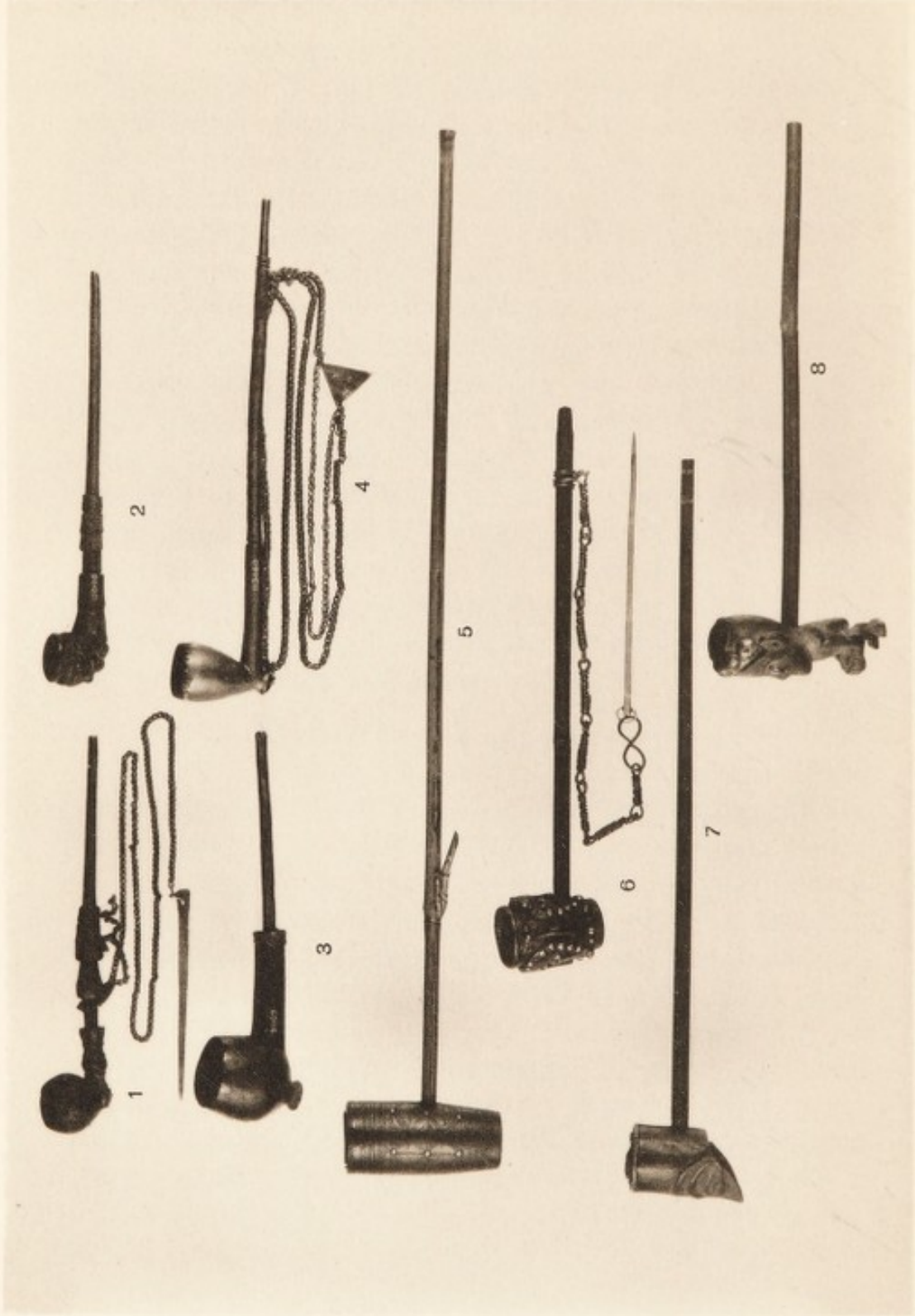
Now the process of fermentation begins. For the purpose of sweating the leaves are piled up in heaps for four days, and then are placed in light, airy rooms to dry. When dry, they are exposed to another sweating process and laid in heaps upon trays of trellis work, being covered with mats. They are frequently examined in order to prevent the heat becoming too excessive. The leaves are finally plucked from the stems and tied up in bundles for sale. In this manner they are used for the long or dry pipes, while for the water-pipe they are finely shredded or shaved by means of a plane. In this case the leaves have to be completely stripped of their ribs and fibres, and are trampled on by men on a wooden threshing floor. At intervals they are sprinkled with oil or wine, and are finally pressed between two hard boards by means of a huge lever. The cake of tobacco thus formed is then shaved into fine shreds which are parceled out. These packages are dried in charcoal ovens to free the tobacco from the oil.

On the whole, the Chinese medical profession cast its vote in favor of tobacco, but several physicians also recognized and denounced its deleterious effects in undisguised language. In general, the Chinese, as well as the Japanese, are moderate in the use of tobacco. Aside from being administered in malaria, a decoction of tobacco is used for destroying insects and in parasitic skin-diseases. Prepared tobacco is used to staunch the flow of blood wounds. The flower stalk of the plant is considered to be more poisonous than the leaves. It was formerly employed for stupefying fish, being chopped fine and bruised together with green walnut hulls and thrown into a pond. The vapor inhaled of the juice of fresh leaves combined with pine resin is believed to benefit the blood vessels in defective circulation. The bruised leaves were also applied in snake bite, and the dried leaves were sometimes put into beds, or burned under the bed, to drive away bedbugs. The deposit in the interior of an old tobacco-pipe stem was regarded as a sovereign remedy for the bite of venomous snakes. This substance, as well as the water from a water-pipe when sufficiently saturated with nicotine, was believed to be the product of the five elements (water, fire, wood, metal, earth) developed in the process of smoking, and was hence named "pill of the five elements." This "pill" was used to kill insects and to cure skin diseases, snake and centipede bites, and the like.

Chinese terminology relating to tobacco is also of some interest. The foreign word *tam-ba-ku* has always been restricted to the written language, and is now obsolete, but it survives in the form *ma-ku* (abbreviated for *ta-ma-ku*), which is commonly used for cigarette among the Canton and Fu-kien men at the ports. The plant is generally known as the "smoke-herb, smoke-flower, smoke-fire, smoke-leaf," and even "smoke-

wine," because, like wine, it is capable of intoxicating people. Tobacco is simply styled "smoke" (*yen*), snuff is "nose smoke;" and the Chinese "eat, sip, or inhale" smoke, while the Japanese and Tibetans "drink" it. There are several poetical names, as "herb of benevolence," "herb of yearning or affection," because he who once tasted it cannot forget it and constantly hankers after it; "herb of amiability," on account of the affectionate feelings entertained toward one another by all classes of mankind since its use became general; and "soul-reviving smoke," because a puff has the power of reviving the energies of the melancholy and wearied. Among the members of the secret sect known as Heaven and Earth Association which has a secret language, tobacco is called "ginger," and "to bite ginger" means to smoke; the pipe is termed by them the "vast bamboo" or the "blue dragon." There is another sect, the Tsai Li, which forbids its members to smoke tobacco and opium and to eat beef.

As a specimen of the Chinese philosophy of tobacco may serve the following extract from an herbal (*Pen ts'ao tung ts'üan*) written in the period Shun-chi (1644-61): "Tobacco has an irritating flavor and warm effect and contains poison. It cures troubles due to cold and moisture, removes the congestion of the thorax, loosens the phlegm on the diaphragm, and also increases the activity of circulation. The human alimentary and muscle systems are aided in their smooth operation as the smoke goes directly from the mouth to the stomach and passes from within to outside, circulating around the four limbs and the hundred bones of the body. There are four principal properties of the smoke: first, it may intoxicate a person, even if he was not drunk before, because the fiery vapors steam the body from both sides, front and back, having the same effect as though he would drink a cup of wine; second, it may



TOBACCO-PIPES. 1-4, FROM THE PHILIPPINES; 5-8, FROM FORMOSA.

remove intoxication resulting from wine, because, when used after drinking, it softens the temper, lessens the phlegm secretion, and cures the after-effect of wine; third, it gives man satisfaction whenever he is hungry; fourth, it makes man hungry when he is sated. If a person smokes when he is hungry, he feels as though he has taken plentiful food; and when he smokes after eating sufficiently, it affords good digestion in a most satisfactory manner. For this reason many people use it as a substitute for wine and tea, and never get tired of it, even when smoking all day long.

“We must next consider the matter of respiration, which is closely connected with the circulation of the blood. The blood moves three inches either at one inhalation or one exhalation, with the result that it circulates through the whole body fifty times in the course of a day and a night; during this interval a man makes thirteen thousand and five hundred respirations. Because circulation is fully controlled by the stomach, the smoke which is absorbed by the stomach will pass through the body without interfering with the order of organs, rush around swiftly, and force its way in its progress through the body. However, human energy does not equal the natural fire; there is the only alternative as to the triumph or defeat of one or the other, —but what energy of a human being can stand a wicked fire burning all day long, and depriving him of real power, drying his invisible blood, and shortening his allotment of life without his knowledge? As a rule, the disturbance of the order of the human body will be increased by expelling the cold and wet or deposited phlegm by using the smoke, but this is only good for the person who suffers simply internal impediment or external disorder; but if he has trouble arising from fire inside of his body, smoking will inflame it, so that he should cautiously avoid it.”

Our earliest authority for the acquaintance of the Koreans with tobacco and smoking is the Hollander Henry Hamel of Gorcum, who with a party of Dutch sailors travelled from 1653 to 1668, and, being shipwrecked, was held captive in Korea for thirteen years. In his Relation which appeared in 1668 he writes that fifty or sixty years previously the Koreans adopted from the Japanese the cultivation and use of the tobacco plant which had heretofore been unknown to them. The seed, the Koreans were informed on that occasion, came from Nampankouk ("country of the Namban," that is, Southern Barbarians, Portuguese and subsequently Hollanders), and hence they frequently styled the plant Nampankoy. Tobacco, therefore, appears to have been introduced into Korea from Japan early in the seventeenth century, shortly after it had become known in Japan. In the beginning when tobacco was first brought to Korea, Hamel relates, the people bought it for its weight in silver and regarded Nampankouk as one of the best countries in the world. In Hamel's time smoking was general and indulged in by both sexes, even by four or five year old children.

The Koreans tell the following story with reference to the beginnings of tobacco. One of their kings had lost a favorite court-lady of whom he had been very fond, and bewailed her death. The lady appeared to him in a dream and said, "On my grave you will find an herb, called the smoke-herb. Gather it, dry it over a fire, and inhale its smoke! It will stop your grief and make you forget your sorrow." The king obeyed her order, found the herb, and propagated its seed in his country.

Two centuries ago Korean tobacco was a great favorite with the Chinese. Twice a year the Koreans then sent a tribute mission to Peking, and among their gifts presented to the emperor of China on these oc-

casions was as a rule included a finely shredded tobacco which the Chinese preferred to their own product.

According to a Javanese chronicle, tobacco was first introduced into Java in 1601. Probably it was introduced there by the Portuguese, and possibly re-introduced by the Hollanders. G. E. Rumpf, a botanist, who explored the flora of the Malay Archipelago in the latter part of the seventeenth century, writes that old Javanese, according to what they had learned from their parents, told him that the tobacco plant had been well known on Java prior to the arrival of the Portuguese, but solely for medicinal purposes, not for smoking; they stated unanimously that they acquired the custom of smoking from Europeans. Such oral traditions, as a rule, are devoid of historical value. The same Rumpf also learned on Java from an Amoy Chinese that the tobacco plant had from ancient times existed in China, but was rarely cultivated; and this plainly contradicts the Chinese records concerning the recent introduction. No species of *Nicotiana* is a native of Java; nowhere does it occur there in a wild state, nor do the Javanese have an indigenous name for tobacco. They have only the foreign *tabako* or *tambako*. Moreover, we have many excellent Chinese accounts of Java and her products covering long periods of history, and none of these alludes to a plant that might be interpreted as tobacco.

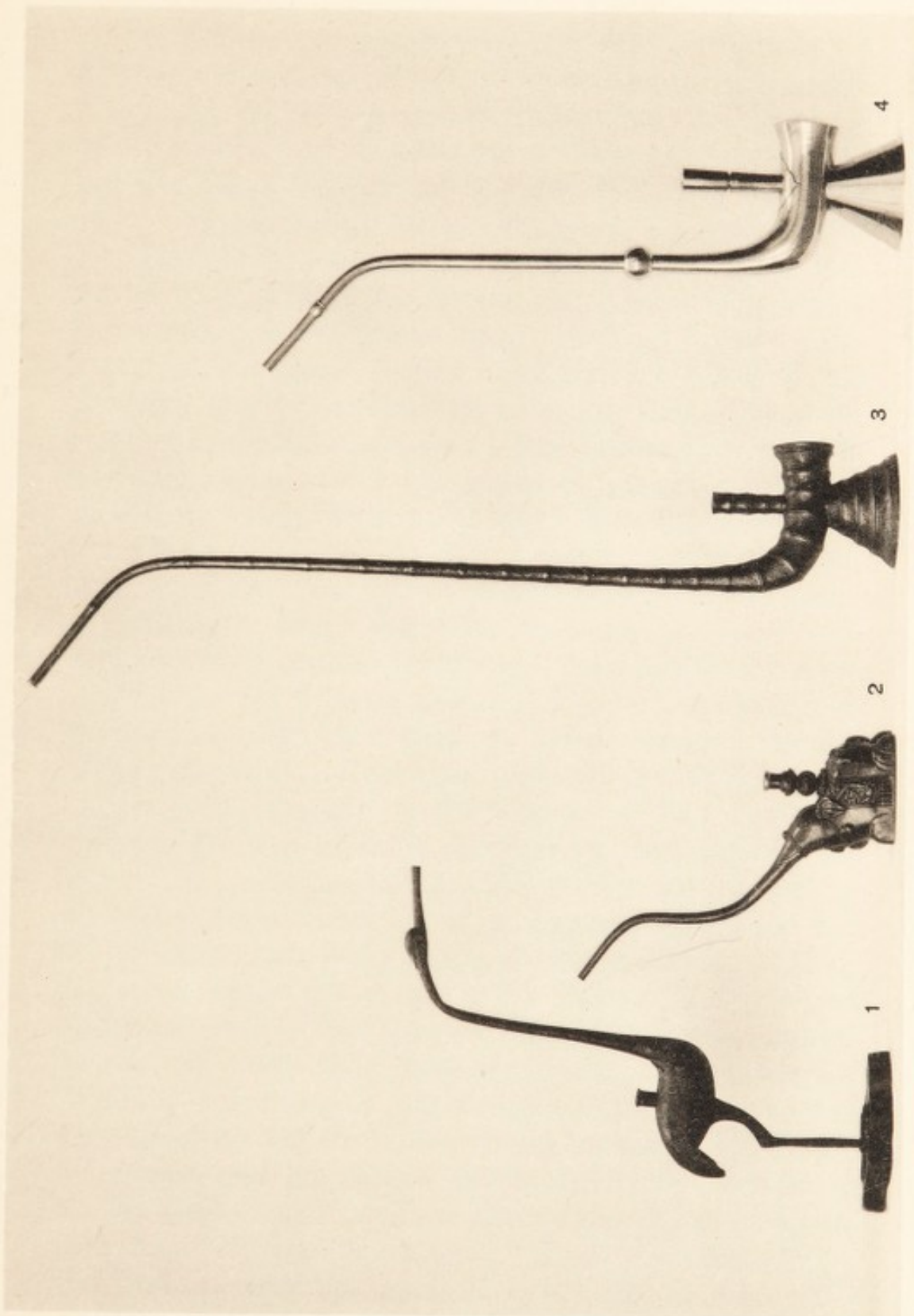
Tobacco was introduced into India by the Portuguese about 1605, first to the Deccan, and thence it was subsequently diffused to northern India. The first Englishman who mentions it is Edward Terry, who spent two years and a half (1616-19) in Malwa and Gujarat in western India as chaplain to Sir Thomas Roe. He writes in his memoirs, "They sow tobacco in abundance, but know not how to cure and make it strong, as those in the Western India" [West Indies].

We also owe to Terry the first description of the Indian hubble-bubble or hooka.

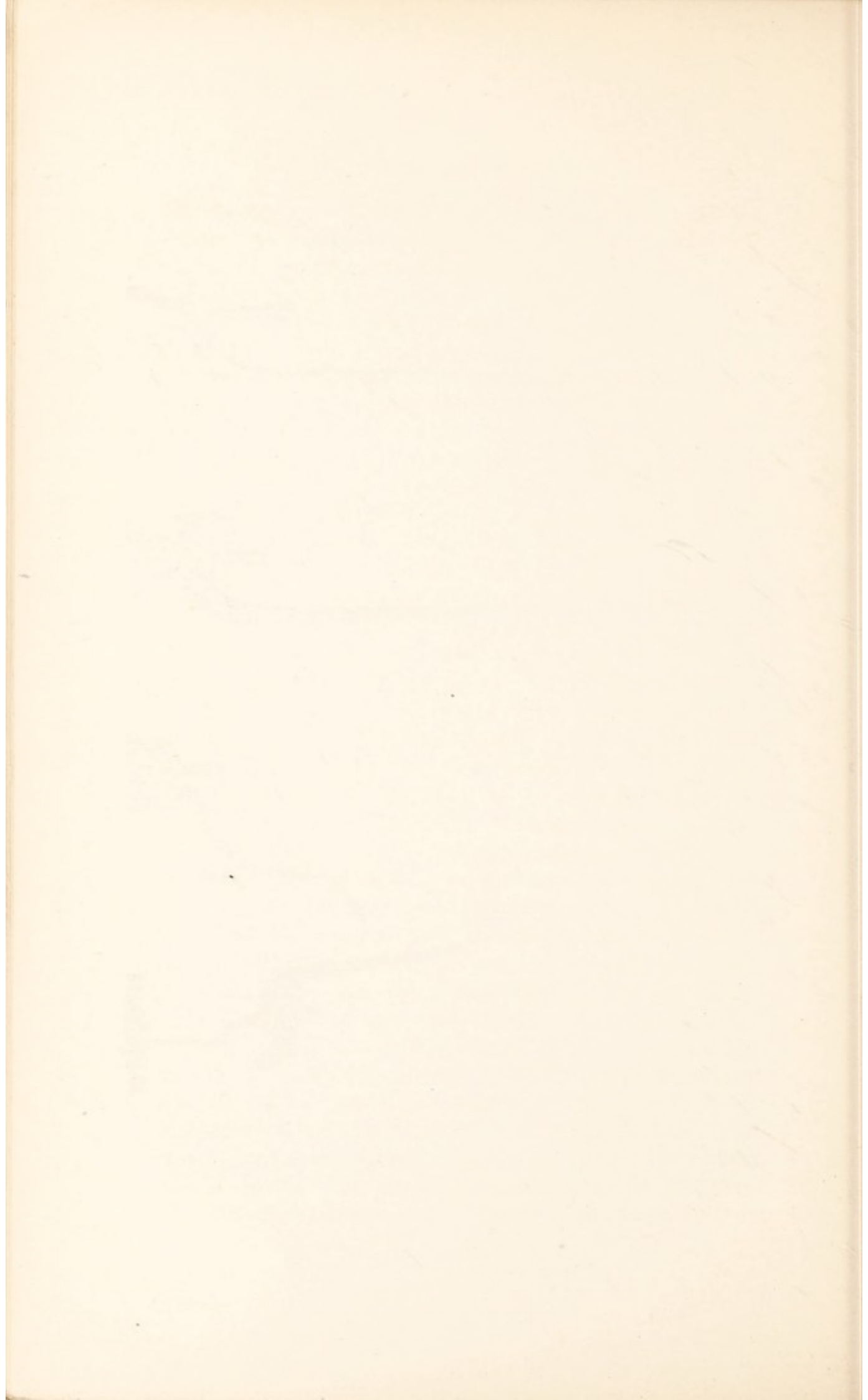
The following interesting native account of the introduction of tobacco into India is contained in the *Wikaya-i Asad Beg*, written by Asad Beg of Kazwin, an officer at the court of the emperor Akbar, in 1605:—

“In Bijapur I had found some tobacco. Never having seen the like in India, I brought some with me, and prepared a handsome pipe of jewel work. The stem, the finest to be procured at Achin, was three cubits in length, beautifully dried and colored, both ends being adorned with jewels and enamel. I happened to come across a very handsome mouthpiece of Yaman cornelian, oval-shaped, which I set to the stem; the whole was very handsome. There was also a golden burner for lighting it, as a proper accompaniment. Adil Khan had given me a betel bag of very superior workmanship; this I filled with fine tobacco, such, that if one leaf be lit, the whole will continue burning. I arranged all elegantly on a silver tray. I had a silver tube made to keep the stem in, and that too was covered with purple velvet.

“His Majesty [the emperor Akbar] was enjoying himself, after receiving my presents, and asked me how I had collected so many strange things in so short a time, when his eye fell upon the tray with the pipe and its appurtenances; he expressed great surprise, and examined the tobacco, which was made up in pipefuls; he inquired what it was, and where I had got it. The Nawab Khan-i Azam replied, ‘This is tobacco, which is well known in Mecca and Medina, and this doctor has brought it as a medicine for your Majesty.’ His Majesty looked at it, and ordered me to prepare and take him a pipeful. He began to smoke it, when his physician approached and forbade his doing so. But his Majesty was graciously pleased to say he must



CHINESE WATER-PIPES OF EARLY TYPE. 1-3, OF BRONZE (K' IEN-LUNG PERIOD, 1736-95); 4, OF TOOTNAGUE, MODERN.
About one-fifth actual size.



smoke a little to gratify me, and taking the mouth-piece into his sacred mouth, drew two or three breaths. The physician was in great trouble, and would not let him do more. He took the pipe from his mouth, and bid the Khan-i Azam try it, who took two or three puffs. He then sent for his druggist, and asked what were its peculiar qualities. He replied that there was no mention of it in his books; but that it was a new invention, and the stems were imported from China, and the European doctors had written much in its praise. The first physician said, 'In fact, this is an untried medicine, about which the doctors have written nothing. How can we describe to your Majesty the qualities of such unknown things? It is not fitting that your Majesty should try it.' I said to the first physician, 'The Europeans are not so foolish as not to know all about it; there are wise men among them who seldom err or commit mistakes. How can you, before you have tried a thing and found out all its qualities, pass a judgment on it that can be depended on by the physicians, kings, great men, and nobles? Things must be judged according to their good or bad qualities, and the decision must be according to the facts of the case.' The physician replied, 'We do not want to follow the Europeans, and adopt a custom, which is not sanctioned by our own wise men, without trial.' I said, 'It is a strange thing, for every custom in the world has been new at one time or other; from the days of Adam till now, they have gradually been invented. When a new thing is introduced among a people, and becomes well known in the world, everyone adopts it; wise men and physicians should determine according to the good or bad qualities of a thing; the good qualities may not appear at once. Thus the China root, not known anciently, has been newly discovered, and is useful in many diseases.' When the emperor heard me dispute and reason with the physician, he was

astonished, and being much pleased, gave me his blessing, and then said to Khan-i Azam, 'Did you hear how wisely Asad spoke? Truly, we must not reject a thing that has been adopted by the wise men of other nations, merely because we cannot find it in our books; or how shall we progress?' The physician was going to say more, when his Majesty stopped him and called for the priest. The priest ascribed many good qualities to it, but no one could persuade the physician; nevertheless, he was a good physician.

"As I had brought a large supply of tobacco and pipes, I sent some to several of the nobles, while others sent to ask for some; indeed, all without exception, wanted some, and the practice was introduced. After that the merchants began to sell it, so the custom of smoking spread rapidly. His Majesty, however, did not adopt it."

In 1610 tobacco was grown in Ceylon; smoking became general in India, and English invoices of date 1619 list tobacco as being shipped from India to Red Sea ports. Jahangir, as he himself informs us in his memoirs, issued a prohibition of tobacco in 1617. His own words are as follows: "As the smoking of tobacco has taken very bad effect upon the health and mind of many persons, I ordered that no one should practise the habit. My brother Shah Abbas [king of Persia], also being aware of its evil effects, had issued a command against the use of it in Iran. But Khan-i Alam was so much addicted to smoking, that he could not abstain from it, but often smoked."

J. B. Tavernier, a French gem merchant, who travelled in India, wrote in 1659 that tobacco grew abundantly in the neighborhood of Burhanpur, and that in certain years the people neglected saving it, because they had too much, and allowed half the crop to decay. F. Vincenzo Maria (*Viaggio all' Indie Ori-*

entali, 1672) even goes so far as to say that tobacco is produced in India in such quantity that both Asia and Europe could be supplied with it.

The Persians first became acquainted with tobacco during a war of Shah Abbas the Great (1586-1628) against the Osmans. Thomas Herbert, who crossed Persia in 1626 on his way to India, is the first traveller who mentions the use of tobacco in the country. A. Olearius, in 1636, found tobacco cultivated in Persia and writes that "there is hardly any Persian, what condition or quality soever he be of, but takes tobacco, and this they do in any place whatsoever, even in their mosques; they highly esteem that which is brought them out of Europe, and call it Inglis Tambaku, because the English are they who bring most of it thither."

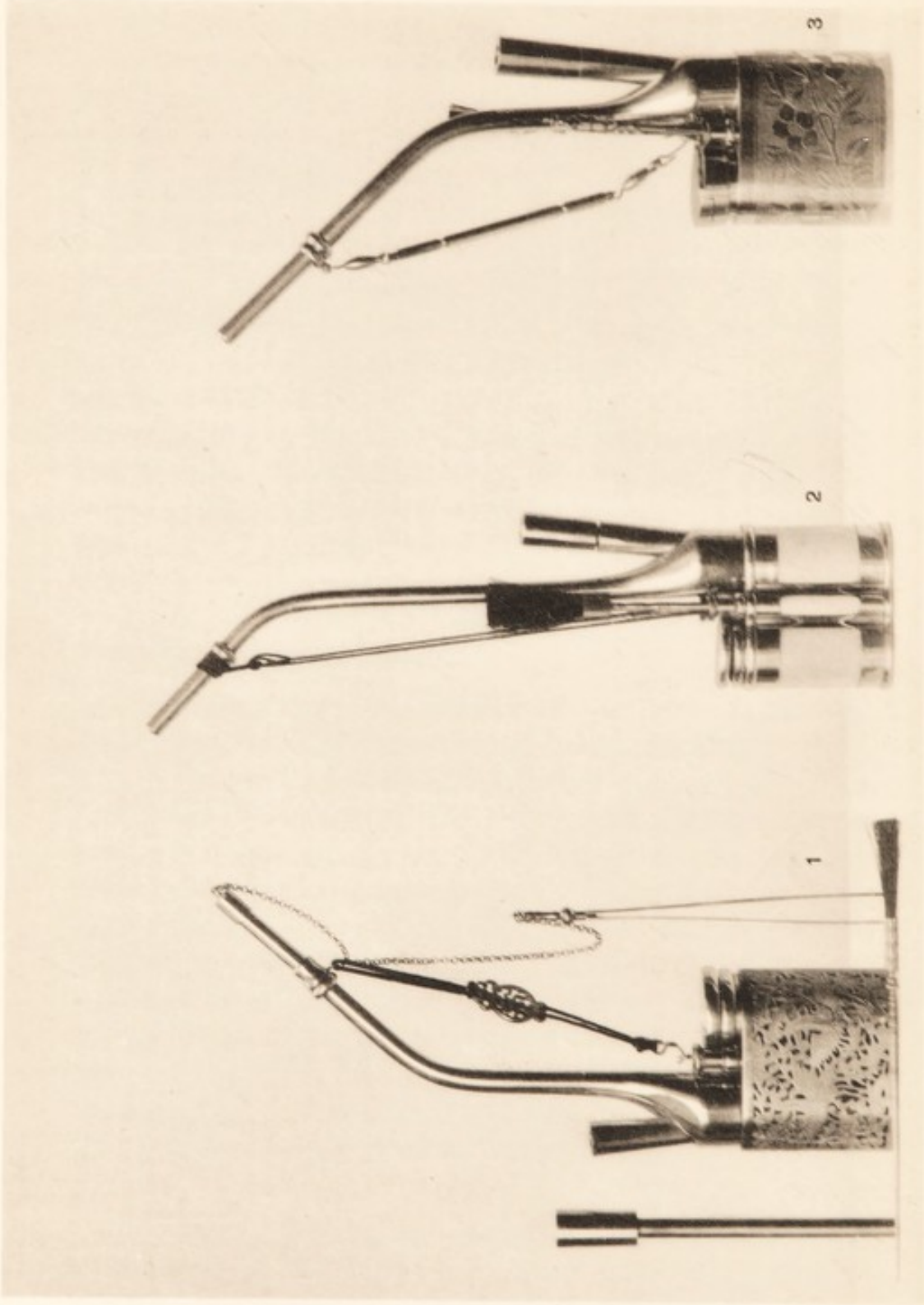
From the preceding notes it becomes clear that tobacco appeared in the countries of the East almost simultaneously in the beginning of the seventeenth century and that the literary nations of Asia have preserved records to this effect. The civilized nations who first received it successfully advanced its cultivation and spread it to the surrounding tribes of lower culture.

The Chinese with their mercantile instinct became the most active propagators of tobacco and smoking all over Asia. As distributors of the product they played the same role in Asia as the English in Europe, and covered a larger territory than any modern tobacco trust could ever hope for. Chinese tobacco and smoking utensils are still ubiquitous among all native tribes of the Amur country in eastern Siberia, in Mongolia, Turkestan, and Tibet. As in so many other things, the Chinese set the model for all peoples with whom they came into contact. Wherever the Russians advanced into Siberia in the course of the seventeenth and eighteenth centuries, they found tobacco already cultivated

under Chinese influence and the practice of smoking it well established. When Ysbrants Ides, envoy of the Russian czar to the court of China, reached Tsitsikar, a mart of Manchuria, in 1693, he found the Dauri, a tribe of Tungusian stock, in the possession of tobacco cultures. They transmitted it to the tribes of the lower Amur and finally to the Gilyak living at the estuary of the river and on Saghalin Island. The words for tobacco and the pipe in the languages of all these peoples are based on the Chinese prototypes. They smoke, but do not snuff or chew. From the middle of the nineteenth century onward Russian tobacco also reached the Amur tribes through the medium of Cossacks, hunters, and merchants, but Chinese tobacco has always held its ground among them. At the time of my travels in the Amur country in 1898-99 the long Manchurian tobacco-leaf tied up in bundles was the favorite medium of barter.

The Ostyak on the Ob are known to have smoked tobacco in the latter part of the seventeenth century, and did so with a peculiar method of their own. They first filled their mouth with water, and lighting a pipe, swallowed the smoke together with this water. An observer of that time relates that, when they had their first pipe in the morning, they fell to the ground as though attacked by an epileptic fit, as the smoke they had swallowed took their breath away. They were in the habit of smoking only when seated. Their pipes were made of a wretched kind of wood, and when tobacco failed them, they smoked the shavings from the pipe-wood. They preferred Chinese to Russian tobacco.

In 1697 the Russians instituted a tobacco monopoly in Siberia which in the following year was ceded to Sir Thomas Osborne. The English tobacco thus introduced had to struggle with the formidable competition



CHINESE WATER-PIPES OF MODERN TYPE. 1, FROM CANTON; 2-3, FROM HANGCHOW.

1. *Shan-shan*; 2. *Shan-shan*; 3. *Shan-shan*.

of the Chinese product, so much so that the sale of the latter was finally prohibited in 1701 under penalty of fine and confiscation, to which in 1704 capital punishment for officials was added. The interesting point is that at that moment tobacco had completed its encircling of the globe and that the tobacco having crossed the Atlantic to England and Russia clashed in Siberia with the tobacco having traversed the Pacific to the Philippines and to China, as it were, in a head-on collision.

There are, accordingly, three movements of the tobacco plant into Asia to be distinguished: one from Mexico to the Philippines continued into Formosa and China and from China into the adjacent territories; another from Europe over the maritime route chiefly fostered by the Portuguese, who transmitted the plant to India, Java, and Japan; and a third sponsored by the Russians during their advance into Siberia.

In accordance with its tardy appearance on Asiatic soil, tobacco has not entered into religious ceremonies of Asiatic peoples, as it was customary in America. Among some tribes of Siberia the pipe has endeared itself to his owner to such a degree that it accompanies him into the grave. Thus the Ostyak on the Ob inter a pipe and tobacco with the deceased, and the Tungus of eastern Siberia who bury their dead in trees place their weapons and a handful of tobacco with them. The late Dr. Reinsch tells in his memoirs (*An American Diplomat in China*) that, when Yüan Shi-kai's funeral took place in Peking in 1916, the usual funeral offerings, as well as the weapons, clothes, and other objects of personal use of the departed were displayed on tables in his residence; long native pipes and foreign smoking sets were included in these paraphernalia. The Ainu of Japan had sometimes valuable tobacco-boxes buried with their owners; before thrown

into the grave, the box was smashed to pieces. The Ainu also had a curious tobacco ordeal: a favorite way of trying a woman was to make her smoke several pipes of tobacco; then the ashes were knocked out of the pipe into a cup of water, and she was compelled to drink it. If she passed the ordeal without falling ill, she was regarded as innocent; if she fell ill, she was found guilty.

Finally the curious fact may be pointed out that there is but one people in Asia who does not make use of tobacco in any form, and this is the Yami who inhabit to the number of about 1,700 the small island of Botel Tobago 35 miles east of Formosa. They do not cultivate the plant, nor will they accept tobacco as a gift. Not being acquainted with the preparation of any alcoholic beverage, they are complete prohibitionists.

The distribution of the cigar in Eastern Asia is very curious. Introduced by the early Spaniards from Mexico into the Philippines in the sixteenth century, it is found at present among the native tribes of Luzon and Formosa; in Korea; among the Miao-tse, an aboriginal tribe of Kwei-chou Province in southern China; among the Chinese of Se-ch'wan, the westernmost province of China, and of Shen-si in the north (but not among Chinese of other provinces); among the Karen of Upper Burma, the Burmese, and in southern India. The earliest allusion to Asiatic native cigars I have been able to trace occurs in E. Kaempfer's "*Amoenitates exoticæ*" (published in 1712). In 1688 Kaempfer travelled from Persia to Batavia, visiting on his way the Dutch settlements in Arabia Felix, India, Ceylon, and Sumatra, and observed that the dark-skinned tribes of these regions (*Nigritæ gentiles*) inhale the smoke of tobacco without an instrument, rolling the leaves into a whirl or twist which

is lighted at the base, while the upper end is held between the lips and sucked. The natives of Luzon and Formosa, the Miao-tse and Koreans insert the rolled leaves into the pipe-bowl; the Formosans also smoke big cigars without a pipe. Considering the striking resemblance of Luzon and Formosan pipes (Plate III) and the identical method of smoking, there is a high degree of probability in the supposition that tobacco was directly transplanted from Luzon to Formosa, independently of the movement from Luzon to the mainland. Indeed it is affirmed in the earliest Chinese chronicle of Formosa written in 1694 that tobacco was first produced on T'ai-wan (the Chinese name of the island) and that people of Chang-chou in Fu-kien made its acquaintance there and on their return home planted it in Fu-kien. This tradition tends to confirm the conclusion drawn from the above observations. It is even stated by Chinese that the savages of Formosa have a tobacco of a quality superior to their own. In Formosa it is a winter crop which is harvested in the spring.

Cheroot is the name of the truncated cigars, as they were formerly made in southern India and at Manila. The word is derived from Tamil *shuruttu*, Malayalam *churuttu* ("a roll of tobacco"); hence Portuguese *charuto*. In southern India cheroots are chiefly made at Trichinopoly, being known as trichies, and have a straw inserted at the end to be used as a mouthpiece. Those made in the islands of the Godavery Delta are much prized in the Madras Presidency, and are called lunka.

The cigarette, likewise introduced by the Spaniards from America, is of comparatively ancient date among the Malayan tribes; it is described by the botanist G. E. Rumpf (Herbarium amboinense, 1747): the green leaves were dried in the wind, cut into small

strips, and wrapped in dried and smoothed banana-leaves, about five or six thumbs long and a finger thick; these rolls were called *bonkos* by the Malays. This word, also spelled *bunco* or *buncus*, is derived from Malay *bungkus* ("wrapper, bundle"); it was also used for a cigar. The cigarette used by the Dusun of British North Borneo is covered with a wrapper made from the flower-spathe of the Nipa palm. These wrappers are sold ready cut at all markets, and are made up into bundles. The Alfur of Ceram also smoke tobacco in the form of cigarettes; dried leaves, the leaves enveloping maize-cobs, or the outer bast of the young leaves of the fan-palm are used as wrappers.

In India cigarettes and cigars under the Malay name (*punka*) are reported as early as the seventeenth century. C. Lockyer writes in his "Account of the Trade in India" (1711), "Tobacco for want of pipes they smoke in Buncos as on the Coromandel coast. A Bunco is a little tobacco wrapt up in the leaf of a tree, about the bigness of one's little finger, they light one end, and draw the smoke thro' the other; these are curiously made up, and sold twenty or thirty in a bundle." In Siam also cigarettes rolled in banana leaves were smoked. It is stated in Japanese documents that the cigarette was used in the early days in Japan, the dried leaf being rolled up in a piece of paper. In certain localities of Japan tobacco is still rolled up in a leaf, generally of the *Camellia japonica*, and smoked like a cigarette.

While Asia owes the tobacco plant to America, it owes nothing to America in regard to smoking utensils, for Asiatics have exerted their own ingenuity and produced their smoking apparatus from resources wholly their own. Whether the early Spanish colonists introduced American pipes into the Philippines, whether the natives of Luzon fashioned their first

pipes after models furnished by the Spaniards, and whether the first Chinese who introduced tobacco from Luzon to Fu-kien imitated Luzon pipes, we do not know. All we learn from the early Chinese accounts is that a long tube was held between the lips, and that the tobacco leaves were ignited and the smoke swallowed. Smoking, accordingly, was practised at the moment the plant was introduced and cultivated. Lu Yao, who wrote a small treatise on tobacco in the latter part of the eighteenth century, remarks that bamboo was regarded as the best material for pipe-stems and given preference to ebony and ivory which were apt to crack. For this reason a copper tube was inserted into the ivory stem in Yün-nan Province. In Che-kiang Province, according to Lu Yao, pipe-bowls were carved from wood and the stems made of bamboo, entirely plain for the use of rustic folks, while the gentry could afford the luxury of bowls of gold, silver, copper, or iron with inlaid designs. He also refers to a primitive method of smoking in Fu-kien: the leaves piled upon a heap of old roots in the woods were set fire to, and the rising smoke was inhaled.

A one-piece pipe without a separate bowl and mouthpiece is still found among the poor farmers and workmen of An-hui and Ho-nan Provinces (Plate I, Fig. 1). It is simply a bamboo stem cut off with a part of the root which is naturally thicker than the stem and is hollowed out a little for receiving the tobacco. The specimen figured is old, and is mounted with a metal plaque cut out into the design of a double fish. The hole for the tobacco is lined with white copper. In other provinces this type of pipe is unknown, but a similar one of bamboo is used by the Tibetan and other aboriginal tribes of Se-ch'wan. At Ta-t'ung fu, in the northern part of Shan-si Province, I found last summer a peculiar pipe consisting of a polished sheep-

bone, the bowl and mouthpiece being formed of low brass tubes held in place by a brass coin (Plate I, Fig. 2). Among the fishermen of the Luchu Islands a bamboo pipe is still in use with the end scooped out to hold the tobacco. It may be argued that the one-piece pipe had originally a wider distribution in the East, but such a supposition cannot be supported by actual evidence at present.

As a rule, the Chinese long pipe for dry tobacco consists of three separate parts, a round bowl of small capacity, usually of white copper or tootnague (an alloy peculiar to China and composed of copper, zinc, nickel, and iron), more rarely of brass, a stem of bamboo or wood, and a mouthpiece of stone, sometimes jade, ivory, or milk-white glass. The pipe in Fig. 3 of Plate I is entirely of brass. Besides bamboo, ebony, hard black-wood (from *Dalbergia latifolia*), and rattan are esteemed as stems. Mottled bamboo and the square bamboo are highly prized (Plate II, Figs. 6, 8, 11). Pipes are also entirely carved from ivory with round or square stems (Plate I, Figs. 5-6). Mouthpiece and bowl are also made of walrus ivory stained green (Fig. 6); in this specimen the bowl is combined with an ivory hand which serves as a back-scratcher. Pipes for women, as a rule, are much longer than those for men, which holds good also for Japan. The Manchu are fond of very long pipes (Plate II, Fig. 1), and carry them stuck into a tobacco-pouch which is suspended from their girdle. The Manchu women adorn the stem with an embroidered silk kerchief. A new invention was made during the republican era: a metal cigarette-holder is screwed into the pipe-bowl when the owner desires to smoke a cigarette, and is taken out when he wants to smoke tobacco (Plate I, Figs. 3 and 5). Clay bowls, as far as I know, are not used in China for tobacco-pipes, but are the rule in opium-pipes. The

bowl is always set vertically on the stem under a right angle, and terminates in a short metal tube made in one piece with the bowl. The stem connects this tube with the mouthpiece, being fitted into the two. This type of pipe is an original invention of the Chinese, and they deserve due credit for it. It is a practical instrument, elegant in shape, light in weight and convenient to handle, pleasant to smoke from and easy to clean.

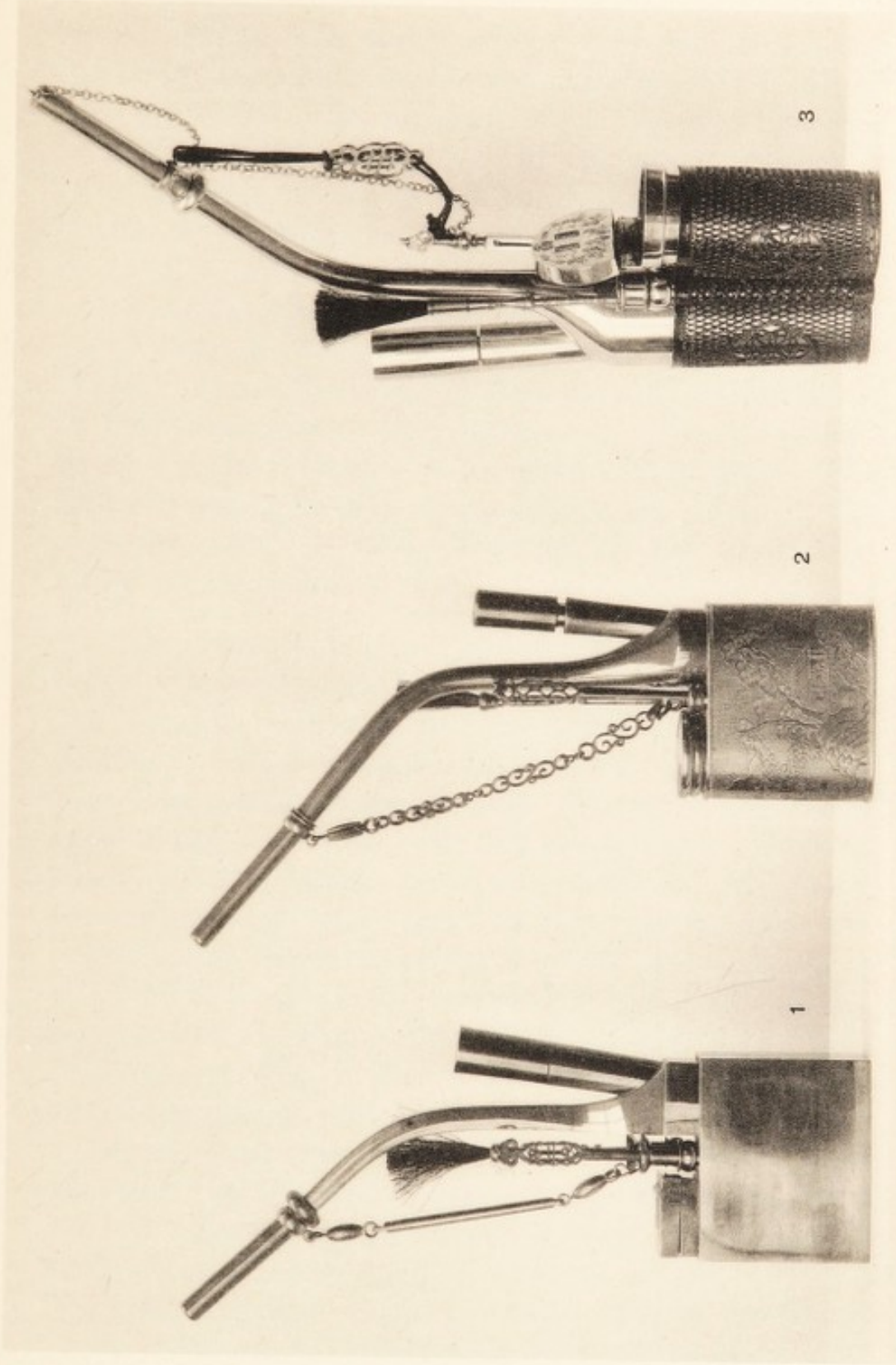
On Plate II also four tobacco-pouches are illustrated, that in Fig. 1 of embroidered silk, those in Figs. 2 and 3 of silk with appliqué designs, and that in Fig. 4 of plain black leather.

Korean tobacco-pipes are modelled after those of the Chinese, but in distinction from the latter Koreans also make bowls of wood and clay. Good examples may be seen in Case 28, Hall 32. Japanese pipes, though they have a distinct style, consist of three parts in form very similar to the Chinese pipe.

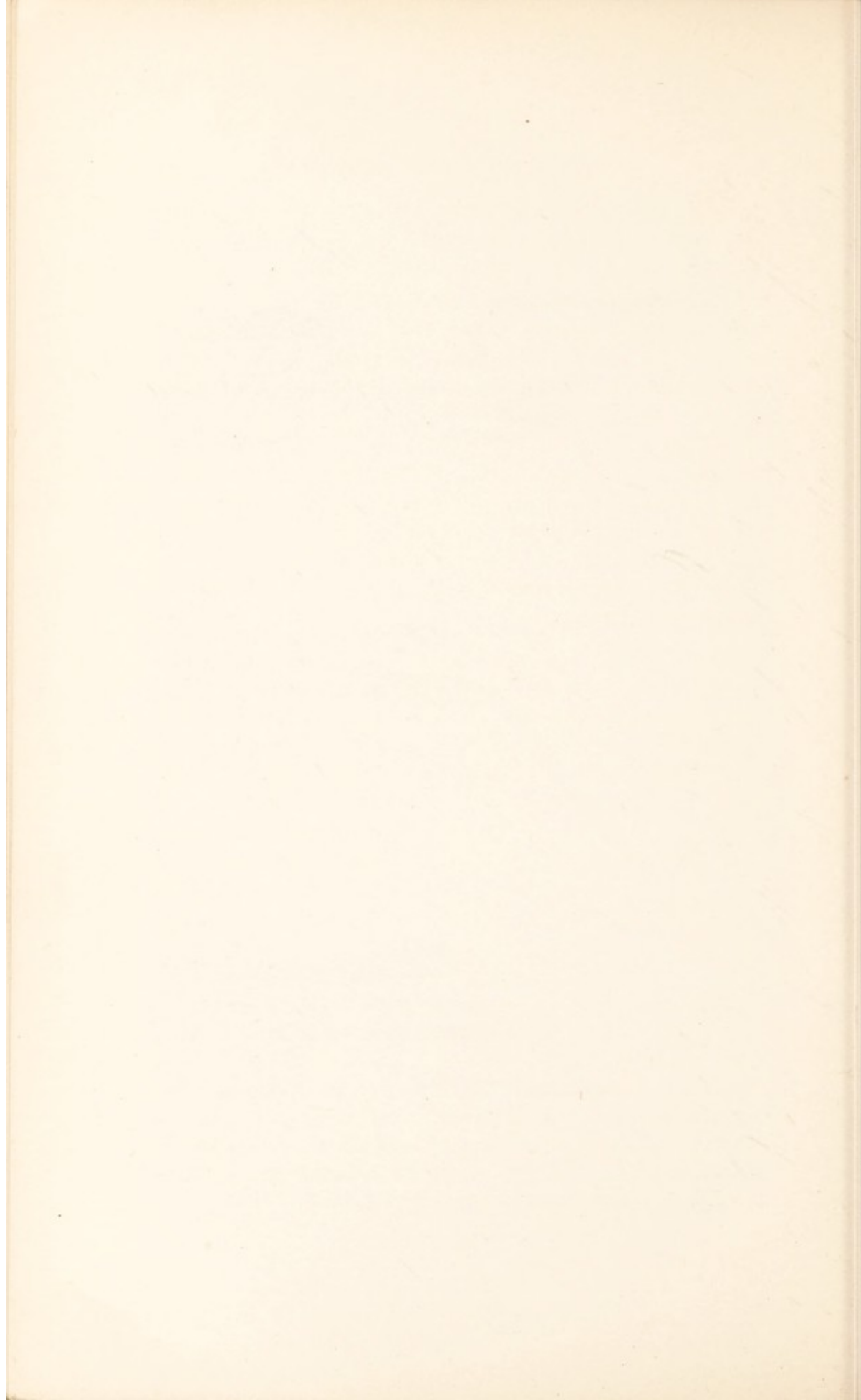
An interesting problem is presented by the interrelation of opium and tobacco smoking. A new investigation of this subject which I made on the basis of Chinese sources has led me to the conclusion that opium-smoking sprang up as a sequel of tobacco-smoking not earlier than the beginning of the eighteenth century. Before tobacco became known in Asia, opium was taken internally, either in the form of pills, or was drunk as a liquid. The Hollanders, who exported large quantities of opium from India to Java, were the first who prepared a mixture of opium with tobacco by diluting opium in water, and who offered this compound for smoking to the natives of Java. This fact is stated in perfect agreement by E. Kaempfer, a physician in the service of the Dutch East India Company, who visited Batavia in 1689, and by contemporaneous Chinese documents. A Chinese author,

who wrote a history of the island of Formosa, which was under Dutch rule from 1624 to 1655, even intimates that the inhabitants of Batavia, who were originally excellent fighters and had never lost a battle, were enervated and conquered by the Hollanders by means of opium prepared by the latter for smoking purposes. Be this as it may, the custom was soon imitated by Chinese settlers on Formosa, and smoking-opium was smuggled into that country from Batavia despite prohibitory regulations of the Chinese authorities. Opium was then boiled in copper kettles, and the mass was invariably blended with tobacco; the price for this product was several times greater than that for tobacco alone. It was a much later development to smoke opium in its pure state. The opium-pipe, as it still exists, was invented by Chinese on Formosa in the first part of the eighteenth century. We have several descriptions of the opium-pipe written by authors of that period, which leave no doubt of the fact that in principle the instrument was then identical with the modern one. An old opium-pipe with ivory mouth-piece beautifully stained a deep lustrous brown by an inveterate smoker is reproduced in Plate II, Fig. 5. The stem is lacquered red and ornamented with fine cloud designs. The bowl fashioned from Yi-hing terra cotta and neatly decorated is inserted into a white jade piece carved in the form of a closed hand. This is not the place to go into the details of opium smoking; it is mentioned here merely in order to show that the opium-pipe is based on the tobacco-pipe, and that opium-smoking has grown out of tobacco-smoking.

Four Philippine pipes from Luzon are illustrated on Plate III, Figs. 1-4. Those in Figs. 1-2, made by the Bacun of Igorot stock, have carved wooden bowls of the same rounded form as the Chinese pipes, and have another characteristic in common with the latter



CHINESE WATER-PIPES OF MODERN TYPE. 1-2, OF BRASS, FROM SUCHOW; 3, OF TOOTNAGUE, FROM CANTON.
About one-third actual size.



in that the stem is carved out of the same piece with the bowl; a slender short brass mouthpiece is inserted into the stem. The pipes in Figs. 3-4 are from the Ifugao, likewise of Igorot stock; the former is carved from a hard reddish wood, the latter is entirely of brass, the mouthpiece being wrapped around with brass wire, and a double brass chain being attached to the stem. The pipes in Figs. 1-2 were collected by F. C. Cole, those in Figs. 3-4 by S. C. Simms, on Museum expeditions to the Philippines. Other types of Philippine pipes are illustrated in "The Tinguian" by F. C. Cole (Museum Publication 209, p. 429). The leaf is rolled into thin cigars which are placed in the pipe-bowls,—a practice followed by the aboriginal tribes of Formosa.

The Formosan pipes consist of a cylindrical or barrel-shaped wooden bowl perforated at the side for the insertion of a reed or thin bamboo, which is not provided with a separate mouthpiece. The bowl in Fig. 5 is neatly engraved with geometric and floral designs and decorated with tiny silver studs. That in Fig. 6 has two human faces carved on each side, each face being outlined by rows of silver studs, eyes and mouth being formed by silver pieces; a brass scraper is attached to a wire chain fastened to the stem. On the bamboo bowl in Fig. 7 a single face is carved in front. The pipe in Fig. 8 shows the complete figure of a crouching man of rather naturalistic style, carved from wood, the head forming the bowl; such figure pipes also occur in the Philippines. These four pipes come from the Paiwan tribe, Jamari Village, Formosa, and were obtained by S. Ishii; they were presented to the Museum, together with a representative collection from Formosa, by Dr. Frank W. Gunsaulus in 1919 (exhibited in Case 43, Hall 32).

Besides the dry pipe, a method of wet smoking unknown in America was developed in Asia. Whatever the mode of construction, the principle underlying all water-pipes is the same, and is based on the desire to neutralize, as much as possible, the poisonous properties of tobacco by permitting the fumes, before being inhaled, to pass through water. In this manner a proportion of nicotine is absorbed by the water, and the smoke is purified, cooled, and moderated in strength.

In India this type of pipe is called hooka (also spelled huka), Anglo-Indian hubble-bubble. It consists of a hollow, oval, metal or earthenware vessel or a coconut shell partially filled with water (Case 33, Hall 32). From this vessel arise two tubes—one the mouthpiece, the other being the attachment for the actual pipe, the *chillum*, usually of clay, which contains the tobacco. The fumes pass through the water when the pipe is put to work. The tobacco is cut small or reduced to a powder which is kneaded into a pulp with molasses and a little water. It is thus made into large cakes. It is ignited with a burning piece of specially prepared charcoal, and contact with glowing charcoal is needed to keep it alight.

Early in the seventeenth century the water-pipe was used by the Persians, and it is possible that the instrument was invented in Persia. The first description and illustration of it is found in one of the early books on tobacco, the *Tabacologia* (written in Latin) by the physician J. Neander and printed at Leiden in 1626. The two pipes figured by Neander correspond exactly to the modern Persian *ghalian*, and are expressly credited by him to the Persians. In view of the fact that tobacco became known in Persia only in the beginning of the seventeenth century, it is somewhat amazing that in the course of a few years, a

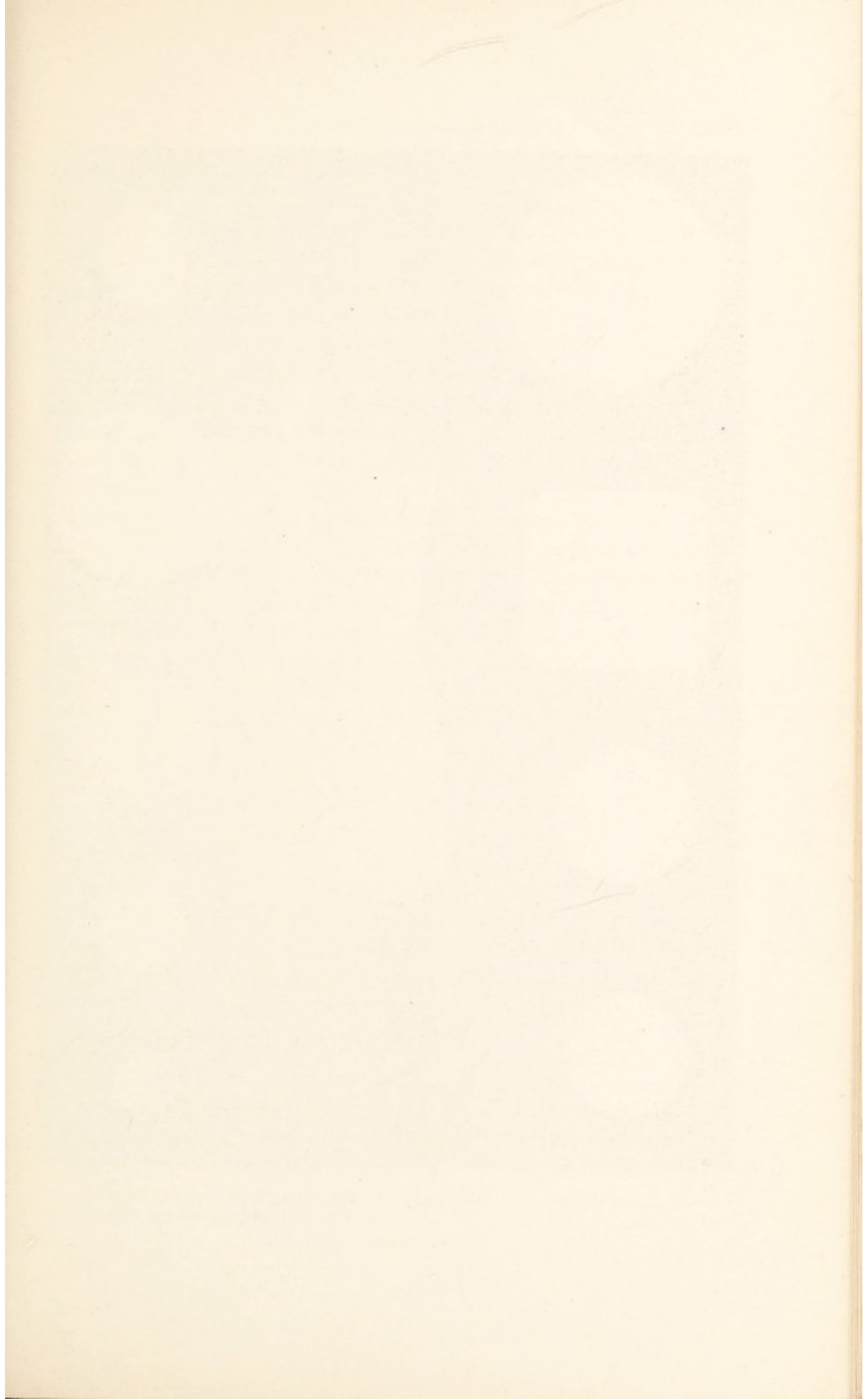
decade perhaps, the Persians should have conceived the invention of so complex an apparatus as their water-pipe represents; and this state of affairs has induced some authors to advance the opinion that the water-pipe pre-existed in Persia, being formerly used for the smoking of hemp, and was afterwards employed for tobacco. This is a rather attractive hypothesis, but any direct historical evidence is lacking for it; no document has as yet come to light to show that the Persians or Indians really smoked hemp out of an instrument in times prior to the introduction of tobacco, nor is the description of such an instrument on record. All the accounts of hemp-smoking we possess were written after this time, and it is as a rule a mixture of tobacco and hemp that is used for smoking.

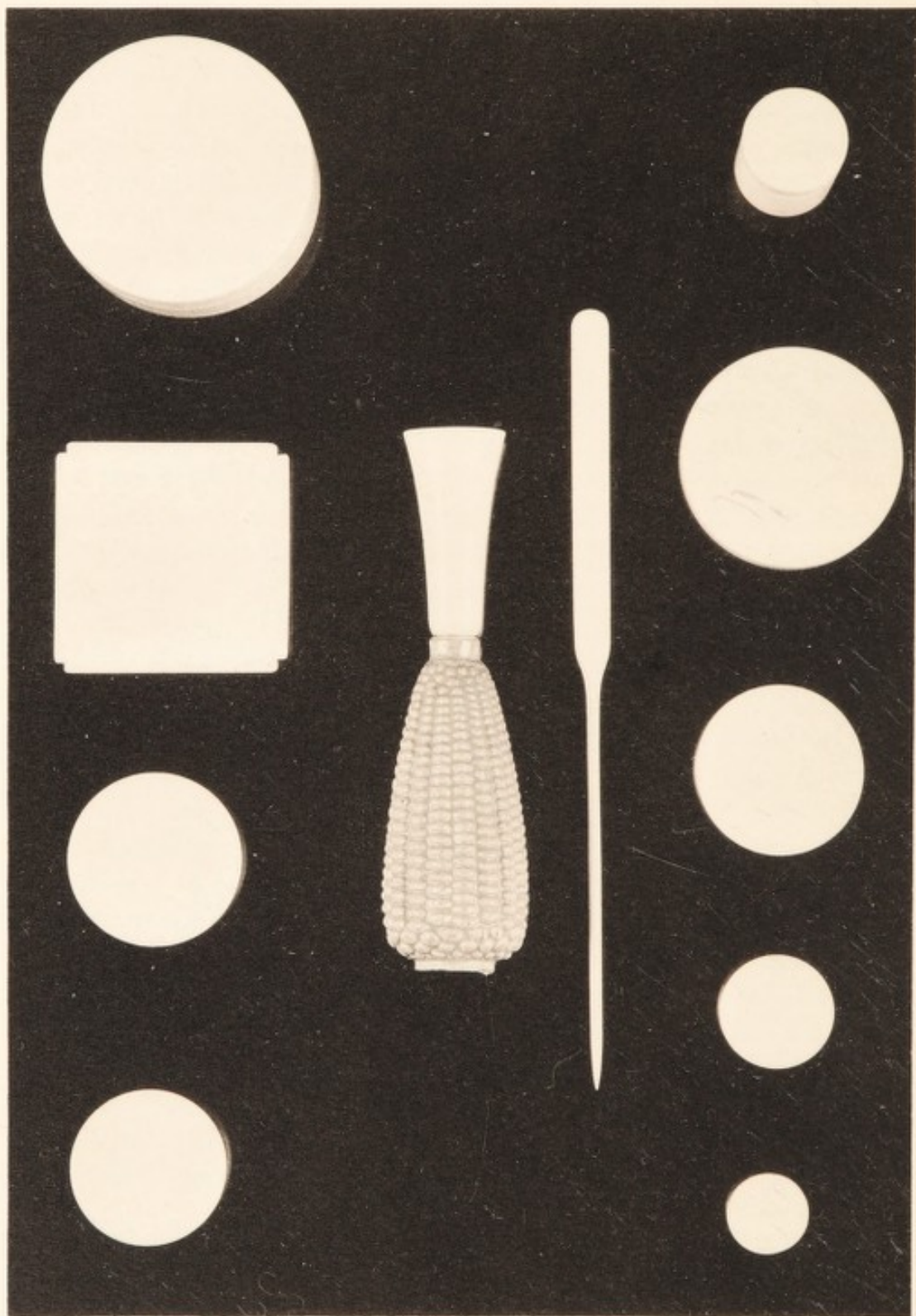
Speaking of the coffee-houses of the Persians, John Fryer, who travelled for nine years in India and Persia (1672-81), writes, "They are modelled after the nature of our theatres, that every one may sit around, and suck choice tobacco out of long Malabar canes, fastened to crystal bottles, like the recipients or bolt-heads of the chymists, with a narrow neck, where the bowl or head of the pipe is inserted, a shorter cane reaching to the bottom, where the long pipe meets it, the vessel being filled with water: after this sort they are mightily pleased; for putting fragrant and delightful flowers into the water, upon every attempt to draw tobacco, the water bubbles, and makes them dance in various figures, which both qualifies the heat of the smoke, and creates together a pretty sight."

The Arabs propagated the water-pipe in Egypt and over many tracts of Africa, where it appears in a great variety of forms. As early as 1626 Thomas Herbert found the hooka in use among the inhabitants of Mohilla, one of the four islands forming the Comoro. In 1638 it was noticed on Madagascar by

Peter Mundy, who writes, "Most commonly the men wear about their neckes in a string sundry implements off iron, etc., . . . a mouth peece for a tobacco pipe, having the tobacco growing here, which they draw through the water as in India, their hucka beeing the end off a horne with a short pipe or cane, to the end off which they apply their mouth peece afforesaid." As Mundy had spent several years in India (1628-34) in the service of the East India Company before coming to Madagascar, he is also authority for the early use of the hooka in India. As already mentioned, it is described by Terry as early as 1616. In the latter part of the seventeenth century it advanced to Siam, where La Loubère, a French envoy to Siam, noticed it in the hands of resident Mohammedans. The Mohammedans apparently spread it all over Asia, also to Chinese Turkestan. The Chinese report that the water-pipe made its first appearance at Lan-chou, capital of the province of Kan-su, in the beginning of the eighteenth century, and came from there together with the finely shredded tobacco used for the water-pipe. Lan-chou is still the producer of the best water-tobacco, which in appearance is not unlike the Turkish cigarette tobacco. It is also a centre of the Mohammedan population, and, adjoining Turkestan in the west, Kan-su is likely to have been the home of the Chinese water-pipe. The Chinese, however, received merely the impetus from Persian or Turki Musulmans; for, compared with the clumsy apparatus of Persia and India, their water-pipe is so convenient, simple, graceful, and artistic that it may be put down as an invention wholly their own.

There are two forms of water-pipe in China,—a plain one which originated in the eighteenth century, and a more complicated one, developed in the nineteenth century. The older ones are now very scarce,





CHINESE IVORY TOBACCO AND OPIUM BOXES (AT TOP); SNUFF-BOTTLE WITH IVORY FUNNEL AND SPATULA (IN CENTER); SET OF IVORY SNUFF-DISHES (ON SIDES).

One-half actual size.

but I have been fortunate enough to secure three good specimens made in the K'ien-lung period (1736-95) and illustrated in Plate IV. The one in Fig. 1 is in shape of a standing crane, the body of the bird forming the water-vessel, and its beak the mouthpiece; the tobacco receiver is lost. The pipe in Fig. 2 represents a crouching elephant caparisoned and carrying on its back a vase, which holds the tobacco; the elephant's trunk forms the smoke-tube. Elephants of this style are frequent in K'ien-lung bronzes, as censers, candlesticks, and flower-vases (examples in Case 24, Hall 24). The water-receptacle of the pipe in Fig. 3 has the shape of an obtuse cone; the stem is worked into the appearance of bamboo, and the whole is covered with very fine engravings of floral and leaf designs. The pipe in Fig. 4, entirely made of tootnague and undecorated, is modern and manufactured by the firm Chang-te-tai at Suchow; it is reproduced after the old style, and is still in vogue among old-fashioned folks.

Six examples of the new type of water-pipe are selected from a large number in the Museum collection and reproduced in Plates V and VI. The principal innovation lies in the fact that a receptacle for storing the tobacco has been added in the form of a cylindrical vessel with hinged cover, which is closely joined to the water-receptacle and together with the latter is encased in an oval box. The pipe proper is loosely stuck into this box and held in position by means of a chain (or sometimes silk cords terminating in tassels). A scraper with brush inserted at the top and a pair of pincers for picking the tobacco are placed in detachable tubes. In a word the tendency is to concentrate and have all the necessary articles conveniently arranged in the instrument, so that it can easily be handled and carried. In Fig. 1 of Plate V, the single parts are shown separately, the smoke tube with a small cavity in the

upper end in which a pinch of tobacco is placed (to the left of the pipe), the scraper in front, and the pincers to the right. The surface of the box is treated in open work and decorated with a peacock and a phoenix. The mouthpiece may be closed with a metal cap when the pipe is not in use. This pipe was made at Canton. In Fig. 2 the box is inlaid with ivory. In Fig. 3 the box is finely chased with flowered branches. The two latter pipes come from Hangchow. The pipe in Fig. 1, Plate VI, made at Suchow, is of brass and plain; the box is of rectangular shape. This pipe is regarded by the Chinese as highly artistic. The one in Fig. 2, of brass also, is engraved with a landscape all around the box. That in Fig. 3, of tootnague, is a specialty of Canton; the box is encased in black varnished leather in which designs are neatly cut out.

Water-pipes are also made of pure copper, and there is a great variety of shapes and designs. Those of tootnague are frequently inlaid with ornaments of copper, brass, bone, horn, tortoise-shell, or enamel. It would be easy to collect several hundred different varieties in different parts of the country. A new pattern was recently inaugurated at Shanghai: the water-receptacle is built in the shape of a boot, there is no tobacco receptacle, and the smoke-tube slides into the boot so that it is no longer than eight inches. On account of its reduced dimensions and light weight it can easily be carried in the pocket, but it lacks artistic merit. Water-pipes are used alike by men and women, and are freely offered to guests and visitors; they are lighted by means of paper spills. Formerly water-pipes of enormous size were circulated among the patrons of a theatre, and a cash or two were paid for a puff.

In connection with the water-pipe, a curious custom has developed among some tribes of Assam and Upper

Burma, and this is the use of nicotine water. The women of the Chin smoke the hubble-bubble largely for the benefit of the men. When the water in the water-receptacle is sufficiently saturated with nicotine, it is poured into a gourd. This liquid, however, is not swallowed; the men merely retain it in their mouths for a time and then spit it out. Sir J. George Scott characterizes the process as "merely a lazy form of chewing," though chewing is apparently not involved. The nicotine gourds of the men are often ornamented with ivory stoppers and painted with vermilion. This juice is said to act as a tonic, and travelling Kuki who eat nothing all day keep their strength up by constant sips of this juice which they retain in the mouth not more than three minutes at a time.

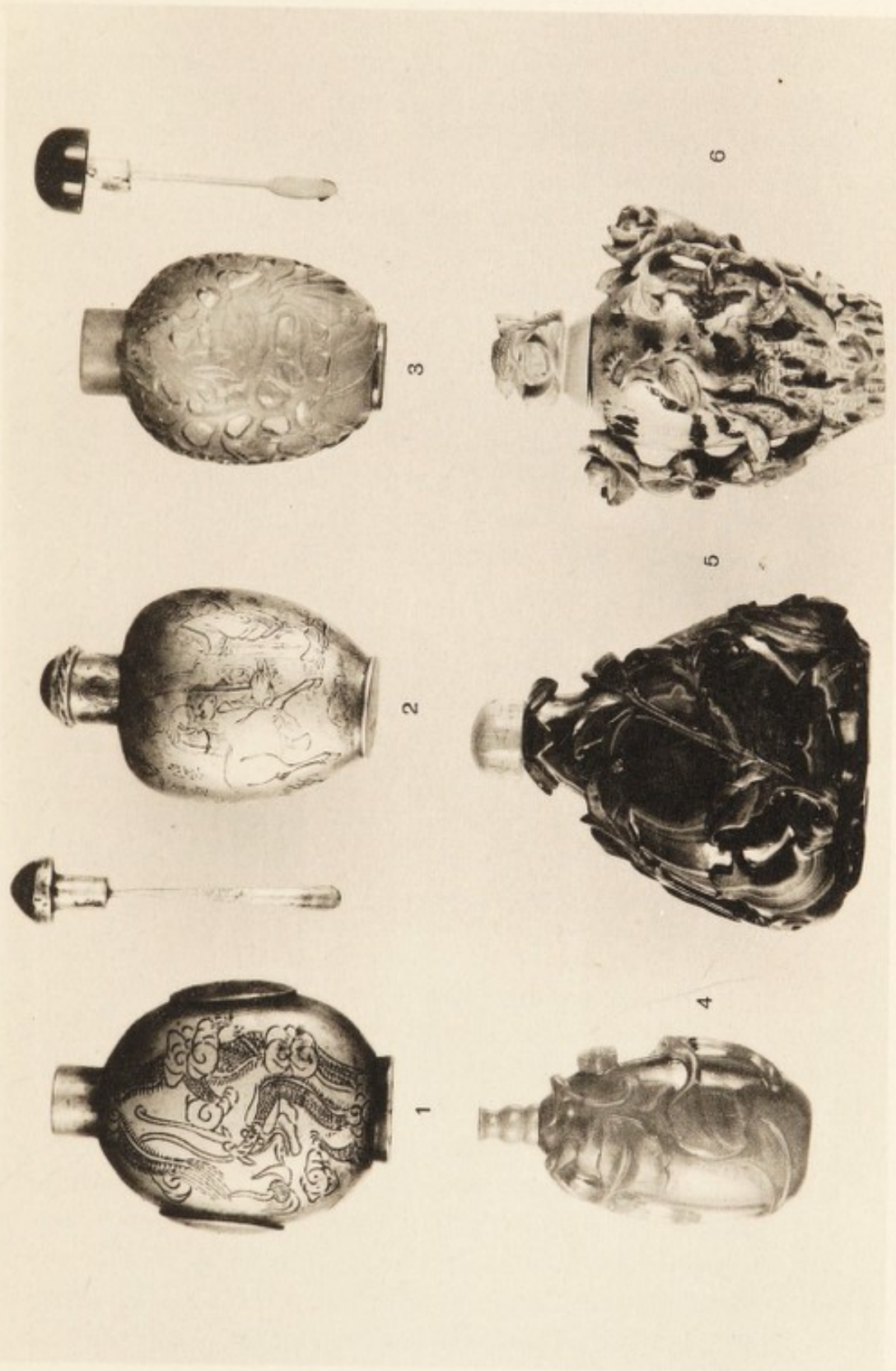
Tobacco-chewing is not practised in China, Tibet, Korea, and Japan. It is wholly confined to the zone of the betel-chewers, which includes India, certain portions of Farther India like Siam and Indo-China, and the Malay Archipelago. In this region tobacco leaves are added to the ingredients chewed with the nut of the areca-palm, or tobacco alone is chewed together with lime, while smoking tobacco is reduced to a minimum; cigars and cigarettes prevail in this area over the pipe. Among some tribes, as, for instance, the Karen of Upper Burma, smoking is almost as prevalent as betel-chewing. It is interesting to learn from a Japanese author, who wrote in 1708, that at that time Siamese and other foreigners at Nagasaki were observed to chew tobacco—a practice unknown to the Japanese.

A curious mode of smoking is practised in some localities in the Himalaya, southern Tibet, Kashmir, Baltistan, and Russian Turkistan. This is a stationary earth-pipe. Two holes are dug in the earth of a sloping bank, connected by an underground channel. In

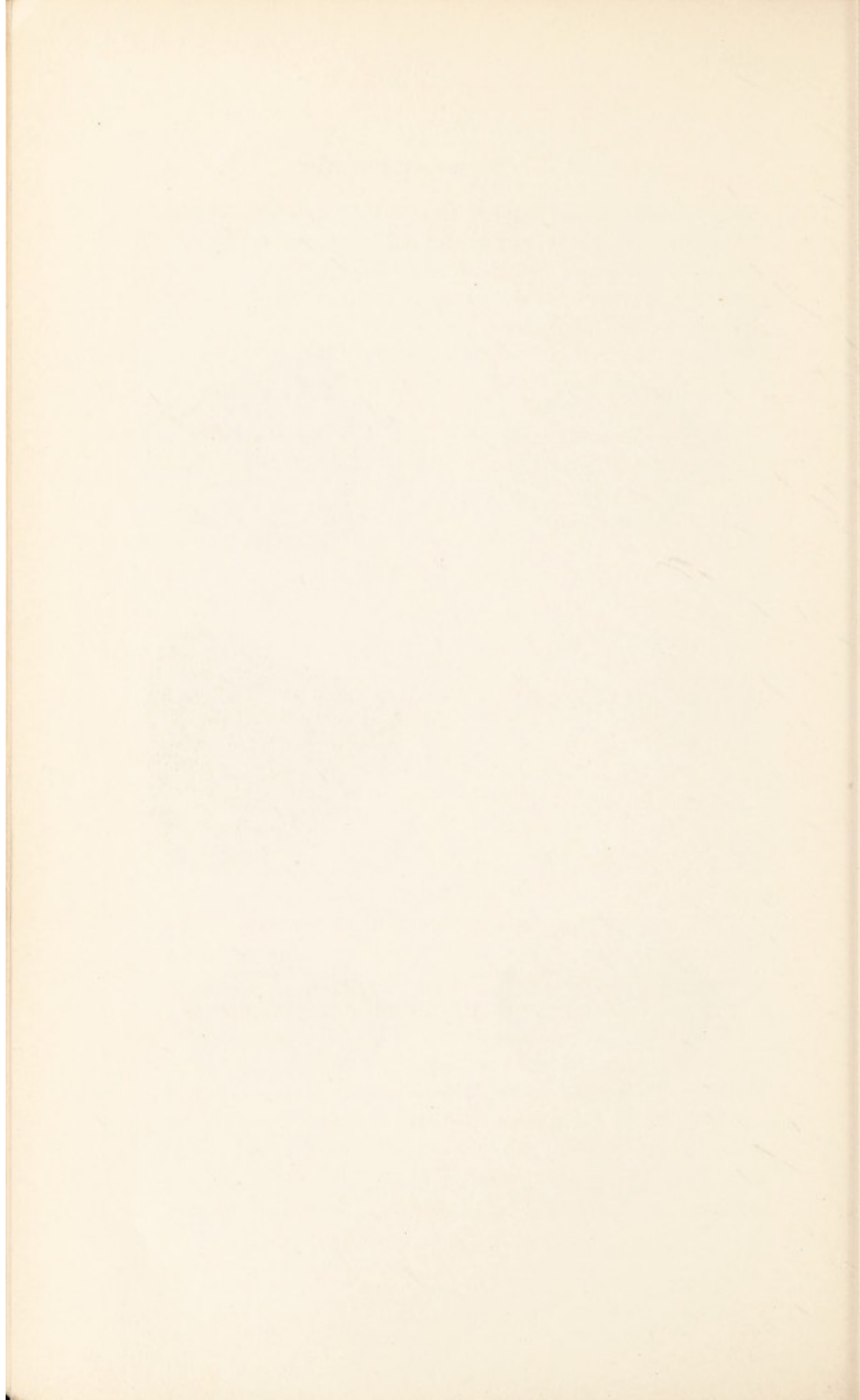
one hole is placed the lighted tobacco, and the smoker, crouching over the other opening, sucks out the smoke. A reed is sometimes inserted in the latter as a mouth-piece. It seems that this method is resorted to when a pipe is lacking. An interesting illustrated article on this subject has been written by H. Balfour under the title "Earth Smoking-Pipes from South Africa and Central Asia" (*Man*, 1922, No. 45).

In Asia, snuff is taken by the Chinese, the Japanese, the Tibetans, and the Brahmans of India; it is unknown in Persia. In China snuff-taking has developed into a fine art. The impetus to the practice was doubtless given by the Jesuit missionaries at a time when they wielded a powerful influence at the court of the Manchu emperors. In 1715 the emperor K'ang-hi celebrated his sixtieth birthday, and the festivities held in commemoration of this event and the homages paid to the sovereign are minutely set forth in a voluminous Chinese work. In the list of presents made to the emperor on this occasion figure also two bottles of snuff as the gift of the Jesuits Stumpf, Suarez, Bouvet, and Parrenin. It is no wonder that France, where snuff-taking was an established custom of the elegant world, should have communicated it to China. Snuff was imported from France in packages bearing three lilies as a coat of arms, and this design was adopted by the snuff-dealers in Peking as their emblem. The fleur-de-lis still forms the insignia of a snuff-shop in Peking, and it is even asserted that to this day the chief sellers of snuff are Roman Catholic converts. The largest snuff business in Shanghai, however, where I obtained last summer ten samples of the principal varieties of the article, is in the hands of Mohammedans from Lan-chou.

As early as 1685 snuff occurs in a customs tariff among the foreign imports of Canton. It was be-



CHINESE SNUFF-BOTTLES. 1, OF BRASS; 2, OF TOOTNAGUE; 3, OF AMBER; 4, OF AGATE; 5, OF MALACHITE; 6, OF TURQUOIS.
One-half actual size.



lieved to dispel colds and act as a sudorific. Soon afterwards it was manufactured in the capital, as we read in the *Hiang tsu pi ki*, a Chinese work written in the early years of the eighteenth century: "Recently they make in Peking a kind of snuff which brightens the eyes and which has the merit of preventing infection. It is put up in glass bottles, and is sniffed into the nostrils with small ivory ladles. This brand is made exclusively for the Palace, not for sale among the populace. There is also a kind of snuff which has recently come from Canton and which surpasses that made for the Palace. It is manufactured in five different colors, that of apple color taking the first rank." Finally we hear that various kinds of snuff are used in the Palace,—snuff imported from abroad, snuff made at Canton, and several other grades made of native tobaccos. That of duck-green color was esteemed most highly, that of rose color ranked next, and that of soy color came third. Mint, camphor, and jasmine were (and still are) the principal aromatic ingredients; essence of rose was also mixed with it. In the eighteenth century good qualities were sold for their weight in silver, and were a favorite gift among friends. The Portuguese distributed snuff from their settlement at Macao.

On account of its peculiar aroma a certain brand of tobacco growing in Shan-tung Province is given preference in the manufacture of snuff. The dried leaves are carefully freed from the stems and ribs, and are crushed in a mill or mortar to a fine powder which is several times winnowed through sieves until it is as fine as wheaten flour. The tobacco powder is then scented with aromatic substances, and is packed in small tubes of tin. The workmen have to keep their mouths and noses covered during this occupation, in order to prevent perpetual sneezing that the fine dust

might provoke. Lu Yao, who wrote a treatise on tobacco in the latter part of the eighteenth century, observes that those who have made a long-continued practice of taking snuff will not sneeze any more.

In Peking, where snuff is more popular than in other cities of China, it is said to be taken chiefly for the benefit of one's nose, protecting it from the plentiful dust of the capital and saving it the offensive street odors. They also attribute to snuff medicinal virtues and beneficial effects, particularly after a heavy dinner, so that it is taken for curative purposes or made the vehicle of conveying other medical agents into the system. It is believed to be good for pain in the eyes, toothache, throat-trouble, asthma, and constipation. Like the Italians, the Chinese have great faith in old snuff, and the Peking dealers in antiques dispose of snuff alleged to be a century old or even older and stored in big glass jars of the same period. It is said that the habit is now on the decline, and it may be doubted that it ever was very general; it seems to have always remained a luxury confined to the well-to-do, especially the class of officials. The fact that it was a popular sport in high society during the eighteenth century is plainly visible from the large number of very artistic snuff-bottles which have come down to us from that period. Almost every substance available for this purpose in the three kingdoms of nature has been utilized for the making of snuff phials: the beak of the hornbill or buceros, ivory, coral, mother-of-pearl, amber, jade, agate, carnelian, chalcidony, rock-crystal, malachite, turquoise, lapis lazuli, gold, silver, brass, white copper, porcelain hard and soft, painted enamel, carved lacquer, glass painted or cut in different layers of colors, and even bamboo, nut-shells, and various hard fruits. There is an endless variety of shapes and designs, and many are

veritable gems eliciting our admiration for the skill and ingenuity of the lapidary. As to forms they are traceable to older drug-phials, and since snuff was placed in the category of medicine, it is easily understood that a drug-phial did service as a snuff-holder. The old drug-phials, however, were limited to pottery or porcelain as to material, while the manifold varieties of material for the use in snuff-bottles are characteristic of the K'ien-lung period (1736-95).

In former times snuff-bottles were part and parcel of a gentleman's outfit, and people were proud of displaying them. Snuff-bottles are closed by a stopper in the form of a small knob made of jade, coral, turquoise, tourmaline, or colored glass. Attached to this stopper is a small ladle of silver, ivory, bone, horn, or bamboo, by means of which the snuff is taken out of the bottle and placed on the thumb-nail (Plate VIII, Figs. 1 and 3). From the thumb-nail the substance is conveyed into the nostrils. In order to fill the bottle with snuff, a slender funnel carved from ivory is inserted into the opening, and the snuff is poured through the funnel by means of an ivory spatula (Plate VII, in centre). The snuff-bottle here illustrated is of yellow glazed porcelain in shape of a maize-cob. Those who wish to serve a variety of snuffs to their friends, especially after dinner, avail themselves of a set of tiny ivory dishes of varying sizes, seven of which are shown in Plate VII; on these the snuffs are arranged and served to guests. An ivory box to hold tobacco and a smaller one for opium are illustrated in the same Plate (at top).

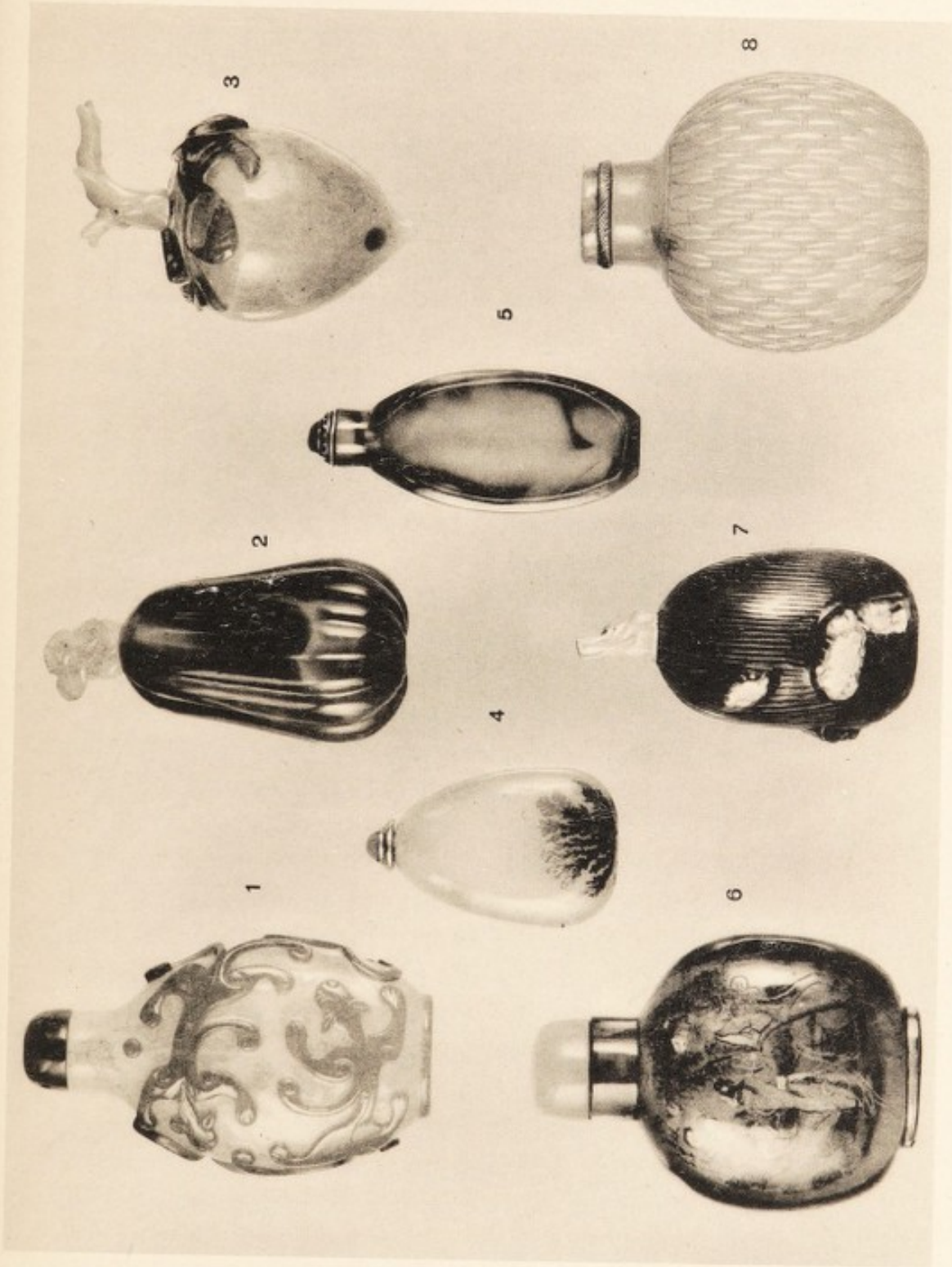
Plates VIII and IX illustrate a small selection of ancient snuff-bottles in the Museum's collections. That in Plate VIII, Fig. 1 (presented by P. J. Bahr of Shanghai), is of brass engraved with a dragon, and is unique in being inscribed on the bottom with the

name of the maker and a date of the Shun-chi period (11th year), which corresponds to the year 1653. It was made by Cheng Tsung-chang. A snuff-bottle of tootnague (Fig. 2) is finely engraved with a scene on each side; the one shown represents the Taoist goddess Ma-ku rowing a boat which is a rugged, bare tree and carries her basket filled with gifts of blessing. The next bottle (Fig. 3) is carved from transparent Burmese amber with raised designs of two phœnixes and peonies; that in Fig. 4 is carved from chalcedony with graceful floral and leaf designs in undercut relief, the knob being of turquoise. Fig. 5 represents a rare specimen cut from a dark green malachite veined with light green zones and decorated with a pomegranate, leafed branches, and birds; the stopper is of pink tourmaline. The bottle in Fig. 6 is a carving from green and bluish turquoise in the matrix decorated with a phœnix perching on a rock and surrounded by flowers and leaves in high undercut relief.

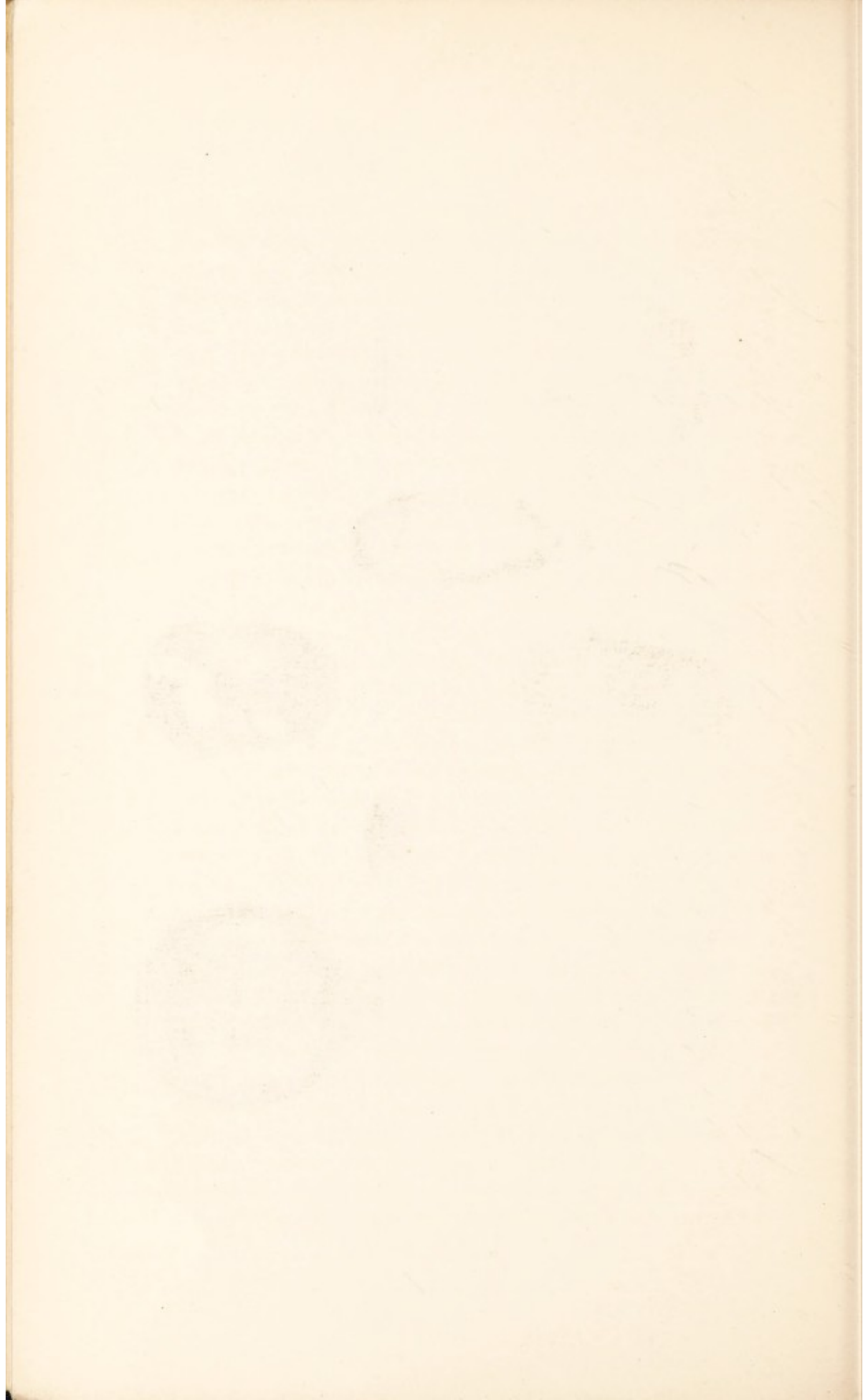
Of agates there is an immense variety: the bottle of triangular shape (Plate IX, Fig. 4) is of moss agate, milk white in color with strata of yellow and black natural designs which look like ferns. The oval-shaped bottle (Fig. 5) is carved from an agate with yellow clouds and dark brown streaks on the sides. In such pieces the lapidary strives at bringing out the peculiar coloration of a stone to its best advantage. The brown agate (Fig. 7) is shaped into a jujube fruit of surprising naturalness, with three peanuts and a bee appearing in high relief. A snuff-bottle of yellowish jade carved into the appearance of a basket, with stopper of tourmaline, is illustrated in Fig. 8.

A snuff-bottle of glass carved in cameo style, two hydras of ruby color standing out in high relief, is shown in Plate IX, Fig. 1. The Chinese were always fond of treating glass like semi-precious stones and cutting and polishing it in its hard state. They know





CHINESE SNUFF-BOTTLES. 1-3, 6, OF GLASS; 4, 5, 7, OF AGATE; 8, OF JADE.
One-half actual size.



how to produce in glass an astounding wealth of colors by means of metal oxides, as iron pyrites, iron oxides, copper oxides, acetate of lead, and others, and try to imitate in glass the tinges of jade, agate, malachite, lapis lazuli, amber, jet, coral, as well as leaves and fruits; thus a gourd in its natural colors of green and white (Fig. 2) and a peach in the process of ripening (Fig. 3). They are skilful also in fusing together glasses of different colors or introducing into the mass spots, veins, or bands with a view of rivaling nature in the imitation of stones which serve as models. Sometimes the color of the glass is brought out to its full perfection by a simple process of polishing; sometimes feet, handle, and neck of a vessel are added with glass of a color differing from that of the body. In many cases there are several layers of glass of various tints placed one above the other, the upper one being cut into scenes or figures that stand out in high relief from the body of the vessel.

An industry characteristically Chinese is the manufacture of glass snuff-bottles with decorations colored by hand in the interior of the glass. The bottles required for this purpose were made at Canton, and were sent there from Peking for painting. As the surface of the glass is too smooth to take pigments, the inside is prepared with pulverized iron oxydul which is mixed with water. This liquid shaken in the bottle for about half a day will form a rough, milk-white coating suitable for receiving paints. In executing the work the artist lies on his back, holding the small bottle up to the light between the thumb and the index finger of his left hand and with a very fine brush in his right hand. The hairy tip of the brush is not straight, as usual, but stands under a right angle against the handle. His eyes are constantly fixed on the outer surface of the glass, thus watching the gradual development of the picture as it emerges from under the glass. He

first outlines a skeleton sketch in black ink, starting from below and then passing on to the middle and sides, finally inserting the colors. Half a day is sufficient to complete an ordinary piece, while a whole day and more may be spent on more elaborate work. The subjects include landscapes, genre and battle scenes, as well as flower-pieces. This art-industry commenced in the K'ien-lung period (1736-95), and the little masterpieces turned out at that time are unsurpassed. A good example of this period, dated 1740, is illustrated in Plate IX, Fig. 6. In addition to the figure-painting, the surface of the glass bears etchings of bamboo and plum-blossoms. Specimens of the Tao-kuang period (1821-50) also are usually good, but scarce. The modern output is chiefly intended for the foreign market, and does not stand comparison with the products of bygone days; the bottles are large, coarse, and clumsy, and the paintings are usually crude.

The Portuguese appear to have introduced snuff into India. Gautier Schouten, who travelled in India from 1658 to 1665, writes that the Portuguese women of Goa were in the habit of taking both betel and snuff, and constantly carried a snuff-box in their pockets. Many people appeared in the streets of Goa with a snuff-box in their hands and let it circulate; they seemed to vie with one another in sneezing, and were always seen with lips and noses stained by tobacco.

In cultivating tobacco for the manufacture of snuff, it is customary in India not to irrigate the crop from wells, but to grow the plants by the aid of rain alone. A Brahman may take snuff, but he should not smoke a cheroot or cigar. Once the cheroot has touched his lips, it is defiled by the saliva, and therefore cannot be returned to his mouth. This rule was adopted by the clergy of Tibet; the Lamas must not smoke, and smoking is strictly forbidden to the young clericals. Tibetans smoke but rarely, while snuff is a passion

with all classes of the laity and clergy. Snuff is prepared in round wooden boxes, across the interior of which is stretched a fine cloth sieve. The coarse tobacco is put in the top of the box through a hole in the lid, which is closed by a wooden stopper, and by lightly striking the box on the knee the finer parts are sifted through into the lower compartment (Plate X, Fig. 1). By a little aperture in the lower part of the box the snuff is poured out onto the nail of the left thumb held against the index, and is thus inhaled. Tobacco is imported into Tibet from China, Bhutan, India, and Nepal. The leaves of the rhubarb plant are frequently used as a substitute for it, being either mixed with tobacco leaves, or even used pure.

The Tibetan snuff-bottle in Fig. 2 of Plate X is carved from the burl of a maple-tree, and is mounted with brass ornaments; that in Fig. 3 is formed by a bean, the opening in the centre being closed by a wooden plug. The snuff is poured in through this aperture and taken out through the tube of soft stone inserted at the top. Horns of wild sheep, yak, and oxen are largely used as snuff-containers, particularly by the nomadic tribes of eastern Tibet. The horns are well polished, plain or incised with geometric ornaments, or decorated with silver, white copper, or copper bands. They are filled through the lower end which is tightly closed by wooden or metal covers, and the snuff is taken out through the upper pointed tip, closed by a stopper (Fig. 5). The specimen in Fig. 4 is cut out of animal bone, with wooden lid and handle of leather thong. More examples may be viewed in Case 33, Hall 32, where Tibetan tobacco-pipes are also on exhibition.

The preceding brief sketch is based on an extensive manuscript of the writer, which may be published at a later date.

B. LAUFER.

The first of the three parts of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations (1) for arbitrary values of the parameters α and β . It is shown that the system (1) has solutions for arbitrary values of the parameters α and β if and only if the conditions (2) are satisfied. The second part of the paper is devoted to a detailed study of the properties of the solutions of the system (1) for arbitrary values of the parameters α and β . It is shown that the solutions of the system (1) are unique and depend continuously on the parameters α and β . The third part of the paper is devoted to a study of the asymptotic properties of the solutions of the system (1) for arbitrary values of the parameters α and β . It is shown that the solutions of the system (1) approach zero as $t \rightarrow \infty$ for arbitrary values of the parameters α and β .



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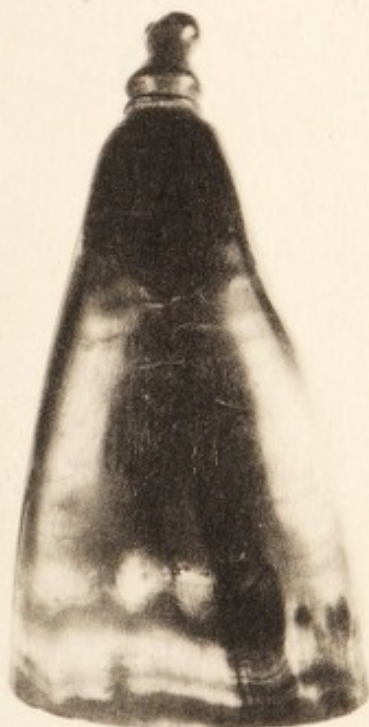
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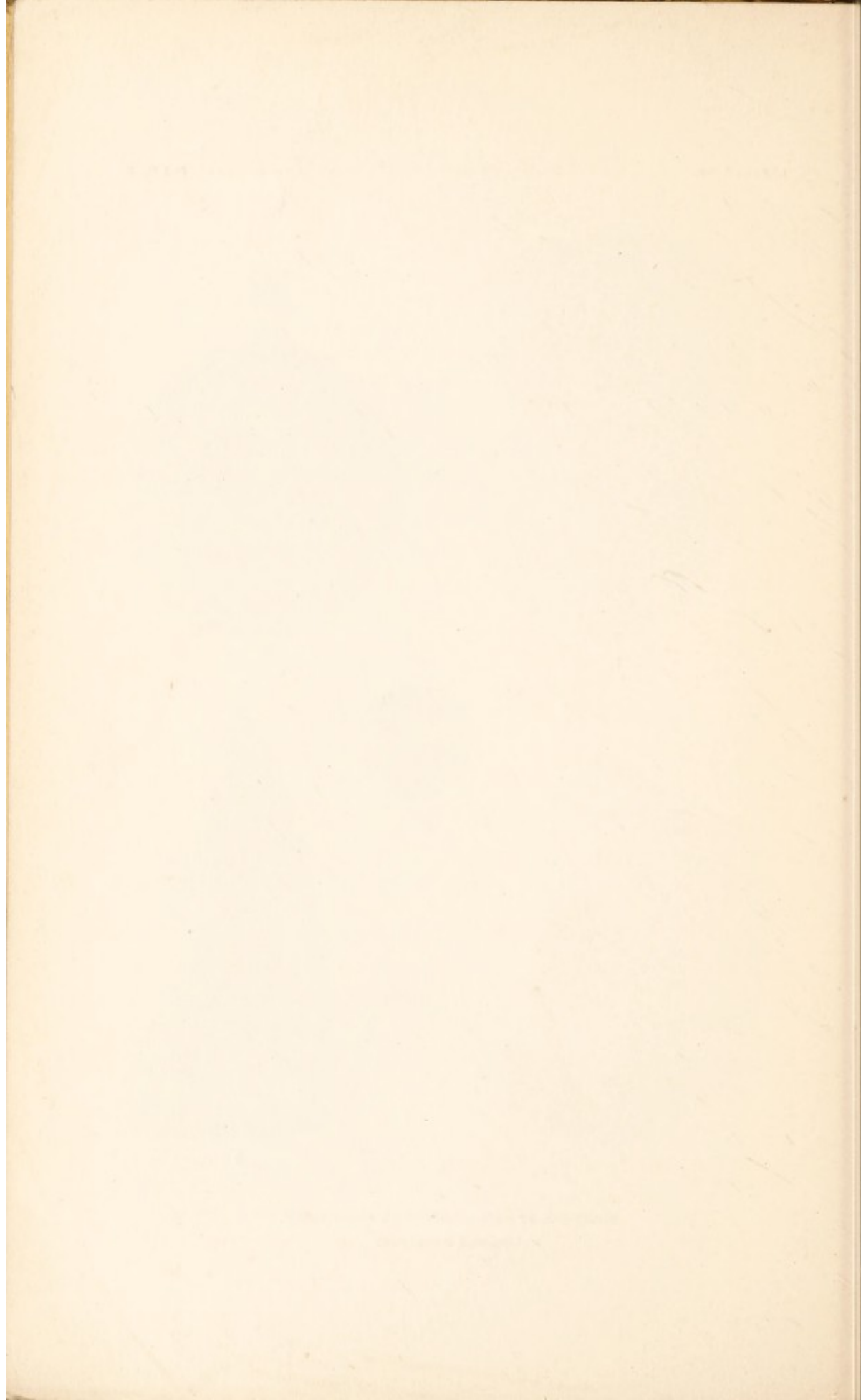


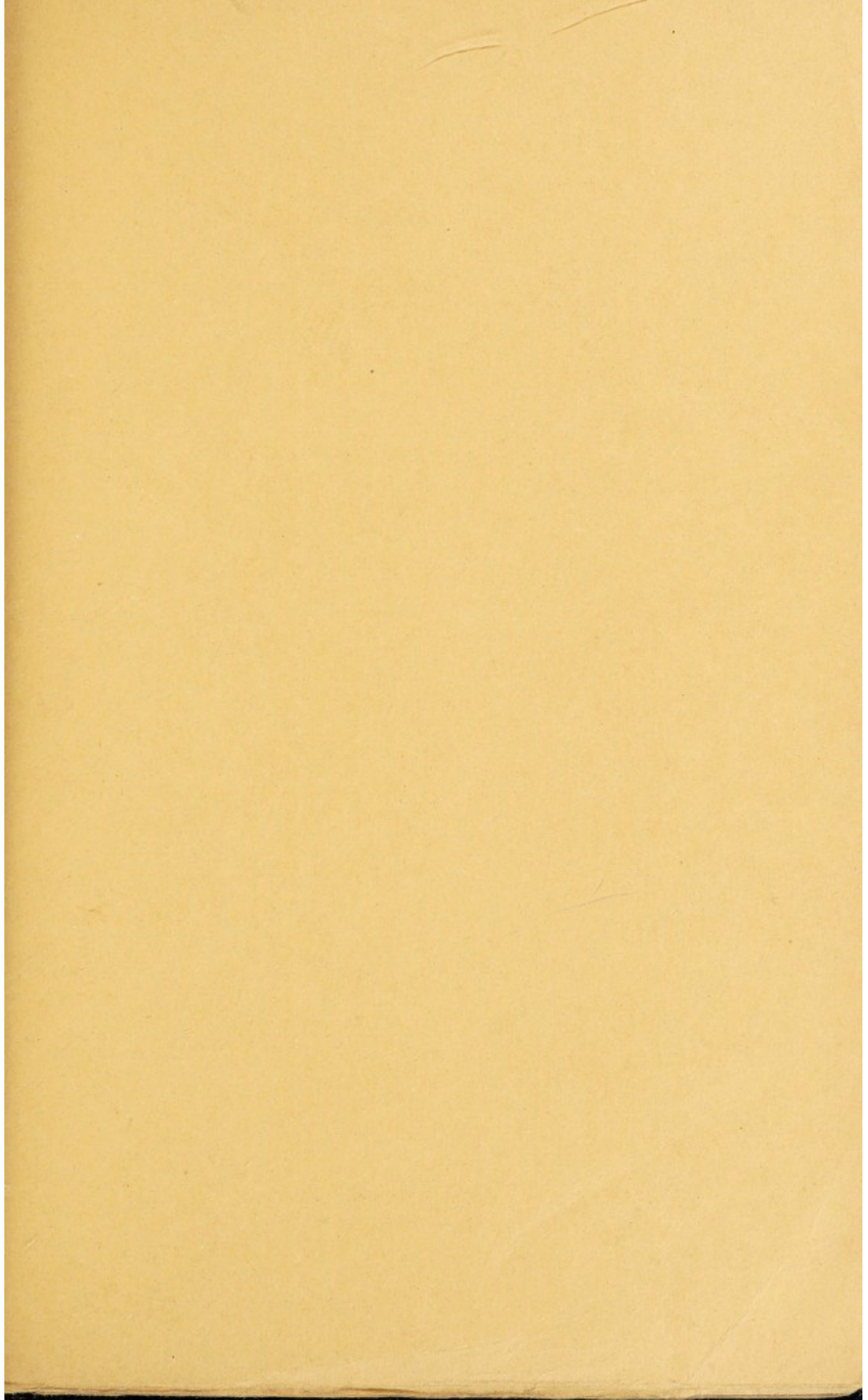
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5

SNUFF-BOXES AND SNUFF-HORN FROM TIBET.
One-half actual size.





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