Indian Journal of History of Science, 40.4 (2005) 465-485

CANNONS OF EASTERN INDIA

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(Received 25 August 2005; revised 20 September 2005)

The paper intends to throw light on some pre-British cannons presently located at different museums and at open spaces in Eastern India and Bangladesh. It is based on published papers, and my own observations although incomplete, of some of these cannons. The origin of the cannons is mostly identified with the name of the rulers or from some meaningful inscriptions attached to them. The common belief that the cannon was used first time in India during the first battle of Panipat by Babūr in 1526 possibly needs rechecking. The basic constituent related to the cannon is the gunpowder, which was first brought to India from China. There were several routes and, one of these was through the Mongols. Eastern India had also links with China and it is quite possible that diffusion of cannon and gunpowder technology might have occurred through Bhamo routes.

In Eastern India and Bangladesh a number of cannons still survive. One Assamese cannon was discovered for the first time in the Patna Museum with unpublished inscriptions. The cannons of Assam, Bangladesh, Bihar, Orissa and West Bengal are best examples in this context and bear testimony to this unique medieval technology. Even in folk tales there is reference of a folk god who was involved in helping the people in distress.

Key words: Babūr, Bachhawoali, Cannons, Dalmādal, Gunpowder, Jahānkośa, Kāley-Khān, Sher Shāh

INTRODUCTION

The beginning of the use of cannons, the most important weapon in wars in Medieval India, is rather enigmatic. There is a reference in the *Kṛṣṇa Yajurveda*, having a word *sūrmī*. Referring to the commentator Sāyana, Neogy presumes it as a fire weapon made of iron in the Vedic period. He was also aware of the references related to the cannon as mentioned in *Śukranīti,* a compilation work of the sixteenth century (1914, pp. 5, 32-33). However, there is a common belief that cannon was used first in India during the first

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battle of Panipat by the Babūr in 1526. The most important constituent related to this is the gunpowder, which was first brought to India from China. There were several routes, one of those was through the Mongols. The other may be through the Bhamo routes through north-eastern India, since it had close links with China during the medieval periods.

The reference to the earliest cannons of eastern India may be found in the *Rājamāla*, the chronicle of Tripura. It has been mentioned that the Bengal Sultan Hussein Shāh used cannons while fighting against Dhanyamāṇikya in the early part of the 16th century AD (perhaps in 1513-14 AD).

The theory of the introduction of cannons in India by Babūr is doubtful and the statement needs to be reassessed. Bhaṭṭaśālī (1922) has referred to the *Babūr-nāma: Memories of Babūr*, translated by A.S. Beveridge, where it has been mentioned that on 4-5th May 1529 Babūr had an encounter at Kharid with Nusrāt Shāh, the then Sultan of Bengal. Babūr commented that the Bengalese were efficient with the use of cannons but their aiming was not proper and had used them at random. Both the facts related to Hussein Shāh and Nusrāt Shāh clearly indicate and the use of the cannons was quite popular in Eastern India during that period.

Cannons are known to have been in use in different regions of Eastern India and Bangladesh. At least seven brass cannons of Sher Shāh still exist in different collections in West Bengal and Bangladesh. It is rather difficult to identify cannons according to province, because of the fact that cannons were moving objects. During a war they were used to be captured by the winner. Unless full inscriptions with the name of the owner and the builder are available, the source of manufacturing may not be traced. Sometimes the conqueror used to inscribe his name on it. Thus inscriptions need to be studied critically to reveal the history. Example may be cited of a cannon, now located in the Asiatic Society, Kolkata. Originally Svargadeva Jayadvaja Siṃha, the prince of Assam, captured it from his war against the Mughal rulers. This cannon subsequently was captured by the English and was used by them in the first Burmese war. Later the cannon found its place at Cuttack in 1838. Later, one Captain Petley presented the same to the Asiatic Society in 1891.

The cannons, which bear the name of the ruler or some meaningful inscriptions usually help to identify their origin. Cannons may be grouped into

three types according to their constituents. These were made of forged wrought iron, cast iron, brass or bronze. Cannons may also be divided into groups pertaining to their size and use. *Āin-i Akbari* [1] (1993, p.119) refers to the invention of different cannons by Akbar. He made a gun (cannon), which could easily be taken to the front in pieces and be reassembled again when required. The names of cannons appearing in the text indicate '*Gajnāls*', which could be easily carried by a single elephant; '*Narnāls*' is a device which could be carried by a single man.

The basic raw material for manufacturing iron cannons is iron ore. This is available in plenty throughout Eastern India. The iron rings were fabricated first by forge-welding, then they were slipped over longitudinally laid out iron staves onto the joints. On cooling, rings contracted and tightly held the joints. Iron guns of large dimensions were made in this manner. Such guns were in use particularly in this part of the country. Cannons were of maximum length of 9 meters and weighing about 47 tons. Rennell mentioned that by hammering and welding, wrought iron cannons were mostly made. The analytical studies of Balasubramaniam have revealed that the presence of higher percentage of phosphorous was responsible for the corrosion resistance.

The other method used for making of iron cannons was casting. The *Babūr-nāma* has described the casting of cannon barrel (Iqbal Ghani Khan,1986, p.75) with high-tin bronzes (80% Cu, 20% Sn), where the alloy was usually melted in eight small furnaces from where metal was designed to flow together into the mould. The Maldah cannon of Varendra Research Museum is another interesting cannon made of brass (84.72% Cu, 13.32% Zn + Fe, 1.83% Sn), as quoted by Sharf-ud-din [20] (1927-28, p.5).

Some studies have already been made by scholars like Rennell (1793), Bandyopadhyay[4] (1909), Neogy[15] (1914), Bhaṭṭaśālī[6] (1922), Datta[8-10](1968, 1969-70, 1986), Māmun[13] (1991) and Santra[18] (1998). A few pre-British cannons are presently located at different museums and at open spaces in Eastern India and Bangladesh. My study is a review and based on these published papers, and my own observations on some of these cannons.

Cannons of Assam

The history of medieval Assam is quite glorious. The Ahom rulers ruled the area between Guwahati and the Naga Hills for nearly six centuries. Sibsagar

and Jorhat bear the relics of the glorious Ahom kings. The temple complex of Sibsagar still witnesses a number of iron cannons of the said rulers. Assam is the only state in India which defeated 17 successive attempts of the Sultanate and the Mughal rulers of Delhi (except a single defeat in the hands of Mir Jumlā, the Mughal Viceroy of Dhaka in 1662). In this battle Mir Jumlā advanced upto the Brahmaputra in Assam. There was wide spread dissent among the Ahoms and they could not have put up any worthwhile resistance. The Ahom capital at Gargaon fell and king Jayadhvaja Siṃha fled to the hills.

It is well known that the independent rulers of Assam used cannons in their wars. One such cannon is at present lying at the Patna Museum. It is a forged-welded iron cannon. Length of this cannon is 3000 mm. This is made up of 79 rings, diameter of the muzzle face is 280 mm having 30 mm thickness and its bore is 90 mm. Four extra strengthening iron rims are provided on the body of the cannon. The opening for lighting the gunpowder is 490 mm (2510 mm from the front) from the base end. The fuse hole is about 20 mm in diameter. An inscription is written in two lines in Assamese script with brass letters, just like the brazed letters used by the milk vendors on the milk cans made of iron. The legend indicates its master's name Jayadhvaja Siṃha, with *śaka* era 1540 (1618 AD). One cannon captured by Jayadhvaja Siṃha is found at the Patna Museum (Fig. 1) though the details of its accession in the museum is not known. The legend is rather interesting. It is written on the top of the cannon in Assamese script. The complete legend has been inscribed in a rectangle of 500 x 110 mm in double line margin of 5 mm thickness. The legend is "*Śrī Śrī Svargā(ga)deva Jayadhvaja Siṃha Mahārājena Yavanaṃ Jitvā gubāka hattvā ṃ i[da*]ṃ yantraṃ prāptaṃ śaka 1540.*"

As mentioned earlier, the cannon of the Asiatic Society also belonged to Jayadhvaja Siṃha and it has been dated to the *śaka* era (1)548 (1626 AD). The cannon is made of 52 forged rings; its length is 1900 mm, diameter of the muzzle face is 230 mm and the bore is 65 mm (Fig. 2). Four extra strengthening iron rims are provided on the body of the cannon. The opening for lighting the gunpowder is 330 mm from the back end (1570 mm from the front). The fuse hole is about 20 mm in diameter. This cannon also possesses a legend in two lines. But the application of black paints had made the legends quite illegible. The legend is '*Śrī Śrī Svargā(ga)deva Jayadhvaja Siṃha Mahārā*

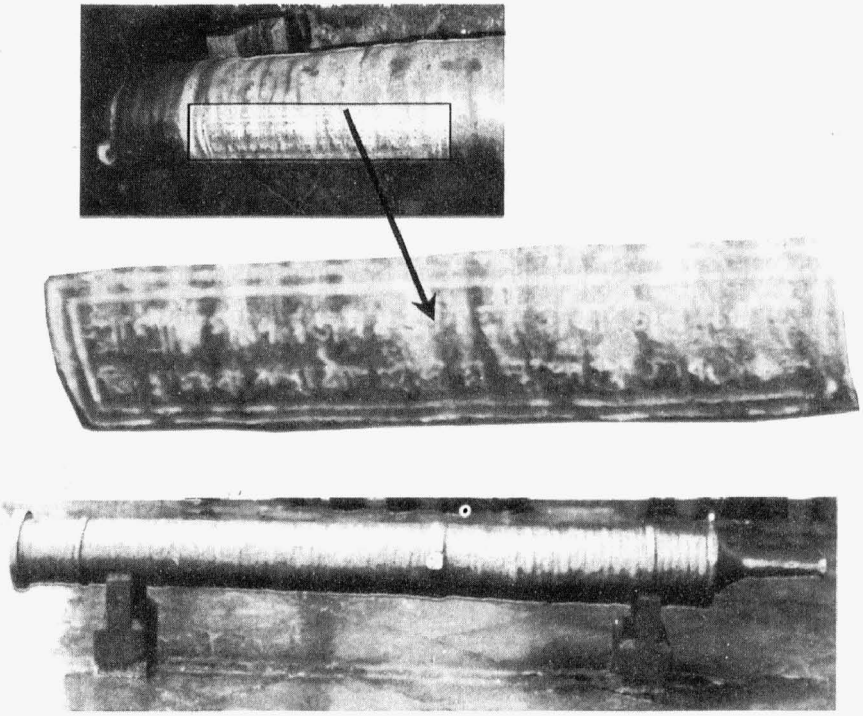


Fig. 1: Cannon of Jayadhvaja Siṃha at the Patna Museum, Patna

jena Yavanaṃ [Jitvā] [gu*]bāka hattvā i[da*]ṃ yantraṃ prāptaṃ(m) śake *548'*. Legends of the cannons of the Patna Museum and the Asiatic Society are identical (Fig. 2.)

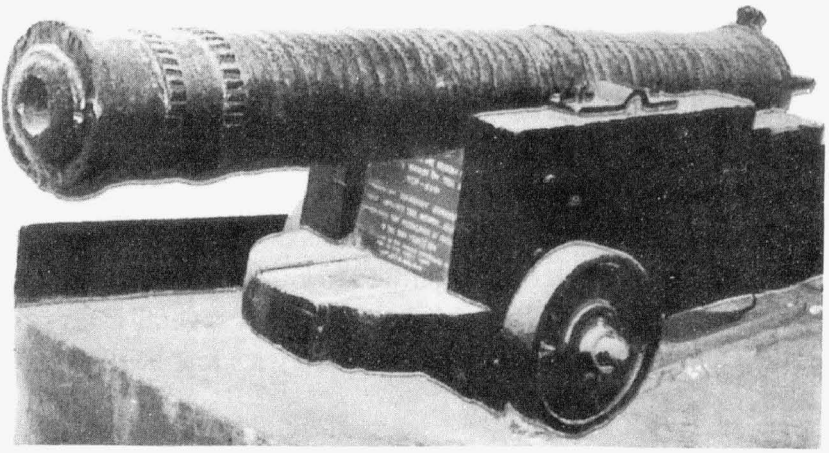


Fig. 2: Cannon of Jayadhvaja Siṃha at the Asiatic Society, Kolkata

After the death of Jayadhvaja Siṃha in 1663 AD, his successor Chakradhvaja Siṃha took a challenge to retrieve national honour and started making elaborate preparations for recovering territory lost to the Mughals. In 1667, Lachit Borphukan was appointed the commander in chief of the Ahom army. Though Mughals had more cannons, their cannons were made inactive by pouring water by a secret mission and the Mughals were thus defeated. In 1669, the Mughals sent Raja Ram Singh with a big army and a large number of cannons upto the Brahmaputra from Dhaka to Guwahati. The Northeast Indian monsoon made their task more difficult to win.

The last war between the Mughal and the Ahom is well-known where the Mughals ultimately decided to launch a massive naval assault on the river at Saraighat. This was known as the Battle of Saraighat. The Mughals had large boats, but yet they were decisively defeated and were made to retreat from Guwahati. It is known that the Mughals possessed large number of cannons. Where have those cannons gone?

Cannons of Bangladesh

Bangladesh Museums have preserved a good number of cannons. A number of cannons are also left in open spaces in cities and their outskirts. At least a dozen of cannons - both Mughal and European are located at the National Museum of Bangladesh, where three bronze cannons can also be seen. A few may also found in the collection of Chattagram University Museum, (Chattagram), Rangpur Museum (Rangpur), and Dinajpur Museum.

Two iron cannons of the Mughal period are also known to have been situated in the city of Dhaka. One of them was drowned in the river Buriganga around 1780. There are different opinions about their names. One of the cannons still exists at present Osmani Garden in Dhaka. Originally the cannon was situated on the Sadarghat, later it was shifted to Gulisthan Nāṭyamañca, before to its present location. From the published literature several names have appeared for the cannons of Dhaka, these are: *'Kāley Khān'*, *`Kālu Jham Jham'*, and *Bibi Mariyam'*.

Rennell[16] (1793, p.61) made the earliest reference to a cannon of Dhaka, who took the measurement of the same as 22'10 ½" (697.23 cm). This cannon

in the 18th century was situated in an old fortress, namely Lalbagh and was subsequently lost in the river Buriganga. Its weight, calculated from the volume of iron used was 64,814 pounds (30 tons); weight of the iron shot was 465 pound (211 kg). It is not clearly known whether this cannon has got the name '*Kāley Khān*'. Neogi[15] (p.35) believes that the name possibly was drived from the local tradition as was referred to by Venetian traveller Manucci in his *History of Moghuls.*

From the published photograph in the famous Bengali periodical *Prabāśi*, Bhaṭṭaśālī[6] referred the name of a cannon, which was at Sadarghat, as '*Kālu Jham Jham*'. The photograph published in *Prabāśi* is exactly similar to that (except the presence of two rings at the front side) of the present cannon at Osmani Garden and according to Bhaṭṭaśālī its length is 16' (= 487.68 cm). However the present one is 538 cm long. This indicates that either Bhaṭṭaśālī gave only the barrel length or it may be a different cannon. Stapleton might have measured the other smaller cannon at Dhaka, and it was 11' long (about 335 cm).

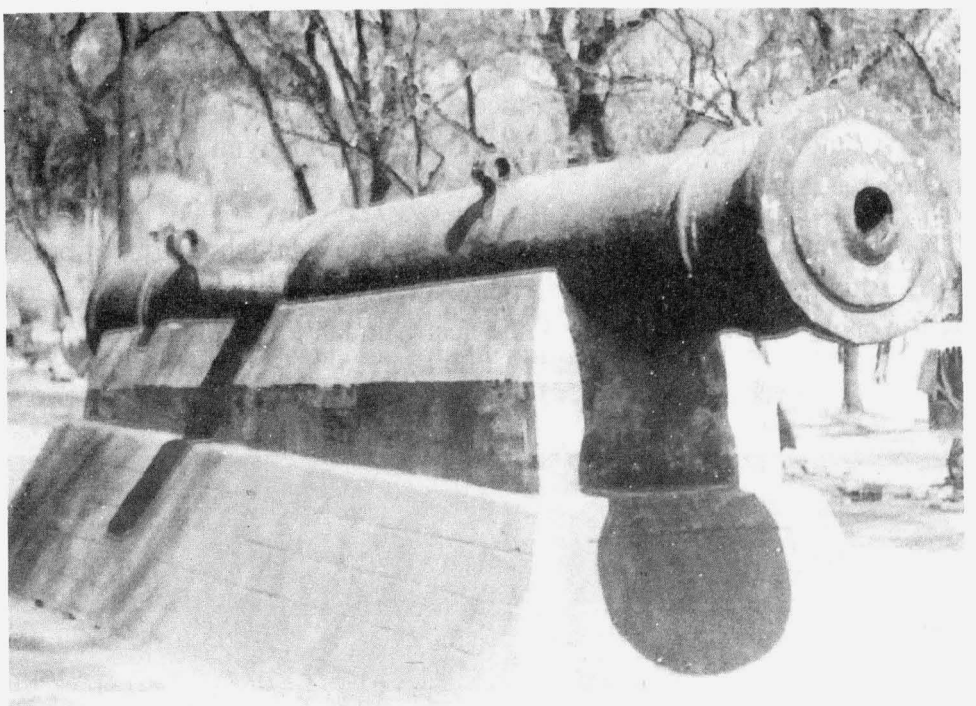


Fig. 3: Cannon of Osmani Garden, Dhaka, Bangladesh

Present author had an opportunity to measure the forged welded wrought iron cannon at Osmani Garden (Dhaka) as 538 cm long (Fig. 3). From physical appearance one can easily identify the presence of four rings attached to the fitted clamps on the cannon's body in the near past. The present observation has clearly identified the deep impression of the rings on it. However, the photograph used by Bhaṭṭaśālī indicates that there was at least one ring present in his time. The detail measurement is shown in the engineering drawing and photographs of the same have been included. The date of manufacture of the cannon cannot be specified since there is no date or inscription on it.

The Bangladesh National Museum (Dhaka) has seven brass/bronze cannons recovered from Diwanbagh, discovered in 1909 AD, about 7 km from Narayanganj (Roy[17], pp.139-143). It may be mentioned here that Diwanbagh was the capital of Manowar Khan, the grandson of Isha Khan. Later Manowar Khan, the chief of the Navy of Sayesta Khan, had the credit to recover Chittagong from the hands of Mags of Arakan. One of the cannons, a bronze one, bears an inscription having the name of '*Rājā Kandarpanārāyaṇa*' and the name of the maker '*Rupīya Khān Saṅg Śrīpur*'. This cannon is 7 ¾', circumference 2 $^{1}/_{4}$', diameter of the muzzle is 9 ½". It may be mentioned that Sreepur was one of the capitals of twelve Bhuians of the medieval Bengal. The four cannons of this collection belonged to Sher Shāh, who defeated Humāyun. The muzzle of them bears a tiger-face.

Two unique brass cannons, discovered from Maldah district of present West Bengal, are located in the Varendra Research Museum, Rajshahi. Originally the cannons were discovered one near Maldah town and the other from

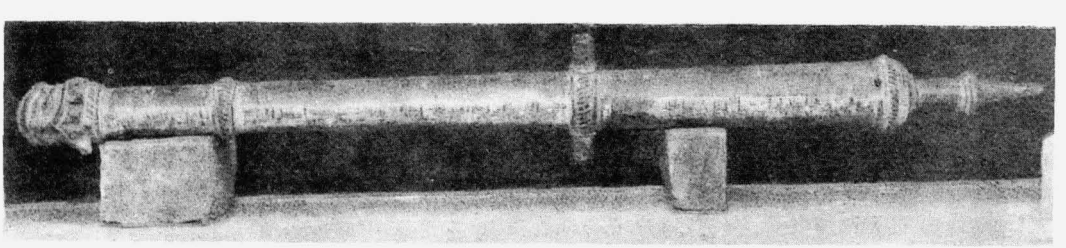


Fig. 4. Cannon from Shershahi, now at Varendra Research Museum, Rajshahi

Shershahi, P.S. Kaliachak (Sanyal[19], 1927-28; Sharf-ud-dīn[20], 1927-28). Both the cannons include Persian inscriptions.

The cannon originated from Maldah town was 1.55 meter long. The cannon of Shershai was 1.42 meter in length. Saiyad Ahmad Ruhmi was the builder of these two cannons in 948 AH (1541 AD) in Jannatabad (Gaur). The Persian legends after Sharf-ud-din [20] (1927-28) clearly identified Sher Shāh and the builder (Fig. 4A).

در عهد بادشاه عادل شیر شاه خلد الله ملکه و سلطانه + در شهر جنّتا باد عرف گور فرماشد
خواجه بشارت سلطانی در تاریخ نهصد چهل هشت عمل سید احمد رومی +
شیر شاه عادل کاندر جهان نام بگوید بماند جاودان

Fig. 4A: Persian inscription on the cannon of Shershāhī

The Chattagram University Museum (Chattagram) has a number of cannons. Recently a cannon has been unearthed at the village Sholekata of Chattagram. The cannon is 2.13 metre in length and weighing 740 kg. Perhaps, Subedar Sayesta Khan used it in the war of 'Chatralla' against the Arakan and Portuguese pirates (Santra[18], 1998). At Rangamati, a cannon is known to exist which the Cakma King had captured from the British soldiers by defeating them.

Cannons of Orissa

There are about 30 cannons, which are at present in display on the gallery of the State Archaeological Museum, Orissa. The Mughal and the Marathas had used some of these cannons. A large number was of the British. Eight big cannons were recovered from the Barabati Fort area, and two from the Lalbagh Palace, both in the district of Cuttack.

Cannons of Tripura

The earliest use of the cannon in Bengal is recorded in the *Rājamāla* of Tripura. It has been mentioned that the Bengal Sultān Hussein Shāh used cannons while fighting against Dhanyamāṇikya in the early part of the 16th century AD (perhaps in 1513-14 AD). The troupes of the Sultān were defeated and a cannon made of brass was captured. At present this is lying at the Ujjayant

palace in Agartala, Tripura. One cannon is also preserved at Chowmohani of Agartala, which Dhanyamāṇikya had captured from Hussain Shāh. The indirect evidence of the use of cannons in Bengal was known in the *Bānglā Rāmāyāṇ* of Kṛttibāsa. Here the author, who was contemporary to the Sultān Barbak Shāh (1459-1474 AD), mentioned the use of cannons in the war of *Rāmāyaṇa*.

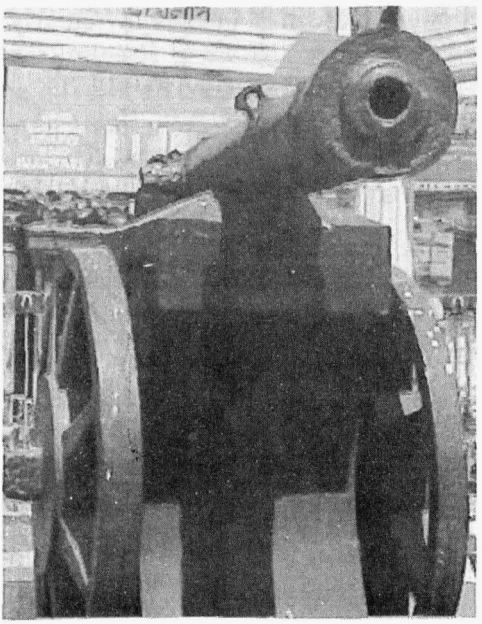


Fig. 5: Cannon at Chowmohani of Agartala, Tripura, front side.

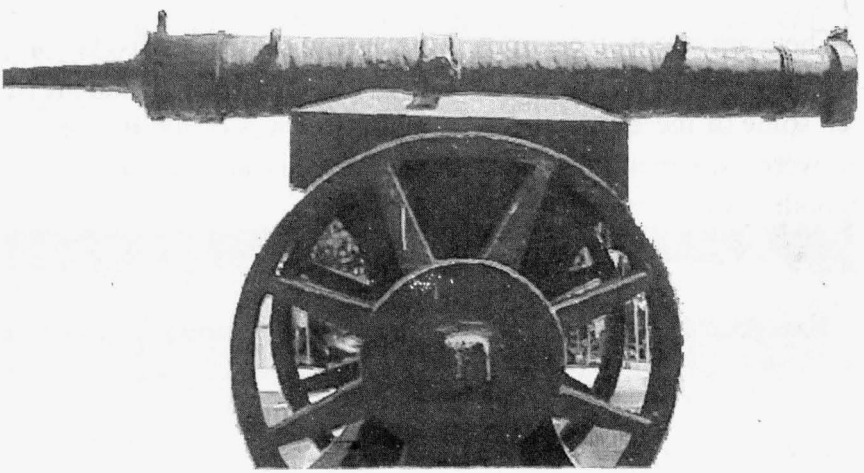


Fig. 6: Cannon at Chowmohani of Agartala, Tripura, side view.

Cannons of West Bengal

Kocbihār: Six old cannons are located at the Kocbihar Palace (Ahmed 2001). But nothing is known about their history only three of them do have Arabic inscriptions on them; two are very much illegible with almost no chances of decipherment. However from calligraphy it is indicative that it was not made earlier to the 17th century AD. The third one bears the date in the month of *Shawal* in 1022 H (1613 AD). It was a naval cannon of 5′4″ (163 cm) in length. Its nozzle diameter is 1′ 7″ (48.3 cm), bore diameter is 1 $^{3}/_{4}$″ (4.45 cm); weight: 1 mund 28 seer 2 chatak (around 63 kg). Perhaps it was built for Dhubri or Akyab war (Ahmed[2], p. 33).

Ahmed has mentioned two more cannons used by the Raghudev Narayan (1581-1603 AD) of Eastern kingdom of Kocbihar, presently lying with the Zamindars of Gauripur of Assam. The first one was built in 1514 Śaka era (1592 AD) having the length of 7′4″ (223 cm) in length and diameter 11″ (28 cm). The second one is dodecagonal, length: 4′6″ (138 cm), nozzle diameter 5 ½″ (14 cm). It bears a date 1022 AH (1613 AD). Lakshmi Narayan (1587-1627 AD) joined the Mughal army against Parikshit Narayan (1603-1613 AD). Ahmed has also mentioned that a brass naval cannon of this king was made some times in 1611-12 AD, but discovered only in September 1932, at a depth of one metre in Ichamari-Champaguri road around 10 km north of Kocbihar city. Its length is 1′ 10″, nozzle diameter is 50 mm and is weighing 171 pound (Ahmed[2], p.252). This cannon bears an inscription in early Bengali script, *'Śrī kṛṣṇa pada nakhacandra parakas mano bilas Śrī Śrī Lakṣmī Nārāyaṇa bhūpa nirmita Śaka 1533'*.

Bāṅkura: The most popular cannon of West Bengal is *Dal Mardan* or *Dal Mādal,* presently located at Bishnupur, District Bankura. This cannon has been thoroughly studied by Balasubramaniam *et al.* (2005). Their article is the most documented guideline for application of archaeometallurgical methodologies to reveal the technological details of a cannon. In this sub-divisional town there are a number of small cannons including the *Dal Mardan*. There is neither a date on the cannon nor any written history of the region to identify the manufacturer. The cannon was used as the defending weapon against the Maratha army during the reign of the Malla king Gopal Singha. The probable date of

using the same was sometimes between 1600 and 1700 AD, to resist Maratha plunderer, Bhaskara Pandit. Originally, this cannon was in the dilapidated fort of Bishnupur and in 1919 this was brought to the present location. The total length of the cannon is 3.84 m and is weighing 7.9 tons.

In Bankura district there is no definite information for the naming of the cannon. According to Singha[21] (1979, p.66) the name was derived from the local folk god 'Dharmarāja' whose name was also *Dal Mādal*. Singha has mentioned further that the builder of the cannon was the ancestor to the present worshippers of Dharmarāja at Shankhari Bazar area. They are blacksmith by cast (*karmakār*). There is a Persian inscription on the cannon, which means 'One lakh twenty-five'; probably it indicates the price of cannon at that time.

Besides *Dal Mardan*, a number of cannons of small sizes are also available at Bishnupur sub-divisional city. One of those cannons is still located in the town in front of the Criminal Court. It is around 239 cm long.

Murshidābād: In this district of West Bengal, there are two cannons namely '*Bachhawoali*' and '*Jahankoś'a'*. The *Bachawoali* is located in front of *Hājārduāri*. It is made of two pieces, chamber and barrel, manufactured with forged iron (Mazumder[14], 1905). The recent photograph has been shown in Fig. 7. The combination is a unique one. The barrel is known to have been fitted with cylindrical chamber in such a way that after charging the gunpowder the two components are joined, which is quite unlikely. The three sets of iron rings are tied together and the combination is shown in Fig. 8. Total length of the cannon is 3.510m. After joining of barrels the length becomes 3.230 m. The chamber is 110 cm long and its circumference is 1.31 m. The diameter of the barrels at two different stages are 675 mm and 460mm. External height of the back face is 820 mm in vertical direction and 675 mm in horizontal one. Twelve brass strips are fixed with it, which were used for decoration purpose. There were 14 brass plates with inscriptions, which are not available at present. Total length of the combination is 3.51 m. The diameter of the backside of the chamber is 470 mm. The chamber is connected with the barrel before putting fire. The rings attached to the chamber and backside of the barrel has outer diameter 270 mm and is made up of iron bars having diameter 24 mm. The forge-welding of the iron rings were performed in an excellent and skillful manner. The cannon is placed in open air on a cement platform.

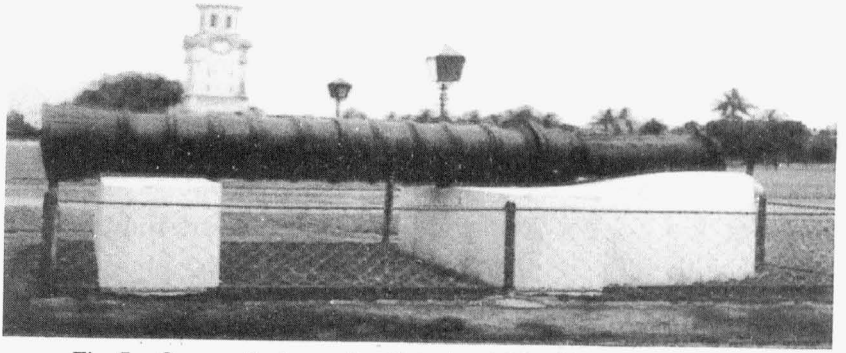


Fig. 7: Cannon *Bachawoali* at Hajarduari, Murshidabad, full length.

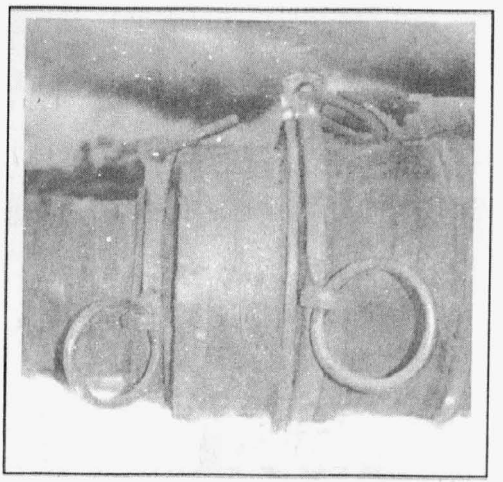


Fig. 8: Cannon *Bachawoali* at Hajarduari, Murshidabad, joining chamber.

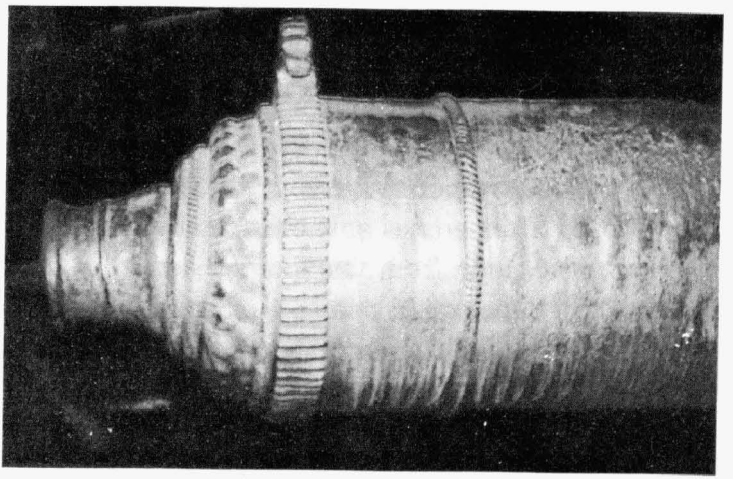


Fig. 9: Rear side of the *Jahānkoś'a* of Murshidabad.

The *Jahānkoś'a* (conqueror of the world) cannon was located previously at Katra Mashjid. Now this is protected by ASI and placed on a platform in the city. The cannon is with smooth finish on topside and bright red in colour. No rust has been detected on the surface. The cannon length is 533 cm; circumference 160 cm, and weight 7844 kg. This cannon bears the largest Persian inscription. Once there were nine brass plates with inscriptions, which indicated that it was built in 1047 AH (1637 AD). It was manufactured by the chief mechanic Janārdan Karmakār, under the supervision of Darogā Sher Mahammad and Inspector Harabullava Dās at Jahangirnagar (Dhaka). The forge-welding of the iron rings were performed in an excellent and skillful manner. The skill of forging is superb along with its decoration and drawing on the body. The forge-welding lines are almost indistinguishable. The unique rear end is shown in Fig. 9. Front side of the cannon can be seen in Fig.10.

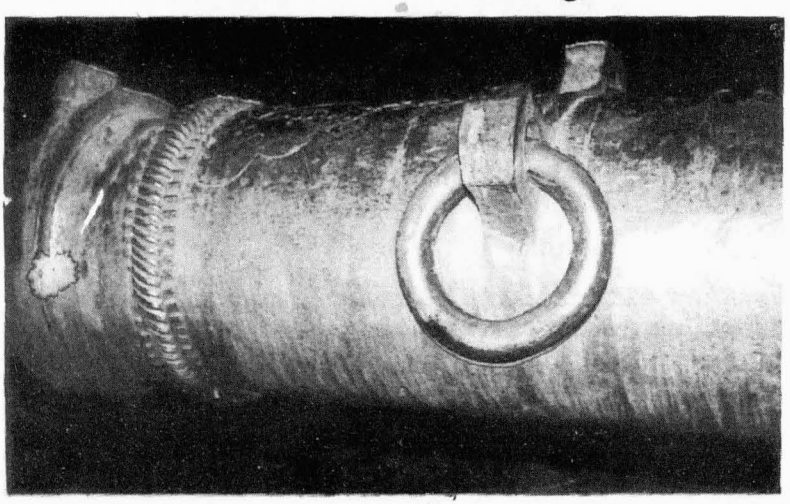


Fig. 10: Front side of the *Jahānkoś'a* of Murshidabad.

Nadiā: There was a cannon at Palasey, which was used during the war with the British. But this cannon has now been removed and preserved elsewhere. Most important cannon from this district is that of Mahārājā Kṛṣṇa Candra of Krishnanagar. One of his cannons, made of brass, is presently located at Victoria Memorial, Kolkata. Its total length is 1.52 meter, diameter of muzzle face: 195 mm and diameter of muzzle bore: 98 mm. The cannon is of high artistic excellency with floral decorations and inscription. The cannon bears the name of the king Kṛṣṇa Candra Rāy and its manufacturer Brajakiśore Dās (Fig.11).

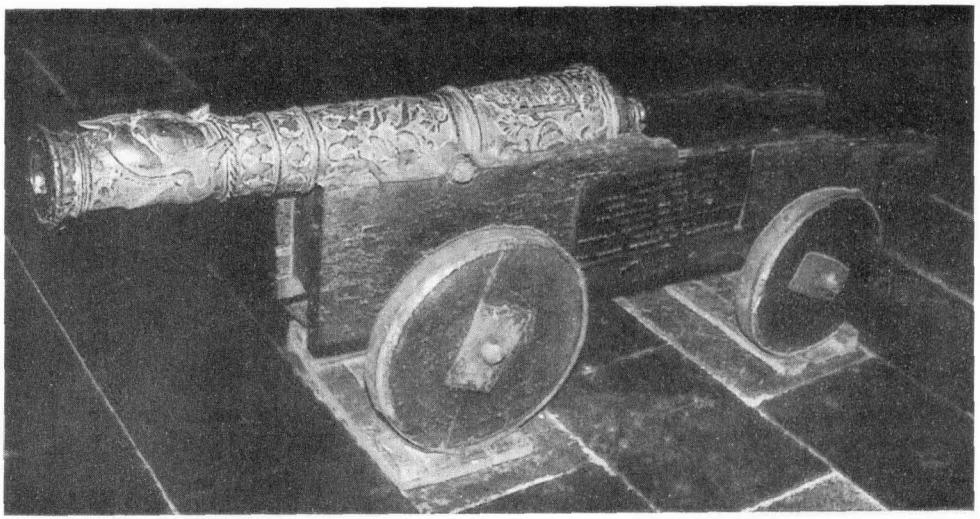


Fig. 11: Cannon of Krsna Candra Rāy, the Victoria Memorial Hall.

The most interesting feature of this cannon is the legend, deciphered by correctly by Santra[18]. The legend consists of total nine lines. First three lines, are as follows: "*Jai / Kalikā/ Akhaṇḍa Pratāp*". Next five lines, as if, are separated into two columns. In left column, this include, "*Śrījut Kṛṣṇa Candra Rāy/ Mahārājā/ Mahāśay/ Śrī Braja*/". In right column, on the other hand include, "*Śrījut/ Balarā/ m Catto/ upadhyāy/ mudāṅkat*". In bottom of those, in a line "Kiśhore Dās Deb Kṛta" are the mentioned words. This is shown in Fig. 12.

Medinīpur: There were a number of cannons in this district. At Kashijora, under P.S. Panskura, there is a cannon with the length of 2.64 m. This cannon is also known as '*Kāley Khān*' and was built by the local black-smiths under the zamindars. This cannon bears one line Persian legend '*Rājā Bīrsen Rāy*' (Santra[18], 1998). A cannon has also been discovered in the temple complex of Raghunathbari, under P.S. Chandrakona, which bears a two line Persian legend bearing the name of a probable king 'Mitrasen' of Bardhaman. One of the cannon is of 1.52 m in length and the diameter of the muzzle is 20 cm. At present this cannons is lying at the P.S. Chandrakona. There is another



Fig. 12. Inscription on the cannon of Kṛṣṇa Candra at the Victoria Memorial Hall

cannon in Garakilla Harashankar, P.S Panskura. The local people have painted the cannon to prevent corrosion. It is really difficult now to tell whether there had been any inscription labelled on it. However, this cannon is larger than that lying within the compound of the *math* at Raghunathbari. Tripura Basu has informed another cannon in this district near Kanthi court in East Medinipur.

The collection of cannons in the State Archaeology Museum of West Bengal is worth mentioning. From Garbari- Mangalapota of P.S. Garbeta Medinipur District, three cannons have been recovered while digging the earth. The most important one is made of bronze of length 1.34 m (Fig. 13).



Fig. 13: Cannon of Karṇagarḍ at the State Archaeological Museum, Kolkata

The inscriptions on the front of the cannon bear a five line legend, "*Akhaṇḍa Pra/ tāp Śrījut/ Yasmanta Siṅgha/ Rājā/ San 1146/ Brajakiśore Dās Kāmār*". The second inscription is of two lines, which reads "*Śrī Jaga/ nnāth Dās*" (Fig. 14). This clearly indicates that the same Brajakiśhore Dās, who built the cannon of *Mahārājā Kṛṣṇa Candra*, now lying at the Victoria Memorial Hall. The legend '*1146 san*' indicates that it was built in 1740 AD. Yasamanta Singha was the landlord of Karnagarḍ, who had some relation between the queen Rāṇī Śīromaṇi and *Cuar* revolution. Santra[18] (1998) has rightly identified that rebels hid the cannon.

Bardhamān: In this city, there are a few cannons, which were used by the king of Bardhamān. There was a cannon at the temple of Sarvamangala, the city goddess of Bardhamān. During Durgāpūjā, the cannon was used to fire on the *Mahāṣṭamī* day (in the month of September or October). The cannon was exploded and crashed, and was lost forever. At the Bardhaman University Museum there are three cannons, but since they are painted nothing could be deci-



Fig. 14. Inscription on the cannon of Karnagard at the State Archaeological Museum

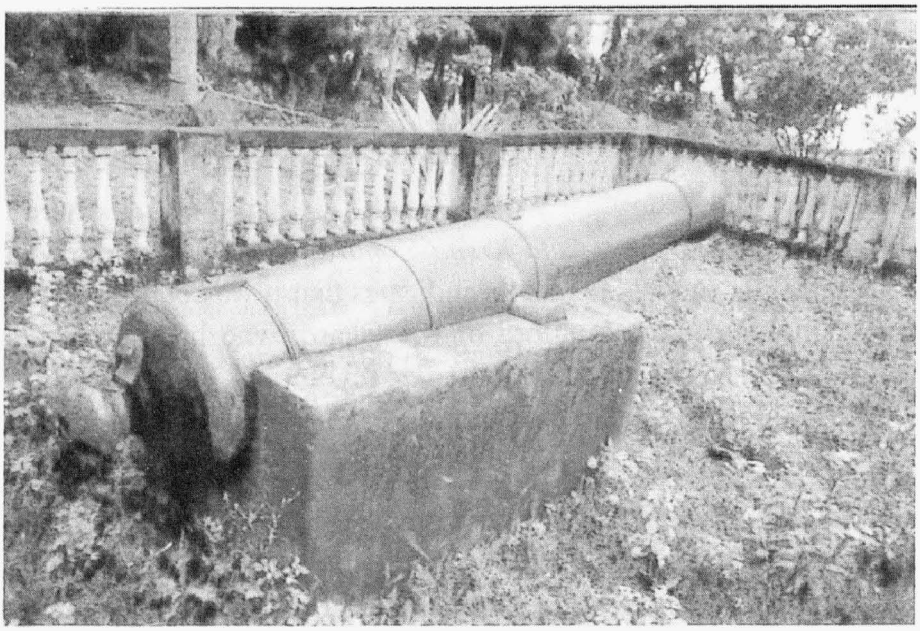


Fig. 15: Cannon at abandoned Dutch Fort at Faltā, South 24-Parganas.

phered. Two more cannons are also known from the ruins of Sonaruddi Rajbari, at Katoa in this district.

South 24 Parganas: In this district, a small iron cannon exists at Malancha (P.S. Sonarpur), length 720 mm with muzzle diameter was fixed at 50 mm. Once upon a time it was fired at the beginning of festival. Another cannon has been located by Chattopadhyay[7] (2005, p.179) which is lying in an abandoned Dutch Fort at Faltā, District South 24 Parganas (Fig. 15). A meaningful project may be carried out giving the details of the cannons both of Mughal and the European origin.

Concluding Remarks

The brass cannons of Sher Shāh at Varendra Research Museum (Rajshahi) and Bangladesh National Museum are excellent. Some of the muzzles are shaped like a lion or tiger's head. Probably Sher Shāh employed Ruhmi, or natives of Turky for a special identification and improvement. The cannons of Eastern India and Bangladesh are neglected antiquities, though these indicate the mastery in forging technology in this part of the Indian sub-continent. Except a few cannons preserved in Museums and Tourist Spots, the cannons are not properly cared. By the touch of visitors, they appear to be in excellent polished state, but the inscriptions in most cases are either lost or fading out. The same is in case of Jahānkoṡa cannon in Murshidabad and the cannon preserved at the Asiatic Society, where paints had also hidden the inscription.

Our present knowledge is incomplete in recording the true history and skills of the makers of the cannons, like Janārdan Karmakār, Brajakiśhore Dās or Saiyad Ahmad Ruhmi. The cannons are still in uncared and undocumented state. This is also true for the European cannons in different locations in Eastern India.

Acknowledgement

Author acknowledges the support of Dr. Gautam Sengupta, Shri Pratip Kumar Mitra, Prof. A.K. Biswas, Prof. R. Balasubramaniam, Prof. Prasanta Kumar Dutta, Shri Rajendra Nath Bag, Shri Shiharan Nandy and Shri Kaushik Gangopadhyay. TheVictoria Memorial Hall and the State Archaeological Museum, West Bengal have supplied the photographs of the cannons used in the text. These photographs are the copy right of these museums. Shri Sambit Chakraborty and Shrimati Sutapa Roy have scanned and edited the photographs of cannons.

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