



## Gifts of the Amazons: "green stone" pendants and beads as items of ceremonial exchange in Amazonia and the Caribbean

Arie Boomert

Animal-shaped stone pendants, mostly representing frog-like creatures, form conspicuous elements in the artifactual inventories of many archaeological sites in Amazonia, the Guianas, Venezuela and the West Indies. The majority of these zoomorphic ornaments are made of seemingly exotic, green-coloured, rocks and minerals which are often referred to as "serpentine," "nephrite" or "jade" in the literature. The present paper discusses petrography, distribution, dating and cultural affiliations of the animal-shaped pendants in the Caribbean and Amazonia and examines their symbolic connotations in Amerindian society. Moreover, an attempt is made to provide a framework for understanding the mechanics of distribution of these "primitive valuables" in northern South America in terms of Amerindian exchange networks, drawing conclusions from the ethnohistorical and archaeological record.

### Amazons and Amazon-stones

Notions about the remote existence of an Amerindian tribe consisting exclusively consisting of women are widespread among the indigenous peoples of Lowland South America and the Caribbean. Strikingly similar traditions about these "women-without-men" have been recorded among Tropical Forest groups of Cariban, Arawakan, Salivan and Tupian linguistic affiliation throughout Amazonia, the

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Orinoco basin, the Guianas and the West Indies, from as far south as the Araguaia, Tocantins and Paraguá Rivers in east Brazil and north Bolivia to as far north as the Greater Antilles. The first reference to the myth was made by Columbus who noted Taino stories about a mythical island, inhabited only by females, as early as 1493. In the 1530s Jiménez de Quesada and Hohermuth heard similar tales on the existence of a "women-tribe" in the Llanos of Venezuela and Colombia while a decade afterwards Hernando de Ribeiro came across the myth on the Upper Paraguá (de Goeje 1932).

The definite link with the Amazons of Greek mythology was made by Orellana during his descent of the Amazon in 1542. After having heard numerous accounts of the "women-without-men" and their fierce character on the upper and middle reaches of the river, he got involved in a skirmish with the inhabitants of a village at the mouth of the Nhamundá. The fact that apparently both Amerindian men and women took part in the hostilities combined with the suggestive information provided by a captive from the village itself convinced Orellana that he had fought against the Amazons. He renamed the world's largest river accordingly (Medina 1934: 205-206, 212-215, 220-224). Although many of his contemporaries were not prepared to accept Orellana's narrative on its face value, from the sixteenth through eighteenth centuries travellers in the Amazon and Orinoco basins, such as Raleigh (1848: 27-29), de Acuña (1859: 121-124) and de la Condamine (1746: 45, 66-67), remained intrigued by Amerindian tales about the "women-without-men" and as late as the 1780s the actual existence of a female tribe was defended quite emphatically by Gilij (1965, I: 150-151).

The typical Amazon myth tells the story of a group of women who kill their husbands after the latter have slayed their wives' animal-lover, either a cayman or a tapir, and subsequently leave their original homes to form a female tribe. They now live in the far interior, on top of a mountain near a lake, but often shift their residence (e.g., Brett 1880: 180-187). Only once a year they have intercourse with the men of a neighbouring tribe. Girls, born out of these annual encounters, are raised by the Amazons but boys are sent back to their fathers (or killed according to some variants of the myth). Essential to the myth is the execution of traditionally male tasks by women: the Amazons go to war, make their own bows and arrows, hunt, fish and cultivate their gardens without any male assistance. Indeed, as Roe (1982: 166) puts it, the Amazons live in the minds of Tropical Forest Amerindian men as vivid alternatives to their current cultural disposition.

Part of the Amazon cycle refers to exchanges taking place between the "women-tribe" and the men who visit them annually. (In some variants of the myth the latter are war-captives who are released after they have made the women pregnant.) At the mouth of the Rio Negro Orellana was told that these men give feathers of parrots and macaws to the Amazons (Medina 1934: 205-206). Elsewhere in the Amazon and Orinoco basins golden ornaments are mentioned (e.g., Raleigh 1848: 28-29). Both colourful feathers and golden objects represent typically male attributes in indigenous Amazonian society: they are symbolic of the male aspect in the dualistic cosmology of the Tropical Forest Amerindians.

According to numerous variants of the myth, the Amazons exchange these gifts from the men invariably for the green-coloured stone ornaments of various shapes which they obtain by diving into a lake situated within their territory at full moon. An anaconda-woman, living in the depths of the lake, moulds these "green stones" in any form desired by the Amazons. They are soft and malleable under water but as soon as

they are exposed to air and daylight they become as hard as stone (Barbosa Rodrigues 1899). Again, the components of this portion of the Amazon cycle are perfectly understandable in terms of Amerindian world view: water, lakes, softness, the colour green, darkness (night), the anaconda, the moon, all of which are symbols with female (and underworld) connotations, as opposed to, for instance, hardness, land, the sun, and daylight which have male (and celestial world) associations (Roe 1982: 163, 169, 185, 188, Fig. 3, 14).

The "green stones" or "Amazon-stones" take us from mythology into the world of material experience: many sixteenth- through nineteenth-century documentary sources make reference to green-coloured stone pendants and beads, worn as ornaments by the Tropical Forest peoples in northern South America, of which it is claimed that they were obtained through other Amerindian tribes who received these "green stones" from the Amazons. Zoomorphic pendants in the form of frogs, birds, lizards, fishes and other animals are mentioned as well as cylindrical, squarish and barrel-shaped beads. The alleged quality of the "green stones" to have changed from soft and malleable under water to as hard as stone in daylight is often noted in the documentary sources (Barrère 1743: 175-177; Biet 1896: 36; Chrétien 1957; de Gomberville 1682: 125-126; Heriarte 1874: 37-39; Labat 1730, IV: 417-419; Pelleprat 1965: 50; Schomburgk 1922/1923, II: 261-262; van Panhuys *et al.* 1934).<sup>1</sup>

Many ethnohistorical sources note that the "green stones" were highly valued by the Tropical Forest peoples. According to Raleigh (1848: 29), the Orinoco Amerindians "esteeme them as great iewels" while a century afterwards de Gomberville (1682: 116, 118) writes that the *pierres vertes* of the Cayenne Kalina represent "leur plus grande passion ... leurs richesses & leur parure." It is repeated by many. The "Amazon-stones" were typically worn in necklaces by women. Raleigh (1848: 29) writes that on the Lower Orinoco "commonly euery king or *Cacique* hath one, which their wiues for the most part wear." Among the Kalina of the Guianas and the Kalinago (Island Caribs) of the Lesser Antilles "green stone" necklaces are mentioned, consisting of eleven to thirteen cylindrical beads with a frog-shaped pendant in the middle (du Tertre 1667/1671, II: 177). Comparable sixteenth- to eighteenth-century references are made to Amerindian peoples such as the Arua (Aroane) of the islands in the mouth of the Amazon (van Panhuys *et al.* 1934), the Amikuane (Namykuane) of the Upper Oyapock and Yarí Rivers (de la Condamine 1746: 66-67), and the Arawak of the Lower Orinoco (Fernández de Oviedo y Valdés 1959, II: 436).

As early as the late-sixteenth century it was believed that the Amazonian "green stones" were made of "jade," a term which is used nowadays to refer to two different, green-coloured, minerals, jadeite and actinolite (variety nephrite), of which only the latter is found in South America. Raleigh (1848: 29) writes that the "Amazon-stones" he saw among the Amerindians of the Lower Orinoco were "a kinde of green stones, which the Spaniards call *Piedras Hijadas*" which "we vse for spleene stones, and for

<sup>1</sup> Several indigenous names for these "green stones" have been recorded. Heriarte (1874: 12, 19, 37) notes that in the 1660s the Tupian-speaking Indians of the Lower Amazon called them *buraquitas* or *baraquitas*. In the eighteenth century the name is spelled as *puuraquitan* and *uuuraquitan* while finally it became corrupted to *muraquita* (Barata 1954). The word may be derived of Tupian *uarua-kiu*, i.e. "moon stone." The "Amazon-stones" were known as *takourave* among the Kalina of the Guianas (Barrère 1743: 175), a name which was first recorded by Dudley (in Warner 1899: 72, 78) as *tacorao*. It is closely related to the mid-seventeenth century Island Carib forms *tacouila* and *tacouilaouila* (Breton 1665: 445). The Lokono (Arawak) of the Guianas and the Lower Orinoco Valley called them *calicot* or *macuaba* (*aba*) stones (Fernández de Oviedo y Valdés 1959, II: 436; Schomburgk 1922/1923, II: 261-262).

the disease of the stone we also esteeme them..." Similarly, Heriarte (1874: 12, 19) noted in the 1660s that the "green stones" of the Lower Amazon were made of "nefrita u otra clase de piedra" while in 1725 Chrétien described those of the Kalina in French Guiana as olive green in colour and made of beautifully polished jade (Chrétien 1957; also Barrère 1743: 175; de Gomberville 1682: 116-119). The notion that the *piedra de ijada* or *lapis nephriticus* (literally "loin" or "kidney stone") protected against ailments of the lower abdominal region was adopted by the Europeans from the Aztecs. (It was recommended as such for the first time by a Spanish physician in 1565.)

This "European" concept of the virtues of "jade" crept into several early descriptions of the symbolic connotations of the "Amazon-stones" in Tropical Forest society. Many sources claim that the Amerindians ascribed healing or protective powers to these green-coloured beads and pendants. They were believed to guard against snake-bites and prevent illnesses like epilepsy, bloody flux and kidney stones as well as to assist women in giving birth (e.g., Biet 1896: 36; Breton 1665: 445; von Martius 1867, I: 731). The latter notion is given some weight by the typically female associations of the "green stones" in Amazonian cosmology. The colour green is symbolic of the positive female function of nurturing fecundity while the zoomorphic pendants of the "green-stone" category typically portray animals (frogs, lizards and fishes) which have strong female (and underworld) associations. Frogs, for instance, are connected with water, just as women: their croaking is a sign of rain and the beginning of the wet season (Roe 1982: 152-153, 185, Fig. 14; Roth 1915: 139; Wassén 1934b).

### Amazon-stones as objects of ceremonial exchange

The available documentary sources leave no room for doubt that the "green stones" formed one of the principal media of intra- as well as interethnic ceremonial exchange throughout the Tropical Forest area of northern South America. Obviously, they represented "primitive valuables" in the sense of Dalton (1977), which were exchanged between the elites of the chiefdoms in the Amazon and Orinoco floodplains and between the big men of the tribal communities beyond the major riverine systems of the region. The resemblance between the circulation of the "Amazon-stones" in Amerindian society and that of Western-type "money" struck several early explorers. In the 1590s Keymis (1904: 491, 495) commented upon the Arwao (Aricari) and Pararwea (Pirao) of Brazilian Guiana that "their money is of white and green stones" and he noted about the Carepini (Kalina), Arwacca (Lokono, Arawak) and Parawianni (Paragoto) of the Corantijn (Corentine) river that they possessed "images of gold" and "spleenstones" which "they doe somewhat extraordinarily esteeme ..., because everywhere they are current money." Two hundred years later von Humboldt (1852/1853, II: 396) wrote about the Amazonian "green stones" that seemingly the same stones passed successively from nation to nation in opposite directions, "like money in circulation."

The ceremonial exchange networks of "Amazon-stones" in northern South America apparently functioned as institutions of regional sociopolitical integration, just as, for instance, the *kula* necklaces and bracelets of Melanesia, the pearlshells of the New Guinea highlands and the *quiripa*, strings of shell disks, of the Venezuelan and Colombian Llanos. The latter were made of a specific species of fresh-water snails by the Achagua and Otomaco of the Llanos of Apure, Casanare and adjacent areas

(Morey 1975: 257-260; Morey 1975).<sup>2</sup> The *quiripa* had a typically north-western distribution if compared to the "green stones" of Amazonia and the Guianas. The two spheres of exchange seem to have converged only in the western part of the Guiana coastal zone and the Lower Orinoco Valley: as late as the latter part of the eighteenth century the Arawak of present Guyana were used to travel to the Otomaco to obtain *quiripa* strings (Quandt 1807: 290).

The "green stones" were exchanged between tribal big men, clan leaders and /or chiefs as means of death compensation, during marriage transactions and peace making ceremonies, and as forms of non-commercial payment to establish or maintain alliances between tribal segments or chiefdoms, just as other types of "primitive valuables" in stateless societies elsewhere in the world (Dalton 1977; Sahllins 1972: 221). Heriarte (1874: 19) notes that the Indians of the Lower Amazon used *pedras verdes* in order "to buy wives" while a Kagaba myth tells the story of a shaman who, when the sun desires to marry his daughter, requires "frogs of green and red stones" in exchange (Wassén 1934b). Lovén (1935: 478-479) states that the Taino chiefs of the Greater Antilles exchanged stone beads for each other's daughters and as "gifts of honour." Apart from women, slaves were exchanged for "green stones" on the Lower Amazon as well as in coastal Guiana (de Gomberville 1682: 120-121; Heriarte 1874: 19) while Raleigh's remark that he received "Amazon-stones" from the Nepoio Indians on the Rio Grande as a gift of honour (Raleigh 1848: 103) hints at their function as a medium of establishing war-and-peace alliances between Amerindian groups.

The "Amazon-stones" represented highly prestigious items of adornment: they were ways of exhibiting wealth and visual symbols of successful participation in the regional exchange network. According to Breton (1665: 445) and Fermin (1769, II: 351), Kalina and Kalinago displayed their *pierres vertes* only during feasts, integrating a number of villages, or on "special occasions." Labat claims to have seen Island Carib women wearing necklaces containing over six pounds of "green stones" (Labat 1931, II: 181-185). This recalls similar statements made by Spanish missionaries on the amounts of *quiripa* strings exhibited by Amerindian women in the Llanos of Venezuela and Colombia (Morey 1975: 259). Still today the prestige and aesthetic value attributed to exotic goods forms an important factor in the Amerindian exchange system of the Guiana highlands (Butt Colson 1973). The wide acceptance of the "green stones" as "primitive valuables" by the Tropical Forest peoples seems to have resulted from their associated symbolism which was understood throughout entire northern South America. In the Guianas and the Orinoco Valley the number of "Amazon-stones" current was kept low due to the practice among at least the Arua, Kalina and Guaiana Indians to bury them with their owners (de Gomberville 1682: 123; des Marchais, in Labat 1730, IV: 417-419; Raleigh 1848: 109; van Panhuys *et al.* 1934). As a result, their prestige value remained at the same high level.

Unfortunately, no documentary evidence is available regarding the social mechanism by which "green stones" were exchanged between communities or ethnic groups. However, it is likely that in the complex societies of the Amazonian and Orinocan *várzea* the "Amazon-stones" were principally transmitted between the chiefly elites as a form of diplomatic exchange coupled with marriage contracts.

<sup>2</sup>The *quiripa* developed into a kind of "commodity money" in the sense of Dalton (1977) when the Spaniards set up equivalences between these strings of shell beads and Spanish coinage. Their value increased with distance (Morey 1975: 257-260). Similarly, in Africa the cowries developed into a form of "primitive money" (Sahlins 1972: 226-229) due to the commercial intrusion of the Arabs.

Elsewhere, in the tribal societies of the *terra firme* and the sea coasts, the "green stones" became obviously dispersed through networks of formal, long-term, gift- and trading-partnerships between big men (cf. Sahlins 1972: 201, 297-301; Webb 1974). Such gift-partnerships between prominent members of individual Kalinago (Island Carib) and Arawak (Lokono) communities were the established social mechanism by which another "primitive valuable" of the Tropical Forest area, the famous *kalukuli*, i.e., male ornaments made of a goldcopper alloy, became transmitted from the mainland to the Lesser Antilles. Upon exchange of names, parties adopted each other as gift- and trading-partners, creating a true tie of (classificatory) kinship. The Island Caribs used the same word, *bannarale*, for "him with whom they have negotiated" and for "friend" (Breton 1665: 303). Present-day Amerindian trade in the Guiana highlands operates on a similar basis (Thomas 1972), as did the sixteenth-century exchange between the Spanish of the pearl islands and the mainland Arawak (Boomert 1984).

The ceremonial exchange of exotic luxury items like the "green stones" was undoubtedly paired with the simultaneous trading of a great number of utility goods between the partners involved. During periods of low demand for ordinary trade wares the exchange of "primitive valuables" would have had the function of maintaining the network (cf. Dalton 1977). The unequal access of raw materials due to environmental differentiation and the craft skill involved in producing localized specialities, whether actual or artificially sustained, led to complex indigenous trade networks, integrating a number of often mutually hostile Tropical Forest tribes and chiefdoms (Lathrap 1973). In areas such as the Guiana highlands, where remnants of these formerly widespread trade networks are still actively maintained, gift-exchange of "primitive valuables" *sensu stricto* does not form an integral part of the interaction pattern any longer (cf. Butt Colson 1973; Coppens 1971; Roth 1924: 635-637; Thomas 1972). However, the reported former existence of ceremonial feasts, integrating a number of villages, which, in the words of im Thurn (1883: 231), served also as trading fairs, suggests that this was different in the past. Van Berkel (1948: 21) notes the existence of a "most celebrated trading place" on the Berbice river in the latter part of the seventeenth century which reminds of the Llanos trade fairs, such as the Orinoco turtle beaches, which attracted many often hostile ethnic groups from the region (Morey and Morey 1975).

Present Amerindian groups of the Guiana highlands are rarely concerned with the identity of the manufacturers of previous owners of the utility goods traded among them. A similar attitude prevailed towards exotics like the "green stones" exchanged among the Tropical Forest groups in the past, except for the common conviction that they were made by the "women-without-men." Most documentary sources point to the Amazon Valley as a major manufacturing centre of "green stones." The seventeenth-century Kalina of the Guiana coastal zone and the Island Caribs of the Lesser Antilles stated that the *pierres vertes* in their possession originated in the Amazon river area (Breton 1665: 445; de la Borde 1886; Goupy des Marets, in Derbien 1965) while according to an Amazon myth, told by Akawaio (Kapon), Makushi (Pemon), Kalina and Lokono, the Amazons live in a country called *Masoáno* or *Mazwano*, a name which is probably identical to *Marañon*, the original name of the Amazon river (Roth 1915: 222).

More detailed information is provided by Heriarte (1874: 12, 19, 37, 39) in the 1660s. He notes that the inhabitants of the Lower Amazon are famous for their "green

stones" and declares that "it was commonly said" that the Tapajó Indians of the Lower Tapajós River, a right tributary of the Amazon, manufactured and traded fine pottery, hammocks, *urucú*, drinking cups, wooden seats, and *buraquitas* "in the form of beads, frogs, & other figures." Similarly, according to Raleigh (1848: 28), the Orenoqueponi (Guaiana) Indians of the Lower Orinoco believed that the "women-tribe" inhabited the "Topago Province," sixty miles upstream on the Amazon River. In the eighteenth century the Cayenne Kalina told Barrère (1743: 175-177) that their *pierres vertes* had been made by the Tapouye of the Amazon while the latter Indians themselves informed de la Condamine (1746: 66) that the "green stones" in their possession represented heirlooms from their ancestors who had obtained them from the Amazons.

Several early references to the Amazon myth place the habitation area of the "women-tribe" on the upper reaches of the Nhamundá and Trombetas (Oriximiná) Rivers, both left tributaries of the Amazon, situated just upstream from the Tapajós. Orellana heard that the queen of the Amazons was called Coñori (Medina 1934: 220-224, 400), a name which is identical to that of an Amerindian ethnic group which in the seventeenth century inhabited the lower reaches of the Nhamundá, then still called the Cunuris River (de Acuña 1859: 122-123). Robert Schomburgk (1845) notes that the Indians of the Rio Negro invariably mention the Trombetas as the river at which sources the Amazons live. Although no other early documentary evidence is available indicating that the Trombetas-Nhamundá region formed another center of manufacture of "green stones," in the 1870s an old Tapajo woman of Santarém still remembered that in her youth members of her people annually travelled to the Nhamundá to obtain "Amazon-stones" from the Uaboi and Kunuri Indians living on this river (Barbosa Rodrigues 1899).

Ethnohistorical evidence regarding the dispersal of "green stones" from the main manufacturing centre on the lower Amazon to other areas of northern South America is available only for the coastal zone of the Guianas and the Windward Islands. Especially the Kalina of French Guiana are often mentioned in the early sources as intermediaries in the "trade" of *pierres vertes* between the Amazon area and the western portion of coastal Guiana (e.g., Biet 1896: 36; Pelleprat 1965: 50). About 1800 Mahanarva, a Kalina big man of the Essequibo/Rupununi confluence, stated that the Teyrou or Taira of Cayenne, an eastern Kalina tribal segment also known as Tirewuyu, annually visit the Amazons (Schomburgk 1922/1923, II: 261-262) while de Gomberville (1682: 78, 122-123) writes that the Cayenne Kalina travel to the Amazon River in order to obtain "green stones."

Although the claim has been made that indeed the Kalina of French Guiana went as far as the Lower Amazon during these trading expeditions (de Goeje 1932), unequivocal documentary evidence supporting this is lacking. Instead, some sources suggest that the Kalina obtained the "Amazon-stones" through exchange with groups inhabiting the islands in the mouth of the Amazon and Brazilian Guiana. The Aricari of the latter region are repeatedly mentioned as possessing numerous "green stones": Keymis (1904: 491) notes that they "have greater store of those moneyes then any others." Kalina and Aricari were reportedly in war with each other during the 1630s and early 1640s but in 1644 the Kalina terminated these hostilities "pour pouvoir, sans obstacle sur leur route, continuer le commerce des pierres vertes qui sont leur plus grande passion," as de Gomberville (1682: 115-116) puts it. Such a Kalina trade expedition to the Aricari, following the coast and bypassing the country of the hostile

Palikur, is mentioned in the 1660s (Nimuendajú 1926: 108).

Apart from the Aricari of Brazilian Guiana, the Arua and Soucoyenne of the islands in the mouth of the Amazon are mentioned as possessing many "green stones." Moreover, in 1725 it was claimed that both groups collected the raw materials for these ornaments "in the mountains" and manufactured them themselves (Chrétien 1957; van Panhuys *et al.* 1934). Similarly, according to Goupy des Marets (in Derbien 1965), in 1686 a French trader told him that the Tocoyenne, a seventeenth-century Kalina tribal segment in French Guiana and northern Brazilian Guiana, "and other nations along the Qyapock" counterfeit the "green stones" from locally available raw materials. It would be easy to differentiate between true "Amazon-stones" and these imitations as the latter were reportedly of lighter colour. This suggests that, in spite of the Amerindian claims that all the *pierres vertes* were derived from the Lower Amazon, a number of secondary centres of manufacture did, in fact, exist throughout the Tropical Forest area.

The local production of "green stones" in the Guianas and beyond was undoubtedly stimulated by, firstly, the destruction of the Amerindian societies on the Lower Amazon during the latter part of the seventeenth century, and, secondly, the interest of Europeans in *pedras de ijada*. As early as the 1650s Boyer noted that the Kalina of French Guiana exchanged "precious stones" with European traders (Boyer 1654: 333-334). It is repeated by many other documentary sources until the 1750s. Breton (1665: 445) notes that the Island Caribs distinguished between two types of *pierres vertes*: genuine ones called *tacoiïa* or *tacoiïaïa* and imitations called *macónabou*. The Island Carib women considered the latter to be "without value." All sources indicate that the "green stones" of the Island Caribs were obtained through exchange with the Kalina of French Guiana and Suriname (e.g., du Tertre 1667/1671, II: 77; de la Borde 1886). Both groups reportedly made long-distance trade expeditions to each other. It is not known, however, whether the "false" *pierres vertes* of the Island Caribs were derived from the mainland or locally produced in the Windwards.

### Amazon-stones in archaeology

Zoomorphic pendants and beads of the "green stone" category have been found at many archaeological sites in the northern part of South America, i.e., in the Amazon Valley, the Guianas, the Orinoco basin, the coastal zone of Venezuela, and the West Indies. Beyond the Amazonian and Caribbean culture areas they are reported from, for instance, the Venezuelan Andes. Everywhere frog-shaped pendants predominate (Fig. 1). Thusfar, true manufacturing centres have been identified only in coastal Suriname, the Lower Amazon region and the Virgin Islands of the Lesser Antilles. Cultural affiliations and dating of these workshops are widely differing, however.

The Lower Amazon manufacturing centre of "green stones" was situated on the lower reaches of the Nhamundá, Trombetas and Tapajós Rivers (Barata 1954; Barbosa Rodrigues 1899; Koehler-Asseburg 1951; Palmatary 1960: 75-86). This is in full accordance with the ethnohistorical sources quoted above. Although none of the "Amazon-stones" reportedly found in this region have been encountered in controlled archaeological context, it is likely that they can be associated with the late-prehistoric Kondurí and Santarém complexes of the Lower Nhamundá-Trombetas and the Lower Tapajós, respectively. Both complexes belong to the Amazonian



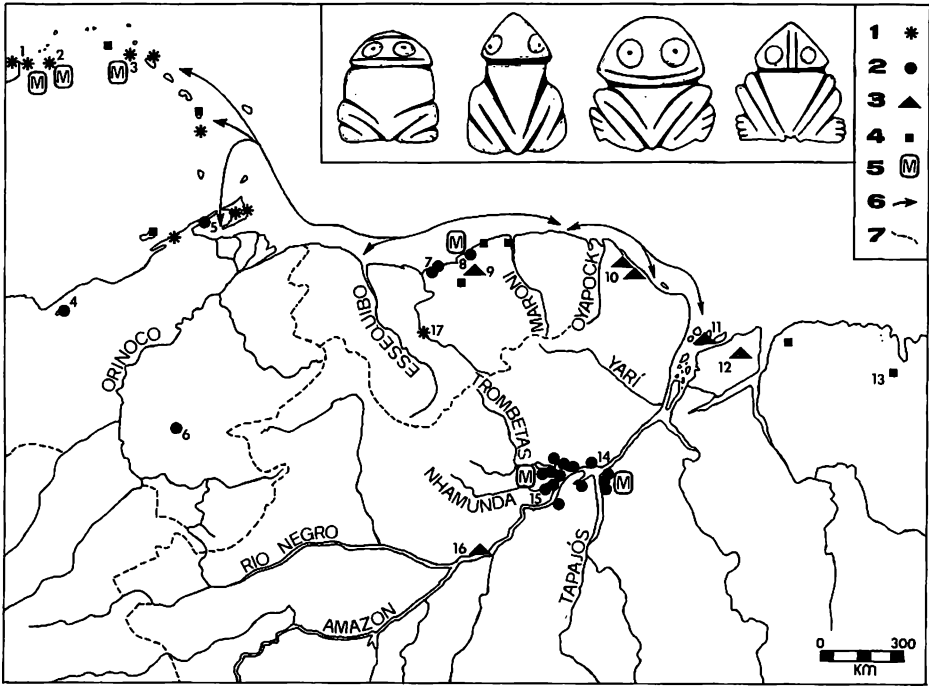


FIGURE 1  
 MAP OF NORTHERN SOUTH AMERICA, SHOWING THE LOCATIONS OF  
 ARCHAEOLOGICAL SITES YIELDING "GREEN STONE" ZOOMORPHIC  
 PENDANTS

Legend: (1) Saladoid sites; (2) Arauquinoid, Valencioid and Incised-and-Punctate sites; (3) Polychrome (Marajoroid) sites; (4) Sites of other or unknown cultural affiliation; (5) Manufacture centres of "green stones"; (6) Extension of Kalina/Island Carib exchange in early historic times; (7) Political boundaries. Inset: frog-shaped pendants from the Lower Amazon; from left to right: Santarém, "Lower Amazon," Obidos, Santarém. Legend of cultural complexes and sites mentioned in the text: (1) Sorce, Vieques; (2) Prosperity, St. Croix; (3) Montserrat; (4) Valencia; (5) Guayabita; (6) Corobal; (7) Hertenrits; (8) Kwatta; (9) Goliath Creek 1, Koriabo; (10) Aristé; (11) Aruã; (12) Marajoara; (13) Cajary; (14) Santarém; (15) Kondurí; (16) Miracanguera; (17) Wonotobo.

ceramic series known as the "Incised-and-Punctate Horizon Style," a pottery tradition related to the Arauquinoid series of the Orinoco basin. Kondurí as well as Santarém are supposed to have extended into early historic times and have been identified with the pottery of the Cunuri and Tapajó Indians (Palmatory 1960).

The "green stones" of the Kondurí and Santarém complexes include zoomorphic pendants in the shape of frogs, birds (probably vultures), fishes and unidentifiable animals next to various types of beads and geometrical pendants. Several rock and mineral types are mentioned though in some cases the quality of the petrographic analysis is doubtful: a certain tendency to identify the raw material of most Amazonian "green stones" as nephrite is clearly discernible in the literature. Late-nineteenth century petrographic analyses, supported by specific gravity measurements, suggest that the *muiraquitã* of the Nhamundá-Trombetas region are indeed made of nephrite (Barbosa Rodrigues 1899; Fischer 1880) whereas those of the Santarém area seem to have been manufactured predominantly of other stone materials, including steatite, quartzite, granite and sandstone. Chips of nephrite, probably refuse of the production process, are reported from Kondurí sites in the Lower Trombetas floodplain (Palmatory 1960: 78). All of the raw materials used for the manufacturing of the "green stones" were obviously obtained from the *terra firme*, possibly through exchange with other peoples.

Frog-shaped pendants predominate: in all, 48 specimens have been found in the Lower Amazon region, of which 40 derive from sites of the Kondurí and Santarém complexes (Barata 1954, Pl. III-VIII, X-XI; Barbosa Rodrigues 1899, Est. I, III; Cruls 1944, Pl. XXXI; Galvão 1973, Fig. 16; Koehler-Asseburg 1951, Fig. 1-3, 5; Nordenskiöld 1930, Pl. XXXIX: c-d; Palmatory 1960, Pl. 108, 110-111, 113; Wassén 1943a, Fig. 13-14). According to shape and design several stylistic groups can be distinguished in which representation varies from quite naturalistic to highly geometrical. Practically all pendants show the characteristic configuration of the frog's hind legs and its typically bulging eyes. The most elaborately sculptured specimens have more or less triangular heads which are clearly separated from the body (Fig. 1, inset). Toes, mouth and front legs are seldomly indicated. The provision for suspension typically consists of two connected drillings, one lateral and one dorsal, on either side. Elaborately sculptured frog-shaped pendants have been found in Kondurí as well as Santarém context; simpler, almost geometrical ones and pottery imitations are restricted to the latter complex.

Beyond the Lower Amazon frog-shaped "green stones" are known from the late-prehistoric pile-dwellings of Cajary on the Pindaré River (Lopes 1925) while "nephrite" lip-plugs and undescribed *muiraquitã* have been reported from the Marajoara and Miracanguera complexes of Marajó Island and the Lower Amazon, respectively (Ferreira Penna 1877: 54; Palmatory 1950: 271-272, 329). Both pottery traditions form members of the Amazonian "Polychrome Tradition" (or Marajoaroid series) which is partially contemporaneous with the "Incised-and-Punctate Horizon Style." Geometrical and vulture-shaped pendants next to beads, all reportedly of "nephrite," have been encountered at cemetery sites of the Late Aruã complex of Caviana and Mexiana Islands in the mouth of the Amazon (Meggers and Evans 1957: 499, 524, Fig. 176, 188) and the Late Aristé complex of Brazilian Guiana (Meggers and Evans 1957: 119, 129; Nordenskiöld 1930, Pl. XLIII: a). Stylistic comparison suggests that at least the vulture-shaped and a number of the geometrical (probably stylized bird-shaped) pendants represent imports from the Lower Amazon (compare Barbosa Rodrigues

1899, Est. I: 4; Palmatary 1960, Pl. 114 a, e, g). Both Late Aruã and Late Aristé represent post-Columbian members of the Marajoaroid series. The former complex has been identified as the pottery of the historic Arua Indians which is in accordance with the documentary sources quoted above.

A second major manufacturing centre of "Amazon-stones" was situated in northern Suriname. It is associated with the Kwatta complex of the central coast, a late-prehistoric pottery tradition which probably forms an offshoot of the Hertenrits complex of north-west Suriname, itself a member of the Arauquinoid series. In all, 41 "green stone" ornaments and seven shell and pottery imitations have been found at sites of various cultural affiliations in Suriname. They include 37 pendants representing frogs next to caiman- and bird-shaped specimens, miniature axes and a single bead. Petrographic analyses, supported by X-ray diffractograms of powdered granules or chips and specific gravity measurements, suggest that the majority (28) of the Suriname "green stones" are made of a specific, green-coloured, variety of rhyolite whereas the raw materials of the remainder include nephrite and tremolite (four specimens), quartz, metabasalt, greisen and laterite.<sup>3</sup>

Shape and design of the frog-shaped forms vary (Fig. 2 and 3; de Goeje 1932, Pl. I; Fischer 1880, Taf. I: 3-4). In a general way they resemble the Amazonian specimens though elaborately sculptured pendants are rare (Fig. 3: 1). The provision for suspension is often different from that of the Amazonian *muiraquitã*: many Suriname pendants show lateral drillings on either side, connected with longitudinal grooves in the back of the ornament (Fig. 3: 1, 3-4). A special class is formed by bacradian pendants showing widely expanding hind legs which, consequently, possibly represent tree-frogs (Fig. 2: 3-5). This type is unreported from the Lower Amazon. Frog-shaped pendants and miniature axes in various stages of manufacture, all made of green rhyolite, have been encountered at the Tingiholo site of the Kwatta complex (Fig. 3: 9) while such pendants and shell imitations (Boomert 1980, Fig. 11: 12-13, 17-18) are known from the partially contemporaneous Hertenrits complex. The Hertenrits specimens obviously form imports from the Kwatta workshops. The stone material used for the Kwatta "green stones" had to be obtained from Suriname's interior, probably through other Amerindian groups in exchange for coastal products (cf. Boomert and Kroonenberg 1977). The few nephrite/tremolite pendants of Suriname may represent imports from Amazonia: the most elaborately worked bacradian form known (Fig. 3: 1) is made of nephrite and resembles various Amazonian specimens (e.g., Wassén 1934a, Fig. 14: D). A waterfowl-shaped pendant, made of tremolite, has been found in Koriabo, i.e. Marajoaroid, context (Fig. 3: 10).<sup>4</sup>

The only "green stones" known from east Venezuela include a greenschist bacradian pendant, associated with the Corobal complex of the Upper Orinoco

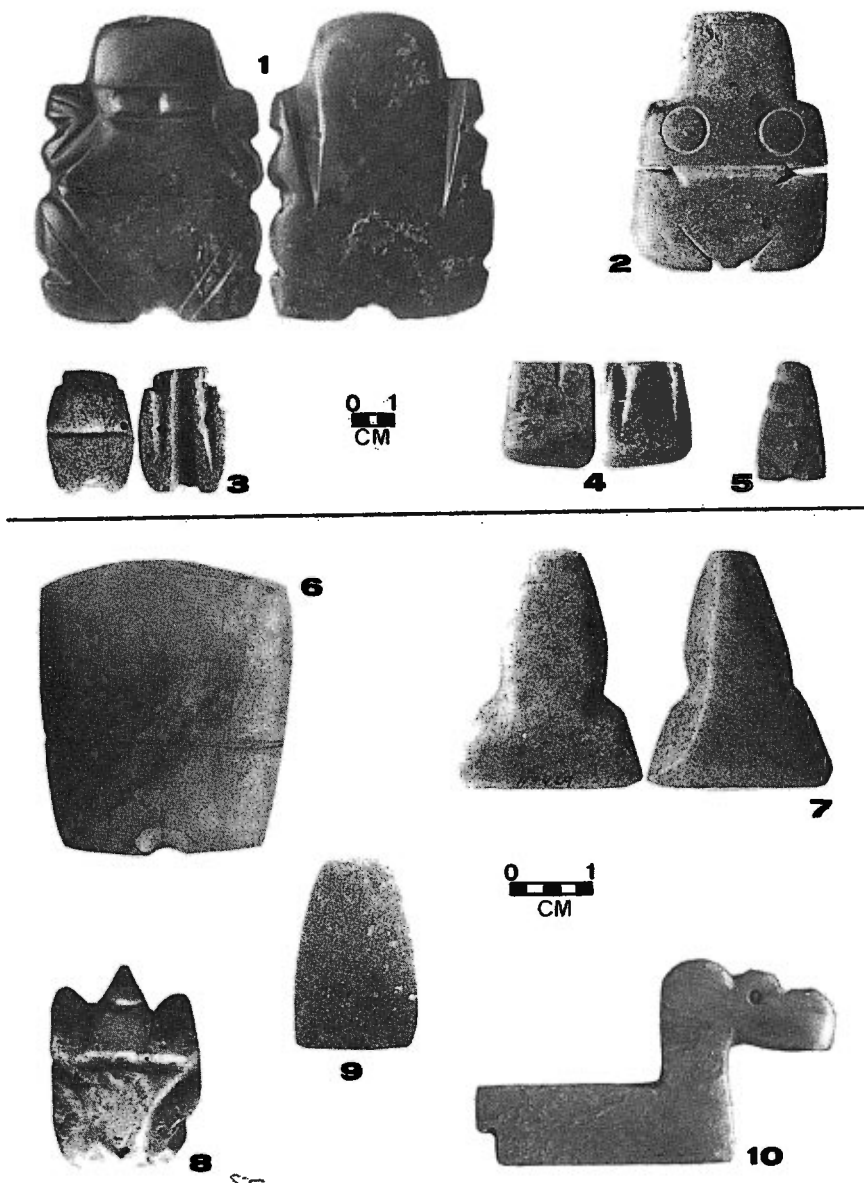
<sup>3</sup> Rhyolite is a fine-grained, tough, igneous rock type which occurs in natural state in areas of west and central Suriname. The variety used for the "Amazon-stones" is typically green in colour and shows a fine lamination or irregular streaks and spots. Rhyolite lacks the translucency of actinolite and tremolite while its specific gravity is low (ca. 2.6). The petrographic analyses of most of the Suriname "green stones" were made by Professor Salomon B. Kroonenberg, Agricultural University of Wageningen, The Netherlands. The stone material of the waterfowl-shaped pendant was identified by M.W.P.M. van Loon, formerly of the Geologisch-Mijnbouwkundige Dienst, Paramaribo, Suriname.

<sup>4</sup> The round indentation between the eyes of the Tingiholo specimen illustrated in Fig. 2: 2 may be likened to the saurian pineal or parietal eye of the *Anoli* lizard which, as Allaire (1981) has shown, is to be found on several Saladoid pottery head lugs in the Lesser Antilles. As lizards and frogs have similar patterns of hind legs the possibility exists that this specimen represents a lizard rather than a frog.



FIGURE 2  
 FROG-SHAPED PENDANTS, TINGIHOLO SITE, KWATTA COMPLEX,  
 SURINAME

All green rhyolite; Coll. Surinaams Museum, Paramaribo.



**FIGURE 3**  
**ANIMAL-SHAPED PENDANTS, REPRESENTING FROGS AND WATERFOWL,**  
**AND MINIATURE AXE FROM SURINAME**

Legend: (1) Matapica, nephrite; (2) "Lower Maroni River," rock type unknown; (3) Witagron, nephrite; (4) "Suriname," rock type unknown; (5) "Suriname," rhyolite; (6) Tingiholo, Kwatta complex, quartz; (7) Hertenrits, Hertenrits complex, rhyolite; (8) Goliath Creek 4, Koriabo complex, greisen; (9) Tingiholo, Kwatta complex, rhyolite; (10) Goliath Creek 1, Koriabo complex, tremolite. (1) Coll. Loning; (2, 4-5) Coll. Findlay; (3, 8) Coll. Molgo; (6-7, 9) Coll. Surinaams Museum; (10) Coll. Bubberman.

region (Evans *et al.* 1959), and a "possibly jadeite" bead and an unfinished nephrite pendant, respectively found in Corozal and Camoruco context on the Middle Orinoco (Roosevelt 1980, Fig. 100). Both Corobal and Camoruco form local pottery traditions of the Arauquinoid series. Frog-, bird-, fish-, and turtle-shaped pendants and beads have been reported from various cemetery sites of the Valencia complex of Venezuela's central coast, another member of the Arauquinoid series. However, the bactracian forms (Bennett 1937, Fig. 17; von den Steinen 1904, Fig. 27-28) are stylistically different from those of coastal Suriname and the Lower Amazon while reports that specimens made of nephrite are represented in the Valencia material do not seem to be based on reliable petrographic analyses. Instead, according to Kidder (1944: 74-75), the animal-shaped pendants found in Valencia context are made of locally available rocks and minerals such as sericite, serpentine, serpentinite and limestone. Finally, a possibly zoomorphic pendant of "Amazon-stone" of unknown cultural affiliation is known from Margarita Island (de Booy 1916, Fig. 14) while on the east Venezuelan coast "jadeite" zoomorphic pendants have been found in Arauquinoid context at Guayabita (Osgood and Howard 1943: 121, Pl. 13: F) and at Puerto Santo, a site belonging to the Saladoid series of early ceramic times (Sanoja 1982, Lam. 81).

Similarly, many "green stone" pendants from the West Indies appear to be associated with the Saladoid series. Frog-shaped forms have been reported from Saladoid sites such as Atagual and St. Bernard, both in Trinidad (de Booy 1917, Fig. 64; Harris, pers. commun.), Arnos Vale, St. Vincent (Bullen and Bullen 1972, Pl. XIX: f) and Morel, Guadeloupe (Clerc 1970, Fig. 27). The latter specimen is reportedly made of "jade" while the stone material of the Atagual pendant could be identified as most likely chlorite.<sup>5</sup> Other bactracian pendants have been found in Suazoid context at Lavoutte, St. Lucia (Bullen and Bullen 1970, Fig. 5: b) and as individual finds in St. Vincent (Fewkes 1922, Pl. 36: C), Guadeloupe (Hamy 1885, II: 41-45, Fig. 10-12) and St. Kitts (Fewkes 1922: 234, Pl. 85: F). The two latter specimens are reportedly made of "jade" and "green-stone like jadeite," respectively. A probably nephrite specimen from the "West Indies" is illustrated by Fischer (1880, Taf. I: 5). Moreover, a vulture-shaped pendant made of "soft soapstone or serpentine" and one, possibly representing an armadillo, of unidentified stone material, are known as individual finds from Trinidad (Fewkes 1922, Fig. 2).

Many of these Antillean pendants, or at least those found in Saladoid context, undoubtedly reached the Windward Islands and Trinidad through ceremonial exchange from the three thusfar-known Saladoid manufacturing centres of "green stones," i.e., Montserrat in the Leeward Islands (Harrington 1924: 184-189), Prosperity in St. Croix, Virgin Islands (Vesceius and Robinson 1979) and Sorce (La Hueca), Vieques, just east of Puerto Rico (Chanlatte-Baik 1983; Chanlatte-Baik and Narganes Storde 1983). Similarly, it is likely that the "serpentine" and "nephrite" frog-shaped pendants, reportedly found at various Saladoid sites in Puerto Rico (Sued Badillo 1976) reached this island from the east, probably from the Vieques centre.

A tremendous amount of beads and zoomorphic pendants, including frog- and vulture-shaped specimens, have been reported from Vieques: in all over 1400 bactracian forms in all stages of manufacture and about 40 vulture-shaped pendants (e.g., Chanlatte-Baik 1983: 39-41, Lam. 3, 22: A-B, 23, 47: A). They are made of a variety of mineral and rock types, predominantly serpentine next to various semi-precious

<sup>5</sup> The petrographic analysis, supported by specific gravity measurements, was made by Miss Cassandra T. Rogers, University of the West Indies, St. Augustine, Trinidad.

stones such as amethyst, peridot, aventurine, turquoise, carnelian, nephrite, etc. Beads, animal-shaped and geometrical pendants, manufactured of these same materials, are reported from the workshops in Montserrat and St. Croix. Some of these semi-precious stones are not known to occur naturally in the Greater Antilles. For instance, aventurine may have reached the Virgins from as far south as the South American mainland (Vescelius and Robinson 1979). Similarly, various Saladoid sites in St. Croix have yielded elaborately carved, zoomorphic pendants made of freshwater bivalves (naiads) of a genus (*Prisodon*) known to occur only in the Amazon and Orinoco basins.

The frog-shaped pendants found in the Windward Islands are stylistically different from those manufactured in the Vieques workshops. According to shape and design, they are closer to the Prosperity specimens (Vescelius, pers. commun.). On the other hand, the Trinidad vulture-shaped pendant and the Puerto Santo zoomorphic specimen undoubtedly represent objects originating from Vieques. Similarly, a necklace consisting of "greenstone fragments" and beads made of agate, amethyst and diorite, found in a Saladoid burial at Vivé, Martinique (Mattioni 1979: 49), probably reached this island from the Saladoid workshops in the north. Although we are still far removed from the reconstruction of an exchange cycle such as the *kula* of Melanesia, the now available bits of evidence suggest strongly that during Saladoid times a complicated exchange network existed in the Lesser Antilles in which particular semi-precious stones and other highly valued raw materials moved north whereas finished ornaments, including "green stones," trickled down the islands to the coastal zone of the South American mainland.<sup>6</sup>

## Conclusions

"Green stone" valuables appear to have been manufactured and exchanged widely throughout northern South America and the West Indies during pre-Columbian and early historic times. They formed typically female ornaments which derived much of their general acceptance among the Amerindian peoples of the region from their symbolic associations which were understood throughout the Tropical Forest area. Frog-shaped pendants dominate everywhere, followed by vulture-like forms while specimens representing fishes, waterfowl, lizards, caimans and armadillos are rare. All of these animals have strong female and underworld connotations in Amerindian cosmology.

A series of chronologically differing regional exchange networks of "green stones" can be distinguished in prehistoric times. The earliest of these, that of the Saladoid series, encompassed the West Indies and the east Venezuelan coast while in the Amazon Valley and coastal Suriname manufacture and exchange of "green stones" can be correlated with the Arauquinoid (Incised-and-Punctate) series of late-prehistoric times. Those found in Polychrome (Marajoaroid) context were obviously derived from the Lower Amazon centre. During the contact period the Guiana Kalina (Caribs) acted as the main intermediaries in the exchange of "green stones" between the islands in the mouth of the Amazon and the western portion of the Guiana coastal zone as well as the Windward Islands.

<sup>6</sup> A similar exchange network seems to have existed in west Venezuela. A late-prehistoric workshop of serpentinite batwing pendants at El Mocado Alto in the Venezuelan Andes was shown by Wagner and Schubert (1972) to have relied upon the importation of this stone material from the Caribbean Mountains of Venezuela's coast, probably in exchange for finished products.

### **Abstract**

*Using ethnohistorical and archaeological data, the author discusses the symbolic connotations and sociocultural context of the so-called "green stones," i.e. animal-shaped pendants and beads made of green-coloured exotic stone materials, which were worn in necklaces by females in various prehistoric and protohistoric Amerindian societies of Amazonia and the Caribbean. It is concluded that during the past these ornaments represented one of the principal media of ceremonial exchange throughout the Tropical Forest area. They derived much of their general acceptance among the Amerindian peoples of the region from their symbolic associations which were understood widely.*

### **Resumen**

*Utilizando datos etnohistóricos y arqueológicos, el autor describe las connotaciones simbólicas y el contexto sociocultural de las llamadas "piedras verdes", es decir, pendientes zoomorfos y cuentas elaboradas con materiales líticos exóticos de color verde, los cuales eran usados por las mujeres en diversas sociedades aborígenes prehistóricas y protohistóricas de la Amazonía y del Caribe. Se concluye que durante el pasado estos adornos representaron uno de los principales objetos de intercambio ceremonial a través del área de Selva Tropical. La aceptación general de estos objetos entre los indígenas de la región se debió fundamentalmente a sus asociaciones simbólicas, las cuales eran ampliamente conocidas por esta población.*

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<sup>7</sup> Abbreviations used in this bibliography:

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I.C.P.L.A. International Congress for the Study of the Pre-Columbian Cultures of the Lesser Antilles



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