farthest or the northernmost edge; below this terrace is a room through which the washings of the cella are drained out. The inner dimensions of the room are 6′-9″ by 10′-11″; it is provided with a door with a Navagraha architrave over it.

The statue in the central niche represents the heroic figure of the sun-god seated on a nicely decorated horse provided with a saddle showing the pommel and cantle distinctly; the deity is kilted. The stone block out of which the figure has been carved has been oxidised badly. The figure of Arüna, the legless charioteer of the deity, with his seven horses is not noticeable here. The statue is flanked by two male figures having their hands broken and standing by the side of rekha representations; judging from what still remains of the two figures, it is apparent that they were armed with a sword and shield with two studs and coats of arms in the centre. There are two tiny, bearded figures standing between the two above statuettes and the sun-god. Just over the rekhas already mentioned there are two standing female figures in peculiar poses and surmounted by canopies of three projections in which those of the trefoiled arch surmounting the head of the statue in the background terminate. Above the canopies referred to are seen the figures of the four-headed Brahma and four-handed Vishnü on the left and right respectively, both being seated on lotus pedestals. There are female figures noticeable at the top

of the trefoiled arch playing on various musical instruments such as flute, *vinā* (stringed instruments), cymbals, drums, etc. ; over these are seen the flying nymphs carrying human figures and holding garlands. The trefoiled arch is surmounted at the top by a *kirttimükha* flanked by two recumbent male figures blowing conchshells.

The central niche of the south face

Two narrow staircases on the east and west lead to an open terrace in front of the niche on the south side containing a huge chlorite statue of Surya. The open terrace measures 19′-7″ up to the extreme southern edge ; the inner dimensions of the room below are 11′-5″ by 6′-9½″. The figure of the sun-god is kilted and has the characteristic ornaments for the arm, neck and ear ; and it has also a peculiar head-dress ; the waist band has a central stud and is provided with beaded tassels hanging down from it. The piece of cloth worn by the deity and reaching up to the knee is exquisitely carved. There is placed a dagger on the pedestal on the left side. The hands of the statue are broken ; they used to carry two full-blown lotuses one of which still exists on the left. The pedestal of the statue is nicely carved with panels separated by thin beaded pillars ; these panels contain groups of female figures, some playing on musical instruments and others dancing in a peculiar gait. The pedestal is also carved with the figures of 7 horses

driven by Arüna, the charioteer of the sun-god sitting in front near the feet of the statue. The reins of the horses are exquisitely beautiful. Two standing figures about 3 ft. in height flank the statue on each side ; the right one holds a sword and shield and the left one, a bow. The figures of Brahma and Vishnü are noticed here also as in the case of the statue in the northern niche.

I measured the different parts of the statue the dimensions of which are given below.

Height from crown of head-dress to foot		...	8′-2½″
,,	,, crown of head to foot	...	7′-7½″
,,	,, Foot to centre of knee-cap	...	2′
,,	,, Knee to navel ...	...	2′-6½″
,,	,, Knee to hip ...	...	1′-10½″
,,	,, Navel to breast ...	...	1′-1½″
,,	,, Navel to shoulder ...	...	1′-7½″
,,	,, Shoulder to elbow ...	...	1′-6″

Two narrow staircases on the south and north lead to the terrace in front of the niche ; the terrace is 17′-3″ in length ;

The central niche of the western face

the inside dimensions of the room below are 11′-1″ (east to west) by 6′-9″ (north to south). The room as is proved by the niche on its wall was intended for some image. The door of it has the characteristic Navagraha architrave over it.

The length from the inner edge of the wall of the sanctum to the extreme western edge of the terrace in front is 40′-1″.

In the central niche of the western face is seen a huge chloritic statue of Surya wearing kilts or boots reaching a little below the knee-cap. The figure has long conventional ears with pendulous ear rings, characteristic armlets, &c. The piece of cloth worn by the deity is nicely carved. The statue stands on a pedestal, the face of which is carved with the figures of horses ; Arüna does not exist. The carvings and workmanship are similar to those in the niches on the north and south.

I measured the different parts of the statue, the measurements of which are given below.

The height from foot to the crown of the head-dress...		9′-6″
,, ,,	foot to centre of knee-cap ...	2′
,, ,,	centre of knee to navel ...	2′-7″
,, ,,	centre of knee to hip ...	2′
,, ,,	navel to breast ...	1′-9½″
,, ,,	shoulder to elbow ...	1′-6″
The length of the foot with the boot ...		1′-1½″

The height of the vimana

The jangha of the *bâda* of the vimana is 13′-6″ high ; the approximate height of the vimana can be ascertained from this. Let me compare my

figure with that given in the temple records and quoted by the author of Konarka.*

I have given in the 5th chapter the proportions of the different parts of the *bâda* ; on referring to that it will be seen that the height of the *bâda* is the height of the jangha multiplied by $^{15}/_{3}$. The height of the jangha in the present case is 13′-6″ ; therefore the calculated height of the *bâda* is 58′-6″ ; now, I have shown also in the fifth chapter that the rekha portion of the tower is twice as high as the *bâda*, or the vimana is three times the *bâda* in height ; hence the height of the vimana is 175′-6″. The height quoted from the records is 174 feet† ; thus it approximates very nearly the figure that I have arrived at.

The height of the amla, kalasa, etc, was "20½ kathis or 36 ft."‡ The total height of the vimana above the level of the plinth is 175′-6″ + 36′ = 211′-6″ ; and that above the ground level is 211′-6″ + 2′-3″ + 13′-3″ + 1′ = 228 ft. On comparing this figure with that of the temple of Jagannath actually measured and recorded on page 417, it will be seen that the temple of Konarka was higher than the temple of Jagannath.

A few iron beams lie scattered near the jagamohana ; one

* † Bishan Swarup, Konarka, p. 26.

‡ The same.

of the above seems to have belonged to the vimana for supporting its roof; the sections of this beam are not the same at both ends. The length is 35′-9″; the bearing of the beam on each side is 1′-6″.

Ironbeams

Some very nice statues carved out of chlorite were discovered in the vimana where they lay buried in the debris and sand. These have since the restoration of the temple been placed on the floor of the bhogamandapa; I shall give a brief description of some of them while describing the bhogamandapa.

Chlorite figures

The fall of the tower is a problem, the solution of which has given rise to several theories all of which are purely speculative in character. The popular belief is that the temple by reason of a huge loadstone or *kümbhapâthara* at the top used to draw ashore the vessels passing near the coast; the Mahomedan "crew of a ship landed at a distance and stealing down the coast, attacked the temple, scaled the tower and carried off the loadstone."* The priests, alarmed at this desecration left the temple and removed the image to Puri. We shall see later on that this legend has embalmed a bit of truth which it is difficult to detect.

The fall of the vimana

There are some who hold that the temple was never consecrated, and the collapse took place just after completion.

* A. Stirling, Asiatic Researches, Vol. XV., p. 329.

Mr. M. H. Arnott, the Superintending Engineer, P. W. D. writes as follows in the District Gazetteer, Puri. "It is nearly certain that the *dewl* fell from the same cause, viz., that when the sand was removed from the interior, the weight above was not great enough to resist the tendency of the corbelling to fall in. The heap of stones is direct proof that the result of the catastrophe, when it did take place, hurled the stones inwards and not outwards ; had it been the latter, the heap would have been a scattered one, instead of which it is a remarkably compact one."†

The above view seems to be erroneous ; for, on clearing the interior of the sanctum filled with the debris of the temple, a nicely worked *Sinhâsana* referred to already was discovered ; it lay buried in the debris. How could then the Sinhasana for the image of the sun-god gain access there ? Moreover, from the description of Abul Fazl quoted already, it appears that so late as the middle of the 16th century, the main temple with all the minor ones was in a good condition. Even Dr. Fergusson saw a portion of the vimana about 120 ft. in height existing in the second quarter of the 19th century. Mr. Bishan Swarüp has referred in his treatise on Konarka to some "marks on the *sinhâsana* to show that worship had been going

† District Gazetteer, Puri, p. 279.

on there for some time."* During my brief sojourn there on two occasions I could not detect any such mark; yet it is my firm belief under the circumstances stated above that the image of the deity must have been duly installed and must have received systematic worship for centuries.

There are some, again, who hold that the collapse of the temple is due to a sinking of the foundation. I examined the temple very carefully and did not notice anywhere the least trace of the subsidence of the soil. This would have, as a matter of course, occasioned vertical cracks in the structure and a horizontal one in the floor of the sanctum; the floor, I have noticed, is without any crack; moreover, the collapse due to the subsidence of the soil would have tumbled down the temple on one side which did not occur actually. The debris formed a uniform heap around the temple filling the cella completely. There are some other causes which must be sought to account for the collapse. Some ascribe it to seismic disturbances. It is idle to imagine for a moment that the shock of an earthquake brought about the break-down in respect of the vimana only keeping intact the jagamohana, a structure just close to the former. I admit, of course, that the chance of collapse of a vimana by reason of its constructive peculiarities is greater than a jagamohana, but still it is not

* Bishan Swarüp, Konarka, pp. 95-96.

so little as to make it stand undisturbed in its original condition while a sister structure just close to it comes down not being able to withstand the shock of an earthquake. Lightning, as some imagine, could not effect the collapse of such a stupendous structure, and the reasons stated above would also apply in this case.

The collapse of the vimāna may, however, be best explained if we consider for a moment the method of construction and the means devised to ensure the stability of a structure of the Orissan type. I have explained at full length in the fifth chapter that the method of corbelling was resorted to by the Uriyā architects in respect of large spaces which being reduced to reasonable proportions were covered by flags or blocks of stone supported on iron lintels. These, again, were topped by the *āmlaka silā*, *karpuri*, etc. The last blocks of stone help the statical equilibrium of the structure to a considerable extent, for, if they be removed, the stone corbels would have a tendency to be displaced. In order to prevent these corbelled walls from tumbling inside the device of weighting them was found necessary. The force of friction exerted by the blocks of stone employed for weighting the corbels all round would counterbalance their ever-acting tendency to topple over ; hence it is easy to understand that as soon as they are removed, the tendency to fall in would pre-

ponderate ; and the fall would be instantaneous or will be hastened according as the projection of the corbels goes beyond the safe limit. I may mention here that I have seen temples existing *in situ* after the removal of the *âmlaka silâ*.

We learn from the records* of the Puri temple that the temple of Konarka was attacked by Kalapahar in the middle of the 16th century ; he tried to raze it to the ground ; but being unable to do so he dislodged the copper kalasa, took it away and damaged the temple. The army of the vandal must have damaged the top of the temple including the *âmlaka, karpûri*, etc. The temple was profaned by the Mahomedans ; it was accordingly abandoned. The image ceased to receive worship as before ; it was perhaps removed before the advent of the Mahomedans and hidden in some place. In consequence of the abandonment of the temple it was never repaired afterwards. Nature commenced henceforth to hasten the displacement of the stone blocks already existing on the summit. The top stones were gradually displaced and the tower came down. The huge figure of the lion projecting forward from the vimana towards the jagamohana fell on the roof of the latter, and rolling down along it fell on the north side ; in consequence of this, the roof of the jagamohana was badly damaged.

* Bishan Swarûp, Konarka, p. 97.

Fergusson saw only a small vertical portion existing in 1837 which was entirely blown down by a gale that swept over that part of Orissa in October, 1848.*

The Jagamohana of Konarka : Plates XXI, XXII, XXII. A

The jagamohana

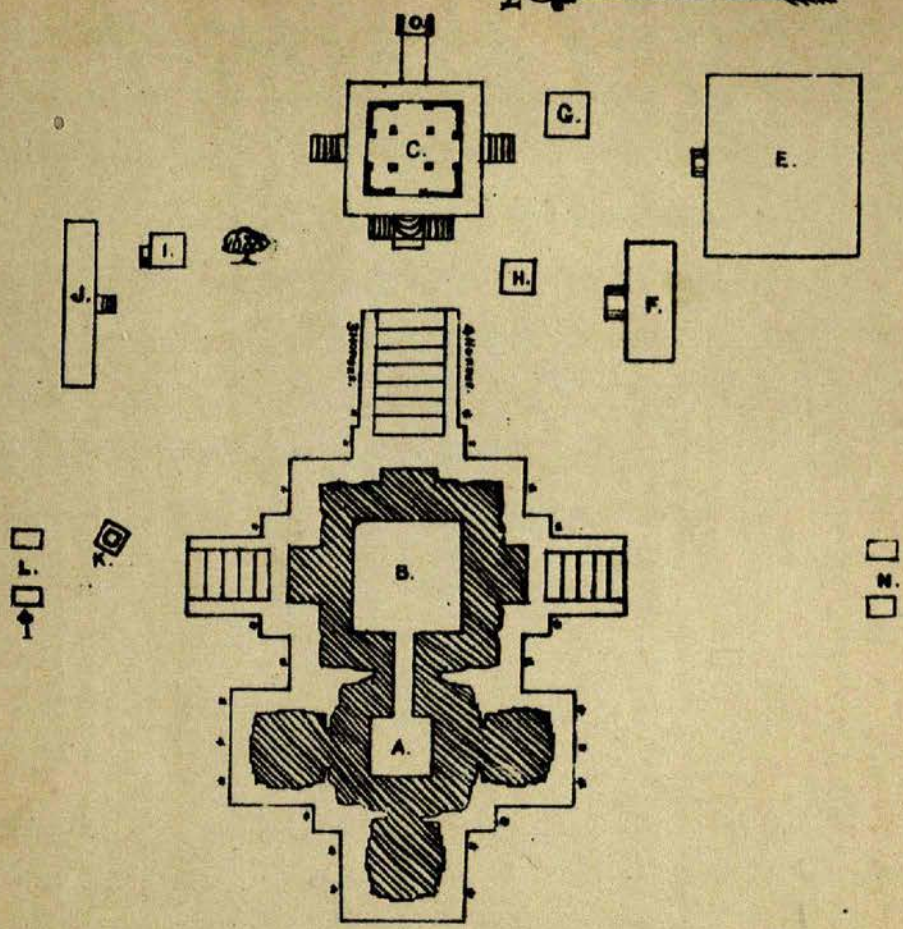
The Jagamohana stands on the very same plinth as the vimana. It is a pancharatha structure ; its bada consists of the five usual elements of jangha, barandi, bandhana, etc. The bandhana shows five projections instead of three, the upper jangha, 10 projections instead of 7. I give below the dimensions of the above four parts.

Jangha	10′-11″
Barandi	8′-10″
Bandhana	2′-7½″
Upper barandi	8′-1″½
Upper jangha	9′ -4″
Total	39′-10″

The jangha portion of the *bāda* shows temple representations at regular intervals ; these are flanked by slender pillars on each side, the nearest one being the *nāga* column very gracefully carved ; the farthest one is recessed at the ends and presents an ornamental surface being carved with scrolls. The

* Bishan Swarüp, Konarka, p. 98.

PLATE-XXIV



SITE PLAN OF THE KONÂRKA TEMPLE.

SCALE 128'=1"

WHEELS

SURVt & LITHO-BY J.L.SHOME

top of this pilaster is elegant. The barandi shows the *sârdûla* columns and some thin pilasters nicely carved but containing obscene figures.

The Pyramidal spire.

The roof, as usual, is pyramidal and consists of three tiers of *pida* or cornices separated by recesses. The lower two tiers consist of six, and the upper one, of five *pidas*.

The measurements are given below.

The height of the first tier from below upwards				15′-8″
,, first recess	,,	,,	,,	7′
,, second tier	,,	,,	,,	10′-6″
,, second recess	,,	,,	,,	5′-7″
,, third tier	,,	,,	,,	7′-4″
			Total	46′-1

The recesses between the tiers of pidas contain female figures playing on musical instruments such as *khol* (a sort of drum) and a sort of clarionet. They also contain the figures of Siva just over the central doorway. The faces of the two lower tiers of pidas are carved with the scenes of war processions, elephants, horses, etc.

The pyramidal roof of the jagamohana is surmounted by the beki, sree, karpuri, amla, etc. The kalasa is not noticeable

The total height of the *amla*, *sree*, etc. comes up to 25′-9″.

Pyramidal roof

Therefore the total height as measured becomes 128′-2″ by adding up the following figures.

The *pada*-pitha	1′
The lower plinth	13′-3″
The upper plinth	2′- 3″
The b*ada*	39′-10″
The pyramidal roof	46′- 1″
The *amla*, beki, *sree*, etc.	25′- 9″
	128′-2″

Determination of the height of the Jagamohana.

Let me compare it with the figure that I got by measuring the height with the theodolite.

The distance between the two different positions of the theodolite is 100 ft.

A—Angle of inclination of the top of the jagamohana at the nearer of the two positions of the theodolite from the jagamohana ; this is equal to 19°-59′.

B—Angle of inclination of the top of the jagamohana at the farther of the two positions of the theodolite from the jagamohana ; this is equal to 15°-44′.

C—Angle at the apex of the triangle having the distance of 100 ft. as the base ; this is the supplement of the angles A and B.

Height of the instrument = 4'-7½"

= 4·62 ft.

Sin Å = sin 19°-59′ = ·3417

Sin B = sin 15°-44′ = ·2711

Sin C = sin (19°-59′ − 15°-44′)

= Sin 4°15′ = ·0741

∴ Height of the temple above the level of the theodolite $= \frac{\text{Sin A}}{\text{Sin C}} \times \text{Sin B} \times 100$

$$= \frac{.3417 \times .2711 \times 100}{.0741} = 125.04 \text{ ft.}$$

∴ The height of the temple above the ground level = 129·66ft

= 129′-8″

The calculated height is greater than the added up height by a foot and a half. It may be that the level of the ground where the theodolite was set up was lower than the ground level of the jagamohana ; the reason is not far to seek ; for the whole locality there being formed of drift sand had not the same uniformity of level as could be expected. The ground was undulatory. There might probably be an error in taking the measurements of the different parts of the temple with the tape.

The jagamohana is provided with four doorways on the

four sides, the western one leading to the vimana ; they have all been blocked up at the time of the restoration of the temple, so I had no opportunity to study the interior of the jagamohana. The way in which the doorways have been blocked up will be apparent on referring to plates XXI, XXII; the carvings lining the doorway on the east side only are visible now ; they are somewhat similar to the figure No. 11 on plate V. A. They have been executed in chlorite and hence are so beautiful that any attempt at describing them will hardly convey an adequate idea of their grace. I quote below what Mr. Stirling wrote in the Asiatic Researches in 1824 regarding the finely worked frame of chlorite decorating the doorways of the jagamohana.

Doorways.

"The skill and labour of the best artists seem to have been reserved for the finely polished slabs of chlorite which line and decorate the outer faces of the doorways. The whole of the sculpture on these figures, comprising men and animals, foliage and arabesque patterns, is executed with a degree of taste, propriety and freedom, which would stand a comparison with some of our best specimens of Gothic architectural ornaments. The workmanship remains, too, as perfect as if it had just come from the chisel of the sculptor, owing to the extreme hardness and durability of the stone."†

† Asiatic Researches, Vol. XV., p. 332.

The eastern doorway had over it a Navagraha architrave supported on two iron beams or lintels resting on two forward projections no longer existing. It was in its original position when visited by Drs. Mitra and Hunter. It was dislodged and cut into two parts in 1893 in order to reduce its weight for easy transit to Calcutta ; one of the two parts is lying on the way from the dâk-bunglow to the temple site, and the other containing the figures of the planets is lying at a distance of about a quarter of a mile from the temple. The idea of taking it to Calcutta had to be abandoned for insufficiency of allotment, heavy weight and difficulty of manipulation ; and the piece was left behind to take care of itself. I am sorry to note that this has happened in an age when the art of mechanical contrivance has reached its culminating point, whereas the entire block weighing about 26·5 tons had to be brought from a quarry many scores of miles distant from the temple site and several centuries ago when there was hardly any means of efficient communication. A thatched shed has been built over the portion of the architrave meant to be brought to Calcutta ; and the figures of the *grahas* or planets are receiving worship from the local Brâhmins.

The Navagraha Architrave.

The dimensions of the portion of the block meant to be transhipped to Calcutta are 19′-10″ × 3′-9″ × 1′-6″*

* Out of the total width of 3-′9″, that of 3-′1″ is only exposed, the remaining portion being in the ground.

The dimensions of the rejected portion

$$= 19' - 10'' \times 3' - 9'' \times 3' - 3''*$$

Therefore the dimensions of the original entire block were $19' - 10'' \times 3' - 9'' \times 4' - 9''$; and hence the cubical contents are 353 c. ft., the weight accordingly being 26·5 tons.

The architrave is divided into nine panels containing the figures of the nine planets beginning with the Sun on the left. I give below the names of the figures *ad seriatim* starting from the left :—Ravi (the Sun), Chandra (the Moon), Mangala (Mars), Budha (Mercury), Vrihaspati (Jupiter), Sukra (Venus), Sani (Saturn), Rahü (the ascending node), Ketü (the descending node). Each of the figures except Rahü has a pointed head-dress, and each of them except Ketu sits cross-legged on a lotus. The figures of Rahü and Ketü are the most interesting out of the whole lot ; Rahü has been represented as a "grinning monster" ; the lower part of the body of Ketü terminates in the tail of a serpent.

I had no opportunity to see the interior of the temple as all the doors had been blocked up. The roof was supported by iron beams resting on horizontal arches springing from four pillars.

* Out of the total depth 3-'3", that of 2'-6" is exposed and about 9" is imbedded in the ground.

Several iron beams lie scattered near the jagamohana. These were either lintels or beams supporting the ceiling and the architrave. I give the dimensions of a few of them.

Jagamohana.

(*a*) An iron beam on the south-east of the jagamohana :—

Length = 20′ – 10″.

It has hammer marks at the two ends up to a length of 2′ – 6″ on each side ; these marks indicate the portions to be inserted in the walls. The clear length accordingly is 25′ – 10″, and hence the beam was meant as a lintel for supporting an architrave. The depths of the beam at the two ends are 8 and 11 inches respectively ; the central depth is 11 inches. This is indicative of great engineering skill. I have referred to it in Chapter V.

(*b*) Another beam on the south-east side :—

Length = 21′ – 7″

Bearing on each side = 2′ – 11″.

∴ The clear length = 15′ – 9″.

The depths at the two ends are 8 inches and that at the centre is 9 inches.

(*c*) A beam on the south-east side of the Jagamohana:—

Length = 23′

Bearing = 3′ – 6″

∴ Clear length = 16′.

From the clear length it appears that this beam was probably meant as a lintel for supporting the architrave over the southern entrance. The depths at the ends are 9″ and that in the middle is 11 inches. The beam has cracked in the middle.

The Bhogamandapa of Konarka :—(Vide Plate XXIV).

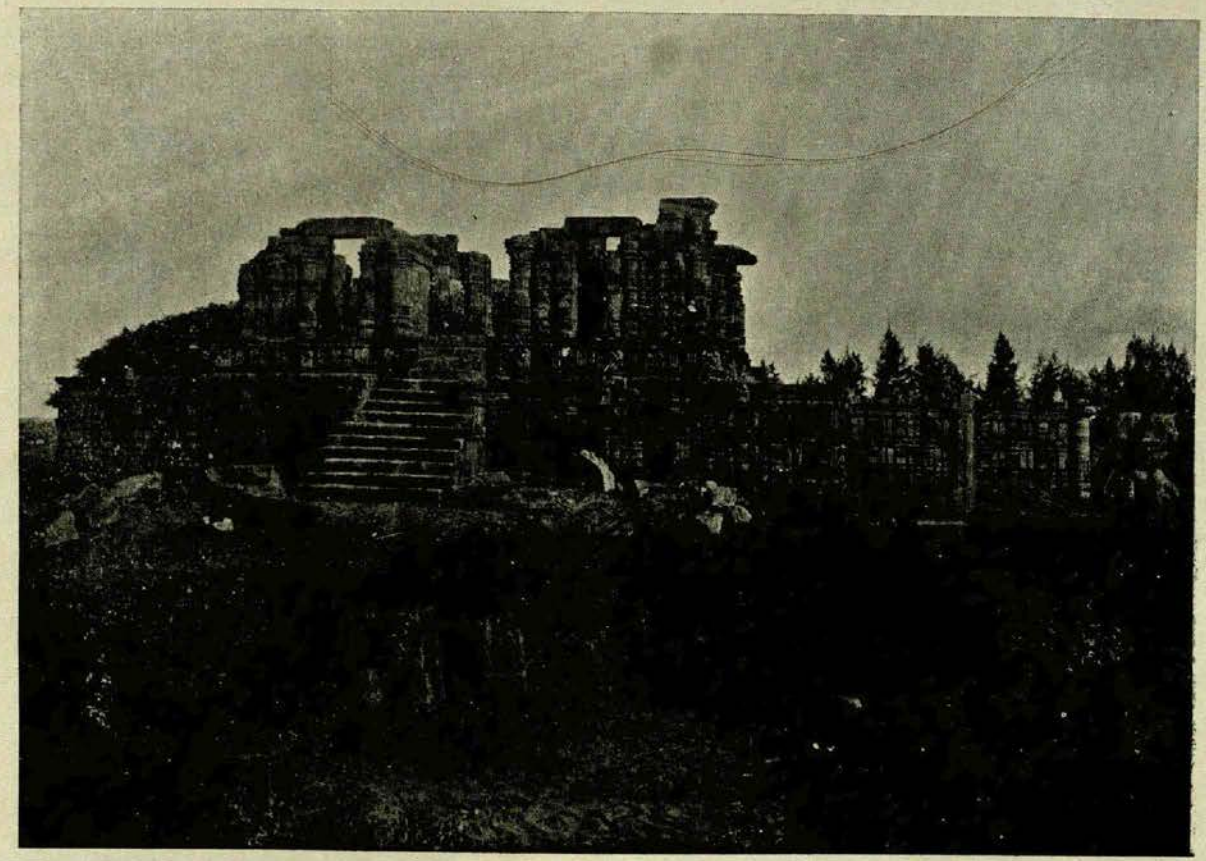
The Bhogamandapa of Konarka

Opinion is divided as to the name of the structure in front of the jagamohana, and to the east of it; on comparing it with that at Puri, and judging from the intervening open space; one is inclined to take it for the bhogamandapa. It is, no doubt, a subsequent addition, and sufficient room was left for the natamandira for being built afterwards. If the structure, in question, be supposed to be the natamandira as some would wish it to be called by that name*, the bhogamandapa, when built, would just approach the outer enclosure wall, and the flight of steps may even go beyond. This must never have been intended. The open space in front of the jagamohana would present a paradox, an anomaly, if it not be supposed to be the site of some structure, apparently the natamandira.

The bhogamandapa is square in plan, each external side being 74′, exclusive of the staircases appertaining to it. Four

* Annual Report, Archæological Survey of India, 1902-03.

PLATE XXV



Southern Facade of Bhogamandap, Konaraka.

Photo by A. Ghose, B. A.

flights of steps lead to it on the four sides. I give below *ad seriatim* the dimensions of the staircases as noted by me in the general ground plan.

Staircases.

Western staircase 42′–8″ (north to south) × 7′–10″ (east to west).

Northern staircase 20′–9″ (do) × 14′–3″ (do).

Eastern ,, 15′ (do) × 25′ (do).

Southern ,, 12′–2″ (do).

The staircase on the west is rather peculiar, it consists of a pair of flights of side steps on the north and south joined together by segmental steps facing the west. This staircase may be styled a "dog-legged" one. The tread of the steps varies from 22″ to 23″; the rise is 10″. The staircase on the north consists of a series of segmental steps, the maximum length of the ordinate being 2′–4″; the rise is 10″. Those on the east and south consist of ordinary rectangular steps. The eastern staircase has got attached to its side walls two huge monolithic figures of lions placed on a low pedestal, it being part of the same block out of which the figures have been carved. The stone pavement supporting the figures of the lion is still buried under sand; I exposed a depth of 1′–6″; the bottom, however, could not be reached. The lion is rampant over a crouching elephant holding a prostrate human figure with its trunk. The elephant is girdled with a representation

of iron chain from which dangles a bell. The claws of the lion are clearly depicted. The external dimensions of the figures are 8′–4″ × 4′–8½″ × 9′–2″ (height), the cubical contents being accordingly 360 c. ft. (approximately). The weight of each block is 27·48 tons or 750 maunds, the average weight of a cubic foot of sandstone being 171 pounds.

I have come to learn from my esteemed friend Rái Sáhib Prasanna Kumar Pál, L. C. E., who was in charge of the restoration of the temple of Konárka, that the huge figures of the lions had been erroneously placed with their faces turned towards the west by Mr. Davies, Sub-Engineer of the P. W. D. in the early eighties of the last century on the heap of sand which buried the structure altogether before the present restoration was effected ; these were removed by means of a crane and inclined plane to their present position in 1903. These were originally placed on the two sides of the eastern staircase of the jagamohana and their positions may still be clearly identified.

The bhogamandapa starts from the *talapattana* or pavement on the ground level and surrounding the whole structure. This is made of flags of sandstone projecting by 2′-7″ from the face of the plinth. The plinth consists of 3 parts ; the first or the lowest one is 2′-1″ high and consists of 3 mouldings ; the second or the middle one recedes a little back from the former, and is 9′-7″ high ; the corners

Plinth.

or salient angles of the second plinth consist of jangha, barandi, bandhana, sikkar and second jangha ; the second jangha, however, contains three, instead of seven mouldings. The interval between the janghas stated above is made up of pilasters showing representations of pida dewls containing female figures playing on musical instruments. These pilasters have a regularity in their arrangement. A thick pilaster is followed by a slender one. The recesses between the pilasters contain a profusion of jali or lattice work. The bandhana, however, runs round the plinth true to its etymological significance ; it acts as a veritable bandhana or binding course. The second jangha runs along the four sides of the structure, and contains gargoyles or water spouts at regular intervals. The topmost moulding has its front face carved with rows of elephants.

The first and the second plinths form, as it were, a basement upon which the third one rests. The third plinth recedes back from the lower one by a little more than 11 ft., and is 4′-5″ high ; steps on all sides lead to this plinth. The topmost course consists of three mouldings, basanta, kani and pata in a descending order. The basanta has panels carved on its front face containing elephants in procession. The above three mouldings are separated by a nice lattice work or jali ; below these is the sakkar or barandi portion containing panels en-

closing standing female figures in various poses. The *sa*kkar shows the representations of temples at regular intervals ; the panels stated above are separated by j*a*li works ; below the *sa*kkar is the portion consisting of the three following elements, viz. basanta, pat*a* and p*a*da in a descending order. The p*a*da represents lotus petals, the basanta and floral devices.

The top of the third plinth forms the floor level of the structure, the walls of which rise with a recess of 1′-9″ from the edge of the plinth. The area enclosed by these outer walls is a square 48′-10″ × 48′-10″. The internal dimensions of the bhogamandapa are 36′-5½″ (east to west) by 36′-4½″ (north to south). Four pillars rise from the floor level, and were intended to support the roof. They rise with a plain surface without any decoration or moulding to the height of 2′-10″ ; this portion may be spoken of as the pedestal of the pillars ; it has only rectangular projections. Then follow three mouldings 2′-¼″ in height, forming the jangh*a* ; the three mouldings stated above are pat*a*, kani and basanta, from below upwards. The face of the basanta or the topmost moulding contains panels enclosed by a beaded border containing figures of nicely carved elephants ; a vertical band with nice scrollwork connects the three elements ; over these rest five slender pilasters with intervening recesses, 3′-8″ high. These form the b*a*r*a*ndi containing female figures in graceful poses standing in front of the

pilasters on full-blown lotuses; the top of the *barandi* is carved with finely worked beaded tassels; then comes the bandhana 1'-2¼" in height; it is carved with nice scrollwork, the component elements being connected together by a vertical band similar to the jangha already described; hence the total height from the basement up to the basanta of the bandhana comes up to 9'-8½". I did not think it worth my while to take any further measurement higher up, for the sikkara portions over the bandhana do not exist in their entirety.

The intervening space between the pillars varies from 10' to 10'-3½", and that between them and the outer walls varies from 6'-2½" to 6'-4". The pillars are nearly square in plan; their dimensions are given below.

Pillar on the south-west 6'-9½" × 6'-10½"
" " " north-east 7' × 7'-1"
" " " north-east 7' × 6'-11"
" " " south-west 7' × 7'-3"

The outerwalls of the structures are provided with the characteristic jangha of five mouldings, barandi, bandhana of 3 mouldings, sikkar and second jangha of 9 mouldings. The openings where the steps lead have two circular columns in front.

The figures carved on the outer walls have badly weathered. The figures, especially in the *sa*kkar and *si*kkar

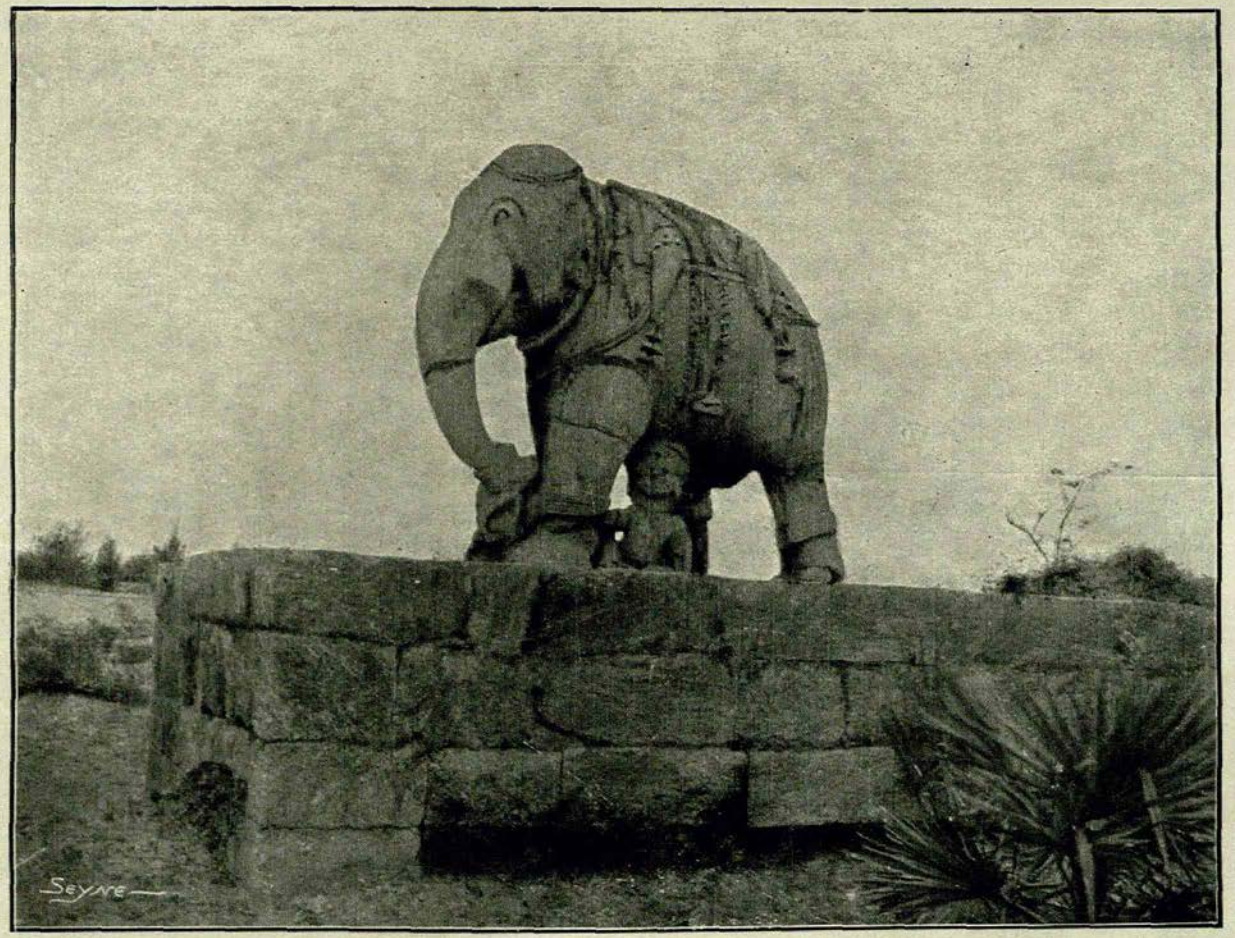
portions, are mostly females playing on *pakhoâj* (a sort of drum); abundance of full-blown lotuses is noticeable on the outer walls.

The roof supported by the pillars and the outer walls does not exist, and there is no evidence to show that it ever existed; from the plan and position of the structure it is certain that it was meant to be a pi*d*a dewl; but if we are to judge from the number of pi*d*as lying scattered in the vicinity, our doubt as to its completion would be confirmed. Mr. P*a*l saw only portions of the roof in existence at the north and south-east corners. It is worth mentioning that the central lotus pendant intended for the ceiling lies scattered near the site of the bhogamandapa.

The Temple of R*a*machandi :—(Fig D. of Plate XXIV)

The temple of R*a*machandi is situated to the south-east of the temple of Kon*a*rka. This has been called M*aya*-devi by Mr. Bishan Swarüp. The temple consists of the vim*a*na and jagamohana.

The inside dimensions of the jagamohana are 28′-1″ square; on the north and south walls there are niches inside at a height of about, 5 ft above the floor level. The jagamohana has the inner face of walls decorated with pilasters the like of which has not been noticed by me anywhere; the pilasters show the characteristic mouldings of jangh*a*, etc. decorating the corners, the sides of doorways and niches.



Ths huge elephant on the north of the temple at Konarka.

With the kind permission of the
Hon'ble Mr. Justice J. G. Woodroffe.

Engraved & Printed by K. V. Seyne & Bros.

The roof of the jagamohana does not exist, nor is it known if it was ever finished. The stone blocks placed at the corners over the main walls at right angles to each other have on them represented the scenes of war procession consisting of elephants, horses ; the warriors have in their hands long rectangular shields.

The janghas of the vimana and the mohana are 6'-9" and 5' high ; and their difference in height has been made good by the mouldings of the structure separating the two.

Both the vimana and mohana show nicely carved gargoyles of chlorite. The statue of the sun-god noticed on the floor of the bhogamandapa and to be described at full length later on, was in the western niche of the vimana and was removed thence to the bhogamandapa ; it was subsequently buried in heaps of sand.

It cannot be ascertained as to what the structures marked E, F, G, H, I and J on Plate XXIV indicate. There are some pillars scattered near the sites of E, F, G and H ; the kitchen of the temple was perhaps situated here. Heaps of broken stone are collected on the floor of the structure marked J ; K represents an old well. M is the site of some unknown temple probably not finished ; this is made of badly burnt bricks, and I have referred to it on pages 255-256. L and N represent the pedestals of pairs of huge monolithic elephants and

horses on the north and south respectively. The plate XXVI illustrates the elephant, and I have referred to it already on pages 204-205 ; the horse is well caparisoned and led by a warrior walking in front.

I quote below what Prof. Havell has written in respect of the horse of Konarka. "Had it by chance been labelled "Roman" or "Greek" this magnificent work of Art would now be the pride of some great metropolitan museum in Europe and America.....Here Indian sculptors have shown that they can express with as much fire and passion as the greatest European art the pride of victory and the glory of triumphant warfare ; for not even the Homeric grandeur of the Elgin marbles surpasses the magnificent movement and modelling of the Indian Achilles, and the superbly monumental war-horse in its massive strength and vigour is not unworthy of comparison with Verocchio's famous masterpiece at Venice."*

The chlorite figures on the floor of the Bhogamandapa.

I shall briefly describe here some of the chlorite statuettes recovered from the debris of the vimana and kept on the floor of the bhogamandapa. The way in which they have been preserved is objectionable ; for some of the figures have already weathered fearfully being placed in an exposed situation. It is extremely desirable that some sort of structure should be built to

* Prof. Havell, Indian Sculpture and Painting, pp. 146-147.

preserve them, as in a museum, similar to the one built at Saranath.

Ganga

The slab containing the figure of Ganga measures 2′-5″ × 1′-3″. The deity is represented as sitting on a nicely carved *makara*; the fins, claws and canine teeth of the animal have been shown. The figure has a pointed head-dress and the ornaments usually noticed on the images of Orissa. The figure is already covered with a coat of rust.

Agni

Agni is a moustached figure with a nice head-dress and seated on a ram, the vehicle of the deity. The figure is pot-bellied and has a flowing beard of the Mahomedan type. There are four incense pots on the two sides from which flames are issuing. Mr. Bishan Swarüp has taken the figure to be Vrihaspati; but the flames, the characteristic vehicle and personal features have confirmed me in my belief that it is the veritable figure of Agni. Some take it to be Vibhandaka Muni. The slab measures 2′-10½″ × 1′-5½″.

Mahisa Mardini, Jagannath, &c.

The slab containing the figure of Mahisa Mardini measures 2′-10″ × 1′-6½″. On the extreme left, Parvati is represented as killing Mahisasüra; next come the figures of Jagannath and a Siva lingam; a gorgeously dressed king with a coiffure is standing before the deities with folded hands; between the king and the figures of the deities stands another figure whose head does not exist. All

the figures are surmounted by a canopy of two tiers. The lower section of the slab contains rows of standing figures. The figure of Parvati has been oxidised very badly ; this is due to the neglect of those who are in charge of the temple. The statuettes should be more carefully preserved.

Teaching scene.

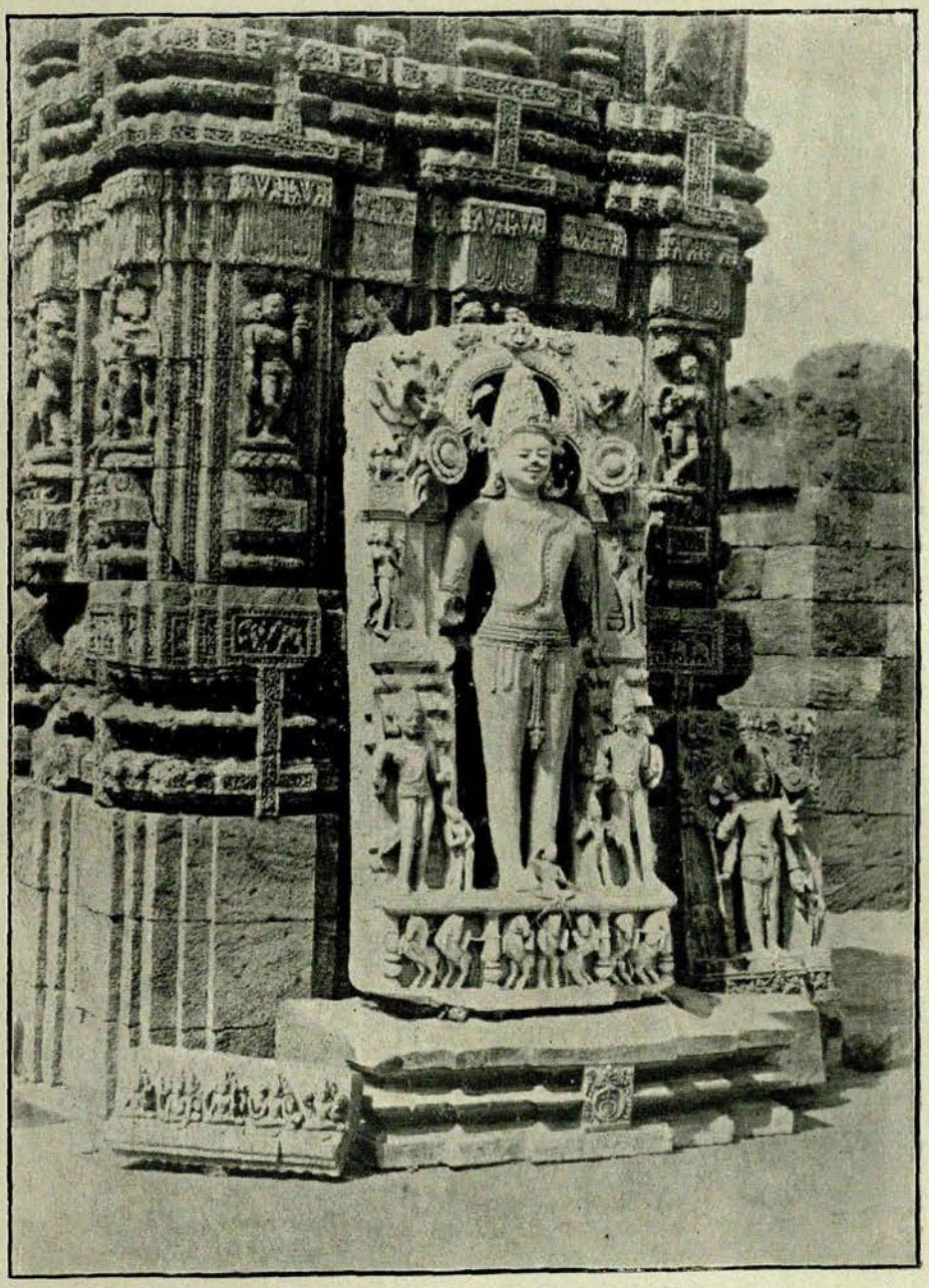
The slab containing this scene contains a seated figure without head represented as reading a book and explaining the contents to his disciples standing in front ; below this, is a scene of seated figures. The lowest section shows a few standing figures with an elephant and a well caparisoned horse.

Nothing is interesting in the next slab which shows an archery scene, except that it contains in the lower section a well caparisoned horse and some foot soldiers.

Sita's marriage.

The slab containing the scene of the marriage of Sita is interesting. It is divided into three sections containing different scenes. The first section represents the marriage of Sita Devi ; the king Janaka offers her in marriage to Rama Chandra ; Vasishtha is noticed in the middle. The second section represents a dancing scene ; four girls are dancing with their arms resting on one another's shoulder ; a few monkeys are enjoying the scene. The lowest section shows a group of female musicians playing on Pakhoaj (a sort of drum), cymbals, and clarions. The scene represents a

Plate XXVII.



The Sun-God found in the Bhogamandapa at Konarka.

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marriage procession, and an elephant and a horse are marching with it. The horse is caparisoned, saddled and provided with stirrups. The horse and the elephant have been most naturally represented.

The slab containing the standing figure of Vishnu measures 3'-1" × 1'-7½". It is a four-handed figure holding in the right and left upper hands *Sa*nkha and Chakra, and in the right and left lower hands, gad*a* and a lotus. The hand holding the lotus is in a pose of benediction. It has the characteristic mark on the left lower palm. The figures of Brahm*a* and Mahe*s*vara are noticed on the right and left respectively. The pedestal has a floral work carved on it flanked by female devotees kneeling with folded hands.

Vishnu

The slab in which the figure of Surya is carved is 6'-1½" × 2'-11", and is made of a variety of chlorite called *S*ankhamala in common parlance. The figure is 4'-10" in height. The lower portion of the slab is cut into a pedestal with Arüna, the charioteer of the sun-god represented as driving seven horses depicted on the face of the pedestal ; the horses are harnessed. The reins are gathered together and are held in the left hand of Arüna seated at the feet of the deity with a whip in his right hand.

Surya.
Plate XXVII.

The standing figure of the sun-god is flanked by two figures holding a sword and a shield. There are two small figures of

rishis or sages in the spaces between the main image and the standing figures referred to. Further up, there are two female figures standing in peculiar poses on both sides of the image ; there are two flying nymphs at the top. The image has two full-blown lotuses on the two sides near the level of its ear ; it held them in two of its hands which are now broken. Near the lotus on the right hand is seen the figure of a rider about to strike with his sword and having his kilted legs inserted in the stirrup.

The image of the sun-god has an elaborately worked head-dress of a conical shape ; the deity has the characteristic ornaments for the arm, ear and neck. One thing worth noticing in connection with this is that the eyes of the image are not finished.

The slab was originally in the western niche of the temple of Ramachandi described above, whence it has been removed to the bhogamandapa.

Date of the temple

The historical records that we may fall back upon for ascertaining the chronology of the temple are the following, *viz.*, (a) the Madla Panji, (b) the copper-plate inscriptions of the Ganga kings and (c) the Ain-I-Akbari.

The Madla Panji has very little historical value ; it also contains contradictory statements in many cases ; but one of such statements would serve our purpose of fixing the chrono-

logy. Dr. Mitra has quoted the following from the Madla Panji in his Antiquities of Orissa, Vol. II. I do not understand the cogency of the reason which has led Mr. Bishan Swarüp to reject it as "utterly incorrect."* It runs thus :—

सपुच्छ नरसिंहेन चक्रेश्वरेणांशुमालिनः ।
प्रासादः कारितो राज्ञा शके द्वादशके शते ॥

The temple for the "ray-garlanded god" was built at the instance of the tailed king Narasinha in the year 1200 Saka, *i. e.* in the year 1278 A. D. This date of the Madla Panji receives corroboration from the copper-plate inscription of the Ganga kings wherefrom we learn that the temple of Konarka was built in the 18th year of the reign of Narasinha Deva.

There is a little difference of opinion regarding the date of accession of king Narasinha to the throne of Orissa.

According to Babu M. M. Chakravarti, Nrisinha Deva I. ascended the throne in 1160 Saka†, and reigned up to 1186 Saka, *i. e.* from 1238 A. D. to 1264 A. D.; hence the construction of the temple is dated in the year 1256 A. D.

The year of ascension that is deduced from the reading of the copper-plates is 1258 A. D, if we take the date of Chodaganga's accession to the throne in 999 Saka, or 1075 A. D.

* Bishan Swarüp, Konarka, p. 71.
† J. A. S. B. Vol. LXXII, p. 120.

I give below the tabular statement of the names of the Ganga kings headed by Chodaganga with the date of accession to the throne against the name of each.

	Date of accession.
Chodaganga	999 Saka or 1075 A. D.
Kamarnava Deva II.	1145 ,,
Raghava	1155 ,,
Rajaraja II.	1170 ,,
Aniyanka-bhima Deva I.	1195 ,,
Rajaraja III.	1205 ,,
Aniyank-bhima Deva II.	1225 ,,
Nrisinha Deva I.	1258 ,,
or Narasinha Deva	

Thus we see that Nrisinha Deva ascended the throne in 1258 A. D., and hence the temple was constructed in 1276 A. D ; this very nearly coincides with the date of the Madla Panji, *i.e.* 1278 A. D.

An account of the temple of Konarka is found in the Ain-I-Akbari which apparently tends to upset the conclusion arrived at from the inscription and the Madla Panji. I quote below the portion of the account having a bearing on the date of construction. "It is said that somewhat over 730 years ago, Raja Narasing Deo completed the stupendous fabric and left this mighty memorial to posterity."* From the above

* Ain-I-Akbari, translated by Colonel Jarrett, Bibl. Ind. Vol. II., p. 128.

statement of Abul Fazl, the general belief is that the temple of Konarka was built in 850 A. D. Fergusson has supported the above date* by advancing a theory, which, of course, has no sound basis, that the temple of Konarka indicating a climax of the art of architecture could never have been built after the temple of Jagannath showing distinct signs of decadence. In his own words, "it seems impossible—after the erection of so degraded a specimen of the art as the temple of Puri (A. D. 1174)—the style ever could have reverted to anything so beautiful as this...In all this uncertainty we have really nothing to guide us but the architecture, and its testimony is so distinct that it does not appear to me doubtful that this temple really belongs to the latter half of the 9th century."* The argument of Fergusson seems to me fallacious ; the abstract theory of evolution or involution has not a universal applicability without any consideration for circumstances. I have already touched upon this point in considering the chronology of the caves at Udaygiri.

The account of Abul Fazl is clear on the point of chronology ; he refers to Narasinha Deva as the builder of the temple ; and I have shown above the time when Narasinha Deva flourished. It is too much to expect accuracy in that remote period regarding the date of a king whose seat of

* Fergusson, History of Indian and Easern Architecture, (1876), p. 426.

government was situated so far from the place where the statistical account was compiled.

I may passingly refer to the figure of Jagannath (see page 475) noticeable on a slab recovered from the debris of the vimana of Konarka. From this it is evident that the temple of the sun-god must have been built long after the temple of Jagannath at Puri was constructed, *i. e.* after the twelfth century A. D. at least.

Restoration of the mohana.

The mohana has been filled with sand after closing the doorways and lining the walls with masonry 15 feet wide. The lining of masonry was necessary to counteract the lateral pressure exerted by sand. The first stage of sand filling as far as possible was done through the northern door which was subsequently blocked up; a 3-inch hole was bored through the amla, and sand was dropped through it by means of a funnel attached to the hole; a good deal of repair works has been done in addition to that of sand filling. The southern doorway had to be strengthened by providing a sort of buttress (vide plate XXII).

The huge lions were removed from the floor of the bhogamandapa and placed at the two sides of its entrance on the east; the bhogamandapa was also cleared of sand, debris, etc. All this was completed in 1905; the work of repairing the vimana and removing the debris was taken up in 1906; in

course of the removal of the debris, the temple of Ramchandi was discovered. We should express our thanks to the government for spending nearly a lakh of rupees for doing the above works. From this it can be imagined what a fabulous sum must have been spent in constructing the temple. I conclude this chapter by quoting from the Ain-i-Akbari, the portion giving us an idea of the cost incurred for the construction of this temple.

"Near Jagannath is a temple dedicated to the Sun. Its cost was defrayed by twelve years' revenue of the province. Even those whose judgment is critical and who are difficult to please stand astonished at its sight"*. The annual revenue of Orissa at that time was 3 crores of rupees or £20,00,000 nearly.

* Ain-i-Akbari translated by Col. Jarrett, Bibl. Ind., Vol. II, p 128.

APPENDIX—I.

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APPENDIX—II.

GLOSSARY OF INDIAN TERMS.

*A*di Parva—One of the eighteen sections of the Mah*a*-bh*a*rata.

Agni—the god of fire and regent of the south-east.

Air*a*vata—the celestial elephant, the vehicle of Indra, the king of the gods.

*A*mlaka *Sil*a, or *A*mlaka, or *A*ml*a*—the block of stone having a ribbed appearance and presenting the form of an oblate spheroid ; this is placed over the *beki* or the cylindrical block of stone placed over the last course of the rekha portion of the temple. Illustrated on plate II.

*A*nanda—a disciple of Gautama Buddha.

Ananta—the prince of snakes. Ananta is another name of Balar*a*ma.

Anartha-p*a*ga—is the pilaster of a temple next to the corner one. Illustrated on plates II., IV.

Andhras—These people occupied the portion of India between the deltas of the Krishn*a* and the God*a*vari ; they became powerful after the death of Asoka. Kalinga came under the Andhras in the second century A. D.

Anga—the Indian principality mentioned in the Mahabharata and other works corresponding with the modern district of Bhagalpur.

Apas—Water.

Apsara—nymph or heavenly maiden; the figure of it is noticed as an ornamental representation, both Brahminical and Buddhistic.

Arka—the Sun.

Arka-kshetra or Surya-kshetra—the sacred place of pilgrimage assigned to the Sun; another name of Konarka.

Arüna—the charioteer of Surya or the sun-god. Arüna is the name of the god of the Dawn. Arüna and Garüda were Casyapa's son by Vinata. Arüna is represented as thighless.

Aruna-stambha—a pillar dedicated to Arüna or the Sun; the monolithic stone pillar in front of the temple of Jagannath; it was originally in front of the temple of Surya or the sun-god at Konarka. Illustrated on plate XX.

Ashta Sakhi—eight maidens or female figures carved in the barandi of the anartha-paga.

Ashta Sakti and Ashtashtaka-Sakti—explained on page 176.

Ashta-tala—a standard of measurement for carving images

according to which the length of the image is eight times the length of the head from the crown to chin. (Ashta = eight ; tala = standard of measurement). This measurement has been referred to in Sukra Niti.

Asura—the common name for all the antagonists of the *Suras* or gods. They consist of several classes. Asura is also a Buddhist demi-god.

B*a*d*a*—the term for the cubical portion of a temple up to the pyramidal or curvilinear spire. Illustrated on plates II, III.

B*a*li*a*-kha*d*i*a*—a variety of sandstone.

Bandhan*a*—the third element from below upwards of the b*a*d*a* ; it usually consists of three mouldings and is accordingly called Tinkarma or Tink*a*ma. Illustrated on plates II, IV.A.

B*a*nk*a*-j*a*li—A sort of j*a*li or lattice or honey-combed work described on page 196.

Bar*a*jh*a*nji—a sort of carving lining the doorway of an Orissan temple illustrated on plates V, Fig. 3 and V.A Fig III.

B*a*r*a*ndi or *Sa*kkar or *Si*kkar—the second and the fourth elements out of the 5 elements of the b*a*d*a* from below upwards. They contain niches for the dikpatis. Illustrated on plate II. The lower b*a*r*a*ndi usually contains