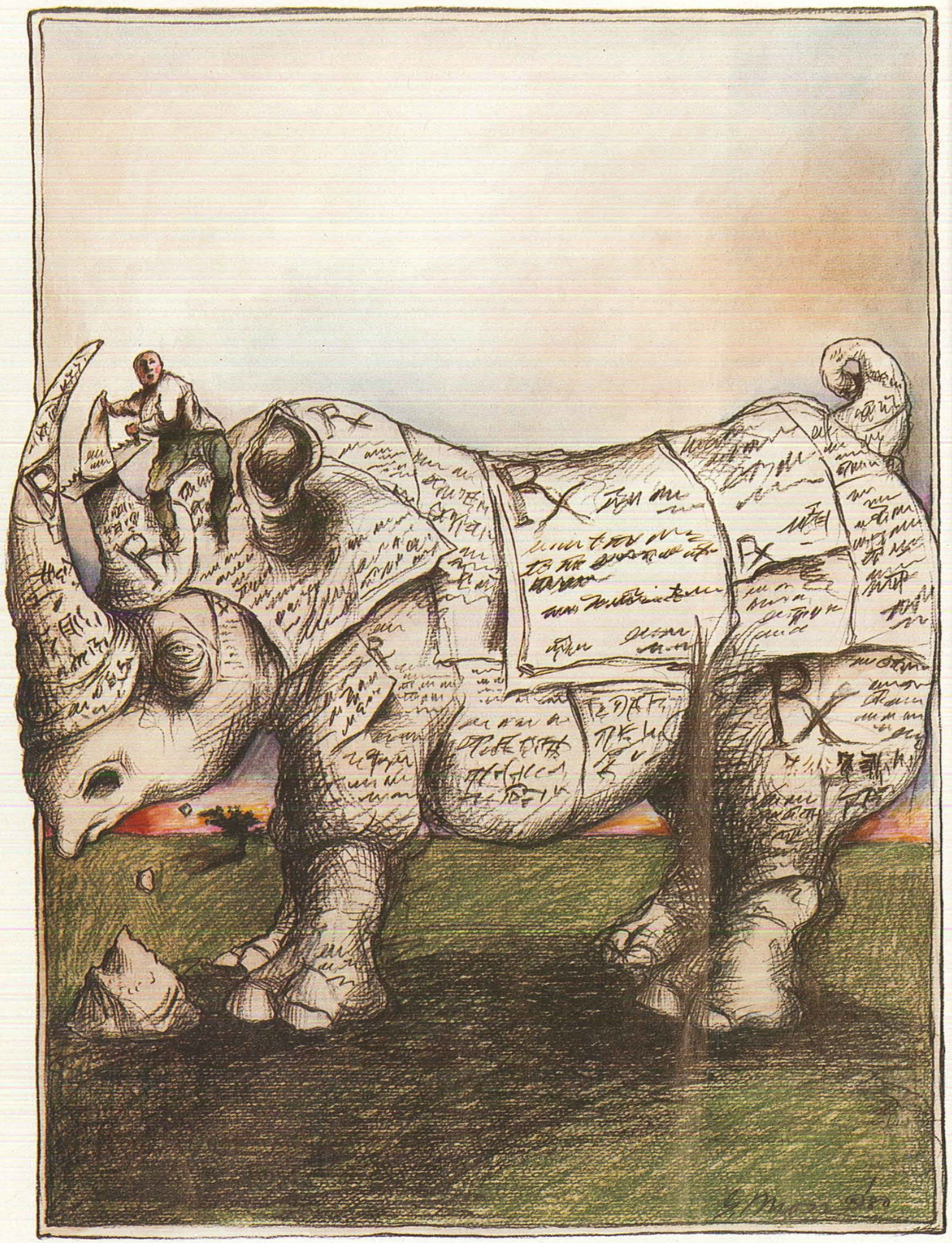


The Conspicuous Consumption of Rhinos

by Esmond Bradley Martin

Our rhinoceroses are dying.

African and Asian. Black and white. Indian, Javan, and Sumatran. One-horned and two.

Rhinos are on the way out, thrust to the gates of extinction. Exterminated, actually. Soon to be deceased. Defunct. Gone. Great ghosts from a world once wild.

Yet such a thing need not come to pass. It is an unnatural demise. The rhinos' time is not really up.

Lots of them once populated the world. Ten to fifty million years ago they ranged extensively: Africa, Asia, Europe, and North America. During those prehistoric times many species represented the family. Some looked more like horses—to which they were closely related. Others resembled hippos—to which they were not related. Some were small, some hornless, some enormous. Indeed, the largest land-dwelling animal of all time was a rhinoceros called *Balucitherium*—about fifteen feet tall and more than twenty feet long. And many of those ancestors displayed the barrel-bodied, nasal-horned makeup that is unmistakably rhino.

As the eons passed, the group lost ground to other, less primitive hoofed mammals that could compete more successfully for food. When early Stone Age people arrived on the scene they hunted rhinos, the woolly species often portrayed in cave paintings. Still, rhinos prospered more or less, holding their own in large chunks of Africa and Asia.

It has been in relatively recent centuries that rhinos have fallen on hard times. Out of superstition and folklore there developed a vast global trade that depends on rhino horn, rhino hide, rhino internal organs, and virtually every other part of the animal for its raw materials.

Today the five species remaining on earth cling to existence in perilously low populations. Even the black rhino population, considered somewhat "safe" a decade ago, has been severely reduced. Although factors such as habitat destruction and excessive sport hunting have contributed to the decline of these animals, the trade in rhinoceros parts has played a paramount role in that tragic drama.

In order to understand this bizarre commerce—the better to cope with and diminish its impact—the World Wildlife Fund commissioned Esmond Bradley Martin, a geographer based in Kenya, to survey the trade. Believing that average citizens concerned with wildlife survival, as well as professional conservationists, ought to have access to Dr. Martin's report, the editors of *Animal Kingdom* have adapted that document as a two-part article. We invite your comments on both the phenomenon of rhino trade and Dr. Martin's examination of it. Herewith, part one, the conclusion to follow in the April/May *Animal Kingdom*.

—Eugene J. Walter, Jr., Editor-in-Chief

SINCE 1970 APPROXIMATELY 90 PERCENT of the rhinoceroses in Kenya, Uganda, and northern Tanzania have been killed. Official statistics, which exclude smuggling, show that from 1970 to 1976 nearly twenty-four tons of rhino horn were sent overseas from East Africa; this represents approximately 8,280 rhinos. All of Africa's rhino population is now estimated at 14,000 to 24,000 animals, and their prospects for survival are shrouded in pessimism. In Asia there remain only about 2,000 Indian, Javan, and Sumatran rhinos.

The accelerated slaughter bears direct relationship to the intense demand for rhino products—especially those made of horn and of skin—in the Yemens and throughout Asia. Moreover, despite the availability of increased quantities through the 1970s, prices of rhino horn have risen to an all-time high.

In attempting to understand this unusual phenomenon and its causes, I spent several months in 1978 and '79 traveling in the Yemen Arab Republic (North Yemen), India, Mauritius, Singapore, Hong Kong, Macao, Taiwan, Thailand, and Sri Lanka: I interviewed

Metropolitan Museum of Art, gift of the late Culter Bonestell through his wife Elizabeth Bonestell, 1937

This Chinese ceremonial cup was carved from rhinoceros horn, probably as an emperor's birthday gift, during the latter part of the Ching dynasty.

more than a hundred importers, wholesalers, retailers, and pharmacists to obtain information on product uses and trading practices. Much of the data I gathered was disclosed in strict confidence (some of it might have been used adversely by competitors), and, therefore, I have not named any of my informants in this report.

HISTORICALLY, IT WAS THE HORN that had been the most prized part of the rhinoceros. The Chinese carved it into magnificent works of art including ceremonial cups and decorative dishes for washing paintbrushes. None of these were meant for regular use but were commissioned by Chinese aristocrats to be presented as birthday gifts to emperors of the Ming and Ching dynasties. Few of these vessels remain today; the best known are in the National Palace Museum in Taipei and in the art collection of the King of Sweden.

Less elaborate cups, for the purpose of detecting poison, were carved and widely used in the Muslim, Hindu, and Buddhist worlds. If one feared that poison might have been added to a drink, one would pour the suspect liquid into a rhino horn cup. It was believed that if poison were present an effervescence would emerge. Since many of the old poisons were strong alkaloids they would have reacted when put in contact with the horn, which is made of keratin and gelatin. The practice of submitting drinks to this test eventually spread to the popes and monarchs of Renaissance Europe.

For centuries the Chinese also made sword handles, buttons, and belt buckles of rhino horn, but their major use of the product was for medicinal purposes. The most famous Chinese pharmacist, Li Shih Chen, who wrote the *Pen Ts'ao Kang Mu* in the sixteenth century, stated that the best horns came from freshly killed males and that the tips were the most expensive part. He strongly warned that rhino horn should not be taken by pregnant women because the fetuses would die. The main disabilities rhino horn could cure, according to Li Shih Chen, were snakebites, "devil possession," hallucinations, typhoid, headaches, carbuncles, boils, and fevers; if the horn were burned and mixed with water, vomiting and food poisoning could also be cured. Even today Li Shih Chen's fifty-volume work, including 12,000 medicinal recipes, is considered the most outstanding study of Chinese pharmacology. It is also the classic on rhino horn use, and many current prescriptions are based on his research.

In India, references dating to the twelfth century reveal the use of rhino horn for knife handles; in powdered form it was mixed with liquids to be consumed as an aphrodisiac.

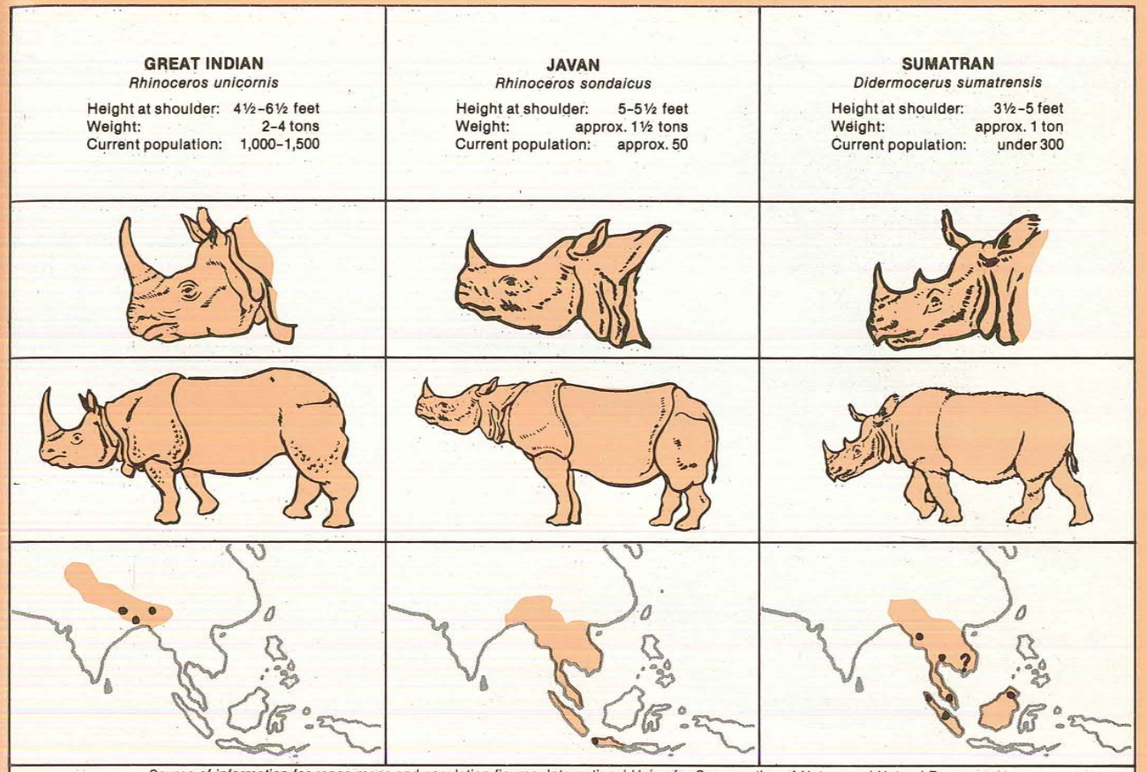
Nineteenth-century Sudanese fashioned the horn into cups, walking sticks, and sword handles. Farther south, in East Africa, the Dorobo made snuffboxes and clubs from the black rhino's horn. Some Africans also recognized the substance's medicinal properties.

The skin was the second most widely used part of the rhino, and the items most commonly made from it were shields. In 1890 explorer Sir Samuel W. Baker described the making of rhino shields in Ethiopia:

The skin of the rhinoceros is exceedingly compact and dense. When stretched over a block and dried, it is rubbed down with sandpaper and oiled; it then becomes semi-transparent, like clouded amber, and is much esteemed by the great personages of Abyssinia for shields; these are beautifully mounted with silver and are highly ornamental.

Besides the shields, people in eastern Africa made whips and even plows from rhino skin. Indians in the state of Gujarat made jewel boxes from it, and eighth-century Chinese sometimes used it to cover the backs of small boats to deflect arrows and spears.

The inhabitants of Borneo may have had more uses for the rhino than any other people. They constructed boxes out of rhino feet and wore the toes of Sumatran rhinos as amulets. Their belief in an almost supernatural power of the rhino was responsible for some bizarre practices: They hung a rhino tail in the room where a woman was in labor, believing it would ease the pains of childbirth; in severe cases, they held a rhino penis over the woman's head and poured water through it. But it was the demand for rhino meat that probably led the animal to the brink of extinction on Borneo. And in nineteenth-century South



Jen and Des Bartlett, NAS/PR

This unique strain of long-horned black rhino was eliminated from Kenya's Amboseli National Park. Of the more common black rhinos, only 15 percent of the park's 1970 population have survived the terrible slaughter.

Africa the white rhino was nearly exterminated because resident Europeans preferred its meat to that of any other game animal.

MODERN ENLIGHTENMENT AND TECHNOLOGY have not reduced the demand for rhinoceros parts as much as one would expect. To the contrary, in some places the demand is even greater now.

Since 1972 a vast quantity of rhino horn has been used for the handles of Yemeni daggers, called *jambias*. Almost all Yemen males over fourteen possess one of these traditional weapons, and most wear them daily. To some extent the dagger symbolizes status and sexual maturity. A dagger with a beautifully carved rhino handle encrusted with gold or silver coins is a personal adornment and is often attached to an elaborate belt.

Prior to the Yemen Arab Republic's civil war, which erupted in 1962, the country was one of the poorest in the world and almost completely cut off from outside influences; in fact, in 1962 Yemen was essentially a medieval state, under the absolute rule of a traditional imam, or spiritual leader, and 99 percent of the population was barely surviving. Most men possessed jambias, but the handles were made of cow horn; only the imam's family and a few other relatively wealthy people could afford rhino horn. In the People's Democratic Republic of Yemen (Southern Yemen), a small elite of Arab sheiks had daggers with rhino handles.

After the Civil War ended in 1970, the Yemen Arab Republic became the world's major importer of rhino horn. According to Yemen statistics, twenty-five tons were imported between 1969 and 1977. In other words, an annual average of three tons entered the country, representing for the eight-year period the death of approximately 8,000 rhinos—close to the number derived from all of East Africa's legal exports during roughly the same time. This huge amount of rhino horn imported into Yemen was used to make jambia handles.

Since the per capita income of the country has increased fivefold in the last ten years, many people can now afford to purchase the daggers, which vary in price from $300 to $13,000. There is a feeling that rhino horn handles are superior to others, as there is a mystique about the rhino as an aggressive, potent animal.

The traditional role of the dagger as a weapon is still portentous, and a Yemeni will use it for offense as well as to deter personal attack. The present Yemen Arab Republic government does not control the whole country and, especially in the east, there are rebels and bandits. It is also common in the streets of the northern part of the country to see men armed with modern rifles and hand grenades. While I was visiting the town of Sa'ada, a hospital nurse told me that a recently admitted man had been stabbed in the back by a fellow Yemeni wielding a jambia; that very morning the nurse had assisted in an operation to mend another man's hand, which had been almost severed by a dagger in the course of an argument among neighbors.

Most of the jambias offered for sale in Yemen are made in the main market of San'a, the capital. In October 1978 at least five merchants were buying rhino horn from one wholesaler in San'a. Each of these merchants employed several craftsmen to carve the horn into handles; other craftsmen made the blades. A little more than two pounds of rhino horn usually provides enough material for three handles, and thus, between 1969 and 1977, approximately 8,500 jambias with rhino horn handles were made each year.

Curiously, the preference for rhino horn handles on daggers is not apparent in other Arab countries. Neither the Arabs of Oman nor of the United Arab Emirates, who also carry daggers, import rhino horn for them.

ALTHOUGH THE YEMEN ARAB REPUBLIC is today's greatest single importer of rhino horn, the making of jambia handles is secondary to the use of rhino horn in traditional Chinese medicine. However, the popular Western belief that the major consumption of rhino horn is by the Chinese as a "love potion" is unfounded.

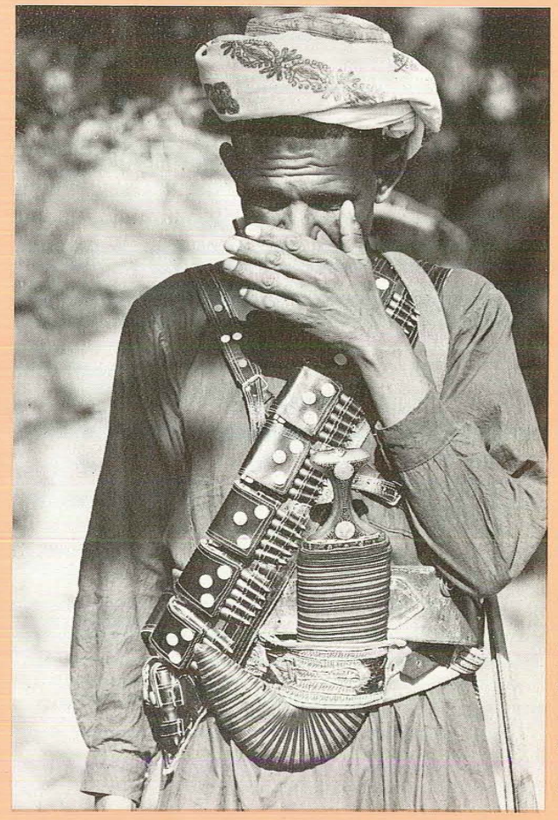
Small amounts of the horn are used as an aphrodisiac, but apparently only in India, particularly in Gujarat. When I was in India I was told by World Wildlife Fund officials that Gujarati men sometimes grind down a piece of horn to a powder, then mix it with water to form a paste, which they apply to the penis and testicles to increase sexual potency.

The same is said to be true in West Bengal but to a lesser degree, perhaps because the Gujaratis have long-standing contacts in East Africa and can more easily obtain rhino horn than can the Bengalis, who instead rely on a supply of Indian rhino horn. More research is required in these areas, especially since there has been a recently reported increase in the poaching of Indian rhinos for their horns.

In my field research in Singapore, Hong Kong, Macao, Taiwan, and Thailand, no one suggested any possibility that aphrodisiacal qualities were attributed to rhino horn. I understand also that neither the South Koreans nor the Japanese, both of whom are major importers of rhino horn, use it as a sexual stimulant. Moreover, in neither Chinese nor English medical literature is rhino horn described as a cure for impotence or as a sexual stimulant.

In Singapore I visited the Chinese Physicians Association and talked with Stephen Lau Kiew Teck, one of the foremost research officers in traditional Chinese medicine. He confirmed that the Chinese never use rhino horn as an aphrodisiac and illustrated the point by kindly translating for me all the passages pertaining to rhino in the *Chinese Medical Dictionary*, one of the most complete Chinese reference books on traditional medicine. It contains a full description of each of the five rhino species and of the various medicinal purposes to which are put the horn (primarily for high fevers), the meat (for snake- and other animal bites and for headaches), and the skin (for rheumatism).

Dr. Lau himself claimed that he would be willing to prescribe substitutes for rhino horn such as saiga antelope, or even buffalo, horn. He also thought that young, inexperienced doctors would hesitate to prescribe rhino horn, as it is believed that improper use can cause dangerous side effects.



Georg Gerster, Photo Researchers

New-found wealth has turned the Yemen Arab Republic into the world's major importer of rhino horn. There it is fashioned into handles for jambias, *the traditional daggers carried by most Yemen men, frequently along with rifles and gun belts.*

Although rhinoceros horns are not used as aphrodisiacs by the Chinese, other animal products and herbs are extensively employed by them as sexual stimulants. According to the literature a pig's kidney is eaten to cure impotence, and deer antlers are "an excellent excitant for men whose sexual potency is declining." Dragonflies are "counted among the love-medicines since they reputedly intensify sexual vigor." Other traditional Chinese aphrodisiacs include the brain of the monkey, the tongue of the sparrow, the human placenta, the tail of the deer, the penis of a white horse, mutton from wild sheep, velvet horns of the sika deer, rabbit hair from old brushes, and human fingernails.

The animal aphrodisiac that I most often saw offered for sale in the larger medicine shops of Southeast Asia

was the tiger penis and testicles. They were dried and packaged in China, but because of their low price (between $17 and $78 for each set) I was doubtful they were genuine articles. Chinese men wishing to improve their sexual performance place the dried sexual parts in a bottle of European brandy for up to six months, then drink some of this potion immediately before engaging in sexual activity. Other aphrodisiacs I saw in Southeast Asian pharmacies were dried deer penises and testicles at $150, dried geckos, and snake blood mixed with snake gall bladder for $2.25 a mouthful.

Today most rhino horn in Southeast Asia and in the Far East is prescribed as a fever depressant; it is also occasionally used to relieve headaches, for heart trouble, to "cleanse" the liver and pancreas, as an antitoxin for snakebites, and, when made into an ointment, to cure skin diseases. It is available in all the large cities and in many smaller ones as well. Of the seventy-six traditional medicine shops in which I interviewed the pharmacists, fifty sold rhino products (90 percent consisting of horn). All the shops I examined closely in Taipei had rhino products, but only half of those in Bangkok sold any.

The traditional medicine shops in Southeast Asia are almost exclusively owned and managed by Chinese. Hundreds are spread throughout the commercial areas of Singapore and Hong Kong; even in Thailand, Chinese, not Thai, medicine shops dominate the market.

These stores are not tucked away on remote back streets, but are major places of business to be found in upper-middle-class shopping areas as well as in poorer neighborhoods. Many display traditional herbs and animal products in modern showcases lighted with fluorescent bulbs. Quite often, modern Western antibiotics, vitamins, and other pharmaceuticals are displayed nearby. Some shops have separate consultation rooms, and most establishments are exceptionally clean and neat. Moreover, they are blessedly free from the jarring recorded music so prevalent in other types of shops in this part of the world, although in Taiwan a television is usually playing at low volume to entertain customers and employees alike. The hours of business are long: In Singapore and in Hong Kong the day begins around 9:00 A.M. and does not end until 10:00 P.M. Employees and managers rarely leave during this thirteen-hour period, taking their meals, reading their newspapers, and playing cards when they are not occupied with their work. The atmosphere is pleasant and the salespeople are more genuinely helpful and concerned for their customers than in ordinary shops. Hot tea is available in many of these commercial establishments; traditional hospitality is offered in even the most humble ones. Most of the customers are women, the majority of whom are probably over forty years of age, and who usually patronize such shops early in the morning on their way to buy food.

Rhino horn can be purchased without a prescription. Chinese medicine shops operate somewhat as Western pharmacies did prior to the enforcement of drug laws—that is, someone with a complaint would be just as likely to consult a pharmacist as a doctor for a cure. I did see people handing over prescriptions, written in Mandarin, to the pharmacist (almost always a man), but I also observed many patients explaining their problems in detail and then receiving mixtures of herbs and animal products as remedies.

A scene in a medicine shop of Southeast Asia:

Customers rarely purchase already powdered rhino horn, but prefer to closely examine the horn from which scrapings will be made. Ground rhino horn is pale gray in color and may easily be faked by other horn such as water buffalo or antelope. Since it is one of the more expensive animal products, it is natural that people want to be certain of getting what they are paying for. The pharmacists themselves displayed marked suspicion of any processed animal product, especially those packaged in other countries. Many said they would not purchase tablets or tonics reputed to have rhino components because they doubted whether the traders in these products were honest.

The dispenser of rhino horn, knowing that his customers will want to see the object, produces it from a display cabinet or a little drawer, where it is usually kept carefully wrapped in cotton batting. Upon agreement that it is of good quality, the clerk scrapes a small amount from the edge of the horn and weighs the shavings in front of the customer.

from a photo by Paolo Koch, Photo Researchers

Salvatore Catalano

Some clerks relax, a customer waits, the pharmacist shaves rhino horn, and other clerks weigh ingredients.

When the purchaser returns home, she removes the shavings from the paper package in which they are invariably wrapped, places the contents in a glass, and adds boiling water. When cool enough to swallow, the brew is given to the patient. If the fever does not recede within a few hours, the procedure is repeated.

The most knowledgeable pharmacists I interviewed, with the exception of those in Thailand, professed a preference for Indian over all other species of rhino horn. I was not really able to understand why, possibly because it is difficult for a Westerner to comprehend the philosophy on which so much traditional Chinese medicine is based. Put most simply to me by the pharmacists, there is a quality of temperature, something almost mystical, ascribed to medications: The most powerful drugs are called *hot* and the less powerful are *cold*. Rhino horn belongs to the first category but there are nuances of degree, and the Indian rhino horn composites, while basically the same as those in other rhinos, are said to be more concentrated; hence it is the hottest of all the species. When I tried to obtain more details, contradictions inevitably arose. For instance, I was told that the African white rhino had less value because the animals themselves were bigger; yet the Indian rhino is bigger *and* more valuable than the Javan and Sumatran rhinos. Very few pharmacists knew anything at all about the Javan rhino, thus it was pointless for me to ask further questions on the distinctions between that single-horned species and the Indian.

When I asked them why the composites were most concentrated in the Indian rhino, I was told that this was due to the climate where the animals live. Since Indian rhinos in the wild are limited to northern India and Nepal, it is true that they are subject to extreme climatic changes. The Chinese of Southeast Asia feel that the year-round hot, humid weather of places like Singapore is less healthful than definite seasons. To me this seems the most plausible reason for the Chinese belief that Indian rhino horn is superior.

Still, in accordance with the dictates of Li Shih Chen, the most desirable horns are thought to be from recently killed males, and the best part is the tip because it is usually the darkest part of the horn. The Chinese prefer darker colored horn because they believe it indicates a greater healthiness in the animal, and the healthier the animal the more powerful the drug.

NEXT TO THE HORN the second most widely used part of the rhino is its skin. In Singapore, Hong Kong, Macao, Taiwan, and Thailand it is valued for its efficacy in curing skin diseases and occasionally relieving rheumatic pains and blood disorders. Today's major supplier of rhino skin is South Africa, which legally exports it in dried form to Hong Kong dealers, who then sell it to Chinese traders or local wholesalers, who may arrange for it to be processed.

The processor first slices the skin into pieces about one-tenth of an inch thick, then boils and dries them again. The slices are arranged in little packages of about one inch by three and a half inches and tied with red and green ribbons. Processed rhino skin is cheaper than plain dried skin, but there is some concern that it may not always be real rhino skin, for similarly treated buffalo hide resembles that of the rhino. Another reason for its lower cost is that it is less "pure" as a result of the boiling. Nevertheless, its popularity is evident in Singapore, Taiwan, and Macao, where it is often displayed in large, glass, European-type bonbon jars. The merchants in Macao told me that the processed hide is generally that taken from the stomach of the rhino, while most of the plain dried skin is from the animal's back. They do not think there is much difference between Asian and African rhino skin once it is processed.

Because consumers of rhino products are willing to pay high prices for genuine items, the market for powders, tablets, and tonics is limited. In fact, I never saw a single tonic containing rhinoceros parts although I asked for such in every country I visited.

I did come across some tablets in Hong Kong and Macao: Labeled "Rhinoceros and Antelope Horn Febrifugal Tablets," the box held twelve pills of 0.3 grams each, which were meant to treat "colds, fevers, headaches, and coughs." The dosage, to be taken every four hours, is four tablets boiled in water. With "0.2 percent Cornu Rhinoceri Asiatici," the tablets were manufactured by the Tsinan People's Medicine Works, Tsinan, China, and distributed by the China National Native and Animal By-Products Import and Export Corporation, Shantung Native Produce Branch, Tsingtao, China. They were very cheap, about two cents each.

When I was researching the rhino trade in northern Thailand a Burmese friend showed me a bottle she had obtained from Rangoon; it was a granular powder that was supposed to contain dried rhino blood. The commercial name of this medicine is "The Lu Pyan Daw Padamya Rejuvenating Powder." The English part of the label reads as follows:

Preserve your Vital Forces and Maintain Full Vigour and Activity. . . This PADAMYA *puts off age by imparting new strength to your nerves, to your brain and muscles. . . Men and women are amazed at the quick rejuvenating effect of. . .* PADAMYA POWDER. . . *This Powder is prepared on the line of formula profounded since the time of Burmese Kings. The manufacturers of this Specific are so certain of its efficiency that they strongly recommend [it] for General Debility, Impure Blood, and Defective Vision. It positively restarts the female periodic cycle, safely, surely, and quickly.*

Dose: *One Grain with 3 oz. of water or 1 oz. liquor.*

Available at all our agents throughout Burma or direct from the manufacturers: Thamadawgyi Saya Min's, Ahbayathukha Medical Hall, 840, Mahabanduola Street, Rangoon.

My friend confided to me that she had been taking this Padamya Powder for a couple of years and was certain that it had given her more energy. She was a well-educated woman, belonging to the upper class of the Shan people, many of whom have fled from Burma in the past decade.

WHILE THE TRADITIONAL MEDICINE SHOPS of Singapore, Hong Kong, Macao, and Taiwan deal in only the horn and the skin of rhinos, some in Thailand sell several other parts as well. Thai pharmacists prefer the Sumatran rhino over the African and the Indian, and this species serves a multitude of medicinal purposes. After horn and skin the most commonly used part is the hoof (there are three hooves on each foot). It is used for the same purpose as the horn, although it is considered much weaker. Hooves are usually sold individually, but pieces can be bought by weight. The consumer grinds the matter into a fine powder and steams it, then drinks the mixture to reduce fever.

Dried rhino blood is prescribed by Chiengmai pharmacists for tiredness and malaise, "to improve the quality of human blood." It is believed to be one of the stronger rhino products and is never given to pregnant women for fear of causing miscarriages. Occasionally, when a patient suffers severe pain from a broken limb, a poultice of powdered rhino bone may be applied. I was told that boiled rhino stomach was helpful for intestinal pain, although I did not see any for sale.

Of all the items I was shown, what surprised me most was rhino dung. In the course of a long conversation with a Chiengmai pharmacist I learned that the best rhino dung is collected from the lower intestine of a freshly killed rhino; it is not picked up from the ground because that would be "contaminated by other impurities." Once dried, minute particles of the dung are swallowed as a laxative.

Since illness is associated with weakness, curative measures must include the restoration of strength, and various parts of the rhino are seen to be capable, through the animal's own power, of transmitting strength to similar parts of man. Therefore, rhino blood is used to cure human blood disorders, bone for relieving pain in broken limbs, skin for skin disorders, and dung for constipation.

Accordingly, in northern Thailand a part of the rhino —its penis—was used as an aphrodisiac. It takes a whole penis, not just a portion of it, for the treatment of one man's impotence, and because the rhino has become rare it is seldom used today. Only one pharmacist in Chiengmai had sold a rhino penis in recent years, although he said that in the 1940s and 1950s it was not a scarce aphrodisiac. The rhino's penis was prepared in the same way as the tiger's: It was first dried, then soaked in a bottle of brandy for several months before the potion could be drunk.

Masud Quraishy, NAS/PR

Left alone, the adult rhino is a relatively harmless giant. Yet its only enemy, man, seems bent on wiping it from the face of the earth. The black rhino, above, is one of the five living species near extinction.

West of Thailand—in Burma, northern India, and Nepal—there are still other uses for rhino products. In Burma, aside from dried blood, liquified blood is drunk as a tonic to improve general health. In northern Indian zoos, rhino urine is collected for medicinal use, for what specific purpose I am not sure. Rhino urine is drunk in Nepal; it is said to cure coughs and earaches, especially in children.

Outside Asia, rhino products are no longer of much importance. Even in Africa, where there may now be between 14,000 and 24,000 rhinos left in the wild, they are seldom killed for their meat. In Kenya some tribespeople will occasionally eat rhino meat when it is available, but it is certainly not a general practice. There is, however, a superstition held by the Yao tribesmen around the Mwabvi Game Reserve in southern Malawi regarding rhino bone: They pulverize it into a powder which they tie up in little bags and wear as talismans; they believe the powder will prevent theft, attract women, and permit men to commit adultery without detection by their wives.

Although there has been a remarkable decline in the use of rhino products in Africa, the Asian demand is at the root of an especially severe poaching problem. That demand has probably reached record levels: More rhino horn was traded on Asian markets in the 1970s than at any other time in the twentieth century.

Traditional Chinese medicine is not confined to any particular geographical part of Asia, to any social class, or to any religion. On the contrary, it is ubiquitous throughout the continent, and is the basis for the Korean and Japanese practices. Despite the fact that westernization has penetrated nearly all the Asian cultures, the role of animal products in the treatment of illnesses is very pronounced, and reliance on the efficiency of rhino horn as a medicine is probably more of a long-term threat to the existence of rhinos than anything else. □

American geographer and author of several books, Esmond Bradley Martin is also an Honorary Consultant to the African elephant and the rhino specialist groups of the IUCN's Species Survival Commission. Part two of his rhino report will appear in our next issue.