Chapter IV

Using archaeological material to supplement historical evidence

An interrogation of the documentary evidence in chapter I and II showed that some ambiguities as to the location of the wreck site still exist and that very little has been done to find the survivor camp. Background research and scientific analysis of the archaeological material found in Port Edward may possibly clear up these ambiguities and answer questions as to the final resting place of the São João. Primary archaeological sources i.e. material found during excavations, discussed in chapter III, will be examined according to what has been scientifically achieved with tests and classification together with a discussion of secondary archaeological sources i.e. material found by other researchers and their contribution to the interpretation of the archaeological material.

Furthermore, the examination of primary and secondary archaeological sources aims to provide historical insight as to the true origin of the artefacts found in Port Edward. In the past it was believed that the red cornelian beads found along the south east coast are Phoenician trading beads originating from Arab dhows[1], while the ship called the Ivy that foundered on the 27th of March 1878, on its way from London to Durban with a large cargo of liquor[2] was responsible for fragments of blue-and-white china washed onto the beaches of Port Edward. It will be shown how the archaeological investigation in the area proved that a sixteenth century Portuguese wreck, possibly the São João, is responsible for these particular artefacts washed onto the beaches.

The archaeological material can be divided into five main types, namely: the Chinese porcelain, cornelian beads, pepper, metal artefacts and marine shells. The Chinese porcelain shards will be discussed to begin with because of the comprehensive studies done on this material world wide as well as by

[1] B.R. Stückenberg, The wreck of the St John. *Neon*, August 1987. p.37.
[2] *The Argus Annual and South African Directory*, Cape Town, 1889, p.168; T.V. Bulpin, *Natal and the Zulu Country,* 1966, pp.375-376.

Esterhuizen in South Africa. The cornelian beads cannot contribute to the dating of wreck sites, but they do indicate that the ship in question was on its homeward bound voyage and also indicate special boundaries of both the wreck site and the survivor camp. This is followed by a discussion on the cowries which posed an opportunity to test new methodology regarding the identification of wreck sites along the South African coast. The pepper was a very exiting find since it may prove the location of the survivor camp. Metal artefacts and archaeo-metallurgical studies will show that it is viable to do testing on metal artefacts originating from shipwrecks, but that it is expensive and as in the case of the São João, difficult and extremely dangerous to salvage primary sources such as cannons believed to be located under water. Secondary sources, however, exist in museums. Lastly, the testing of marine shells is a new contribution to the field of maritime archaeology and in the case of the São João it not only indicates place of origin, but age as well.

Porcelain

During the sixteenth century, from about 1457 to 1557, the Portuguese did not have right of entry to the Chinese harbours. Thus the porcelain they obtained was acquired through smuggling via other harbours in the area, from India and Arab merchants. As a result of this, and a fire in Lisabon in 1755 that destroyed the archive, hardly any records of the exact origin of the porcelain remain.[3] Blue-and-white Chinese porcelain shards are found at 10 locations along the south-east coast of South Africa, believed to be the following wrecks: São João (1552), São Bento (1554), São Thomé (1589), Santo Alberto (1593), São João Baptista (1622), São Gonçalo (1630), Nossa Senhore de Belém (1635) and the Nossa Senhore de Atalaia do Piheiro (1647).[4]

Four hundred and fifty years since the foundering of the São João, porcelain shards are still washed onto the beaches in the vicinity of Port Edward. The

[3] Esterhuizen, Dekoratiewe Motiewe op Chinese Porseleinskerwe uit Portugese Skeepswrakke aan die Suid-Afrikaanse Kus, 1552-1647: 'n Kultuurhistoriese Studie, p. 81.
[4] Ibid.; Turner, *Shipwrecks and Salvage in South Africa.*

pieces found in Port Edward are all of varying sizes and quality The shards are broken into very small pieces since the area is extremely rocky and the sea rough. According to Esterhuizen the porcelain shipped onboard the São João belongs to the Jiajing period (1522-1566) of the Ming Dynasty. One of the pieces found at Port Edward, found by the researcher in September 2002, bares the mark characteristic of this particular period.[5] Porcelain shards similar to the ones found in Port Edward are also found at the wreck site of the São Bento (1554) at Msikaba river mouth and these shards greatly assisted in dating the shards believed to be from the wreck of the São João since they are not so badly broken and abraded.[6]

Figure 19: A view of the larger shards found on the site in Port Edward during investigations in September 2002

[5] Ibid., pp. 77-95; T. Maggs, The Great Galleon São João: remains from a mid-sixteenth century wreck on the Natal South Coast. *Annals of the Natal Museum.* 1984, 26(1), p. 178
[6] Maggs, The Great Galleon São João. p. 173

Big collections of the shards believed to be from the São João are kept in various museums around the country and many in private collections. Because legislation protecting these artefacts only came into affect fairly recently, residents from the area and holiday-makers often went "beading and minging",[7] as they termed it, collecting porcelain shards and cornelian beads.

The possibility exists that the porcelain onboard the São João was either made just before it was loaded onto the ship or earlier. Because the date of the wrecking is known, and the porcelain onboard the ship could not have been manufactured after the wrecking, it is possible to date a wreck with fair certainty.[8]

Figure 20: Porcelain found at the São João during the Port Edward Project are mainly from group B and C.

According to Esterhuizen, the porcelain shards found at the São João wreck site can be classified into three groups based on the quality of the clay, the colour of the cobalt and the style of the decorations on the porcelain. The first group, "Group A", represents porcelain of the highest quality. The porcelain itself is refined and compact almost brilliant white. The colour of the decorative art is also clear and brilliant. Lines and washes are delicate and neatly painted. Motifs

[7] Interviews with residents from Port Edward.
[8] Esterhuizen, Dekoratiewe Motiewe op Chinese Porseleinskerwe uit Portugese Skeepswrakke aan die Suid-Afrikaanse Kus, 1552-1647, pp. 82-83; C. Clunas, Research display of 16th century Chinese ceramics. *Transactions of Oriental Ceramic Society,* vol. 58, 1993-4, pp. 23-32.

consist of flowers, fruit, berries and leaves. Birds are also common to this group, peacocks are exceptionally beautifully painted, which gives the impression that commodities painted with this motif were meant for a specific market.[9] No porcelain shards from this group have been found during excavations of the Port Edward 2001-2003 project. Most of the shards found are from "Group B" and "Group C".

According to Esterhuizen, the shards classified, as "Group B and C" are much heavier than the shards classified as "Group A". Thus the sea currents can not carry them far from the wreck site[10] and it stands to reason that the heavier pieces, such as those found by the researcher at Port Edward, are washed ashore closer to the wreck site. Most of the heavier pieces of porcelain were found in rock crevasses in the area closest to Ivy Point. Therefore it is possible that the São João foundered in the area where the bigger concentrations of heavier porcelain shards are found which is in the area of Ivy Point.

Figure 21: A piece of porcelain found in September 2002 with the characteristic *Jiajing* mark on the left.

Characteristic of "Group C" is that the colour of the porcelain is impure and the texture is coarse, its appearance is grey with a pinkish hue. The decorative art also seems impure but sometimes the cobalt is a deep blue. The motifs are the same as found in "Group C", but the technique is sketchy.

[9] Ibid.
[10] Personal communication with Esterhuizen, September 2002.

The outlines of the motifs are often much darker than the wash and in some cases no outline is used at all. The glaze, which is in many cases applied very thick, gives the porcelain a green tint and in some shards small cracks are visible. Porcelain similar to these have also been found in Kilwa and Madagascar.[11]

The evidence presented by the dating and classification of the ceramics, especially those with markings such as the one seen in the photograph on the right (this is the mark of the *Jiajing* period), firmly dates the wreck in Port Edward between 1522-1566. Evidence such as this not only links the São João with the Port Edward wreck site but it also gives a better indication of the location of the wreck site.

Cornelian beads

Figure 22: Photograph of a typical cornelian necklace.
From: Coles, J. and Budwig, R. *World Beads.* Ryland Peters & Small, Great Britain, 1997, p 34.

[11] Ibid., p. 84.

The history of tubular cornelian beads goes back as far as 5 000 years ago, originally from the deserts of Arabia. Seals and signet rings of cornelian are not uncommon to Egyptian excavations associated with the Pharaohs where cornelian was a symbol of life. They were used in Egypt until the 19th century. Idar-Oberstein in the German Rhineland has been a stone cutting centre since the 15th century, but the main source associated with the early Mediterranean civilizations and pre-18th century shipwrecks, was Cambay and Radhandhur in the Bombay/Gujerat Province of India.[12] It has also been found in the Rio Grande area, China, Colombia, Saxony, Scotland and United States of America. Presently cornelian is extracted in Brazil.

Long before the Portuguese arrived in India a lucrative trading industry in cotton materials and cornelian beads existed. Arab dhow traders monopolized the trade routes between Cambay and the east coast of Africa where they bartered cornelian beads for slaves and ivory. A girdle of chalcedony beads was the price of a slave in central Africa in the 17th and 18th centuries. On the coast of Madagascar 6-8 beads could buy a 'fat ox' and at that time the cost price in India was 8-10 shillings per hundred beads.[13] These beads are significant because they are associated with 16th and 17th century Portuguese wrecks on their homeward bound voyage from India to Portugal and, according to Bell-Cross, they have been found at a number of South African wreck sites.[14] After Vasco da Gama's voyage in 1498 the Portuguese entered the Arab dominated trade but as the Duarte Barbosa, a Portuguese chronicler, reports the beads were shipped back home to Portugal as well, consequently they are found on homeward bound shipwrecks only.[15]

[12] Bell-Cross, The occurrence of cornelian and agate beads at shipwreck sites on the southern African coast; J. Coles and R. Budwig, *World Beads* ,Great Britain, 1997, pp. 36-37.
[13] Bell-Cross, The occurrence of cornelian and agate beads at shipwreck sites on the southern African coast, p.23.
[14] Ibid., p. 22.
[15] G. Bell-Cross, The occurrence of cornelian and agate beads at shipwreck sites on the southern African coast. pp.20-32.

Cornelian beads are translucent, semi-precious agate, red or orange in colour. Because it was believed that they have medicinal powers, not only did they as mentioned above, play a central role in Arab trade but also formed part of currency throughout the Mediterranean, India and Africa. In addition, they were also used to make spectacular jewellery. The name stems from Latin derivations *cornu* which means a horn, *cornum* which means cherry or *carnis* which means flesh or meat. The Portuguese use the modern term *cornalina,* but in the 16th and 17th century the term *alaguequas* was used when referring to these beads. According to Bell-Cross these appellatives should only apply to those beads of a clear red, or reddish brown colour, but as far as can be ascertained this is used indiscriminately for all the multicoloured chalcedony beads associated with ship wrecks.[16] Thirteen homeward bound Portuguese East Indiamen wrecked along the south east coast of South Africa before the end of the 17th century and most of them carried cornelian beads as part of their cargo including the São João, São Bento (1554), Santo Alberto (1593), Santo Espiritu (1608), São João Baptista (1622), São Gonçalo (1630), Nossa Senhore de Belém (1635) and Santa Maria de Deus (1643).[17]

The specimens found by the researcher in Port Edward believed to be off the wreck of the São João are severely broken, but still recognisable. On some of these specimens the bore channel is clearly visible. In addition the hexagonal shape of one of the specimens is identifiable. The largest bead found during excavations measures 1.2cm X 1cm. It is believed that great concentrations or "pockets" of these beads may be found underwater since so many are still washed onto the beach.

[16] Ibid., p. 20.
[17] Turner, *Shipwrecks and Salvage.* p. 36; W.G.N. van der Sleen, Trade-wind Beads. *Man.* vol. 56, 1956, pp. 27-29.

Figure 23: Cornelian beads found at the São João wreck site.
(Port Edward PED 5, September 2002.

Unfortunately on their own these beads cannot contribute to the identification or dating of this particular wreck, since as far as can be ascertained, they cannot be dated by means of scientific tests or classification. Studied in context with the rest of the material found on site in Port Edward they are significant since they confirm the presence of a homeward bound Portuguese wreck. In addition the possibility exists that more beads, perhaps in better condition, may be found underwater.

Cowries

The money cowrie shell or *Cypraea moneta* belongs to the cowrie family. It occurs in areas with warm water temperatures such as the Maldive Islands. These shells have medium size teeth, not extending across the base. They are heavily margined, with base and margin white and unspotted. In some modern examples

a black transverse line crosses the dorsum almost centrally. The specimens found in Port Edward are white with a purple crown.[18]

Figure 24: *Cypraea moneta.*
(Port Edward PED 5, 2002)

The cowrie shell is one of the most remarkable primitive currencies ever used before the advent of gold and silver coinage. This shell extended its range further than any form of money before or since, spreading from China and India to the Pacific Islands, travelling across and encircling Africa and then penetrating the New World.[19]

In Africa, the cowrie shell is not only a symbolic allusion to wealth and prosperity. For thousands of years it was used as the main medium of exchange. Although not used anymore as money, the shells are still believed to have occult or supernatural powers, so they are used in divination, traditional medicine, fertility, ancestor worship and other rituals. Cowries formed the common currency throughout this vast expanse of the trading world and Africa.[20]

[18] R. Kilburn and E. Rippey, *Sea shells of Southern Africa.* Johannesburg, 1982, p. 67.
[19] S. Tiley and E. Burger, Cowries in the Archaeological and Maritime Record. *Strandloper,* April 2002, pp. 5-7.
[20] Ibid., p. 5.

Money is the medium in which value is expressed, however money possibly originated out of religious and social custom, rather than directly out of barter and trade. The objects used as currency were usually chosen to conform to the 'ideal' properties of money: portable, durable, easy to count and difficult to counterfeit.[21]

From 2000 BC in China, under the Hsia Dynasty, cowries were used as money during early feudal times and they were also used in India about 400 AD. *Cypraea annalus* in Africa preceded metals like iron and copper by centuries, if not millennia. The Ngorongoro Crater burials in Tanzania, excavated by several archaeologists between 1915 and 1969, contained perhaps the oldest cowrie shells known in the archaeological record, as the site was radiocarbon dated to the second half of the first millennium BC. The earliest document relating to trade on the East African coast which refers to cowries as currency was called the '*Periplus on the Erythaean Sea'* and was produced in 943 AD by El-Masudi, a well renowned Arab explorer and merchant.[22]

The name cowrie is believed to be a derivative of the Hindi word *Kauri*. The shell is also known by other names. Marco Polo (1217-1291) travelled to Yunnan in China, where he came across the cowrie shell where it was called *porcelette*. The word *buzio* was also an ancient word used by the Portuguese for the money cowrie, otherwise known as *Cypraea moneta*. Furthermore, the Spanish word *pesa*, and the Indian word *pice* are also derivatives meaning cowrie shell. Even as late as 1859 AD the Arabs trading in central Africa called cowries, *kaure.* This linguistic observation leads one to believe that the currency cowrie was used throughout Africa and as part of the Indian Ocean trade network.[23]

[21] Ibid., p. 5.
[22] Ibid., p. 5. J. Hogendorn & M. Johnson, *The shell money of the slave trade.* 1986. pp 1-4.
[23] Ibid., p. 5.

Cowrie currency is not necessarily only *Cypraea moneta,* but could also be the *Cypraea annalus*. However, *Cypraea moneta* have become the most widely recognised African 'money cowrie'. The Maldives Islands, which once were known as the *"Isles of the Cowrie",* until the arrival of Portuguese traders, was the main origin of these shells. The inhabitants of these islands harvested the cowries using intensive methods of aquaculture, and used them as money in exchange for rice with people of Bengal. After the Portuguese gained control of this supply, they were then able to use the cowries to buy slaves and goods, first on the East African coast, and later on the West African coast.[24]

Cypraea moneta also flourishes at selected locations along the Mozambique coastline, where they are found in rock crevices and along marine grasses on protected mudflats.[25] As far as can be ascertained they have never been the target of deliberate aquaculture there, and harvesting of the natural resource was presumably not able to deliver sufficiently large numbers of the shells to make an economic difference to the trade from the Maldives.[26]

According to an archaeologist at the Natal Museum, Gavin Whitelaw, *Cypraea annalus* have been found at numerous prehistoric Iron Age archaeological sites in southern Africa, but the first conclusive use of *Cypraea moneta* as local currency comes after the written record began with the arrival of Portuguese merchants[27]. The use of money cowrie shells in southern Africa therefore appears to have occurred after trade and exchange had been established with Europeans, and the maritime record stands testimony to this.

Africans prized many materials such as iron, copper, gold and ivory. They traded these with Arab merchants of the East African coastline long before Portuguese explorers rounded the Cape in 1497, in their pursuit of a share of the lucrative

[24] Ibid., p. 5.
[25] Kilburn and Rippey, *Sea shells of Southern Africa*, p. 67.
[26] Tiley and Burger, Cowries in the Archaeological and Maritime Record, p 5.
[27] Personal communication with Gavin Whitelaw, September 27, 2002.

Arab trade with the East. Over the following century, numerous Portuguese vessels made their way along the South African coastline. Some were wrecked here, and direct contact between the Portuguese and Africans came with the bands of shipwreck survivors who either set up camp in the hope of rescue, or tried to make their way northward to Portuguese settlements in Mozambique.[28]

Although live *Cypraea annalus* are relatively common along South Africa's eastern coast, live *Cypraea moneta* are rare. Most of the *Cypraea moneta* shells found along our coast are believed to originate from the holds of old shipwrecks.[29] For this reason the *Cypraea moneta* that are washed up at the site in Port Edward are viewed as important links in identifying it as the wreck site of the São João.

Tests performed at The Quaternary Dating Research Unit (QUADRU) based at the Council for Scientific and Industrial Research (CSIR), Pretoria were to prove that the *Cypraea moneta* found in Port Edward by the researcher are not indigenous to South Africa. Therefore stable light isotope analyses including 13C and 18O were performed under the supervision of Dr. Stefan Woodborne and Siep Talma.[30]

Isotopes are elements that differ from one another on the basis of the number of protons in their nucleus. The most common form of carbon, for example, has an atomic weight of 12 and is represented symbolically as ^{12}C. Isotopes of carbon include ^{13}C which has one more proton in the nucleus, and ^{14}C with two additional protons. In the case of ^{14}C the nucleus is unstable and it rearranges through the process of radioactive decay. The ^{12}C and ^{13}C are stable forms of carbon and they are called stable isotopes.[31]

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[28] Tiley and Burger, Cowries in the Archaeological and Maritime Record, p 6.
[29] Kilburn and Rippey, *Sea shells of Southern Africa.* 1982, p. 67.
[30] Tests were performed at the CSIR, September, 2002.
[31] www.quadru.co.za. November 2002; interviews with head of QUADRU Stefan Woodborne, October, 2002.

In general it can be assumed that stable isotopes of any element are chemically equivalent in reactions with other elements. However, the slight differences in atomic weight cause chemical compounds that contain heavier isotopes to react slightly slower than their lighter counterparts. For this reason the ratio of light to heavy isotopes may change, or fractionate, during chemical processes. This has a profound effect in many natural systems. As water evaporates, for example, the lighter molecules of $H_2{}^{16}O$ will escape from the water surface faster than the $H_2{}^{18}O$ isotopes. This forms the basis for the use of oxygen isotopes in hydrological studies.[32]

All chemical processes will fractionate isotopes to a greater or lesser extent. The lighter the isotope the more profound the effects. For example, ^{2}H is twice as heavy as ^{1}H even though the difference is one atomic mass unit, while ^{238}U is four atomic mass units heavier than ^{234}U the difference is only a fraction of the overall mass of the element. Stable light isotopes are therefore excellent tracers of natural chemical processes and they make a profound contribution to our understanding of environmental chemistry. The applications of isotope research are correspondingly as diverse as the chemical processes in nature.[33] The intention of the researcher, however, was to apply isotope analysis to the cowrie shells found in Port Edward. These tests have been performed on other shells indigenous to South Africa, but not on cowries.

Shells were collected on the beach area near the presumed wreck site. No live specimens of *Cypraea moneta* were to be found in this area, only empty shells were apparent. Care was taken to use only whole shells with minimum abrasion for isotope analysis. The specimens were all between 1 and 1.5 cm in length. Five *Cypraea moneta* and one control, a cowrie (*Cepraea annalus)* indigenous to the area were tested.

[32] Ibid; H.J. Deacon & J. Deacon, *Human Beginnings in South Africa Uncovering the secrets of the stone age,* Cape Town, 1999, p.24.
[33] Ibid.

The shells were cleaned, washed in distilled water and air-dried. One type of sample was taken for isotope analysis. Average samples of each entire shell were taken by drilling a series of holes with a 1-mm drill through the shell. Each powder sample was given a number and was kept separate from the other samples. Between 47.8 and 53 grams were taken from each shell.

The carbonate powder was then baked in a vacuum at 450ºC to remove volatile organic matter and then reacted with 95% phosphoric acid at 25ºC to produce carbon dioxide. Isotope ratio analysis of the CO_2 was done on the VG SIRA 24 mass spectrometer at QUADRU.

Table 3: Test results of money cowrie shells tested at QUADRU

ENTRY PORT	SAMPLE	DESCRIPTION	C-13	O-18
1 A1	NBS18	L515 NBS-18	-5.026	-22.895
2 A2	LC2232	MC-1	2.078	-1.284
3 A3	LC2233	MC-2	2.438	-1.574
4 A4	LC2234	MC-3	2.603	-1.444
5 A5	LC2235	MC-4	2.633	-1.385
6 A6	LC2236	MC-5	2.176	-1.354
7 A7	LC2237	CA-1	0.968	-0.434
8 A8	LC2238	CA-1	0.832	-0.473
9 A9	NBS19	L386 NBS-19	1.950	-2.201

Results, as seen in the table above, are reported as δ values, the relative difference between the isotope ratio of the samples and a standard, expressed in parts per thousand (‰). The standard used for carbonate is PDB (calibrated with NBS 19, of which $\delta^{18}O$ = -2.20‰ PDB and $\delta^{13}C$ = +1.93 ‰ PDB). The standard for ^{18}O in water is SMOW (Standard Mean Ocean Water). Analytical precision (± 1 sigma) is 0.04‰ for ^{13}C and 0.07‰ for ^{18}O. The control is *Cypraea annalus* shown in blue.

To date these results on the cowries found in Port Edward, provided no certainty as to their origin. Not only do these tests performed by the researcher at QUADRU set a standard for comparing money cowries found at other shipwreck sites on the south east coast of South Africa, but they also prove that the money

cowries are not indigenous to the area. Since they are not found in the archaeological record before the arrival of Portuguese merchants they must have arrived as cargo on the São João. This contributes to the argument that the resting place of the São João is in Port Edward. Similar studies on money cowries originating from the islands around India may establish the exact origin of these shells.

Pepper

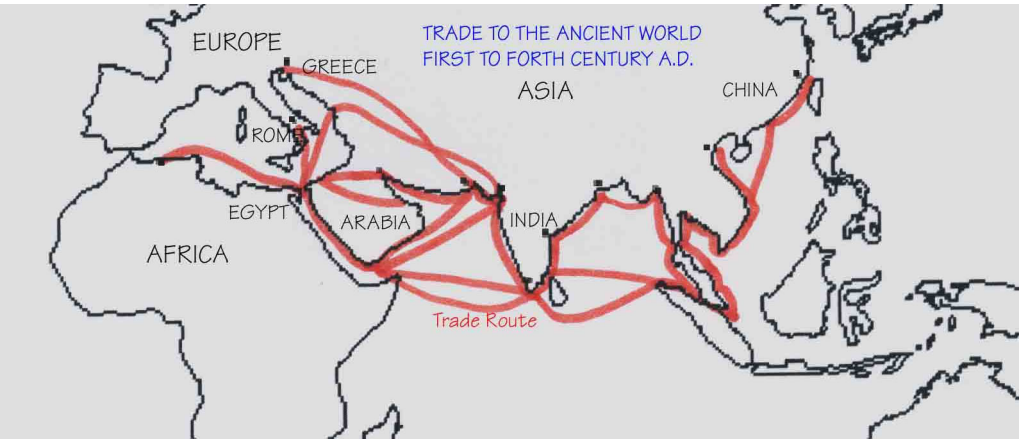


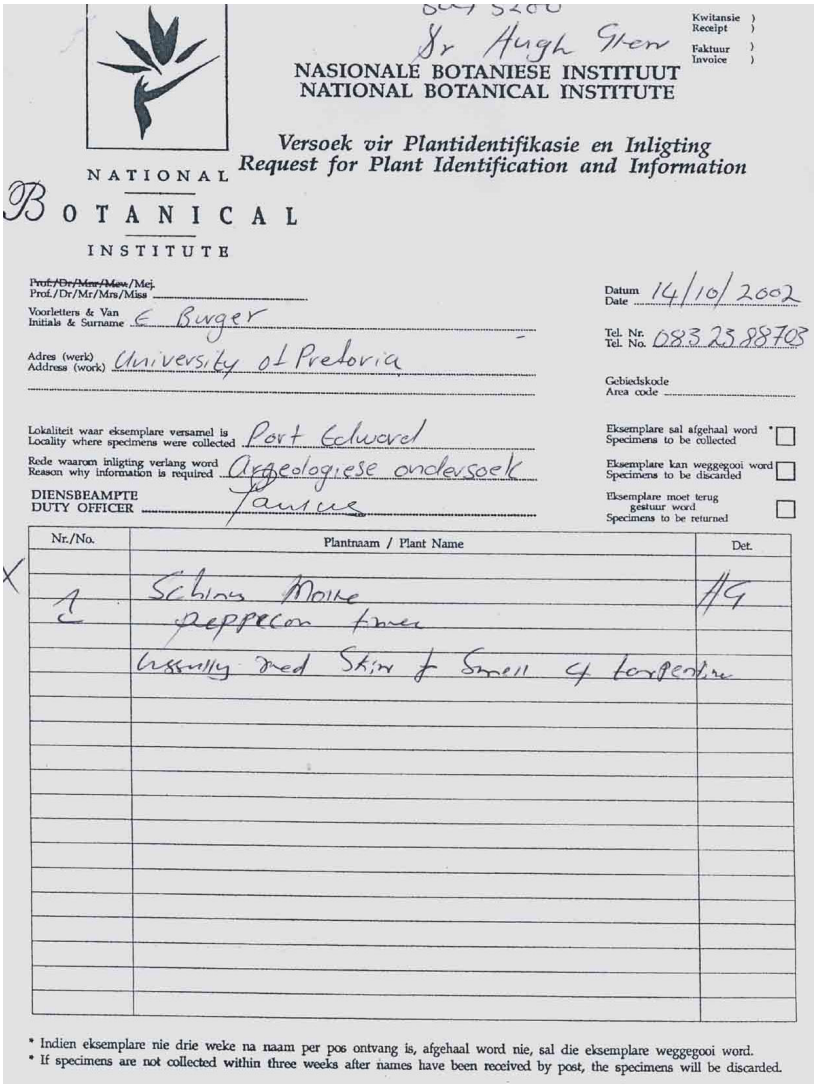
Figure 25: Map illustrating trade between China, India, Europe and Africa in the first to fourth centuries A.D.
From: Liz Burger (Pretoria, January 2002)

From ancient times many risked their lives to get their hands on what seems to be an unimportant berry called pepper. Merchants wagered their fortunes and kings embarked on expeditions, wars were fought over it, whole nations were reduced to slavery while America was found as a result of it.[34]

No other item in the world can claim a history so dramatic in its consequences – except perhaps oil. Pepper was valued as a preservative, used in cooking otherwise inedible meat and used for medicinal purposes as early as 4000BC. Thus the demand for pepper stimulated trade between south-west India and distant European lands as seen on a map of trade routes above.

[34] www.indiaprofile.com/peppertrade, P. de Sousa, *Seafaring and civilization, Maritime Perspectives on World History*. Great Britain, 2002, pp. 74-79.

Pepper was first cultivated in India and the best species came from the monsoon forests that line the Malabar Coast of South India. Alexander the Great's soldiers introduced pepper to Greece in the 4th century BC and by Roman times, pepper was valued and in demand in the whole of the Mediterranean area. After Egypt became a Roman province, the Romans controlled the trade routes to the Red Sea and beyond to India.



Dr Hugh Glen

Kwitansie / Receipt
Faktuur / Invoice

NASIONALE BOTANIESE INSTITUUT
NATIONAL BOTANICAL INSTITUTE

NATIONAL BOTANICAL INSTITUTE

Versoek vir Plantidentifikasie en Inligting
Request for Plant Identification and Information

~~Prof/Dr/Mev/Mnr~~/Mej.
Prof./Dr/Mr./Mrs./Miss

Datum / Date 14/10/2002

Voorletters & Van / Initials & Surname E Burger

Tel. Nr. / Tel. No. 083 23 88703

Adres (werk) / Address (work) University of Pretoria

Gebiedskode / Area code

Lokaliteit waar eksemplare versamel is / Locality where specimens were collected Port Edward

Eksemplare sal afgehaal word / Specimens to be collected *

Rede waarom inligting verlang word / Reason why information is required Argeologiese ondersoek

Eksemplare kan weggegooi word / Specimens to be discarded

DIENSBEAMPTE / DUTY OFFICER Jansen

Eksemplare moet terug gestuur word / Specimens to be returned

Nr./No.	Plantnaam / Plant Name	Det.
1	Schinus Molle peppercorn tree usually red Skin & Smell of turpentine	HG

* Indien eksemplare nie drie weke na naam per pos ontvang is, afgehaal word nie, sal die eksemplare weggegooi word.
* If specimens are not collected within three weeks after names have been received by post, the specimens will be discarded.

Figure 26: Request for plant identification certificate. (Pretoria, 2002)

Pepper ranked among the first of all traded commodities, between East and West, and was sold for extravagant prices in Spain, France, Germany and England. By

the 14th century Venice was one of the main pepper metropolises. To avoid the exorbitant prices on pepper and other spices and attracted by the prospects of wealth, the Spanish and Portuguese started their conquest of the sea voyage along the African coast to reach India. Trade with the Zamorin, the Hindu lord of Calicut, was not very successful and therefore when the Portuguese returned in the 15th century to the Malabar Coast they forged an alliance with the Raja of Cochin who was at war with the Zamorin. Cochin, soon became one of the busiest trade centres on the Malabar Coast.[35]

The specimens found by the researcher in Port Edward were nearly dismissed as local grass seed, until they were taken to the National Botanical Institute for identification. Botanist Hugh Glen states without a leaf and bark from the "mother" tree it is hard, but not completely impossible, to make an identification. Since there are no pepper trees in the area there is, as far as can be ascertained, no other explanation for the presence of pepper in the area other than them originating from the holds of a shipwreck.

Figure 27: Pepper specimens found in Port Edward.
(Port Edward PED 2, September 2002)

[35] A. Wild, *The East India Company, Trade and Conquest from 1600*, London, 2000, p. 13.

It is stated in the survivor account that the São João left Cochin with a little more than half the amount of pepper the ship was able to carry.[36] From this it is known that the São João had pepper onboard even if it was less than is normally carried. It is believed then that the presence of pepper in the area is not only an indication of the wreck site but the survivor camp as well, since in many cases merchandise was salvaged during and after the wrecking and placed under guard in the survivor camp.[37]

Cannons

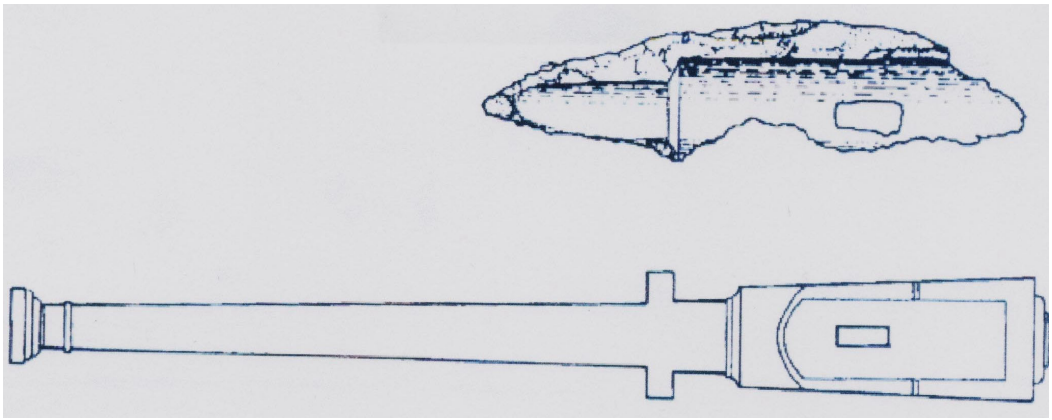


Figure 28: The cannon fragment found by Harris compared with the Robinet cannon in the de Merindol Gallery in Pretoria.
After: T. Maggs, *The Great Galleon São João.*
(Pietermaritzburg, December 1984)

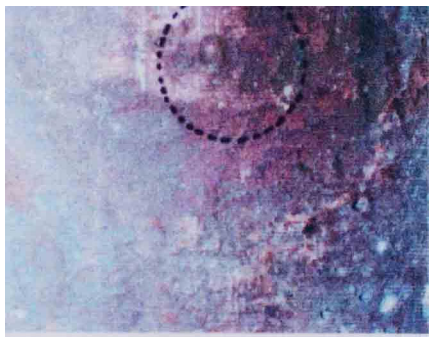
The presence of cannons at a wrecksite greatly assists researchers in a number of ways. Marks on the cannons such as seals and dates reveal the origin and age of the weapons. The location of the cannons may also indicate the area of the wreck site. Archaeological metallurgical evidence in the form of a 60 cm fragment of a bronze cannon salvaged by Harris in the 1980's cannot be traced. And according to salver Gavin Clackworthy, Paul Colanda salvaged another fragment of a small cannon in 1997.[38] Nothing was published on this particular cannon and sadly

[36] Theal, *Records of South East Africa* I, p. 129.
[37] Ibid., p. 223.
[38] Personal communication with Gavin Clacksworthy, 14 March 2003.

Colanda died in a motor vehicle accident shortly afterwards. His find however, substantiates arguments that there are still some cannons located underwater in Port Edward. Clackworthy states the cannons are in the area of PED 5, where the researcher found the biggest concentrations of porcelain, cowrie shells and cornelian. The cannons remnants are apparently badly broken and abraded.[39]

Figure 29: Cannon on display in the De Marindol Gallery.
(Pretoria, May 2001)

In the De Merindol collector's gallery, (Malan Museum) in Pretoria a cannon is on display (See figure 28 on page 79). An unsubstantiated nameplate that accompanies the cannon states it originates from the wreck of the Sâo Joâo. The owner of this museum claims that he bought the cannon accompanied by the nameplate from a restaurant in the area of Port Edward that went bankrupt.[40] A faint mark as seen in figure 30, in the form of a 6 or a 9, is visible on the back of the cannon.



[39] Ibid.
[40] Personal communication with Claude Malan, August, 2001.

Figure 30: A mark visible on the cannon in the De Merindol Gallery. (Pretoria, May 2001)

According to G. de Vries, retired commander of the South African Navy, the gun is definitely in the Portuguese style (and not French as indicated on the nameplate). This particular style was cast until c. 1600 and used much later.[41] He identified the cannon as 43mm Robinet, or Half Pounder.[42] It is not clear whether this cannon originates from the wreck of the Sâo João, since the nameplate incorrectly gives the date for the wreck of the São João as 1530 and states that it was found at the Msikaba River mouth (the location of the wreck of the Sâo Bento).[43]

The De Merindol cannon may belong to a collection of cannons from the São Bento wreck site, that were salvaged in the 1960's by a group calling themselves "Cannon Hunters of Kokstad" or CHOK.[44] Two cannons belonging to this collection may be viewed at the Port Shepstone Museum. Comparative tests such as those performed by archaeologist Duncan Miller at the University of Cape Town can determine the nature of the bronze alloy used in the manufacture of these particular cannons. This in turn may help in establishing a link between the cannon at the De Merindol Museum and those in the Port Shepston Museum.[45] According to de Vries, the identification of muzzle-loading cannons is likely to cause confusion. No standard has been established worldwide since gunfounders worked in isolation and worked with different lengths and weight measurements, different proportions, patterns, methods and standards. Comparative tests as performed by Miller can determine the nature of the bronze alloy used in this particular cannon's manufacture that may help in better identification.[46]

[41] Personal communication with Cmdr. Gerry de Vries, September 01, 2001.
[42] Ibid.
[43] Nameplate in the De Merindol collectors gallery.
[44] Personal communication with John Godlonton a member of CHOK, 2001.
[45] D. Miller. Archaeometallurgical studies in Maritime archaeology at the Cape of Good Hope. *Southern African Field Archaeology,* April 1997, vol. 6, No. 1, Grahamstown.
[46] Ibid.

Miscellaneous artefacts found at the site

Metal and Glass

Figure 31: Metal fragment believed to be off the wreck of the Ivy.
(Port Edward, 2002)

Figure 32: Glass fragments found close to PED 5, believed to be from the wreck of the Ivy.
(Port Edward, 2003)

According to Macholm Turner, the Ivy was a British wooden brig of 249 tons, built in 1865 by Richard, in Quebec, and commanded by Capt C. Orr. It was

wrecked in the same area as the Sâo João on the 27th of March 1878 while on a voyage from London to Durban with a cargo of liquor. Only one man was lost[47]. Besides the metal some fragments of glass were also found washed onto the beach closer to Ivy point. These fragments are believed to be from the wreck of the Ivy. According to the locals many of these fragments are washed ashore and are clearly distinguishable since they are of a very dark green colour (almost black) and small air bubbles are present in the glass which are not found in modern glass[48].

In conclusion, all the artefacts (secondary and primary) viewed in context point to the wreck of the São João as the ship that wrecked in Port Edward. Together with the documentary evidence this also presents a clearer scenario of the events surrounding the wrecking and a possible location for the wreck site itself. Viewed in isolation there can be no doubt that the Chinese porcelain can only be from a 16th century Portuguese shipwreck. Since the wreck of the São João is the only documented 16th century Portuguese wreck in the area, the researcher is convinced that they must originate from this wreck. The pieces that were found by the researcher indicated the possible area of the wreck site as well, since it is believed that the bigger heavier pieces are washed onto the beach close to the wreck site.

The cornelian beads on their own only indicate a homeward bound wreck and cannot be dated or classified. The isotope tests, on the money cowrie shells, on the other hand, caused a sensation proving that these shells found by the researcher are not indigenous to South Africa and are believed to originate from warmer waters such as the Maldive islands.

The discovery of pepper on one of the on land sites identified, narrows the otherwise enormous search area and may indicate the presence of a survivor

[47] Turner, *Shipwrecks and Salvage in South Africa.* p.216. The Argus Annual and South African Directory, Cape Town, The Argus Printing and Publishing Co, 1889, p. 168. T.V. Bulpin, *Natal and the Zulu country.* 1966, pp. 374-375.
[48] Personal communication with locals from Port Edward, 2003.

camp. This also merits further investigation as to the location of such a site. Further research is necessary to locate and identify cannons that are believed to be located at PED5. Preliminary research however established that they might be Half Pounders or Robinets. Finally, other artefacts, such as glass and metal, found in the area may be contributed to the wreck of the Ivy that foundered in the same area and not the São João.