



CANNON KNOWN FROM THE FORMER KINGDOM OF
BENIN (WEST AFRICA)

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Introductory

The history of the former Kingdom of Benin is well known and therefore there is no need to go into details and a short abstract may suffice. The reader interested to know more about it is advised to look at the enclosed bibliography. Before the arrival of the Portuguese at the end of the 15th century we have to rely mostly on oral traditions and the results of a few archaeological attempts. We are indebted to a number of traders, missionaries, officials, etc. who provided written records during past centuries. Real interest was aroused in 1897 when the invading British forces discovered large quantities of cast articles, carved ivories and other precious works of art. Few had expected such a highly developed African culture, although in decline at this time. Among the articles discovered in Benin City are some artillery pieces, four of them breech-loaders. The present paper is an attempt to establish something about their origin and use. The results show that it was not only possible to describe the cannon in detail, but also to reveal some of the mysteries about them.

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Key words: Cannon taken away from Benin City (Southern Nigeria) in 1897 – Historical background – Technical features – Ceremonial/religious significance.

The military organisation of the former Kingdom of Benin

A full account on the military organisation, including tactics, weapons, logistics, etc., has already been provided by one of the authors. (Rose 1992) This account contains drawings and reconstructions of the usual range of small arms such as spears, bows and arrows, knives, etc. However, an account of the cannon found in Benin by the invading British forces in 1897 has not been provided so far.

Description of early breech-loading cannon

It is not the purpose of the present work to provide a history of firearms and, therefore a brief description is provided below. It is not certain where the first firearms originated. They probably appeared before the middle of the 13th century. The first dateable firearm is the so called “Tannenberger Handbüchse”, now at the Germanische Nationalmuseum, Nürnberg, which was found in 1848 at the bottom of a well inside the castle of Tannenberg (to the north of Heidelberg). The barrel still contained its charge. Tannenberg castle was destroyed in 1399, therefore making this weapon the first definitely datable firearm.

The advent of the first breech-loading cannon took place during the second half of the 14th century. The origin of the breech-loading cannon has not been discovered so far. It is also not known for sure why this idea, which enabled a higher rate of fire compared to the muzzle-loader, was not followed up and breech-loaders had their true development only in the

19th century. One reason may certainly be that in the early days the specialists had no technical means to seal the breech chamber tightly. In case the cannon was made of bronze, the part of the breech chamber being in contact with the barrel tended to burn out. Therefore a lot of energy escaped between breech chamber and barrel. Furthermore they could not hold as powerful a charge as a muzzle-loader. Also when fired they had a dangerous habit of throwing back objects, making them unsafe for their operators.

There are two types of early breech-loaders:

(a) With a breech trough attached to the barrel into which the breech chamber, holding the charge is inserted from above. The breech chamber is secured tightly by means of a wedge. These are swivel guns, destined for pivot mounting on board of ships or on walls of fortifications.

(b) With the breech chamber attached to the rear of the barrel. They have usually been fastened to a wooden frame. The breech chamber was wedged to the barrel.

Oral traditions about the introduction of cannon and other early information in this context

No doubt, the historical value of oral traditions should be examined rather carefully. However, as will be shown below, oral traditions cannot be ignored in the context with cannon. Although the introduction of the first firearms is mentioned in connection with King *Ozoluwa* (about end of the 15th century), his son and successor *Esigie* is most strongly associated with it. (Egharevba (1954) 1969, 9, 18) His reign can be placed roughly from the beginning to the middle of the 16th century. He is credited to have defeated the invading Igala of Idah (east of the Niger, below the confluence of the Benue) around 1515-17. A letter written by a Portuguese appears to confirm this date. (Blake (1941) 1967, 123)

The decisive battle of the so-called "Idah war" took place at the foot of the Oregbeni Hills, directly opposite Benin City. The actual retreat of the Idah army was apparently initiated by a shot fired by a cannon manned by Portuguese (or a German in Portuguese service). (Egharevba 1949, 26) For further details consult the article written on the war with the Igala by one of the authors. (Roese 1997)

P.A. Talbot collected oral traditions in the 1920s which implied: "The Bini possessed semi-breech-loading cannons, made by, or with the aid of, Portuguese, almost as soon as they appeared in Europe." (Talbot (1926) 1969 II, 826)

The connection between firearms and *Esigie* has, as stated above, a strong traditional background. Cyril Punch, the English trader who visited Benin City in 1889 and in the 1890s, wrote the following in this context: "There was a compound dedicated to him in Benin, in which was a deep well of pure water and a very old breech loading gun." (Roth (1903) 1968, 54) More about *Esigie* see below.

During his researches in the 1960s, R.E. Bradbury was told: "...there is at Benin City a ward known as *Iwoki* whose members had, among other functions, that of looking after the *Oba's* guns and cannon. The *Iwoki* date their foundation to *Esigie's* reign and some claim to be descended from Europeans called *Ava* and *Uti*. *Ava* and *Uti* are said, on one occasion to have protected the *Oba* by standing with guns, one on each side of him and up to the present day, on ceremonial occasions, the *Oba* is flanked by two *Iwoki* with guns. The shrine of the god of iron at which the *Iwoki* worship is called *Ogun-Esigie*. It seems likely then that the *Iwoki* was founded to look after guns when they were first introduced...." (Bradbury 1959, 279) As will be shown later, the *Ogun-Esigie* shrine may possibly be identical with the one described in the chapter "The *Iwoki*".

Talbot assumes *Ata* may be identical with Joao Afonso de Aveiro. (Talbot (1926) 1969 I, 156) As will be shown later he was the first recorded European visitor in Benin City. More details about the *Iwoki* see chapter "The *Iwoki*".

B.W. Blackmun describes a musketeer on a carved ivory tusk who, according to her opinion, "...may refer to the *Iwoki*, armed Portuguese who helped *Esigie* subdue a.....coalition early in his reign." (Blackmun 1988, 132) This is a very intriguing suggestion that the Portuguese even may have helped *Esigie* in fighting internal enemies. The above may refer to *Esigie's* brother *Aruanran* and the latter's *Iyase* (of Udo) or to another similar incident. (Egharevba 1968, 26)

M. Jungwith collected local traditions from the reign of King *Ehengbuda* (last quarter of 16th century). It is related how a man was ordered to "...go to Uselu and bring the ETU (cannon)." (Jungwith 1968, 190)

A search in contemporary European records for the first firearms in possession of the Edo

End of the 15th/ beginning of the 16th centuries

Benin City was reached by the Portuguese under Joao Afonso de Aveiro in 1485 or 86, although the coast was already visited in 1472 by Ruy de Sequeira. There are no reports about firearms being handed over to the Edo. However, the King of Benin was very eager to get hold of such weapons (see below).

1513 or 1514

During this time an incident took place, decribed by A.F.C. Ryder as follows: "Further proof of the *Oba's* interest in firearms is provided....in 1514 by the seizure, on his orders, of a cannon from a Portuguese caravel trading in the Benin River....The incident must have occured early in 1514 or in the previous year..." (Ryder 1961, 234, according to T.T. Corpo Cronológico II, 46.165. 29 April 1514) Ryder further assumes that the king possibly "...hoped to learn thereby the secret of their construction so that they might be made independently by the metal-workers of Benin City, the impossibility of which must have become quickly obvious." (Ryder 1961, 234) The above is actually in contrast to the already mentioned traditions collected by Talbot which imply a very early manufacture of breech-loading cannons in Benin.

1514

Ryder's above statement is further somehow contradicted by a letter from the Portuguese King Manuel to the King of Benin, dated November 20th, 1514. The letter was preceded by the visit of a Benin ambassador, called Dom Jorge, who was on a mission in Portugal and among other issues he presented the wish of his sovereign to obtain firearms. The reply in this context was favourable because King Manuel wrote: "For when we see that you have embraced the teachings of Christianity like a good and faithful Christian, there will be nothing in our realms with which we shall not be glad to favour you, whether it be arms or cannon and all other weapons of war for use against your enemies; of such things we have a great store, as Dom Jorge your ambassador will inform you." (Ryder 1969, 47)

In this year the Portuguese vessel "Sao Miguel" traded in the Forcados River. The ship's book contained the following instructions for the pilot: "You must keep good guard and watch upon the arms that are on this ship, so that they do not come into the hands of the negroes...." (Ryder 1969, 297)

Cannon possibly manufactured during the reign of the Tudors (ca. 1460-1603), found in Benin City

Punch observed during a visit to Benin City in 1889: "We are first taken to a juju house the spirit of which is contained in a pile of old guns which would, I think, be acceptable in the Tower of London. They are very old, so old that I don't remember seeing anything like them in the Tower, or anywhere else save in pictures of guns belonging in the Tudor period or even earlier. They are old breech loaders of a very primitive make, with rings, the breech is simply an opening to put a cartridge in, and a block of iron to close it. Two slots in the side through (which) a pin would be passed to jam up the breech block."

"I fancy in the early days of the discovery of the New World the pioneers, Buccaneers, etc., used to call down the bights and pick up a load of slaves to help work their ships; if so it would account for the presence in this out-of-the-way place, of guns which we feel are centuries old. The Benin people evidently hold them in great veneration, as the king's messengers and Kroom boys are made to stand outside the court where they are, and only the two white men and juju men are allowed to see them. Tombo is produced and kola nuts, some of each having been offered to the juju by being placed in the breeches of the rusty old guns. We are regaled with the rest. After sitting here for some time we are taken to visit the king's courtyard and houses." (Punch 1889, 11)

Ben-Amos has to say the following about the kola nut: "The kola nut is the symbol par excellence of civilisation, of supernaturally sanctioned sociability. Householders generally welcome guests by offering them kola nuts. After an invocation, the nut is broken into segments and distributed according to relative seniority." Furthermore during certain ceremonies, kola nuts play a part, together with for instance palm wine (Punch's "Tombo", see above). (Ben-Amos 1976, 244)

1535

Among the load of the Portuguese vessel "San Antonio" trading in the Forcados River was "...a barrel of gunpowder weighing one quintal....The gunpowder may have been intended for the ship's armament, but its listing among the merchandise suggests that it was to be sold." (Ryder 1969, 68)

1553

At this time the first voyage of English merchants to Benin took place. Captain Windham died and his deputy Pinteado was forced to sail away, leaving Nicholas Lambert and others behind.

(Hakluyt (1598-1600) 1927, 44) The Edo may have obtained firearms from the stranded Englishmen or even obtained the necessary know how for manufacturing them.

16th/17th centuries

Portuguese proposal for exchange of goods include, for instance, such items as lead shot and gunpowder. (Ryder 1969, 335)

1603

The German Andreas Josua Ultzheimer sailed with a sloop in Dutch service to Lagos (Eko) where he met the King of Benin who undertook a campaign in this area. Ultzheimer informs us about details, as follows: "...begabe sich aber eben zur selben Zeit, daß eine andere seiner Stätt rebellierte, die er, weil die Statt umbmauert war, und sie daselbsten kein Gchütz haben, so leicht nicht zwingen kundte. Liesse derohalb der König unß ansprechen, wir sollten ihme helffen, dieselbige Statt wieder zum gehorsam bringen, welchem wir willfahrten, und zogen unser zwölf mit zweien stuken grosses Geschützes, mit den Schwarten..." (Ultzheimer 1616, 31)

It is interesting to note that the king asked Ultzheimer and his companions to support him with their two cannon during a siege of a town in the vicinity of Lagos. The Europeans shot one of the gates to pieces and the place was stormed. The above shows clearly that the Edo had at this time, at least during their operations around Lagos, no cannon at their disposal.

Middle to end of 16th century

Olfert Dapper's monumental work on Africa was published in 1668. Part of the material contained was collected from about the middle to the end of the 16th century. He mentions only the usual weapons such as "...spiesen, bogen, asagaien, en pijlen, met vergif bestreken ..." (Dapper 1668, 500)

1600 - 1614

Of the Europeans visiting Benin between 1600 and 1614, there are some who left reports on their experiences there. Among them are the anonymous Dutch D.R. (1600) (Marees 1602), Dierick Ruiters (1612) (Ruiters 1623) and the Swiss Samuel Brun (1614) (Brun 1624). None of them provides any information on firearms.

1655-1662

Padre Bonaventura, called originally Lorenzo Galletti, went several times to Benin City and Warri. He says when the King of Benin goes in state to the city he is accompanied by a numerous following of "...Fidalghi, à cauhallo, e gente à piee, armati di frecce, e zagagli." He further states: "In quanto all'armi, ueleni....sono come in Ouere: Eccetto, ch'ha di più questo, Leoni et Elefanti." And in Warri: "...alcuni pochi Moschetti Olandesi...." are used, i.e. it indicates that both the Bini and the Itsekiri were using guns at this time. (Salvadorini 1972, 157, 158, 185, 188)

1699, 1701

David van Nyendael spent quite some time in Benin and also went to the capital to see the king. About firearms he writes: "...dat de Negers niet veel van het schietgeweer houden, en maer weinige met het selve weeten om te gaen...." Those guns were used for game shooting. (Bosman 1704, 246) This is a further proof that the Bini used firearms about this time, at least for hunting. However, they were not well acquainted in their use.

End of 17th century

The Dutch factor at Gwato, the old port of Benin, was trading flintlock guns and "...took with him fifty of these weapons valued at 16 pounds of

ivory apiece, as well as 200 pounds of gunpowder and some spare flints.” (Ryder 1969, 145)

Beginning of the 18th century

At this time the Portuguese also started to sell firearms and gunpowder in large quantities which were brought partly via Sao Tomé. (Ryder 1969, 149-50, 168)

1715

The Dutch vessel “Commany” arrived at the coast. The merchandise carried included, for instance, “50 pieces of fine flintlocks with copper mounting”, “600 lb. Gunpowder” and “400 pieces flints”. (Ryder 1969, 321)

1717

The factor of the Dutch West India Company at Gwato, Revixit van Naerssen had 50 flintlock guns, 200 pounds of gunpowder and spare flints on stock. The cargo list (October 3rd, 1717) of a ship of the Company shows 200 flintlock guns and 600 pounds of gunpowder. (Ryder 1969, 145, 150)

Middle of the 18th century

It is interesting to note that firearms had been in use at this time even in remote parts of the Benin Kingdom, as the Nigerian Olaudah Equiano reports. (Olaudah Equiano, 1789: 4-5, 24) This remarkable man was born around 1745, probably in the Ika-Ibo area (Iboland west of the Niger). In 1756 he was kidnapped by members of a neighbouring tribe and finally sold to European slavers on the coast. (Roese & Rees 1990)

1769

The French vessel “L’Africaine” under the command of Captain Desrud arrived on the coast. One of the junior officers was J.F. Landolphe who eventually stayed for the next 30 years in the area. Among the trading items of the “L’Africaine” were “guns”, “gunpowder” and “pistols”. (Ryder 1969, 199)

Last quarter of the 18th century

One shipload, sold by Landolphe, contained for instance "1 scrap regulation musket, 1 scrap dragoon's holster pistol, 1 barrel of powder – 5 lb., 1 bag of lead hunting shot – 1 lb., 100 flints". (Ryder 1969, 208-9)

The price of gunpowder had increased sharply compared to the early 18th century. Ryder is of the opinion: "...the explanation of this exceptional rise is probably to be found in the increasingly widespread use of firearms at the end of the century." (Ryder 1969, 211)

1787

Around this time, a group of visitors, sent by the *Oba* of Benin, who came from a far away kingdom arrived at Landolphe's factory at Bobi, situated near the mouth of Benin River. Landolphe obtained the following information from them: "Ce royaume, situé dans l, intérieur de l'Afrique, set puissaut. Des noirs de cette contrée sont venus me voir: ils savaient écrire et calculer en arabe. Ils ne montrèrent aucune surprise en voyant le fort, nos canons, nos fusils, nos pistolets, nos sabres. Ils m'apprirent, par l'organe de leur interprète, qu'ils possédaient des fonderies de canons et des manufactures de toutes les armes que je leur montrais; qu'il arrivait des bâtiments au séjour de leur roi, venant de fort loin, mais par une autre mer que celle où était mon vaisseau." (Quesné 1823 II, 85-6) A detailed analysis on the strangers and their possible home has already been provided elsewhere. (Ryder 1969, 224-5; Roese 1991, 408-9).

1823

In this year an anonymous article appeared in the Royal Gold Coast Gazette. The author saw in Benin City "...some brass cannon that are of the most ancient construction, the train has a tail which has apparently been intended to assist in working them....These cannon are placed on a monument to the founder of this extensive kingdom, who tradition says was a white man, and came from ,the great water,, and brought those things with him." (Royal Gold Coast Gazette 1823, 74) Judging from the tiller described, these cannons must have been breech-loaders.

1825

Captain James Fawckner notes, after arriving at the "Captain of War's" (the *Ezomo's*) house in the suburbs of Benin City, that: "It excited my surprise to see here two or three small pieces of cannon, of British and Portuguese manufacture; but they were not mounted, and had perhaps been procured as models for imitation, as the country abounds in iron; but from the expense attendant on working the mines, there is, comparatively speaking, very little wrought to perfection." He further was "...credibly informed they could make muskets, with the exception of the lock, in great perfection." (Fawckner 1837, 81-2)

From the middle of the 19th century onward

Ryder's researches revealed: "...Benin became one of the principal sources of supply for firearms, powder and ammunition in the wars then being waged in Yorubaland and Ekiti." (Ryder 1969, 258) This is also confirmed by J.F.A. Ajayi and R. Smith. (Ajayi & Smith 1964, 69)

1871

The Frenchman Louis Jacolliot is referring to the feast of the new yam, celebrated in Benin City in September 1871: "L'igname est le légume le plus important du pays, on peut dire qu'elle joue chez les indigènes le rôle de pain chez nous. On célèbre sa fête quand elle entre en maturité. Les chefs et rois tributaires sont tenus d'y assister dans la capitale même d'Ouéni. Tous les exès sont de mise pendant cette fête; chaque chef ou roi, en entrant d'Ouéni, immole un ou plusieurs esclaves, selon son rang, puis il vient défiler avec tous les siens devant le roi sur la grande place garnie de canons où se tient le cortège de l'oba." (Jacolliot ca. 1880, 33-4)

1890s

T.B. Auchterlonie visited Benin City in 1890. "In this city there are numbers of old Portuguese cannon, which are highly prized by the King, and many other traces of the Portuguese...." (Auchterlonie & Pinnock 1898, 11)

Bindloss reported from the Benin River area about the fear of the European merchants and the Niger Coast officials that the King of Benin could use cannon. "It is forbidden to sell to the negroes any fire-arm but a

flint-lock gun, and yet, for all that, every headman possesses a small cast-iron cannon or two, and some even fairly heavy pieces of artillery....” (Bindloss 1895-6, 342)

1892

A Foreign Office report of James R. Phillips, Acting Commissioner and Consul-General of the Niger Coast Protectorate states: “When Captain Gallwey visited the city the only cannon he saw were half a dozen old Portuguese guns. They were lying on the grass unmounted.” (F.O. no. 2/102 of 16 Nov. 1896, Phillips to F.O., in: Igbafe 1970, 397) Henry Gallwey (Galway) visited Benin City in March 1892 to sign a treaty with the *Oba*.

1894

During this year the town of Ebrohimi was captured by British troops. It was the seat of the famous *Nana Olomu*, the Itsekiri Governor of the Benin River. He was nominally a vassal of the *Oba* of Benin. This was observed for instance by Captain A. Boisragon, who wrote: “....*Nanna* always paid the King of Benin a yearly tribute, partly on account of the powerful Juju of Benin City, and partly for the trade to be kept open; and neither he nor his Jekris would have dared to attack the King of Benin....” (Boisragon 1897, 54-5) The British captured a large number of weapons such as: “One hundred and six cannon (two of which had a bore of six inches), a machine gun, 445 blunderbusses with swivels for mounting on war-canoes, 1,500 flintlock guns, 14 tons of gunpowder, and hundreds of rounds of case-shot, made up in cylinders of split bamboo and filled with iron balls and pieces of scrap-iron....” (Burns 1969, 174) One wonders if those weapons were all obtained from European traders or at least some of them manufactured by specialists in Benin City. H. Bindloss, a contemporary observer speculated about where Nana “....obtained these 6-pounders, and even larger brass weapons, from, is a mystery to this day, though he had nearly a hundred of them. Some white men must know, but these have probably the best reasons for maintaining a discreet silence on that point.” (Bindloss (1898) 1968, 206) The figures given above speak for themselves, i.e. they show that large numbers of cannon and firearms were available at this time.

Reference to cannon used by the Edo in wars

1818

Around this time, during the reign of *Oba Osemwede*, the memorable Akure war took place. The *Deji* (Udezi) of Akure had the Benin resident killed. The Benin army attacked Akure and a cannon was fired by a certain *Omonoyan* at the palace which was subsequently ruined. Details of the war have been collected by Egharevba from oral traditions. He also reports about a cannon ball now at the Benin Museum, which had allegedly been used during the above described incident. (Egharevba 1968, 44; *ibid.* (1954) 1969, 28)

1888

Early in 1888, in the town of Asaba on the western bank of River Niger occurred an incident during which a "big gun" was fired by the locals. Asaba housed at this time the administrative headquarters of the Royal Niger Company, although it actually still belonged to Benin. Some slaves were sacrificed on the occasion of the death of a chief. The British wanted to prevent this and fighting started with the result that the attacking Asaba warriors were defeated. (Mockler-Ferryman 1892, 29)

1889

There was another campaign directed at Akure in 1889 and it is said general "Okpele took with him several guns and kegs of powder...." (Egharevba 1968, 48)

1897

J.R. Phillips the Acting Commissioner and Consul-General, together with some other white men, all unarmed, and carriers wanted to see the *Oba* on a political mission. They were killed on January 4th 1897 near Egoro on the instigation of some Benin chiefs without the consent of the *Oba*. Only Locke and Boisragon escaped.

The British reacted promptly and landed troops at Gwato, Ologbo and Sapoba. The main column reached Ologbo (below Benin City) on February 12th 1897. Reports on cannon used by the Edo only came from the main column. They were first encountered by the British on February 18th at a short distance from Benin City.

Commander R.H. Bacon reports: "In front was a causeway over a ravine about twenty feet deep; in the stockade could be seen a gun." The stockade was blown up by a British demolition party. "The gun was of quaint old manufacture, dating, I should say, from the old Spanish days, and much the same as used in the Spanish Armada. The Beni showed their wisdom by not firing it, as it would probably have done them more damage than us!" Instead of Spanish it should mean Portuguese. (Bacon 1897, 80-1) Boisragon says the Edo had set up "a few guns" in this position. (Boisragon 1897, 179)

Lieutenant-Colonel Hamilton encountered at "1 P.M. a stockade....It was built across a causeway which led over a deep dry dyke about 30 yards wide, and it was defended by several old pieces, which were fired before we arrived close enough for them to hurt us. The stockade was blown up by Commander Bacon, R.N." (Her Majesty's Stationary Office 1897, 32) This stockade seems to be identical with the above mentioned, however, the number of cannon deviates. Another report which obviously describes still the same stockade (see the time "1 P.M.") was written by Rear-Admiral Rawson. "At 1 P.M. a stockade was come across commanding a narrow causeway with a deep ravine on each side, and defended by a few guns, and the stockaded path cleared with gun-cotton." (Her Majesty's Stationary Office 1897, 38)

There is yet another description of a stockade, this time by Consul-General Moor. "About 1 mile from main road to town a stockade and rifle pit were met with, the former being destroyed with gun-cotton and out of the latter the enemy were quickly driven. Three small guns were found in the stockade." (Her Majesty's Stationary Office 1897, 27)

It is quite difficult to pin-point the exact position of the above mentioned stockade(s) although Roesse had been around the area many times. (Roesse 1981) However, from the evidence available the "ravine" must be identical with the innermost city wall, unless today's Sapele Road does not correspond to the former bush-path. Therefore it can be assumed that the stockade was erected at the town gate (*urho*) or may have been part of the gate which was usually made of planks.

The next incident took place in a position behind the gate, just after passing the 1st city wall on Sapele Road, because the *Oshodin's* com-

pound was described as lying on the left hand side. Bacon states: "Something in the nature of a big gun was fired somewhere, but the stuff was loaded with went only about our boots." (Bacon 1897, 82)

There are other reports about big guns. Lieutenant-Colonel Hamilton wrote: "A big gun had been firing down the path at close quarters...." and "...about 300 yards from the King's house a big gun was fired." Rear-Admiral Rawson reported: "There were also some heavy guns fired from the causeway which surrounded the King's compound." (Her Majesty's Stationary Office 1897, 33, 38)

Bacon continues: "Ahead was a large building with some guns mounted in front, behind which two or three men were running about evidently trying to induce them to go off. At last one did, sending an odd collection of bullets and old metal about us...." (Bacon 1897, 84) Boisragon described the same incident and reveals the nature of the above building as follows: "The enemy also had several old cannon firing from the direction of what was afterwards found to be the King's house." (Boisragon 1897, 182)

Further reports on cannon mounted outside the royal palace are available. Hamilton says: "The chief fire came from the direction of the King's house to our left, where many men were seen, and a number of old cannon were firing." Moor has a final statement about the use of cannon in Benin City: "The final effort of the enemy was the discharge of two cannon from (a) large open space in front of what were afterwards found to be some of the King's sacrificial Ju Ju compounds." (Her Majesty's Stationary Office 1897, 33, 27) No doubt, the two cannon were stationed in front of the palace, along the "Broad Street".

Some confusion prevails about the "king's house" or "compound" and therefore a short explanation is necessary. The king's palace (eguae, eguae-Oba), actually a compound or group of houses built in a peculiar way, because buildings in this area contained an atrium with impluvium in the Roman fashion. Actually all the houses of high-ranking people were built in this way. The eguae stood roughly at the centre of Ogbe, the palace area. Ogbe also housed for instance the compounds dedicated to deceased kings (ugha), the harem (erie), the quarters of eunuchs, palace societies, etc.

After the occupation of the city, the *Oshodin's* compound was entered as well by British troops. The official report finally states: "Several old cannons were found and destroyed, the most modern dating from the early part of the century. Revolvers, rifles, and some guns were used by the natives." (Her Majesty's Stationary Office 1897, 46)

Judging from the above and the other descriptions there must have been quite a number of cannon in the possession of the Bini. As there are only five cannon known to have survived to present times, one is inclined to believe that others were destroyed by the British invaders like the ones found in the compound of Chief *Oshodin*.

Benin brass plaques possibly depicting cannon and European gunners or artillerymen

The authors are indebted to Prof. Armand Duchâteau who informed one of them several years ago about a brass plaque at the Museum of Mankind on which, in his opinion, three cannon barrels could be seen. This information could not be followed up until a short time ago and thanks to Sue Beeby of the British Museum, the bronze plaque in question was finally located. It bears the registration number 1961 Af 18.1. and the description provides the long thought after clue because it is stated: "At top left are three stacked miniature cannon...." (British Museum, letter dated 9th Feb 2000)

As far as the authors found out, there are three Benin brass plaques thought to be either from the 16th or 17th centuries which depict Europeans holding a sort of "trident" in his right hand which may be identified as a slow-match pike. In this case the authors are indebted to Dr. J. Willers who is of the same opinion. He provided the following information: "In der rechten Hand trägt der Europäer einen sog. Luntenspieß, also eine Stange mit einem Dreizack, an der die brennende Zündschnur befestigt wurde, um eine Kanone aus sicherer Entfernung abzufeuern. Die linke Hand liegt auf dem Schwertgriff. Luntenspieß und Schwert weisen den dargestellten Europäer als Soldat, genauer als Kanonier, aus." (Germanisches Nationalmuseum 1992 II, 950-1)

The plaques in question are at the Museum für Völkerkunde, Wien (Inv.Nr. 64.799, Sammlung A. Maschmann, 1899), at the Museum für

Völkerkunde zu Leipzig (Benin 7 H. Meyer) and the third plaque is at the Rautenstrauch-Joest-Museum, Köln (Inv. Nr. 2004). The first two plaques look strikingly similar, and this applies even to the bearded face of the European depicted. On both the European is surrounded by five manillas, the money of the time, implying wealth. On the third plaque, the manillas are omitted and the face of the European shows a different physiognomy.

W. Gaskell (1902) shows a sketch of a Benin plaque with the title "Bearded European trader with ranseur and straight sword with quillons". This plaque seems to be identical with the one now at the Museum für Völkerkunde zu Leipzig. (Gaskell 1902, 100) The word "ranseur" has not been identified so far and the only meaning, however vague, could be the French word raser, i.e. to raze down.

If the above assumptions are correct, we have the first representations of cannon and of gunners or artillerymen from Benin.

After careful researches it was found out that the Portuguese obviously employed quite a number of gunners of German origin. Friedrich Kunstmann noted on Hieronymus Münzer's exploits in Portugal in 1484: "Auf einem Kriegschiffe, das den Namen der Königin trug und bestimmt war, im Dezember einen Theil der vertriebenen Mauren nach Neapel zu führen, befanden sich dreissig deutsche Bombadiere unter dem Befehl des Capitain Georg Pict.....In Alcacar do Sal befanden sich gleichfalls deutsche Bombardiere, unter denen Münzer besonders einen Schwaben Namens Jacob aus Waiblingen in Würtemberg als einen tapferen Mann anführt. Noch erwähnt er auch zwei anderer Deutscher ["Georgius de Echingen ex comitatu de Wirtemberg.....Georius Ramseidner ex Saltzburga"], welche sich bei der Belagerung von Ceuta im Jahre 1458 besonders auszeichneten....Viele Nachrichten erfuhr Münzer auch von einem deutschen Bombardiere Conrad aus Regensburg, der sich viele Monate hindurch im Innern Afrika's, in Cabo Verde und am Cap Formoso aufgehalten hatte." (Kunstmann 1854, 300, 303) W. Crahmer collected still more bits and pieces which give the impression that a large number of Germans were employed by the Portuguese at the beginning of the 16th century. A certain Wilhelm von Leu was for instance commander of all Portuguese musketeers and Johann Kampen was bombardier and printer. (Crahmer 1909, 348)

The travels of the gunner "Conrad aus Regensburg" are most interesting so far as Cape Formoso (Formosa, Feroso) is actually identical with the estuary of Niger River, by this time not known. Now it is intriguing to assume Conrad may have come with the Portuguese to Benin.

And if one goes further, may not be the above Johann Kampen identical with the mysterious Ahammangiwa (Ahamman = Johann) who came in the time of King Esigie to Benin? In this context, the following story was collected by British officials after the fall of Benin: "When the white men came in the time when Esigie was king, a man named Ahammangiwa came with them; he made brass work and plaques for the king; he stayed a very long time, he had many wives but no children; the king gave him plenty of boys to teach; we can make brasswork now but not as he made it, because he and all his boys are dead." (Roth (1903) 1968, 229)

Three cannon known from Whyah 1725

R. Pere Labat's book (1730) on the travels of the Chevalier des Marchais contains a very interesting drawing with the title "Couronnement du Roy de Juda a la Coste de Guinée au Mois d'Avril 1725". Three cannon are shown on the right hand corner of this picture ("16 Canoniers du Roy"). (Labat 1730, opposite 40) They are quite obviously muzzle-loaders, one of them was just fired off. Regrettably enough, no mounting is visible.

Apart from being the only early drawing of cannon operated by local people discovered so far by the authors, this discovery seems to have nothing to do with Benin at first sight. However, a closer look at the history of this small trading state during the 18th century may reveal a connection to Benin.

The small coastal state of Whydah (Widah, Ouidah, Fidah, Schudah, Juda) came in the 1720s/1740s under the domination of the Fon of Dahomey, as T.F. Ehrmann states explicitly in 1803. (Ehrmann 1803, 232) However, it is not for sure that the Fon really controlled the whole of Whydah because Landolphe reported at the end of the 18th century "Juda" paid tribute to the King of Benin. (Quesné 1823 II, 62) Mary Kingsley wrote about a contact of Benin with the area in question which is shrouded in mystery. "In the time of which we have no historical record – prior to the

visits of the first white voyagers in the fifteenth century – there is traditional record of the King of Benin fighting with his cousin of Dahomey. Possibly Dahomey beat him badly; anyhow something went seriously wrong with Benin as a territorial kingdom....” (Kingsley 1899, 144)

Religious aspects

The description Punch (1889) left to us about the “juju house” containing a number of old breech-loading guns and the remarks of the anonymous reporter (1823), as well as the other reports noted, gives a very strong impression cannon once had a religious significance and may have had certain ceremonial uses. This impression is further enhanced by Punch’s observation about kola nuts placed in the breeches of cannon.

The above noted excerpts point in the direction of the god *Ogun*, worshipped by both the Edo and the Yoruba. They also point in the direction of *Esigie*. *Ogun* is commonly known as the god of iron (as well as all other metals) and war. There is even a river named after him which flows into the Lagos Lagoon. He is worshipped by all people in connection with metal, especially iron-and brass-smiths, as well as warriors and hunters, named *Efae* by the latter. In our days he even has been adopted by car mechanics, automobile and locomotive drivers (!). *Ogun* shrines are found in every forge; warriors and hunters also possess special shrines. Sacrifices are undertaken before starting manufacture of metal articles, going to war or undertaking a hunting trip.

Bradbury provides further details, as follows: “...most pagan households have altars dedicated to *Ogun* and decorated with all kinds of scrap-iron objects; these are generally associated with the ancestor (*erha*) altar. Some individuals who are not smiths, hunters, or warriors are recognized as priests of *Ogun* with powers extending beyond their own households; their altars are installed by smith priests. They are believed to have more influence with the deity than other men and outsiders come to them with requests for special prayers and curses. A curse in the name of *Ogun* is believed to be particularly effective....” (Bradbury 1970, 53) The scrap-iron pieces could also be pieces of guns. The priests of *Ogun* are called *Ohen-Ogun*.

The above is further supplemented by Ben-Amos: "*Ogun* shrines consist of heaps of scrap metal and are found both separately and as an essential part of altars dedicated to all other Edo deities. "In every shrine *Ogun* is always first. It opens the way." Yet *Ogun* also appears in the oral literature as a junior son of *Osanobua* sent out into the world with his cutlass to make farms and to make war. In this capability, *Ogun* can be found portrayed in mud shrines either devoted to him, or more commonly, in shrines dedicated to his senior brother, *Olokun*.... In these he is always depicted in a red war costume carrying the tools and weapons of his varied occupations. Not only his costume, but, significantly, his eyes are often painted red. To describe someone in Benin as having "red eyes" is a way of indicating his violent temper and his capacity for causing harm. *Ogun's* dangerous power, however, can be used to protect his devotees, just as his sword can open the way to a better life." (Ben-Amos 1980, 51) In this context it is interesting to note E. von Sydow's observation of 1936. He was, as far as known to the authors of the present article, the first to write: "On the floor in front of the altar one sees the altar of *Ogun*, the leader of the Jujus; a usual combination." (Sydow 1938, 58) This *Ogun* shrine was attached to the *Iyase's* ancestral altar. This fits well because it is said that all the other gods and deities depend on *Ogun*. He clears the (bush) path for them with his bush-knife (machete).

Leo Frobenius, who undertook researches among the Yoruba around 1910 wrote about *Ogun*: "Der Gott selbst wird....durch ein starkes *Ida*, eines jener Schwerter, die den Bronzezeitformen so ähnlich sind, repräsentiert." Frobenius got hold of some of these swords and explicitly states that they came from *Ogun* shrines. (Frobenius 1912 I, 210-1) This clearly shows *Ogun* altars contained weapons. N.W. Thomas who was at Benin City at the same time states: "*Ogun*, the blacksmith, is represented by an iron knife or image of iron." (Thomas (1910) 1969 I, 32) W. Bascom, describing *Ogun* shrines among the Yoruba even adds guns. (Bascom, 1984: 83) This was already being observed by H. Melzian during his stay in Southern Nigeria in 1933-4. He wrote that Yoruba hunters used to lean their guns on *Ogun* altars during certain ceremonies. (Melzian 1955, 105-6)

Practically every Yoruba *afin* (palace) contained, and some still contain *Ogun* temples or shrines. According to G.J.A. Ojo, *Ogun* shrines also played a role at "...taking oaths and making pacts in which the deities were called upon as witnesses." At *Afin Ife* there is the *Ogun Ladi* shri-

ne at which oaths are taken. "To take an oath....one has to make a statement to the effect and then use the mouth to pick up a piece of kola-nut already dipped in palm oil and placed on *Ogun Ladi's* anvil. *Ogun Ladi* is believed to be a giant blacksmith much devoted in his days to *Ogun*...." Ojo continues: "...in the palace of the *Ewusi* of Makum in Shagamu, a sword known as *Idà Obalùwà* is used." (Ojo 1966, 76, 77)

More information in the above context, and earlier in time, was provided by R.E. Dennett in 1906. Referring to Benin, which he visited, he wrote: "A spoilt gun represent(s) the *EBAMI OGUN* (war)." At another place he deals with rivers named after deities. "These sacred rivers are known by the name *EBAMI*, and the word *EBAW* means sacrifice. I should say that the meaning of *EBAMI* is a "power" to which things are sacrificed ." (Dennett 1906, 191, 226)

Let us first take a closer look at *EBAW*, or better *ebo*. It could mean white man, a charm or medicine or "... (1) any sacred object that has been instituted by man and not by god himself... (2) a general term for "god, deity"" (Melzian 1937, 48) But what about *ami* ? It could be identical with *ame* = water or *ama* = a bronze or brass casting.

An explanation for the above *EBAMI OGUN* seems to be difficult. Nevertheless it definitely has something to do with *Ogun*, the god of war. There is no doubt that *Ogun* is an *ebo* (deity). The best explanation seems to be "a sacred object, i.e. a bronze casting, dedicated to *Ogun*, to which sacrifices are made". This casting may well have been a cannon.

Frobenius described a "magic wand" ("Zauberstab") of the Yoruba smiths, called *Ewoana Ogun* (*Ewuana, Uana* = brass figure). (Frobenius 1912 I, 213) This may have something to do with the *EBAMI OGUN* described above.

Among the annual state festivals (*ugie*) was *Isiokuo*, dedicated to *Ogun* in his role as god of war and it took place in December or January. Egharevba tells us about it: "It was....a very spectacular ceremony. First there was a parade in which the king and his chiefs and followers took part. Then the *Ilobi* would have a mock fight. The *Ilobi* were worshippers of the *Ake* of *Ilobi* of *Ise*, one of the deified heroes of Benin. They fought with bow and poisoned arrow invented by *Ake*, and the fight ended with the sight of a fowl falling into the ground." (Egharevba 1971, 88)

Even more details are provided by Melzian. He wrote: "Diese *ugie*, wörtlich das ‚Krieg-Heranziehen,, ist wohl dem *Ogu*, dem Gott des Krieges, geweiht. Sie umschließt einen Marsch durch die Stadt Benin mit dem *Oba* an der Spitze seiner Kriegshäuptlinge, die von ihren Kriegern und Trommlern begleitet sind. Der *Oba* wird von dem Zuge aus dem *eguae* (the *Oba's* palace; remark by the authors) abgeholt, er trägt ein Schwert (*umozo*), und während des Umzugs werden Kriegslieder gesungen und Kriegstänze getanzt...*isiokuo* ist eine der wenigen Gelegenheiten, bei denen der *Oba* außerhalb des Palastes erscheint. (Melzian 1955, 104)

Part of *Isiokuo* was the *Amufi* ceremony of which Melzian informs us: "Sie soll von *Ewuare* gestiftet worden sein und soll bis 1897 an einem Baum in der Nähe des ‚Turmes, des *eguae* stattgefunden haben, später aber, während der Regierungszeit des vorigen *Oba*, *Eweka II.*, an dem heiligen Baum hinter dem Gebäude der Schulbehörde (education office). Die Leute, die diese Zeremonie ausführen (wohl ebenfalls *amufi* genannt), ersteigen den Baum mit Stricken und beginnen, von seinem Wipfel aus den Flug der Vögel nachzuahmen....Die Leute stammen aus einem Dorf, dem anscheinend stets diese zeremonielle Pflicht obliegt....Die *amufi*-Zeremonie wird zum Andenken an ein Ungeheuer namens *osoga* abgehalten, das vom Himmel gekommen sein soll. Sie symbolisiert einen ‚Krieg gegen den Himmel,, der verhindern soll, daß fürderhin weiteres Unheil vom Himmel herabkommt. Ferner werden dabei auch in Töpfen Feuer ‚als Zeichen des Krieges gegen den Himmel (sky – nicht heaven, *erivi*) angezündet." (Melzian 1955, 104-05) According to Egharevba, the fire is carried by a certain *Ezoba* around the tree who is dancing while performing his task. (Egharevba 1971, 88) The *Amufi* ceremony is depicted on some bronze plaques. As will be seen later, one of the *Amufi* may be depicted on the cannon III C 8511.

The story about the above mentioned monster *Osogan* eventually goes back to the 12th or 13th century. It was during the time of the last *Ogiso* (kings of the 1st dynasty), named *Owodo* when *Osogan* came from the sky to fetch people and ate them. Chief *Evian* finally got rid of it by throwing a red-hot hammer into the mouth of *Osogan* who disappeared after this assault.

A possible eye-witness of the phantastic *Isiokuo* festival was the already mentioned Ultzheimer who visited Lagos and Benin City between

December 1603 and March/April 1604. He describes a festival during which the king made a public appearance together with all his generals and 6.000 soldiers. (Roese 1987, 184) There may be even a contemporary illustration available on the *Isiokuo* festival, because the panorama in Dapper's famous book shows the king with a group of warriors near the palace. (Dapper 1668)

As has been mentioned already, Fawckner saw in 1825 two or three small cannon at the Ezomo's compound. This title-holder, variously named "Ojomo", "Jabou", etc., was a member of the *Uzama Nihinron*, the 7 "kingmakers". From the 18th century on he replaced the *Iyase* (head of the *Eghaevbo n'Ore*, the "town chiefs") as commander-in-chief of the Benin army. (Roese 1988, 70-1)

The *Ezomo* was mentioned as early as 1735 in a contract between the *Oba* and the Dutch West India Company. (Ryder, 1969: 185) His name appears again in connection with Landolphe's exploits during the last third of the 18th century. This time he is called "Jabou" because the *Ezomo* controlled the road to Ijebu. (Quesné 1823 I, 98)

There was a tree at the *Ezomo's* compound which played a certain role in the event of war. O. Ebohon provides more details as follows: "Uloko Ezomo – Ezomo's Tree – is right at the main entrance to *Ezomo's* compound in Uzebu....It was planted by *Ezomo Ehenua* (1st *Ezomo*) himself centuries ago. Sacrifices were made under it for Bini soldiers before leaving for the wars. Wizards and Witches also held meetings there at night – probably when they want to discuss their participation in the wars." (Ebohon 1972, 46) The *Ezomo* may have had his own armoury for storage of weapons and ammunition for his troops. It can be further assumed that he had his own *Ogun* altar and perhaps cannon were placed on it or near it. This assumption may hold true as well with the other generals.

The general *Imaran* (*Eghaevbo n'Ore*) had two sacred trees, i.e. one "...okha" or cotton tree and *uruhe* tree planted in front of the house of the first *Imaran*, one of the great chiefs of....King *Eresoyen*. Every *Imaran* paraded his troops under these trees before sending them out to a campaign." (Egharevba 1971 90)

The military hierarchy consisted of: *Ezomo*, *Iyase*, *Ologboshere*, *Imaran*, *Edogun*, *Ezomurogho*, *Agboghidi* of Ugo and *Ogie Ebue*. (Egharevba 1968, 80)

J. Nevadomsky collected traditions about of the assembly of troops and ceremonial procedures "...at the *Aro-okuo*, the shrine of war, adjacent to *Aro-ogiuwu*, the shrine of death, both located at one end of Orogotodin, the large field in front of the palace where the Bini army assembled before marching to war." (Nevadomsky, 1986: 42) The "large field" is identical with the "Broad Street" mentioned by contemporary European visitors (today along Market Road – King's Square – Sa(k)poba Road). The *aro-okuo* may actually have been a *Ogun* shrine as the following observation of Frobenius implies. He states that every Yoruba town seemed to have a central *Ogun* shrine to which the soldiers went to make sacrifices before going to war. (Frobenius 1912 I, 211)

As we have seen several cannon were destroyed in the compound of the *Oshodin*. This is somewhat irritating because the *Oshodin* was not a general but one of the leaders of the palace society *Ibiwe*. He was in charge of the *Oba's* harem (*Erie*) and had his compound (or better village) to the right hand side along Sapele Road (which he controlled for the *Oba*), just at the southern corner of the 1st town wall (*iya*). His name, "*Ossade*", was mentioned as early as 1668. (Dapper 1668, 501) The cannon found in his compound may have been used for ceremonial purposes only. However, since they were destroyed by the British one can assume they were probably functional cannons.

Oba Esigie and cannon

The notice in the Royal Gold Coast Gazette (1823) about the founder of the Benin Kingdom who supposedly was a white man and the cannon placed on his "monument" clearly points to Esigie. The British officials, on the basis of oral traditions, recorded in 1897: "King *Esigie* or *Osawe* was very old and could not walk about, but all the time he could tell his boys that he was a white man when he died." Punch specifically mentions: "...*Asije* or *Esige*, the king specially connected with the Europeans, as well as with the founding of the iron and brass industries in Benin." (Roth (1903) 1968, 9, 54) It seems Esigie personified himself with the Portuguese.

J. Nevadomsky recorded three songs, created after the defeat of the Idah army, the third of which includes the sentences: "*Esigie* surpasses the *Ata*/ It is this news I carry/ About the shining bronze white man.

(*Esigie ne o se Ata, / Iyen gu mwen na o, / Ologbenronmwon ne ebo.*) In the third song *Esigie* is called a white man because of his close friendship with the Portuguese soldiers....The description of him as a bronze man conveys the idea of power and vitality; bronze is red, the colour of potency." (Nevadomsky 1986, 45) Another interesting piece of information was written down by M. Jungwirth: "The last chieftaincy title *Esigie* had before he died was a European title which had the meaning "UME-*OGBERONMWON*.....it is the camwood that decorates the brass plate." (Jungwirth 1968, 163, 212) This is certainly not a European (Portuguese) title but it contains the Edo word for brass, i.e. *eronmwon* (*eronmwen*).

Finds of firearms, ammunition and connected implements in and around Benin City

Such finds are very rare, however, one or the other old flintlock gun may be seen in a village. They are usually of the so-called "Dane-gun" or "Long Dane" type of 18th/19th century manufacture. If buried in the ground, iron parts may easily desintegrate in the acid laterite soil found in Benin. Therefore archaeological fieldwork has only revealed a few odd bits and pieces.

The cannon ball exhibited at the Benin Museum has already been mentioned. It could not be established if it was made locally or has been an imported item.

During his excavations in 1954-7, A.J.H. Goodwin was also looking at a site south-east of a cemetery in Benin City (between 1st and 2nd East Circular Road) for cannon because "....a local resident said he had dug up cannon balls here. Hoping to find an arsenal – with perhaps brass cannon – we put down tests. All were negative." (Goodwin 1957, 85) There is no clue where those cannon ball have been brought to.

One of P.J. Darling's works contains a picture of a flintlock which he obviously found near Idogbo. Further details are lacking. (Darling 1984 ii, 236, Q4)

Connah discovered some lead musket balls . "These were found in Cutting III on the Clerk's Quarters site, one in the late phase and one of the middle phase. Both are about 1/2 in diameter. Possibly they were imported but anyone with a supply of lead and a bullet-mould could have

made their own. Neither of them appears to have been fired.” (Connah 1975, 181)

Parts of cleaning implements for pistols are depicted in von Luschan's great work on Benin art. He thought they were of 18th century make. (Luschan 1919, 504, Abb. 883)

The cannon

(i) Breech-loading swivel gun without tiller (breech chamber is missing)

British Museum, London

Register No. Af 1899, 0610.1

Technical details

Material	Bronze	
Composition:	copper (Cu) 97.0 %, tin (Sn) 2.0 %, lead (Pb) 0.5 %, antimony (Sb) 0.2 %. (Smith, R.D 1995, 201)	
Cal.	5 cm	
Measurements	L overall	162.0 cm
	L barrel	114.0 cm (approx.)
	L breech	46.0 cm
Weight	No information available.	

Location taken from

Taken away from the front of the Oba's Palace in Benin City in 1897. Donated by Sir Ralph Moore in 1899 to the British Museum. (British Museum, letter dated 2nd Nov 1994)

Description

The gun is cast in one piece, including powder chamber holder and trunnions. It still retains its iron swivel. There is a small hole at about half length of the barrel. The tiller is missing. R.D. Smith has further information, as follows: “The inner front part of the chamber holder is tapered to take the mouth of the powder chamber which, from measurement, would have been approximately 35 cms long by about 12 cms in diameter.” (Smith, R.D. 1995, 198)

Ornamentation and other features

The arms of Portugal, a raised armillary sphere badge and a cipher showing the name of the founder are found on the barrel. According to R.D. Smith there "...is a cross-shaped mark on the top face of the rear of the chamber holder....At the muzzle are a series of simple decorative mouldings and the barrel flares slightly and ends with a plain tubular ring." (Smith, R.D. 1995, 198, 197)

Origin

R.B. Smith comes to the conclusion: "...that the great number of cannon that have been found which bear the shield version of Francisco Alvares' monogram belong to the post-1547 period of his life, when he was already an accomplished founder, and that the British Museum rectangular form belongs to the pre-1547 period. The shield version of the monogram is almost a coat of arms in aspect while the rectangular version is quite simple. This, I believe, indicates that it was used in an earlier period of his life when Francisco Alvares was content with this more modest mark of his workmanship." (Smith, R.B. 1995a, 6)

(ii) Breech-loading swivel gun with separate tiller (breech chamber is missing)

Royal Armouries, Tower of London

Register No. XIX. 113

Technical details

Material	Bronze
Composition:	(a) barrel: copper (Cu) 84.0 %, tin (Sn) 10.0 %, zinc (Zn) 2.0 %, lead (Pb) 2.0 %, antimony (Sb) 0.6 %, with traces of Fe, Ni, and As; (b) tiller: copper (Cu) 78.0 %, tin (Sn) 14.0 %, zinc (Zn) 2.0 %, lead (Pb) 3.0 %, antimony (Sb) 1.2 %, with traces of Fe, Ni, and As. (Smith, R.D. 1995, 202)
Cal.	2 in (5 cm)
Measurements	L overall 8 ft 3 in (251.5 cm) L barrel & breech 5 ft 2 in (157.5 cm)
Weight	No information available,

Location taken from

Taken away from Benin City in 1897.

Description

The gun retains its iron pivot mounting. It has a separate tiller, riveted to the breech trough. Important is Blackmore's observation, as follows: "The bore is very rough and seems never to have been cleaned up after the gun was cast." (Blackmore 1976, 171) This is in accordance with R.D. Smith's observations. He says: "...the outer surface is rough and unfinished in appearance and very unlike other European guns." (Smith, R.D. 1995, 202)

Ornamentation and other features

Near the muzzle is "...a raised band or collar ornamented with a running plant design..." and "...at the edge of the breech trough is an unidentified symbol in relief." (Blackmore 1976, 171) This "unidentified symbol" could be a cross (in this context see also gun XIX. 112) because a similar type is found hanging round the neck of a bronze figure ("Messenger") at the Museum für Völkerkunde, Vienna. (Duchateâu 1994, 18) For more information on the cross symbol see cannon XIX. 112. In contrast to the afore said, R.D. Smith maintains that the cannon "...is completely unmarked." He obviously means the barrel is not marked. (Smith, R.D. 1995, 202)

Origin

Since the bore has not been smoothed, a local manufacture is most probable.

(iii) Breech-loading swivel gun with tiller (breech chamber is missing)

Museum für Völkerkunde, Berlin

Register No. III C 8511

Technical details

Material	Bronze
Composition:	(a) upper part: copper (Cu), zinc (Zn) 3.0%, tin (Sn) 1.2%, lead (Pb) 1.6%, iron (Fe) 0.35%, with traces of nickel (Ni), arsenic (As), antimony (Sb), bismuth (Bi), cadmium (Cd), silver (Ag), and gold (Au); (b) centre: Cu, Zn 3.2%, Sn 2.3%, Pb 2.4%, Fe 0.28%, with traces of Ni, As, Sb, Bi, Cd, Ag, and Au. (Werner 1970, 150-1)
Cal.	5 cm (?)
Measurements	L overall 211.0 cm (217.0 cm), may have been originally approx. 240.0 cm L barrel 110.0 cm L breech 40.0 cm L tiller 90.0 cm
Weight	No information available

Location taken from

Obtained by the German Consul H. Bey after the fall of Benin in 1897. The collection of Bey was taken over in 1898 by the Museum für Völkerkunde, Berlin.

Description

There is a quite exhaustive description in German on this cannon. It will be stated in full below because of its importance. The author was Felix von Luschan who wrote in his voluminous book on the Benin works of art in 1919: "Dieses Geschütz....erweist sich bei genauerer Betrachtung als zweifellose Arbeit von Eingebornen, wenn es sich auch ganz an ein europäisches Vorbild anlehnt....Die Kammer ist nicht erhalten, aber die Einrichtung des Bodenstückes stimmt bis in alle Einzelheiten mit der bei den europäischen Drehbassen üblichen. Auch ist außen am Boden rechts noch ein mitgegossener Ring vorhanden, an dem der Verschlußkeil mit einer Kette befestigt war; die Schildzapfen ruhen auf einer eisernen Gabel, die genau so geschmiedet ist wie die Gabeln, die bei den europäischen "Mör-rören" drehbar in die Bordwand der Galeeren eingelassen waren. Zweifelhaft ist nur die Art der Herstellung der Seele; einige Büch-

senmacher und andere Techniker, die ich darüber befragen konnte, meinten, daß das Rohr gebohrt sei; ich habe aber persönlich die Überzeugung, daß der Lauf von vornherein hohl gegossen wurde. Das ganze Geschütz war so eine formell tadellos gelungene Nachbildung eines europäischen Vorbildes, aber es war ebenso sicher technisch ganz minderwertig und mag wohl schon beim ersten Schießversuch geplatzt sein." (Luschan 1919, 501)

Von Luschan believes, partly on the basis of a chemical analysis performed for him by Prof. Rathgen, that this piece was made in Benin on the basis of a Portuguese swivel gun serving as a model. (Luschan 1919, 508)

At our request, specialists at the Museum für Völkerkunde, Berlin, examined this cannon again in 1998. They came to the conclusion the barrel was cast. The bore is untreated and a number of casting drips are present. (letter dated 1st Dec 1998) The latter statement confirms von Luschan's assumption that the barrel was not bored but left untreated after casting.

Ornamentation and other features

Since the barrel is burst near the muzzle no possible ornamentation survived there. However, there is a very interesting feature at the rear top of the breech-trough, i.e. a human head which is clearly African. A cast figure with a very similar head is shown in Pitt-Rivers' "Antique Work of Art from Benin". It is described as "Human naked figure of bronze. A large thick plaster covers the whole of the back, and is fastened on with cords round the arms and legs. Mr. H. Ling Roth believes this to present a cure for cretinism, and says that two larger figures like it have been seen in Benin city." (Pitt-Rivers 1900, 48-9, Figs. 145 and 146)

The above is obviously a misinterpretation as will be shown by examining the plaque at the National Museum, Lagos (48.36.40). It shows two of the famous *Amufi* acrobats swinging from a tree top fastened by ropes. The *Amufi* fought a mythical war against the sky (*iso*) during the annual *Isiokuo* festival which was dedicated to *Ogun*, the god of iron and war. It has already been described in detail elsewhere.

The physiognomy of the face shown on the cannon bears very similar features to the "Human naked figure of bronze" depicted in Pitt-Rivers' book.

By taking a closer look at the face one observes a round object placed at the right lower jaw. There is a faint possibility that this may be a cannon ball (5 cm, 7.62 cm cal. ?). If so, the head depicted may therefore be the portrait of a member (or the leader ?) of the *Iwoki*, the group in charge of the Oba's guns or an *Isagele*, i.e. a bullet-maker. This seems to be a logical conclusion. But what about the similarity of the figure shown by Pitt-Rivers which is actually an Amufi acrobat ? The *Iwoki*, *Isagele*, and *Amufi* are variously attached to guns, war ceremonies, and as will be shown elsewhere, to *Ogun*. So it seems logical that the face of one of their members would be depicted on the cannon. Another theory is that the specialist who did cast this particular cannon simply copied the face from an already existing figure or plaque or he even was the one who did cast all the articles in question.

Origin

No doubt there is a striking resemblance between the face of the figure shown by Pitt-Rivers and the one depicted on the cannon. A Benin origin of the features is for sure. Therefore it makes this cannon to be the most likely candidate of Benin origin. The untreated bore may have been the cause of the exploded barrel.

(iv) Breech-loading gun without rear breech chamber

Royal Armouries, Tower of London

Register No. XIX. 112

Technical details

Material	Bronze
Cal.	3 in (7.62 cm)
Measurements	L overall 2 ft 9.5 in (85.0 cm)
Weight	2 qtr 21 lb (34.9 kg)

Location taken from

Taken away from Benin City in 1897.

Description

The gun is described by Blackmore, as follows: "The piece is cast with projecting rings in imitation of early European iron guns of built-up construction. The ring at the muzzle is extended to form a fore sight, another in the centre forms a lug carrying an iron lifting ring.... The breech end is open, indicating that the gun is a breech-loader and had a removable chamber." (Blackmore 1976, 170) It was not possible to find out whether or not the bore has been treated.

Ornamentation and other features

There is a cross in low relief positioned near the muzzle. Crosses are a not uncommon feature and can be seen on several Benin bronzes and ivory carvings. Similar crosses are on a figure at the University of Pennsylvania Museum, Philadelphia (Ben-Amos 1980, 40), another figure ("Messenger", dated mid-to late 16th century) at the National Museum, Lagos (54.15.8), etc.

There are two groups of officials in Benin wearing crosses, i.e. the *Ohensa* and the *Ewua*. Bradbury and Blackmun have the following to say about the *Ohensa*: "In Benin City there are three shrines of *Osanabua* which are sometimes said to be the sites of churches built by the Portuguese in the 16th century. Their guardian, the *Ohensa*, is reported to have worn a cross." (Bradbury 1970, 52) It is further stated that the Edo high god *Osanabua* is "...identified with the Christian God introduced to Esigie and other Benin converts by Portuguese missionaries." (Blackmun 1988, 131)

According to Melzian, the *Ewua* wake the *Oba* every morning "...by a shout similar to a cock's crow....The office was created by the *Oba Esigie*, therefore all the members....wear a cross. Their leader is the *Obu-oba*, and, "to wake the *Oba*" "is *ki-ewua*...."" (Melzian 1937, 45)

As will be shown below, the use of crosses is quite an old custom in Benin. The Portuguese were informed that every King of Benin had to seek confirmation on ascending the throne from a certain king of the interior called "Ogané" who may be identical with the Oni of Ife, the spiritual head of the Yoruba. The Portuguese in turn thought him to be identical

with "Preste Joao". "To signify his assent, the prince Ogané sends the king...." among other things "...a cross, likewise of brass, to be worn round the neck..." In 1540 ambassadors from Benin arrived in Portugal, "...among whom was a man about seventy years of age who was wearing one of these crosses...." (Crone (1937) 1967, 126-7)

Ryder is of the opinion the "...crosses are more likely to have owed their origin to the Ogané than to the missionaries." (Ryder 1961, 257) There may be some truth in this opinion since for instance the Tuareg are also said to know the cross.

Nevadomsky's researches provide a background on some of the cross motifs in Benin. He says about the cross: "...it seems to predate the arrival of the Portuguese in the 15th century...." He continues: "At one level the cross is a Bini cosmological symbol for the mystical juncture between the world of the living and the ancestral realm....It also represents a point of convergence for very powerful forces....It is believed that spirits congregate at such junctions for either good or ill, and therefore it is from these places that messages can be sent or received from the spirit world....In Olokun worship, the icon *igha-edé* ("that which divides the day"), made by painting or sifting of chalk image of a cross on the ground, symbolizes the place from which an individual crosses over and communicates with the spirit world....It is possible that the above Bini cosmological imagery become syncretized with the Christian symbolism of the cross to form a truly profound and multi-layered icon." (Nevadomsky 1987, 236-7)

Origin

There is no doubt from the technical point of view it could have been manufactured by the Benin brass-casters.

(v) Muzzle-loader gun with separate wooden tiller

Royal Armouries, Tower of London

Register No. XIX. 114

Technical details

Material	Iron
Cal.	1.1 in (2.8 cm)
Measurements	L overall 3 ft 3 in (99.1 cm)
	L barrel 2 ft 4 in (71.1 cm)
	L tiller 1 ft 5 in (43.2 cm)

Weight

Location taken from

Taken from Benin City in 1897.

Description

This is the only muzzle-loader among the Benin cannon preserved in museums. According to Blackmore, the "...piece was intended for a pivot mounting. It is cast in one piece, the chase having rings projecting at intervals....The wooden butt or tiller....is preserved; it is tender and slightly curved, ending in a final carved with a whorl design....The projecting bands on this gun suggest the rings shrunk on the barrels of the early European iron guns of built-up construction...and may be vestigial." (Blackmore 1976, 154)

Ornamentation and other features

Blackmore describes an "...inscription in Chinese characters engraved by the trunnions refers to the weight of the gun and probably gives the names of the officials who supervised its manufacture; it is, however, too worn for accurate translation." (Blackmore 1976, 154)

Origin

It seems likely that this gun originated in China. At first sight one wonders how a Chinese gun found its way to West Africa. However, by taking the long standing contacts of the Portuguese and the Dutch with East Asia into consideration there is no doubt how this gun came to Benin. The Portuguese reached Canton as early as 1517. By coincidence, there is a bronze figure of a Portuguese soldier, holding a matchlock gun. W. Fagg thought it to be "...of specifically Japanese form, made between

1543 when the Portuguese introduced firearms into Japan and about 1610 to 1615, when Portuguese influence waned there.” (Fagg 1978, 37)

(vi) Muzzle-loader

Mosogar (south of Benin City, Urhoboland)

Register No. JB I

Technical details

Material	Iron
Cal.	5 cm (?)
Measurements	L overall 100.0 cm (approx.)
Weight	30 kg (approx.)

Location taken from

It was found in the 1980s at a spot near a disused shrine (dedicated to *Ogun* ?) at Mosogar in Urhoboland, south of Benin City, on the banks of the Ethiope River. Chief G.A. (“Jerry”) Bruegmann, the *Okakuo* of Mosogar and Jesse (a German engineer), asked the locals if he could have it. They consented and he finally set it up in front of his house. Present location unknown, but presumably still there (personal communication).

Description

The piece was very badly rusted, however, a reinforcement ring around the nozzle was clearly recognizable.

Origin

Not known, but it may be one of the type sold by European traders in larger quantities to the coastal states during the 19th century.

(vii) Cannon of unknown type

Supposedly at the bottom of the Jamieson River near Sapoba (south-east of Benin City)

Register No. PR II

Material —not known-

Technical details —not known-

Explanation

The old Forestry Station on the shores of the Jamieson River near Sapoba was in 1971 an insider tip for the few Europeans around to spend a relaxing weekend. This was also a good opportunity to collect stories told by the locals. After inquiring about the connections with Benin in former times they told one of the authors their ancestors once traded with the Dutch who came up to Sapoba with their boats. As a proof, they wanted to show him the position where an old Dutch gun was supposedly lying at the bottom of the river.

The river is at this spot only about 20-30 m wide, but about 8-10 m deep. The water is cristal clear, fast flowing, quite cool (no fear of bilharzia) and the bottom consits of fine white sand. Attempts were undertaken to dive at the position pointed out by the local people but unfortunately no trace of the gun was found. Maybe it was buried by shifting sand and could be seen only occasionally. However, a few old brandy bottles of Dutch manufacture could be salvaged. They were of the type traded in the 18th century.

At first it sounds implausible that Europeans penetrated to this area. However, there is a similar tradition told at Ologbo, not far from Sapoba, which was collected by Punch in the 1880s. Punch said, Gwato "...was not, according to the old traditions told me, the first place devoted to European intercourse, but the Ologbo Creek." (Roth, (1903) 1968: 12) The Ologbo Creek is actually part of the Ossiomo River, running (at least partly) parallel with the Jamieson River before both descend into the Benin River.

Origin

If the persistant story is true and a gun is lying at the bottom of the river, it could well be of Dutch manufacture. No report could be found that the British lost a cannon in this area during the 1897 invasion.

Breech chambers

Breech chambers were interchangeable and could belong to any number of similar guns. As far as the authors know, none of the breech chambers to operate the cannon in question have survived. This is regrettable because they may have showed features for easier identification. No doubt the Edo brass-casters would have been able to produce such items.

Mounting of cannon

Practically nothing is known how the Edo mounted their cannon. Most of the cannon mentioned are of the breech-loading swivel type, mostly used on board of ships and not to be intended for mounting on a carriage. Gun carriages do not seem to have been in use at least in Benin, because the wheel was unknown. However, Captain A.T. Jones of the Second West India Regiment stationed in Sierra Leone wrote in 1861 about gun carriages, supplied by the British and used by the Egba army during the Yoruba wars. (Ajayi & Smith 1964, 135) And at Iyaje a few artillery pieces were "fired from rests". (Ajayi & Smith 1964, 19) There is a report from the Benin River about the way of mounting guns in a firing position. Bindloss wrote in the 1890s: "One of these is lashed to a heavy trunk...." (Bindloss 1895-6, 342) Bindloss further noted on the occasion of the storming of Ebrohimi 1894 by the British about chief Nana's artillery men "...crouched somewhere among the mangoves and cotton-woods that overhung the creek, beside the breech of hidden guns, which, after a sighting-shot at a fixed mark, had been loaded to the muzzle with broken cast iron, and lashed fast at the ascertained range." (Bindloss (1898) 1968, 210-11)

Another report was furnished by Captain H.D. Trotter, R.N., who headed the Niger Expedition of 1841. He visited Aboh in the Niger Delta, which once was subject to the King of Benin. The people there possessed of canoes armed with cannon. In his opinion they were "...not however very formidable, as they are lashed to the bow, rendering the aim uncertain....". (Trotter et. al 1848, 236)

Gunpowder and shot

The right term for gunpowder before modern types were invented in the 19th century is black powder, a mixture of salpêtre (potassium nitrate),

charcoal, and sulfur. This mixture has the unpleasant tendency to absorb moisture from the air. So one can imagine that black powder was not the ultimate propellant under the severe climatical conditions prevailing in the West African rain forest. Moisture has an adverse effect on black powder and it was the practice in contemporary Europe to recondition it in a powder mill. This implies black powder was only of limited efficiency, especially during the rainy season, which lasts, with a short break in August, about 6 months.

No information could be gathered so far about a possible local manufacture of gunpowder. Therefore this item had to be obtained from European merchants. As has been shown elsewhere, several contemporary ship's documents contain this item, partly in large quantities from the beginning of the 18th century on. An inland source of gunpowder is not known so far and transport from North Africa is also not likely in view of the dangers involved. However, it can not be ruled out entirely that small quantities of gunpowder may have reached West Africa by trans-Saharan routes. Ryder even indicates that gunpowder was manufactured in Timbuctu and by the Hausa at the beginning of the 19th century. (Ryder 1969, 225)

The question arises how the Edo calculated the amount of gunpowder required to propel for instance a cannon ball. In Europe it was empirically calculated and only after a long time the amount of propellant was established at about a third to half the weight of the cannon ball.

Shot and musket balls could have been manufactured locally as Conah's excavations show. Furthermore shot was among Landolphe's trading items. About cannon balls we have no information so far and only one existy at the Benin Museum, although some more may be in private hands.

A Bindloss informs us, at Ebrohimi "...there were....guns....with an ample supply of ammunition in the shape of ingeniously contrived bamboo shells filled with cast iron...." (Bindloss (1898) 1968, 213)

A short vocabular on firearms and artillery

(a) firearms

<i>osisi</i>	- gun, general term [cf. Yor. tree, stick; Port. espingarda], applies to ammunition as well
<i>okodu</i>	- flintlock gun, so-called "Dane-gun", very common during the 18 th and 19 th centuries
<i>osisi-n-agbera</i>	- double-barrelled gun
<i>eki-osisi</i>	- gun-trigger
<i>okut-osisi</i>	- flint [cf. Edo and Yor. kuta, okuta = stone, rock]
<i>agele, aigele;</i> <i>igele</i>	- shot, ball [cf. Port. bala]
<i>efu, ekpokpo</i>	- bullet
<i>isagele</i>	- a person manufacturing shot and bullets
<i>ekha-osisi</i>	- gun-powder
<i>epip-ekhae</i>	- powder keg [cf. Port. pipa = barrel, keg]
<i>uke</i>	- wad, made of rolled-up coconut fibre
<i>osegba</i>	- pistol [cf. Arabic taban'ja]
<i>sa, sai</i>	- shooting

(b) Artillery

<i>etuu</i>	- cannon (depicting the noise of a travelling projectile ?)
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The procedures of charging a muzzle-loader are practically the same as known in contemporary Europe. They are described as follows:

- A certain quantity of powder (*ekhae*) is poured down the bore
- A wad (*uke*) is placed on top
- Then follows the bullet (*efu*)
- At last, another wad is applied to seal the charge.

The metal working industry of Benin

The Benin brass casters (*Igun-eronmwon* or *Ogun-eronmwon*)

Quite a number of books and articles have been written on the Benin brass casters and, therefore, a short abstract in this context may suffice. The brass casters guild claims that their ancestors came from Ife every year after harvesting to work for the *Oba* of Benin. It is not sure if they actually stayed in Benin City or Udo to manufacture the articles desired.

King *Oguola* (ca. 1280-95) persuaded the leader of the Ife brass casters, a certain *Igueghae* (*Iguoghae*), to settle down in Benin City for good. He was finally awarded with the title *Ineh* or *Ine-Nigun* for his highly regarded services. During King *Ewuare's* time (ca. 1440-73) it is said that brass casting reached a high quality. The brass casters started to manufacture life-size commemorative ancestor's heads and other larger articles. *Ewuare* also created the title *Ihama* (see below).

The following titles are present among the brass caster's guild: *Ineh* or *Ine-Nigun* (the leader), *Ihama*, *Ehannire*, *Obadolaye*, *Akennuwa*, *Ebagua*, *Olague*, *Obasoyen*, *Obazogun*, *Obasogie* and *Osasemwo-nyen*. The brass casters actually belonged to the palace society *Iwebo*.

The blacksmiths (*Igun-ematon*, *Ogun-ematon*)

None of the cannon which are possibly of Benin origin is made of iron and, therefore there is no need to go into details concerning blacksmiths and iron working techniques and a short description may suffice. Iron working was obviously practiced in Benin before brass working. During her researches in Benin City, Jungwirth was told that the iron-working industry was very old and had been carried out already under the *Ogiso* of the 1st dynasty. (Jungwirth 1968, 307) The first blacksmiths were called *Uleme* or *Ileme* (more about them below). They may originate from the *Ineme*, a group in Northern Edo, well known as expert blacksmiths.

As time went by, several groups of blacksmiths emerged, the most prominent and oldest are the *Igunekhwa* their leader being the *Ine n'Igunekhwa*. The *Iwoki* are sometimes claimed to be connected to the blacksmiths as well. However, their position within the blacksmiths is not quite clear because they may be an independent group. Their leader is the *Odionwere-Iwoki*. As has been mentioned already, some people think the first *Iwoki* were Europeans called *Ava* and *Uti*.

Cire perdue (French: lost wax) casting

Fortunately enough there are some contemporary descriptions (1897, 1910) showing main outlines how castings were made in Benin City. First there is Dr. Allman: "The manufacture of bronzes was evidently carried on under the direct supervision of the kings, as the smelting pots and the

clay and beeswax for moulding, etc., were all arranged in a compound adjacent to the palace. Several moulds in various stages of completion were found here; those ready for casting represented when broken the following appearance. A mould of special clay formed the base, over this a likeness of what was required was beautifully modelled in beeswax, and outside this a covering of "potters clay", the whole being wrapped in ordinary mud of mortar." (Roth (1903) 1968, 227-8) The report stops here because Dr. Allman actually did not see the finishing operations.

The next report was prepared by Thomas who described the apprentice casters work: "At an early age a boy learns to make moulds for the small hawk bells that are worn by children, and occasionally figure on the ceremonial dress of a priest. A clay or mud core is prepared by one boy; another takes bees-wax, probably mixed with oil to soften it, and rolls it out in long strings with a cam-wood roller and board; when the string is finished it is laid on some cross wires; then the other boy takes it and winds it round the clay core in the pattern to be produced, with a final curl to represent the handle. When a sufficient number of these moulds are prepared, they are set in a large pot, arranged as it were like grapes on a bunch, the stalks being the lines along which the molten metal is run. This mould ready, it is heated in the fire and the wax run out; it is then ready for casting."

Thomas continues: "At present brass seems to be obtained from European sources; formerly it was got from the king, and was naturally of a different quality. It is broken up and put in a clay or sand crucible over the fire, or, rather, imbedded in the fire, which is blown up with the bellows. When the brass is in a liquid state it is poured into the mould, which is then immersed in water and broken to extract the bells; the excrescences are filed off, and after being rubbed with sand the bells are ready for sale." (Thomas 1918, 185)

Below are principle outlines to show how the Edo brass-casters worked. It should be noted right from the beginning that there is not much difference, except in a few details, to contemporary European casting methods. The authors are indebted to Professors F. Willett and P.J.C. Dark and Mr. Chr. Grassmayr for their technical advice in the context of Benin casting.

The first step comprises the preparation of a core which has to be reinforced by an iron rod, covered with clay. At the same time this reinforcement rod is used to fix the core to the mould. It is difficult to reconstruct how the local craftsmen did prepare the mould core for a cannon. This must have been a quite difficult task in view of small calibers, such as 5 cm. But how did they manage to get it precisely round? In Europe an iron rod was used with a rope tightly wrapped around its whole length on a sort of lathe. The rope was in turn covered with clay. Final operations included the use of a stencil or straight or smooth plank to obtain a straight shape and at the same time an evenly round core.

A model of the object to be cast is made around the core by using wax. Attached to it is the aperture or sprue and the pouring cup through which the metal is poured into the mould. The pouring cup should be large enough to accommodate a reserve of liquid metal which balances shrinkage during cooling down. No venting system is used by the Edo casters, the gases being absorbed by the material of the mould. Dark attributes this to the "...coarser, more carbonaceous investment, where they became absorbed." (Dark 1973, 50)

After finishing the model it is covered with a thin layer of fine clay to get the surface detail. In case the layer is too thick, gases cannot escape. The fine clay is usually obtained from the bottom of a cistern. It is in turn invested with many layers of coarse clay. Prof. Willett informs us: "Even small castings take six or more layers, dried thoroughly and applied each day. A gun would have taken a great many." The different layers are reinforced. "The reinforcement of the clay would have been inside the clay, not on the outside where differential expansion would have meant that the clay was unsupported when it most needed to be supported. The reinforcement would have been applied during the investment with clay and would have been of wire or flat strip wound round the mould. The weight of a cannon would probably have required several layers of reinforcement separated by layers of clay and wound round so as to cross over the inner windings and spread the resistance to the bursting power of the molten metal." (Willett 1999, April 19th)

After the mould has dried out properly, it is subsequently heated in the forge fire and the wax is poured out into a pot filled with water to be re-used again. Further heating ensures that the mould is properly fired or

baked to gain sufficient strength avoiding collapsing when molten metal is poured in.

In the meantime pieces of brass or bronze are melted in crucibles over the forge fire. Several of them have to be available and are poured in as rapidly as possible. Another possibility would be to pour in a larger quantity at one time directly from the furnace. The mould is removed from the forge fire and placed into a previously dug hole. By casting a large object like a cannon the craftsmen would have dug a deep enough hole to hold the mould vertically. As soon as this is done, crucibles containing molten metal are removed with the aid of long tongs from the fire. The metal is finally poured into the mould. The tip of a wooden stick is brought into contact with the surface of the melt, acting as a flux to ensure proper flow and at the same time to remove slag.

After allowing the metal to cool down the baked outside clay is knocked off and the core is removed. What remains is a metal version of the original wax model. Final operations include removal of the casting jet or sprue, casting seams, application of further details by chiselling, etc

There are a few points which are not quite clear. Among them is the question how the casters estimated the required comparatively large amount of metal for casting a cannon. They could have gathered at least the volume from the discharged wax. As Dr. G. Dirrheimer informs us, the question of how the quantity of casting material was calculated in contemporary Europe still puzzles specialists. Furthermore it seems not logical to have used quite a number of small crucibles as known from excavations in Benin City to fill a large amount of melted metal into the mould. Maybe the flow of melted metal was directed straight from the furnace into the mould?

The casting materials

A huge amount of material is available in this context and, therefore there is no need to go into details and a short description may suffice. Since none of the cannon which are possibly locally made is of iron, we are concerned with copper and its alloys only.

Copper [cf. Edo abu; Yoruba bàbà]

Pure copper (Cu) can hardly be used in lost wax casting. It always has to be alloyed with other materials. Small quantities may suffice to allow casting.

Brass [cf. Edo eronmwo(n)]

It consists of 55-95 % copper (Cu), alloyed with 5-45 % zinc (Zn). Most of Benin castings are actually made of brass.

Bronze [cf. Edo elomebo]

It consists of 83-98 % copper (Cu), alloyed with 2-15 % tin (Sn). Other materials like zinc (Zn), lead (Pb), nickel (Ni), arsenic (As), etc., are added.

Bronze alloys

M.A. Zirngibl provides a good definition about bronze alloys which fits well into the Benin casting context. He says: "It is not possible to classify exactly African copper alloys as either brass or bronze. They differ in amounts of copper, zinc, tin and lead. The specific alloy used is the product of each smith's experience. Furthermore, materials introduced from Europe and materials which have gone through several forging processes (and therefore have been recast more than once) are used. In this way, an exceedingly castable material is created which can be found in all possible shades, even including sometimes red and yellow hues in the same casting. Attesting to great skill, these objects are often made using the lost-wax method and are described as "bronze-like"." (Zirngibl 1983, 11)

Finishing of the bore and drilling of the touchhole

After successful casting, smoothing of the bore was the next important manufacturing step. An untreated bore usually features a rough surface and may be the cause of an explosion with subsequent destruction after the cannon has been fired (see cannon III C 8511 !).

The smoothing operation was carried out in Europe with a sort of drill, the construction of its tip usually being kept secret. Some of them actually looked not unlike a tournament lance tip. Drilling was done either manually or by means of a water wheel. In some cases the barrel was fixed to a sledge and forced onto the direction of the rotating drill. In other

cases the barrel was connectd with a rope to a tripod and lowered onto the upright standing rotating drill, i.e. the barrel was forced down by its own weight. No doubt, the Edo had no means at their disposal to carry out such an operation.

Another unsolved problem with cannons probably cast in Benin is the manufacture of the touchhole. In Europe it was drilled with a special drill. No information is available how the Edo could have carried out this operation.

The Iwoki

This group was obviously founded during King *Esigie's* time (approx. beginning to middle of 16th century). There is something odd about the *Iwoki* because they seem to have executed a variety of different tasks. As has been shown already they obviously belonged to the blacksmiths, cared for cannon, may have manufactured cannon balls, etc.

During certain ceremonies two *Iwoki* stand to the left and the right of the *Oba* to protect him with their shields (*asa*) or guns, like the Portuguese may have done with their guns during *Esigie's* time. (Egharevba 1971, 31, 91; Bradbury 1959, 279) There is a brass casting depicting an Edo holding a gun of whom Ben-Amos thinks was possibly an *Iwoki*. (Ben-Amos 1980, 20, plate 25)

In addition it is claimed that they also performed astrology and may also have done some leatherwork. Their name definately points to astrology because *iwe-uki* is the Edo word for it (see also below "*Iwuki*"). (Egharevba (1954) 1969, 30)

Further information on the *Iwoki* was recently provided by Prince *Eweka*, the uncle of present *Oba Erediauwa*, the younger brother of the late *Oba Akenzua II*. Prince *Eweka* states: "*Iwoki* guild was formed by *Oba Esigie* (circa 1504-1550 AD). Members of this guild are reputed to be astrologers and astronomers. They are experts in weather forecasts and are capable of controlling weather too. It is also believed that early Europeans who visited Benin probably were known to be members of this guild. Such local names like *Avan* and *Uti* were associated with them. At

Ugie festivals these two people normally stand as ceremonial guards against the *Uzama* who were known at a time to have created much troubles for the *Oba*. The guild is headed by an *Odionwere*.” (Eweka 1992, 62)

Dr. Dmitri M. Bondarenko recently submitted his thoughts about the *Iwoki* to the authors after going through the contents of the chapter on the *Iwoki*. He writes: ”...my suggestion is that *Iwoki* is a guild which was specially created for the purpose of exercising connections with Europeans in the interests and on behalf of the ”state”. *Iwoki* was equalised to guilds of craftsmen, more precisely it was regarded as one of them, i.e. a group of people involved into the fulfillment of a definite kind of work, either physical (really craftsmen’s) or not.” (e-mail dated 15th August 1999)

There was a shrine (or rather a group of shrines ?) still partly recognisable in 1910 when N.W. Thomas visited the site. He wrote: “At the right hand side of the *Ikpoba* road in Edo, just above the rest house, was a shrine said to have been established by King *Esigie*, at which the *Iwuki* officiated. *Esigie* is said to have established the street at the time when *Uti* and *Aven* brought the sun and moon from England.” (Thomas 1919, 180) England should be replaced by Portugal.

The detailed description provided by Thomas (1919: 181) can be interpreted as follows:

- “*Aluesigie*”, which is identical with aro *Esigie* (*Esigie*’s shrine).
- “a heap of mud”, representing the sun (oven) and the moon (*uki*).
- “a pond”, which was, gathering from Thomas’ description, actually a cistern (*okpa*).
- “*Iruse*”, a pillar (ore) buried underground. It is very difficult to find an explanation but it may be interpreted as shrines *ar-Osa* or *ar-Orisa* (variations of the name *Osanabua*, the Edo high god) or even *ar-Iso* (sky). It should be noted that the above explanations are only of a temporary nature until further proof may be found.
- “*Aluti; aluavan*”, of which the first may be interpreted as aro *Uti* and the second as aro *Avan*. There are two expressions in Edo for thunder and lightning, i.e. *avan* or *avan-nukhunmwu(n)*.
- “*Alosiokhumu*”, which could be interpreted as aro *osisi* (gun) *okhumu* (*n-okhunmwu*, lit. “of above”). (Melzian 1937, 14)

It would be very intriguing now to interpret “*Aluti*” and “*aluavan*” as shrines dedicated respectively to the Portuguese named *Uti* and *Ava(n)*. Furthermore the Edo thunder and lightning, *avan*, may even have been derived from the name *Avan(n)*. And last, but not least, the shrine interpreted as *aro osisi okhumu* may have been dedicated to guns.

The *Iwoki* further made sacrifices during eclipses of the moon (and emergence of comets ?) to bring back normal conditions (“*dol-uki yi*” = “to repair the moon”). The Edo believed such natural phenomenon would bring disaster.

A final intriguing theory about the name *Iwoki* would be to compare it with *Ikpotoki(n)*, the Edo name for the Portuguese people and language. Is it not possible that *Iwoki* is actually a corruption of *Ikpotoki(n)* ?

Discussions and conclusions

From the sources available the following conclusions can be drawn:

The introduction of firearms to Benin

By looking at the aforementioned European material, it seems possible that the Edo may have been in possession of firearms (i.e. smallarms) as early as the 16th century. This assumption is strongly emphasized by traditions, collected by the local chronicler J.U. Egharevba and by M. Jungwirth. Egharevba reports: when Joao Afonso de Aveiro “...visited Benin City for the first time in 1485-6, during his time (King *Ozolua*’s; remark by the authors). He introduced....guns....and gun powder to Benin.” (Egharevba (1954) 1969, 9) The same author states about King *Esigie*: “During his reign guns were used in Benin for the first time.” (Egharevba 1968, 29)

Jungwirth collected traditions stating: “It was from the time of *Esigie* that Dane guns (*Osisi*) were introduced to Benin. Before this time the only weapons of war were: swords (*Umozo*), spears (*Asoro*), bow and poisoned arrow (*Uhanbo* and *Iwervevben*). Non-natives were using *ITAK-PO* (a club; remark by the authors).” (Jungwirth 1968, 182)

It is not for sure that the above stated introduction of firearms took place at such an early time. However, the Edo quite obviously used flintlock

guns by the middle/end of the 17th century. A widespread use can be assumed from the 18th century on.

Cannon in Benin

As has been shown already, there are several references on cannon. Cannon were used as early as the 16th century by the Portuguese in Benin. However it may be that they did not hand over any of these weapons at this time and the *Oba* of Benin tried at least on one occasion (1513 or 1514) to get hold of a cannon. The letter of the Portuguese King Manuel (November 20th 1514) is of crucial importance because cannon are explicitly offered, although only on the condition that the King of Benin would embrace the Christian faith. Local traditions maintain a number of Edo were actually baptized and King *Orhogbua*, the son of *Esigie*, was educated by missionaries. However, as implied by the following statement, it seems the Portuguese would only accept a baptized *Oba* as the one to whom they were willing to hand over cannon. In 1517 they even "...took stringent precautions to prevent arms smuggling from the islands and the theft of weapons from vessels lying in the rivers. On the whole these measures were successful..." (the islands being Principe and Sao Tomé). (Ryder 1969, 52) However, this does not mean that one or the other scrupulous trader may have sold firearms to the agents of the *Oba*.

In 1889 Punch saw a "pile" of breech-loaders in Benin City which obviously were very old. He actually considered them to be of 15th/16th century make. It is, however, not clear at which time those cannon were brought to, or possibly manufactured, in Benin. A partly religious/ceremonial use of cannon can be taken for granted as evidence shows (see below).

It is interesting to note that at least up to the end of the 16th century and even at the beginning of the 18th century, breech-loading swivel guns were still among the artillery pieces carried on board of ships operating on the West African coast. As examples, the following Brandenburger ships are quoted: the frigate "Charlotte Louise", sailing several times between 1693 and 1698 to Guinea carried 6 breech loading-swivel guns, another frigate the "Friedrich III", was in the area between 1693 and 1699, carrying 8 of such artillery pieces and the galiot "Freundlichkeit", being on the coast in 1706 had two breech-loading swivel guns on board. (Szymanski 1939, 63, 66, 65)

It seems to the authors that cannon may have been used for some war-like purposes in the 16th century and little by little acquired mostly a religious or ceremonial vocation, as will be shown later. Perhaps they were used by the Portuguese friends of the *Oba* in the 16th century, and not (or seldom) by the people of Benin themselves. However, events in 1897 show that the Edo were well acquainted in using cannon.

Ultzheimer supported the King of Benin with two cannon in 1603 in a battle near Lagos. However, no conclusion can be drawn whether or not the Edo had cannon at their disposal at this time in the area.

Local traditions do not mention the use of cannon by the Edo themselves until the beginning of the 19th century, i.e. during the Akure war of 1818. From then on there are no more reports up to 1897. However, cannon became more common inland during the Yoruba wars and on the coast as the capture of large quantities of artillery pieces and ammunition shows after *Nana's* stronghold Ebrohimi was taken by the British.

The possible manufacture of firearms

The traditions collected by Talbot state that the Portuguese manufactured cannon in Benin or taught the Edo to do it. It is not likely that a Portuguese official did this, however, a renegade possibly had no qualms to teach the locals. Fawckner (1830s) was told in Benin about the local manufacture of muskets in good quality, however, the Edo were unable to make locks. This last statement actually corresponds to another weapon, the crossbow (*ekpede*). As has already been described elsewhere the construction of crossbows is known from Benin. (Roese 1992) However, local crossbows feature instead of the lock a simple mechanism whereby a pin is pushed upwards to release the string.

By taking the above into consideration one is of the impression that the West African crossbow may have been invented in Benin by copying a Portuguese model, without being able to make the lock. The same was the case with guns. Maybe the Portuguese, instead of giving the Edo the firearms which they wanted, handed over crossbows. Since bows and arrows were well known locally, it was quite easy to transfer this knowhow to the manufacture of a simple crossbow.

It is interesting to note that the crossbow was, according to local traditions, invented roughly at the time the first Portuguese arrived at the

coast. The story is told as follows: "...the cross-bow and arrow were invented by *Ake* of *Ilobi* in *Isi*, one of the heroes of *Oba Ewuare's* reign in the middle of the 15th century..." (Egharevba (1954) 1969, 46)

The highly developed brass-casting industry of Benin is well known. There is no doubt that the craftsmen could cast larger articles. In this context the authors are indebted to P.J.C. Dark, one of the foremost specialists on local brass casting. He expressed his views concerning possible local manufacture as follows: "...I feel quite sure that the skill of the Edo brasscasters and their technical control over casting would have enabled them to cast a cannon in the size you mention. The form, though large, is not as complex as some of those they did cast." (letter dated Aug 1995)

A number of quite large cast articles are known from Benin. Among them are a plaque depicting a court official (59.7 x 37.5 cm), a round figure of a "messenger" (height 60 cm), a round figure of a dwarf (height 59.9 cm) (Duchateâu 1989, 52, 80-1, 114), a segment of the body of a snake (50 cm long) (Hagen 1918, 23, Tafel 7, Fig. 7), etc. Another, exceptionally large article is a "brass" *osun* staff cast in one piece (height 170 cm, diametre approx. 3.5 cm). (Hagen 1918, 45, Tafel 7, Fig. 1)

Let us now have a look again at the cannon described to draw final conclusions. One of the most likely locally manufactured cannon is XIX. 113 because of the unfinished bore and possibly the type of cross depicted on it. The next weapon, III C 8511, is the most interesting piece of all, because strong evidence points to Benin as place of manufacture. The reasons are the unfinished bore and the human head shown at the trough. Another possible candidate is XIX. 112, although no proper description of the bore and other features exists. It might very well be a late 15th or early 16th Portuguese (or European) cannon, however.

Ceremonial and religious significance

As work progressed on the present manuscript it became clear that firearms generally, apart from their usual role, and the people (and a god) connected with it had to be seen in a ceremonial and religious frame. A fact, which has not been realised in its full dimensions so far (this is also one of the reasons why the manuscript became much more voluminous

than actually planned). The central figures in this context are quite obviously *Oba Esigie*, *Ogun*, and in a broader sense the early Portuguese. In view of the latter it is interesting to note the Edo name for the Portuguese people and language is *Ikpotoki*. As has already been mentioned, it would be intriguing to speculate that the name *Iwoki* derived from *Ikpotoki*.

The compound (*ugha*) dedicated to *Esigie* is no more in existence, but surely was situated within the palace quarters (Ogbe). Benin City was actually divided in two parts, i.e. Ogbe and Orenokhua, the quarter of the commoners. Since *Esigie* thought himself to be a "white man", or later tradition has given him this attribute, it can be assumed that the "mausoleum" with the cannon on it (as described in the Royal Gold Coast Gazette) was dedicated to him, although some of the attributes indicated point to *Ewuare*. In this context it is suspicious that the original name of *Ewuare* was *Ogun*. The "mausoleum" is either identical with *Esigie's ugha* or with the ancestor shrine dedicated to him which was within his *ugha*.

The "juju house" containing accumulated artillery pieces (see Punch 1889) may have been identical with *Esigie's ugha* or with a possible "central" *Ogun* shrine. It may also be possible that it served at the same time as an armoury. The "juju house" was situated near the king's palace and therefore also inside Ogbe quarters.

The building or compound containing cannon, observed by Jacolliot in 1871, is perhaps, perhaps not identical with the one described by Punch (see above). During Jacolliot's visit, the new yams festival (or better parts of it or still others connected to it) was observed. All chiefs and tributary rulers appeared before their sovereign and walked in a procession inside the garnished building, containing the cannon.

Traditions have it that *Esigie* initiated the construction of several shrines (or a group of shrines), maintained by the *Iwoki* (see Thomas). One of those shrines was apparently dedicated to guns and two others, if the interpretation is correct, to the two Portuguese *Uti* and *Aven (Ata)* each. The above may be identical with Bradbury's *Ogun-Esigie*, situated at the quarters of the *Iwoki* which is within Ogbe. This assumption is further strengthened by the description (see Bradbury and Thomas) of a well or pond (cistern) in connection with the *Iwoki*.

As we have seen, the original name of the *Iwoki* may have been *Iwuki*. The information that *Uti* and *Aven* brought the sun and the moon from England (Portugal) requires attention because it implies astrology played a certain role in former days and *Esigie* obviously not only secured Portuguese physical support but also mystical power, as astrology can be used in this way as well.

No doubt, every dignitary had his own *Ogun* shrine or at least an *Ogun* shrine attached to a shrine of another god or the ancestors. The Benin generals surely had their own *Ogun* shrine and is to be assumed that such shrines contained, among a life-size figure of *Ogun* and his entourage, as well as other implements, and perhaps guns and cannon. The *aro-okhuo* mentioned by Nevadomsky may have been in reality an *Ogun* shrine, but this is only an assumption.

The kola nut (Edo = *evbee*, *ovbee*) from the trees of the same name (*Cola acuminata*, *C. nitida*, *C. verticulata*) is of great significance to the Bini. It is used for greeting guests as a sign of hospitality, for numerous ceremonial purposes, and as Bradbury (1970, 24) has it, "...is an indispensable ingredient of every ritual offering."

The meaning of the kola nuts put into the breeches of cannon, as observed by Punch is, however, not clear and further research is required in this context.

It is too early and not within the scope of the present article to draw a complete picture of the ceremonial and religious aspects in view of fire-arms, artillery pieces and the early Portuguese. It requires further researches because of its complexity and it is to be hoped that other scholars take up this issue. Furthermore the somewhat speculative interpretations of some of the Edo sentences should also be seen as an incentive for more researches.

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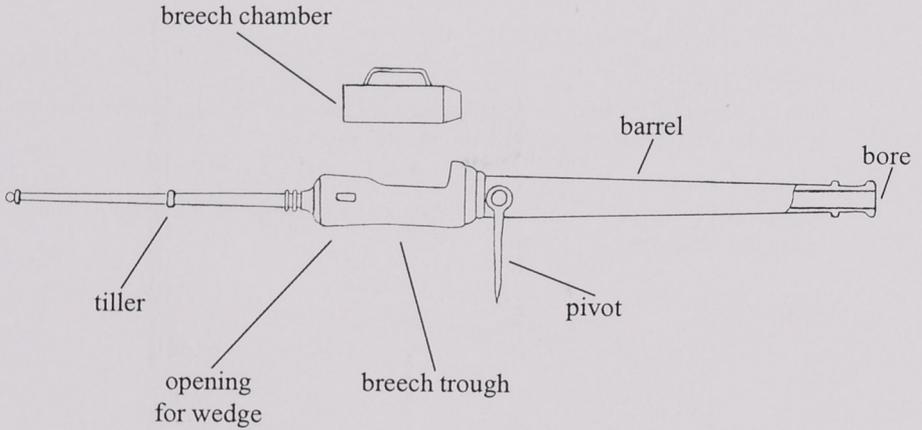
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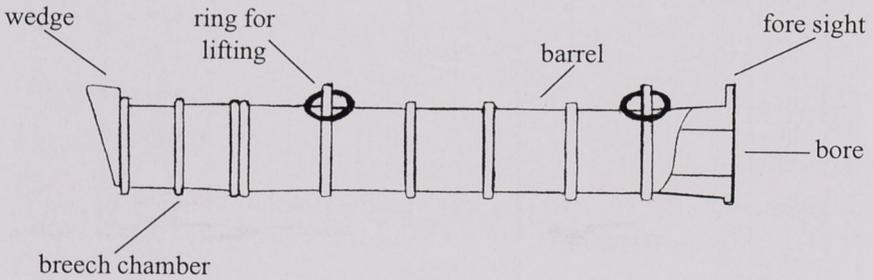
Illustrations

Fig. 1 Schematical sketches showing principal features of old breech-loading cannon.

(a) Breech-loading swivel gun



(b) Breech-loading gun with removable breech chamber at rear



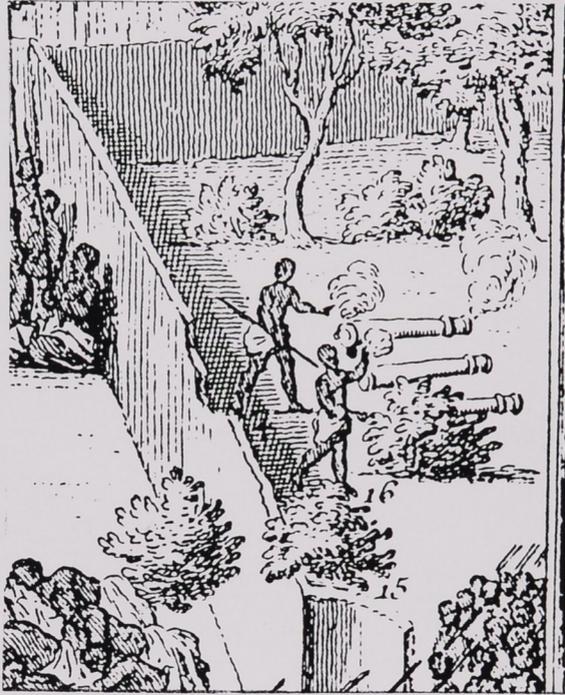


Fig. 2 Three muzzle-loader cannon at the King of Whyda's court 1725

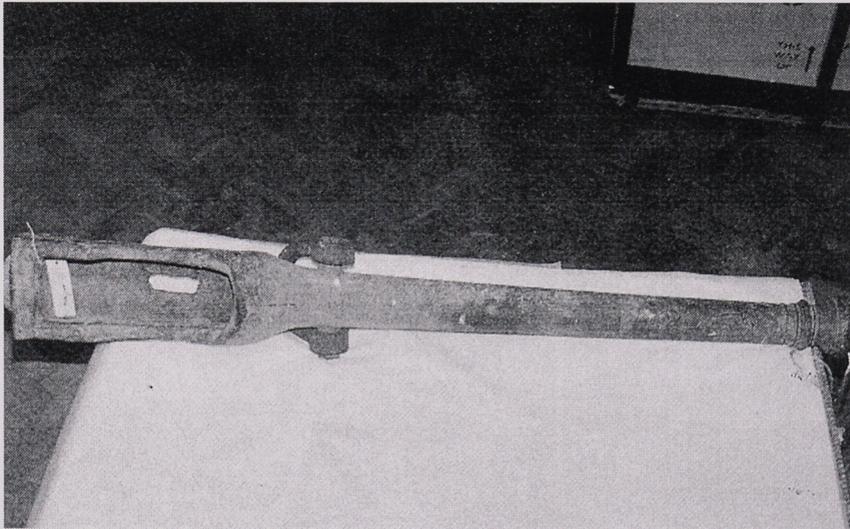
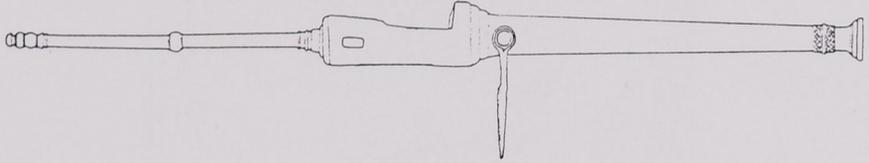


Fig. 3 Breech-loading swivel gun without tiller (breech chamber is missing), Register No. Af 1899, 0610.1, British Museum, London.

Fig . 4 Breech-loading swivel gun with separate tiller (breech chamber is missing), Register No. XIX. 113, Royal Armouries, Tower of London.

(a) Cannon



(b) Unknown symbol at the edge of the breech-trough

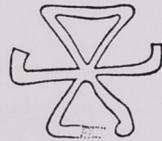
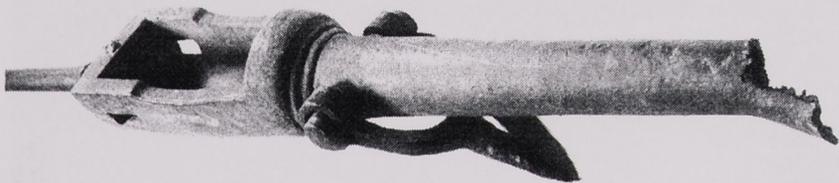


Fig. 5 Breech-loading swivel gun with tiller (breech chamber is missing), Register No. III C 8511, Museum für Völkerkunde, Berlin.

(a) Cannon



(b) Human head depicted at end of breech-trough

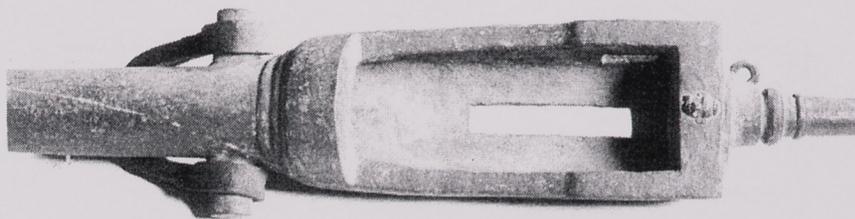


Fig. 6 Breech-loading gun without rear breech chamber, Register No. XIX. 112, Royal Armouries, Tower of London.

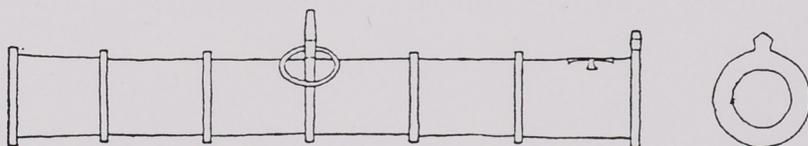
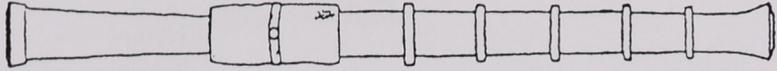


Fig. 7 Muzzle-loader gun with separate wooden tiller, Register No. XIX. 114,
Royal Armouries, Tower of London.



Figures 4 (a) and 4 (b), 6 and 7 by courtesy of The Trustees of the Royal Armouries. Figures 5 (a) and 5 (b) by courtesy of the Staatliche Museen zu Berlin, Preussischer Kulturbesitz, Museum für Völkerkunde.

It was not possible, for various reasons, to get hold of illustrations showing the brass plaques depicting three miniature cannon barrels, or one of the three brass plaques showing Europeans holding slow-match pikes (see chapter „Benin brass plaques possibly depicting cannon and European gunners or artillerymen“).