

Indian Civilisation Series
Founder-Editor : the Late Prof. V. S. Agrawala

NO: XXIX

MOHENJODARO A FORGOTTEN REPORT

The Indian Civilisation Series

Editor: Dr. P. K. AGRAWALA

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Forthcoming

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MOHENJODARO A FORGOTTEN REPORT

By

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&

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Publishers' Note

When Sir John Marshall wrote on the Monuments of India in Cambridge History of India (1922), considering the cyclopean walls of Rajagriha to be the ancient most monumental remains of India, expressed his ignorance about the great monuments of Mohenjodaro underneath the *stupa* site. However, in 1921 itself Harappa was established as a chalcolithic site by Rai Bahadur Deyo Ram Sahni. In 1922 Prof. R. D. Banerji found similar chalcolithic remains at Mohenjodaro beneath a Buddhist *stupa*. He conducted excavations at three sites and submitted a report, bringing thus, entirely a new civilisation to light.

But what happened to his report ? It was forgotten for long, though submitted to the then Director General of Archaeology in about 1926. R. D. Banerji submitted it as first report on Mohenjodaro for immediate attention and publications by the Department of Archaeology, Government of India along with illustrations and photographs in profusion.

Sir John Marshall concealed the report for four years and when he prepared his own report on Mohenjodaro he returned it on 16th January, 1930. He did not return the original copy by R. D. Banerji which he retained with himself; but a type-copy was sent to R. D. Banerji, when he left the department and joined Banaras Hindu University as Manindra Chandra Nandi Professor. The typed copy was returned not by Marshall but by H. Hargreaves. As the letter shows, the basis for returning the type-script was disagreement of Marshall and R. D. Banerji on the interpretation of antiquities. He abused the report as diffused and irrelevant. Even then he showed his intention that if he takes some material from this report, he would acknowledge (which of course he never did). He also insisted that Prof. Banerji should publish this report prior to his own publication on Mohenjodaro.

But where was the time left ? He returned the duplicate type-script in 1930 and in 1931, he brought his own volumes *Mohenjodaro and the Indus civilization*. Considering the inadequate printing facilities during those days and the fact that the returned report was incomplete, that span of time of one year was too short. Moreover, the photographs submitted along with the original report by R. D. Banerji were retained by Marshall himself. Despite several requests, neither the full and original report, nor the photographs were returned to Banerji.

So mere courtesy suggestion that in order to avoid misunderstanding he should publish his report, prior to Marshall, as a matter of fact was not only ridiculous and impractical, but also disgusting.

Now, when it is not a concealed fact that R. D. Banerji was first to identify Mohenjodaro, as a chalcolithic city, scholars were in hunt for the original report of Mohenjodaro. We somehow procured the report and in order to demonstrate its authenticity in more faithful way, we are publishing the report as it was available to us. Scholars are invited to give their judgement not only on the factual matter, but also on the whole approach of Marshall towards Banerji.

New Delhi, the 16th January 1935.

DUPLICATE.

Dear Mr. Banerji,

I am sending herewith a typescript copy prepared by Sir John Marshall of the article on Mohenjodaro that you submitted to him some four years ago for publication by this Department; and I accord my permission to your publishing it if you so desire. Sir John is retaining your original manuscript with him. I regret to say that the photographs that accompanied it are not now traceable.

Sir John had originally intended to publish this article in his volume on Mohenjodaro, but he now states that after an exhaustive examination of it he has decided that it is altogether too diffuse and contains too many mistakes and irrelevances for him to do more than quote extracts from it. Although therefore your article cannot be published by this Department, Sir John assures me that he is endeavouring to give you in his publication the fullest credit for your share in the work at Mohenjodaro, and that for this purpose he is making such use of what you have written as is possible. Both Mr. Mackay and Sir John Marshall would much prefer that you should publish your article before the Mohenjodaro volumes come out, as there could then be no loophole for misunderstanding the precise extent of the debt due to you. Sir John thinks it would be unkind, however, not to warn you that many of your theories are quite untenable and many of your statements incorrect.

Will you be good enough to let me have an acknowledgment of receipt of the typescript copy sent herewith?

Yours sincerely,

H. Harcourt

Prof. H. Banerji, Master
Bharati University, Benares

Enclosure: 1 typescript copy of an article.

Contents.

A.	Introduction.....	1- 25
	I. The Situation.....	
	II. Ruined Pre-historic Sites in Sindh.....	
B.	Mohenjo-Daro.	26- 80
	III. The Situation	
	IV. The Stupa Site or Site No. I.....	
	V. The Stupa.....	
	VI. The Quadrangle around the Stupa.....	
C.	Site No. II.	81- 101
	VII. The Situation.....	
	VIII. The Shrines of the East.....	
	IX. The Shrines in the North-East.....	
	X. The Main Shrine in the North & East....	
D.	Site No. III.	102 - 110
	XI. The Situation	
	XII. The Nature of the Structure.....	
E.	XIII. The Masonry.....	111 - 166
	XIV. Burial Customs.....	
	XV. The Pottery.....	
	XVI. Objects of Stone.....	
	XVII. Objects of Faience and Bone.....	
	XVIII. Objects of Metal.....	

INTRODUCTION.

I. The Situation.

Mohen-jo-Daro or Mohen-jo-Mari is the modern Sindh name of a vast area covered with ruins in the Labdarya Taluka of the Larkana District of Sindh. The ruins lie between the present bed of the river Indus and the Pak-Kotri section of the North Western Railway. Several old beds of the river, such as the Lanyaro, the Western Kara etc. lie in this tract. The ruins of Mohen-jo-Mari are situated between the Lanyaro and the Western Kara, and the western extremity of the ruins lie at a distance of six miles from the village of Dokri which is the head quarters of the Labdarya Taluka and 8 miles east of Dokri Railway station. The area covered by the ruins is nearly 210 acres, which are included in the Dokri Reserve Forest area. The forest consists of low thorny scrub and ~~Babul~~ trees surrounding the ruins. During the survey of the area covered with bricks, numerous smaller ruins were discovered in the forest proving that the entire area originally covered by the city, exceeded seven hundred and fifty acres.

These ruins were visited by my predecessor in the Western Circle, Mr. (now Professor Dr.) D.R. Bhandarkar, M.A., in 1911-12 and a photograph of the ruins was taken at that time. After visiting the ruins Mr. Bhandarkar wrote that the place could not be more than two hundred years old, as no carved bricks nor any structure of the nature of the Buddhist stupa was discovered at the place. In 1917 I was requested by the Commissioner in Sindh to advise him regarding the classification and the declaration of a number of ruins in Sindh as protected monuments according to the Ancient Monuments Preservation Act of India (Act VII of 1904 S.C.). In accordance with this request I started examining all such ancient ruins and sites of Sindh in October 1917. At the time of my

first

first visit to Mohen-jodaro, in December 1919, I found out that the highest point in the ruins in the mud drum of a hollow Buddhist stupa (Garbha Chaitya) which had escaped the notice of Prof. D.R. Bhandarkar. At the same time I picked up a small scraper or chert of flint. During the next three years I visited a large number of ruins of ancient cities in different parts of Sindh and in December 1922 I came to the conclusion that Mohen-jodaro must be one of the oldest sites of India. It will be necessary in this connection to devote a few pages to the consideration of various steps undertaken by me to prove that Mohen-jodaro cannot be a modern site.

II. Ruined Pre-historic Sites in Sindh.

Sindh is divided by nature into three different parts which differ very much in situation and climate from each other. These three parts are:-

(a) Upper Sindh consisting of the districts of western bank of the river Indus and (2) Larkana on the western bank of the river Indus and (3) Sukkur.

(b) Central Sindh or the most fertile part of the Indus basin, consisting of the districts of (1) Nawabshah on the eastern bank of the river, (2) Hyderabad, and portions of (3) the Thar and Parkar District.

(c) Lower Sindh or the Delta of the Indus consisting of the districts of (1) Karachi and (2) Thar and Parkar.

Up to the time of my first visit to Sindh the explorations of the Archaeological Survey were confined entirely to Central and Lower Sindh. Systematic excavation of ancient sites in Sindh was begun by Mr. H. Cousens formerly Superintendent of the Western Circle of the Archaeological Survey of India at Bhambhro-jo-Thul on Brahmanabad in 1908-9. Subsequently he began the excavation of the great Buddhist site called Kahu-jo-Daro in the town of Mirpur Khas, the head-quarters of the Parkar District. His successor in office Prof. D. Bhandarkar excavated two ancient sites, one in Central Sindh.

Ibid 1914-15.

Sindh and the other in the Delta. In 1915 he excavated the ruins of a Buddhist stupa near Gaja on the Phuleli river in the Hyderabad District, and in 1916 a portion of the outlying area of the Buddhist ruins near Mirpur Khas. The systematic survey of the ruins situated in the northern part of Central Sindh and in upper Sindh began in my time in 1917.

I came across a number of ruins in which I found to my surprise that bricks of a small size, very much like modern bricks, eleven inches or eleven and half inches in length and four or five inches in breadth, were invariably associated with scrapers or cherts of flint. All of these ruins are situated in upper Sindh, with the exception of Badin in Taluka Badin of the Hyderabad District. The association of bricks of a modern size, or rather of such bricks as we are accustomed to associate with the British Period of the History of India, with neolithic implements was noticed in the ruins of Vijnot in the Sukker District after the ruins of Mohen-jo-Daro.

The ruins of Vijnot are situated at a distance of five miles from the Reti Railway Station, on the North Western Railway, in the extreme north east of Sindh. These ruins were inspected by me for the first time on the 20th December 1919. They cover a vast area and consist of huge piles of bricks. The only structural remains visible above the ground are a few Musalman tombs and a modern tower, which bears on it the bench marks of the Trigonometrical Survey of India. I visited Reti again in December 1920 and at that time I picked up a very small scraper of flint on the top of the one of the highest mounds of brick. On a closer examination of the site I found that the ruins of Reti were situated on the banks of an ancient river which came from the north east. The great Thar or the Indian desert begins within a mile of the ruins of Vijnot. The huge dunes of sand can in fact be seen from the top of the modern tower erected by the great Trigonometrical Survey of India. Three miles to the east of Vijnot I came across the old river bed which

which ran in a north easterly direction. Bearings taken on the spot proved that this river bed is no other than the great Hakro or Ghagger, which is one of the oldest beds of the Sutlej or the Vedic Saraswati. Subsequently I followed this old river bed from the northern part of the Bikaner State. It flows in a southerly direction from Bhatinda in southern Punjab as far as Hanumangarh or Bhatner. From Bhatner, which by itself is a ruined site, the course of the river can be traced for nearly one hundred miles by the growth of vegetation in its bed in the midst of the desert. Excavating at Bhatner the late Dr. L.P. Tessitori discovered numerous urns with pointed and exactly similar to those discovered at Mohen-jo-Daro and Harappa, along with other fragments of pottery which suggest a connection of the ancient culture of the northern Rajputana with the newly discovered civilization of the Indus Valley. The Bikaner railway runs along the bed of this river as far as Suratgarh and then turns south towards Bikaner. The river turns towards the west near Suratgarh and enters the Bahawalpur State. All along the ancient bed of the Ghagger or the Hakro, Babul trees growing more diminutive in size as they approach the margin of the desert, mark the flow of sub-soil moisture. Past the Bahawalpur State, the Hakro emerges into British territory near Vijnat. If one follows the bed of the Hakro into the desert to the north west of Vijnat he comes across the ruins of towns and villages built up of bricks exactly similar to those excavated by Dr. Tessitori in the Bikaner State. In this area, I found fragments of massive terra-cotta figures reminiscent of the Mathura School of sculpture, of which Dr. Tessitori secured a fairly good collection for the Bikaner State Museum, and Rai Bahadur Pandit Daya Ram Sahni has also discovered many specimens at Harappa in the Punjab. The bed of the Hakro follows a south westerly course from Vijnat and then loses itself in the desert near the village of Hakro in the Ghotki Taluka of the Sukkur District. The connection between

the

the Hakro and the eastern Nara is missing. In this area i.e. between the railway stations of Ghotki and Rohri I discovered the beds of many small channels but none of them ^{was} large enough to be recognised as the continuation of the Ghaggar or the Hakro. This part of the country is now well cultivated and it is difficult to recognise the beds of rivers on account of the increase in irrigation. Sindhi peasants usually cultivate in the accumulated alluvium of old river beds and will very soon obliterate all signs of river banks and their curving outlines. We are more fortunate in this respect in the areas around the Mohen-jo-Daro and Rati.

Beyond Walhar Station on the main line of the North Western Railway running to Karachi we are faced with a new problem. Up to this time writers on the topography of Sind have generally recognised that the river bed called the eastern Nara is the older bed of the Sindhu or the Indus. Both the eastern Nara and the Western Nara were once beds of the river Indus. The eastern Nara can be traced as far as Dhoronaro Station on the Hyderabad-Luni Section of the Jodhpur Railway. The word Dhoronaro in Sindhi means "the place where the Nara has ceased to flow."

The first problem which faces us is whether the Ghaggar or the Hakro ~~was~~ continued right up to the Rann or Rann of Cutch or not. My survey of the river beds to the east of Aror, ^{show} proves that at one time the Indus was diverted both towards the east and the west by the low lime-stone hills of Rohri-Bukkar and Sukkur, before it cut out the present channel through the Rohri-Bukkar gorge.

The river survey carried on to the east of the present bed of the Indus gives clear evidence that at one time the Hakro continued to flow right up to the old bed of the Gul of Cutch which is now represented by the dry salt desert called the Upper Rann. The older maps mark a river named Rainsi to the east of the present bed of the Indus, but the Rainsi is too far away to the east to be regarded as a continuation of the Hakro. At what time the Hakro ceased

to flow and the Sutudri joined the Indus river system as known in the modern historical period, it is very difficult to say. But one fact is clear, as Mr. J. Abbott hints, that the Rann and the old river beds to be found in the desert taluka of Diplo or Dipia, Mithi, Chhachro and Nagar Parkar are really the remains of the ancient Delta of the Hakro. At some subsequent date, when the Upper Hakro had either dried up or joined the Indus above the Rohri hills, its bed, further down, became dry. This fact can be proved by the results arrived at after the first excavations of Mohen-jo-Daro, when it was conclusively proved that the western Nara is much older than the lower course of the eastern Nara on which the mediæval cities like Alor and Brahmanabad stood. The western Nara, which can now be traced from the northern part of taluka Rato Dero of the Larkana District, appears to represent, with its system of adjacent or parallel beds, the original course of the Indus. It followed the outline of the eastern range of the Kirthar system and emptied its waters in the Manohar lake. It emerged from the lake through the bed, which is now called the Aral river, as it was headed away towards the east by the north eastern projection of the Kirthar system in taluka Sehwan, and followed its present course through talukas Kotri and Haiderabad. Whether the Indus, before its junction with the Sutudri, was as powerful as it is now, is a question which still remains to be solved.

We must now follow the old course of the Hakro or the Sutudri before describing the western Nara, its affluents and tributaries. During the survey of that part of Sindh which lies to the east of the present bed of the Indus, it occurred to me that, ~~there were~~ ^{at} ~~two~~ ^{two} different periods at which the eastern Nara was flowing. After the end of the survey and the first excavations at Mohen-jo-Daro I was able to understand the exact periods when the eastern Nara was a flowing river. The oldest of these periods is that of the independent Hakro or Sutudri, which, taking its rise in the northern hills, flowed through southern Punjab,

7.

Bahawalpur State and Sindh, finally emptying its waters in the great inland sea which is now represented by the Rann of Cutch. In order to understand the original outline of the country and the river we must take the greater and lesser divisions of the Rann together as one great inland sea into which many rivers emptied themselves. The Rann formed an integral part of the Arabian Sea to the north of which lay the great delta of the Hakro or the Satudri; extending from the modern town of Patri to the north west of Viramgam, to the Kori Creek. As at the present day, the Indus is divided into a number of channels just above the sea, such as the Piti Mouth, the Juna Mouth, the Hajamro Mouth, the Khedewari Mouth, the Mal Mouth, the Wari Mouth, and the Sir Creek, so also, in the case of the delta of the Hakro, the river divided itself into a number of channels all of which emptied themselves into the Rann of Cutch. When the flow of the Hakro was revived at a much later date, the beds of the old river in the delta of the Hakro became partly obliterated. This conclusion was proved by the existence of a number of large and small dry river beds which could not have formed part of the later delta.

In order to understand the outline of the later delta it will be necessary to consult the present outline of the eastern Nara. After emerging through the State of Khairpur, the eastern Nara enters taluka Sanghar in the north western part of the Nawabshah District. From this point up to taluka Pithoro the present bed is a vast expanse of sand with a cluster of small dhandas or inland lakes along its sides. The existence of the inland lakes proves that at one time the northern part of the Thar and Parkar district was a huge marsh, like portions of the modern district of Karachi. The ramifications of the Nara can still be seen in other beds such as the one which exists under Bhambhro-jo-thul near the railway station of Jhol on the Jodhpur railway. To the east, the easternmost

easternmost limit of the delta was formed by the Dhoronaro branch, the lower course of which is now lost in the sands. The extension of irrigation, specially of the Northern and Southern Jamrao system, is fast obliterating all signs of the old river beds which formed the affluents and the tributaries, either of the Hakro or of the Indus. If one journeys from Gadro Road Station to Nagar Parkar he comes across numbers of older and comparatively newer channels. While the newer channels afford a supply of comparatively sweet water, the beds of the older channels are merely holes in the sandy waste in which we find only a very limited supply of brackish liquid just after the very scanty rainfall of north western India.

The road from Gadro to Nagar Parkar passes through a country which must have been extensively irrigated at one time. The southern part of this country, specially the talu-kae of Nagar Parkar and Mithi, is still very rich in pre-historic antiquities and mediaeval monuments. Mediaeval Jain temples still exist at Gori, Virawah, Bhodesar, Mundra and Kasba. In this area, which lies to the east of the ancient delta of the Hakro, the connections with the northern part of the ancient kingdom Gujarat, now included in the State of Jodhpur, are more pronounced in the case of the mediaeval monuments; but as regards pre-historic antiquities no connection can be found between Gujarat and the ancient delta of the Hakro. We do not know as yet whether the river Luni, an old bed of which can still be seen below Marwar Fali, in the Godwar District of the Jodhpur State was one of the eastern tributaries of the Hakro or had any connection with the inland sea represented by the Rann of Cutch.

The western part of this Delta is more interesting on account of the various pre-historic sites discovered therein. In this part also we can prove definitely that the older delta of the Hakro, which had dried up, was re-watered at some subsequent date, when the Indus abandoned

its

its western channels and flowed once more towards the east of the Rohri-Alor hills. Portions of the old delta lie in the districts of Haidarabad, and the extension of irrigation during the present century hasten the removal of all traces of the ancient river system of the surface. It has become absolutely impossible to trace an older bed of the Hakro from the Sanghar taluka of the Nawabshah District to the present course of the Puran Dhoro, which forms the boundary between the Haidarabad and Thar and Parkar District. The Puran Dhoro at one time flowed south west and a part of its bed can be seen below the ruined city of ~~the~~ Badin. This old course exists for about three miles only and its northern part has been destroyed by the canals emanating from the Gunt and the Puran Dhoro. Speaking roughly, the easternmost branch of the Hakro flowed past Brahmanabad, close to the modern town of Mirpur Khae in the Taluka Digri, taluka Tando Bago and taluka Badin and emptied itself in the eastern part of the Rann. That this branch of the river was at one time very big and extensive is proved by the vast walls of sand which still stand to the south of Badin and the deep trench it had scoured through the bed of the Rann, which exists under the name of the Kori Creek. The antiquity of this bed can be proved by the existence of the pre-historic sites of Brahmanabad or Bhambro-jo-thal and Badin on its banks. At Brahmanabad, Couzens came across antiquities of a type which are clearly pre-historic in nature and the virgin site of Badin, which can be called ^{well the} the only rival of Mohen-jo-Daro in antiquity and extensivity has proved its antiquity by the discovery of numerous scrapers or knives of the same type as those described by Dr. Blanford more than half a century ago and those discovered during the first excavations of Mohen-jo-Daro.

This obliterated river bed is the only remains of the once powerful Hakro, on the banks of which cities flourished and through which the trade of north western

... passed into the hands of foreign nations etc. Then
... flowed, the Indus existed as a separate river-
... and followed the contour of the hills on the
... ranges closely. The west courses of alluvial
... which extends from the present bed of the Indus to
... hills of the Kirthar and which formed a barren
... before the extension of the irrigation system
... the west under the British, was a land totally
... to the antiquarians before the year 1917, yet
... it was in this tract of the country that the oldest traces
... of civilised man have been discovered in India. The
... problem whether the Indus had succeeded in boring a hole
... through the dead limestone ridge of the Bakkar-Bakkar-Rohr-
... range still remains to be solved. There cannot be any
... doubt that at an earlier date the barriers of these low
... hills had succeeded in deviating the course of the great
... river on more than one occasion. The narrow bed of the
... river between the Kohri hills and Bakkar hills proves that
... the current has eaten its way through these hills at some
... later date and before that it was deflected both to the
... east and to the west. Above Bakkar, to the west, the
... old bed has been utilised to some extent by the Irrigation
... Department and the connection cannot be traced from taluka
... Bakkar to taluka Pato Dero, though it is quite possible
... that the Dhoro Bitch in the Kashmir and Kandhkot talukas
... of the Jaisalmer district, which is a natural continuation
... of the Bitch Canal, is perhaps the ancient northern
... channel of the western Hara. Through taluka Bakkar and
... talukadarht Yasin the river bed can still be traced at
... places where the modern irrigation canals are few and
... far between.

The western Hara is now used as an irrigation
... canal with numerous ramifications and branches. From
... December 1919 to December 1922, surveying between the
... present channel of the river Indus and the Kirthar range
... I came across no fewer than eighteen old beds of the
... river. There is a river or rather an old river bed which

passed through the Mula pass after traversing the northern part of taluka Shahadpur. The eastern end of this river bed is lost in the mass of sands in the eastern part of the taluka. But in the north eastern part of the taluka Zambur, the bed can be traced near the modern raised city of the Shahid-Sera. On the western side of the Khirthar range, close to the pre-historic stone monument called "Katta-jo-Kaba, "the dog's tomb", this river continues southwards and in its bed there are extensive stone embankments and "dams" or pre-historic tanks, which go to prove that in the beginning of the copper age a big river flowed from India through the Mula pass into Baluchistan and joined the upper system and tributaries of the Indus or the Paraiti. The present level of the Mula pass is much higher than that of taluka Shahadpur to the east of Karachi Gaudana on the west of the Khirthar. When the river Indus flowed along this channel it is very difficult to say, but the discovery of marine fossils in the Mula pass makes it certain that at one time the pass was a gorge through which the waters of a mighty river flowed.

At some remote date the passage of the river westwards through the Mula ceased, and the waters were forced to follow the outline of the valley east of the Khirthar range. Like the Vindhyas and the Himalayas, the Khirthar consists of two or three parallel ranges or groups of hills. The valleys in between are now practically deserted. They are far away from railways, and the scarcity of water prevents people from living there; but during my survey I found out that at one time these valleys supported a large population and were freely irrigated. From what source the supply of water in this system of irrigation was derived, it is very difficult to determine at the present day. Many of the valleys are much higher in level than the present valley of the Indus. If this was their original level, irrigation must have been then extremely difficult in the primitive days of the water-wheel and the canal. The nature

of irrigation system shows, however, that the supply of water in the valley of the Khirthar was, at one time, has been much more abundant. My survey of the Khirthar range was confined to the western parts of the taluka Shahdadpur in the Upper Sindh Frontier or Jacobabad district and the talukas of Kambar, Kakar, Johi and Sehwan of the Larkana District. In the Shahdadpur taluka the valley of the Khirthar consists of a long narrow triangular piece of land broadening towards the south. The remains in this area are few and far between, and the scarcity of water and plant life makes it impossible for a party to stay for a long time in it. In the adjacent taluka of Kambar there are several openings in the hills on the east. Through these openings several river beds can be seen descending to join the old beds of the Indus at Ghaibi-Dero. The area of this valley narrows towards the south. The pre-historic remains in this part of the Khirthar valley consist of arrow-heads and fine neolith found on the surface.

In the south western part of taluka Kambar a new range of hills rises in the east which consists of a long line of separate hills running as far as the southern boundary of taluka Johi. In the centre of this taluka/^{the} Khirthar consists of three different parallel ranges. There is no evidence to prove that the Indus at any time passed through the two valleys formed by these three ranges. Through the gaps or passes numerous river beds can be seen going eastwards, which lose themselves in the irrigated area in the eastern part of these talukas. This part of the valley of the Khirthar is very rich in antiquarian remains. The system of irrigation, consisting of dams, supply channels, and sluices have never been properly surveyed before, and want of funds and trained men prevented me from surveying the entire area properly so as to prepare maps. The valley of the Khirthar in the eastern part of the talukas Kambar and Kakar forms a sort of no man's land between British India and Baluchistan. The arid barren, deserted valleys possess no attraction for the Sindh Zemindars or cultivators. The

Revenue officers therefore do not visit this arid tract and revenue or Trigonometrical survey maps are blank between the parallel ranges of the Kirthar. But to the antiquarian it is a tract of country of immense interests and promise and I hope that some of my successors in the Western Circle will find it possible to prepare maps of this area and survey the ruins more precisely than I was able to do with my scanty and untrained staff.

The valley of the Kirthar in this region contains a number of very interesting buildings, which though known to the daring hunter and the Brahat shepherd have not attracted the notice of antiquarians up to this day. To the east of the Dharyano is a round pre-historic building or rather tower of stone, which can be seen from the top of site No. I at Mohen-j-daro on a clear winter day. This tower is ascribed to the Mirs of Sindh of the 18th century and it is said to be the tomb of a dog. On approaching it I found that the construction is clearly prehistoric, and none of these Mirs of Sindh either of the Kalhora dynasty or of the Talpur dynasty could ever have had sufficient means and energy to erect this fortress at any period of their ascendancy. The older remains of the pre-historic period, in that part of the Kirthar valley, which lies between the western ranges in taluka Kambar, consists of the ruins of small towns in which one always comes across scrapers or knives of mammalitic flint of the same type as that discovered at Rohri and described by Blanford and myself at Betti, Alor, Mohen-j-Daro, Ghaibi-Daro, Jhukar and Badin. It appears to me that when rainfall was more abundant in the Indus Valley, water was abundant in the Kirthar valley also. Up to this time the pre-historic ruins of the Kirthar valley have only been hinted at by writers of Sindh, but not explored for lack of water.

J. Abbot-Sind,
Ford University
Press, London,
p. 16

To the south of that part of the Kirthar valley which lies in taluka Kakar are a number of high roads marked by ancient ruins along their sides which inspite of the neglect of three or four thousand years can still be

ed as the great arteries of traffic between India
 and the hamlet of Chato, and pass eastwards and
 through the gaps between the isolated mountains
 of the Indus range and the parallel eastern ranges in
 the north. One road passes from Chato through the pass
 at ten miles to the south of that village into Baluchistan.
 and this road is still followed by Brahuis to Rod
 fort, Miran, Khatkhel and Sules in the now deserted valley
 of the Swati river. Below taluk Joki to the east of the
 ruined village of Indabad, there is a perfect maze of old
 river beds, gilding down from gaps of the eastern range of
 the Indus, which now empty their waters into the Manchar
 lake.

The area that has been described just now, forms
 the oldest part of the Indus river valley; and perhaps the
 second bed of the river Indus. This second course of the
 Indus probably lay along the outskirt of the eastern range
 of the Indus and has now been obliterated for the most
 part by the drift sand. To the south of this old valley
 of the Indus lies the area now called Kohistan, comprising
 the southern part of the Lagman taluk in the Larkana
 District, the hills of the Lohistan taluk, the western part
 of the Larkana taluk and that part of Baluchistan which
 lies to the west of the Pish range. The survey of this
 area has been partly accomplished by some gentlemen of the
 Indian Staff Corps, who have recovered a large number
 of stone implements from the area, but it has no connection
 with the story of the ancient beds of the Indus.
 To return to the older beds of the Indus, we must
 go back to the western valleys of the Indus, we must
 describe the system of Upper Indus. These beds are now
 the most part obliterated by the action of canals, be-
 ginning from the Baghar system in the Juchind District
 and extending to the Indus system in the Larkana District.
 There are a number of parallel deserted channels which

gradually coming under cultivation and which can be easily reached now, after the opening of the Larkana-Shahdadkot-Jacobabad Light railway. From Shahdad Kot travelling westward towards Ghazbi-Dero, I came across eleven of these beds between Kambar and Ghazbi-Dero. The banks of these old channels are studded with deserted townships and villages all of which are of the same nature as Mohen-jo-Daro, though comparatively insignificant in size. The most important of these townships lie in the talukas of Larkana and Nastrabad. One old bed, partly obliterated, runs parallel to the present road from Kambar to Radhan. The Mitho-Daro or the Jhakar mound in taluka Larkana, which hides the ruins of a large town, though not so large as Mohen-jo-Daro or Badin, once stood on the eastern bank of this bed of the Indus. Further south, in taluka Nastrabad the mounds of Dhamraho-Daro stood on the western bank of this old river, which can be seen very clearly just below the waste land surrounding these mounds; but beyond which, it has been obliterated by the Nasrat canal system. The area to the north and south of the Dhamraho-Daro mounds, which was first visited by me in December 1920, is now populated and ancient remains are being fast transformed into modern houses. Mr. Daulatram Beliram Rajput, who showed great aptitude in antiquarian survey work in my time and who drew my attention for the first time to the vast ruins at Dhamraho-Daro, picked up carved bricks from the top of the mound at that place. The upper part of this mound was clearly a stupa in the historical period and existed as a shrine up to the middle ages. But nearly five hundred yards to the south of this stupa mound there lie the ruins of an extensive town, where bricks of modern size are found and are associated with scrapers or knives of nummulitic flint. To the east of this bed of the Indus lie three other one of which is the irrigation channel called the western Nara, which even now discharges its surplus water into the Manohar lake. Mr. J.L.Rieu, I.C.S., Commissioner in Sind helped

1 Pl. IV. a.

2 Pl. V. a.

3 Pl. IV. b.

4 Pl. II. a.

5 Annual Progress Report and the Archaeological Survey of India Western Circle, for the year ending 31st March 1921, P.D.
2 Pl. I. b.

1. I. b.

used as the great arteries of traffic between India and Baluchistan. They begin at the bottom of the Danna and the hamlet of Chuto, and pass eastwards and southwards through the gaps between the isolated mountains of the Khirthar range and the parallel eastern ranges in the Taluka Johi. One road passes from Chuto through the pass about ten miles to the south of that village into Baluchistan, and this road is still followed by Brahuists to Roddarri, Miran, Khustah and Salas in the now deserted valley of the Parali river. Below Taluka Johi to the east of the ruined village of Khudabad, there is a perfect maze of old river beds, gliding down from gaps of the eastern range of the Khirthar, which now empty their waters into the Manohhar lake.

The area that has been described just now, forms the oldest part of the Indus river valley and perhaps the second bed of the river Indus. This second course of the Indus probably lay along the outskirts of the eastern range of the Khirthar and has now been obliterated for the most part by the drift sand. To the south of this old valley of the Indus lies the area now called Kohistan, comprising the southern part of the Sehwan taluka in the Larkana District, the hills of the Kohistan taluka, the western part of the Karachi taluka and that part of Baluchistan which lies to the east of the Pabbi range. The survey of this area has been partly accomplished by some gentlemen of the Indian Civil Service, who have recovered a large number of stone implements from the area, but it has no connection with the story of the ancient beds of the Indus.

To return to the older beds of the Indus, we must go back to the western talukas of the Sakkar district, especially the taluka of Garhi Yasin. These beds are now for the most part obliterated by the means of canals, beginning from the Begari system in the Jacobabad District and ending with the Char system in the Larkana District. There are a number of parallel deserted channels which a

gradually coming under cultivation and which can be easily reached now, after the opening of the Larkana-Shahdadkot-Jacobabad Light railway. From Shahdad Kot travelling westward towards Ghatibi-Dero, I came across eleven of these beds between Kambar and Ghatibi-Dero. The banks of these old channels are studded with deserted townships and villages all of which are of the same nature as Mohen-jo-Daro, though comparatively insignificant in size. The most important of these townships lie in the talukas of Larkana and Nasirabad. One old bed, partly obliterated, runs parallel to the present road from Kambar to Radhan. The Mitho-Daro or the Jhukar mound in taluka Larkana, which hides the ruins of a large town, though not so large as Mohen-jo-Daro or Badin, once stood on the eastern bank of this bed of the Indus. Further south, in taluka Nasirabad the mounds of Dhamraho-Daro stood on the western bank of this old river, which can be seen very clearly just below the waste land surrounding these mounds; but beyond which, it has been obliterated by the Nasrat canal system. The area to the north and south of the Dhamraho-Daro mounds, which was first visited by me in December 1920, is now populated and ancient remains are being fast transformed into modern houses. Mr. Daulatram Beliram Rajput, who showed great aptitude in antiquarian survey work in my time and who drew my attention for the first time to the vast ruins at Dhamraho-Daro, picked up carved bricks from the top of the mound at that place. The upper part of this mound was clearly a stupa in the historical period and existed as a shrine up to the middle ages. But nearly five hundred yards to the south of this stupa mound there lie the ruins of an extensive town, where bricks of modern size are found and are associated with scrapers or knives of nummulitic flint. To the east of this bed of the Indus lie three others, one of which is the irrigation channel called the western Nara, which even now discharges its surplus water into the Manchhar lake. Mr. J.L.Rieu, I.C.S., Commissioner in Sind helped

1 Pl. IV. a.

2 Pl. I. a.

3 Pl. I. b.

4 Pl. II. a.

5 Annual Progress Report and the Archaeological Survey of India Western Circle, for the year ending 31st March 1921, pp. 2 Pl. I. b.

6 Pl. I. b.

helped our Department immensely by making extensive enquiries about Dhanda or ancient river beds in the area between the western Nara and the present bed of the Indus, but the local landholders and revenue officers were unanimous in stating that ruins of the type of the Mohen-jo-Daro or the Manohar-Daro were not known to this area. Beyond Lohi, near the modern station of Dipotara on the Kori-Rail section of the North Western railway, a projection of the Kirthar range approaches the present bed of the Indus and the existence of this spur proves that old beds of the Indus of the recent or subrecent periods must have shaped their courses eastward from this point. The old courses of the Indus, which lie to the east of the western Nara, also appear to have ended in the Manohar lake. The last two channels of this river, the Lanpara and the Dhanda appear to have been almost contemporary. As a matter of fact the Dhanda is only an alternative channel of the river like the Dhoro Bindh in the Kandhkot taluka of the Jacobabad district.

During the rapid survey of these river beds, which lie to the west of the present course of the Indus, ^{it was} ~~I was~~ able to prove conclusively that my predecessor's estimate of the age of Mohen-jo-Daro was incorrect. The discovery of cherts or flakes of flint at Reti, Alor, Ghalbi-Daro and other places served to confirm my doubts about the correctness of ^{my predecessor's} ~~Mr. D. R. Bhandarkar's~~ estimate of the age of Mohen-jo-Daro. ~~Apparently~~ he had been looking for mediaeval ruins of the type of the Buddhist sites at Kahu-jo-Daro near Mirpur Khas or Gaja near Tando Muhammad Khan. My estimate of the antiquity of Mohen-jo-Daro was, however, confirmed by an accidental discovery at Ghalbi-Daro. During a shower of winter rain a portion of one of the mounds slipped down accidentally exposing a square tower or bastion of some brick building in the interior, inside which were arranged a number of large sized round-bottomed jars in a super-imposed row,

Annual Report
of the Archaeologist
of Punjab
1924-25

one, exactly similar in fashion to that described by Mr. H. Dousson at Dhamra-jo-Daro in the Punjab District, even then I was not aware of the importance of the discovery, because I did not as yet suspect that these jars were all burial jars. I went to the top of the mound and carelessly introduced my right hand into the largest one, which was still unbroken. I felt a sharp pain and on withdrawing my hand found my little finger to be bleeding. The Brahmans who had accompanied me thought that I had been bitten by a snake. They broke the jar and found that it was covered with alluvium at the top in which a small sharp scraper of flint was firmly embedded, on which my middle finger had struck. Below the layer of alluvium there were nine smaller jars arranged in four rows, with pointed bottom, each of which contained a small oval-shaped reliquary, containing a single unburnt bone of the human body surrounded by miniature neolithic pottery of the same type as that discovered later on in Rooms No. 27 and 33 of site No. I at Mohen-jo-Daro. This was the first discovery of neolithic or sub-neolithic stone implements underground and not on the surface. The discovery at Ghatbidaro proved definitely that knives or scrapers of neolithic flint was associated with pre-historic pre-occupation burials and the specimens found by me at Reti, Alor, Mithodaro, Dhamraho, Badin and Mohen-jo-Daro were not exactly chance finds. This discovery prompted me to start the excavation of Mohen-jo-Daro immediately as I felt sure that it was one of the oldest sites in India.

After Mohen-jo-Daro, Ghatbidaro and Mumukh-jo-mari the most important site is Mitho-daro or the Jhokar mound, which lies six miles to the north of the town of Larkana. This site has not been disturbed as yet, and in the upper strata sun-burnt bricks were exclusively used as in the upper strata at Mohen-jo-Daro. In area Mitho-daro is much smaller than Mohen-jo-Daro or Mumukh-jo-mari or Badin.

Mr. V.V. Narayana, Sub-Assistant of the Bombay P.W.D. who accompanied me on the occasion of my first visit to Mitro-daro, picked up a small scraper, identical in size and type with the scrapers previously discovered at Rehi, Mohenjo-Daro and Anor on the surface of the ruins. Later on he found several fragments of ornaments made of conch shells and bits of urns with pointed ends exactly similar in shape and type to those discovered during the first excavations of Mohenjo-Daro.

The ruins of Dhamraho-Daro, which lie at a distance of five miles from Badli Station of the North Western Railway, were discovered first of all by Mr. Daulatram Bell Ram Rajput, a Lower Subordinate of the Bombay P.W.D. The site is easily accessible from the railway station and the old bed of the river is very clearly marked to the east of the ruins. The ruins cover an area of nearly two hundred acres of waste land which are much higher than the river bed. This extensive area is a complete waste, and though all structures in the flat portion have since been carried away by the villagers of the neighbourhood, two groups of great mounds still exist to testify to the antiquity of the site. These ruins have been described by me already. In October 1921 Mr. Daulatram Bell Ram brought to me several specimens of curved bricks from the same site, which proved that habitation continued at the site right up to the commencement of the medieval period, say 4th or 5th century A.D., because the curving of the bricks is exactly similar to specimens discovered at Raj Ythan near Bhambhro-jo-Daro in the Tan and Parkar District, at Lakha-jo-Daro in the Tan and Parkar District and at Gerruck in the Kovachi District. The same mound at this place stands at one end of the waste area of the western bank of the ancient river. Separated from it by more than one hundred yards lie another irregular series of mounds of the same type as Mohenjo-Daro or Mitro-jo-Daro (Badr), which at one time I took to be a monastery.

We must now return to the older beds of the Indus to the east of its present channel. The original bed of the ~~Indus~~ Hakro, when it joined the sea in the Rann of Cutch, long before the age of its junction with the Indus has been described above. That the Hakro had a separate delta of its own apart from that to the east of the Indus, is now generally recognised. Mr. J. Abbott says, "Our knowledge of the formation of the Rann has advanced very largely with that of the rivers of Sind and this has been done so slowly that it is only some three decades since first the Rann was accepted as the delta of the Hakro, the great river that ran along the eastern boundary of the Sind already divorced of some of its tributaries of the 10th century, losing still more in the 14th century and it is last associated in the 18th. Thus Hakro slowly departed as the great frontier of Sind, the Indus flowing through the centre of the valley, has assumed its role. It is in the consequence of this great change that the history of the Rann is contained and it is in the period during which this change was being effected that we can trace most clearly the stages in the drying up of the inland sea which preceded the desert of today."

The conclusion I draw from the survey of the old beds of the Hakro, from Hazungark or Bhatner in the Sikandar State, through Bahawalpur, Jaisalmer, British Sind and Khairpur is however quite different from Mr. Abbott's view. The result of this survey of the very old beds has already been stated above, and the conclusion is that at one time the Hakro flowed right up to the Rann of Cutch, but at some subsequent date when its stream dried up, its deserted channel was occupied by the main flow of the Indus. The remains of the cities and towns on the old bed of the Hakro indicate, that this river flowed along the eastern border of modern Sind in the copper age. But the Indus flowed along the southern part of the valley the Hakro in the historical

diverted. The Hakro is really the ancient Sutudra
 channel which it drained, i.e. the same with
 the modern Sattlej. When the Sattlej joined the
 Indus of the Punjab below Multan, that part of the
 which flowed along the north western boundary of the
 of Rajputana became very dry. The ruins explored
 and before me by Dr. L. F. Tassitori, in the northern
 of the States of Bikaner and Jaisalmer, prove definite-
 ly that the cities and towns along the bed of the Hakro were
 deserted some time in the second century A.D., as there is
 clear evidence that they were not inhabited after the period
 of the rule of the Great Kushans. Moreover the remains
 along the eastern Nara proved that the towns, which sprang
 on its banks belong to the mediaeval period of Indian his-
 tory. The tradition prevalent in Sindh that Hakro of the
 Indus was dammed and compelled to flow towards the west, may
 or may not be genuine. There is no trace of such a dam near
 Aror or Alor, and what my friend Dewan Gopal Das Harumal,
 Assistant Engineer of the Bombay Public Works Department
 was pleased to point out to me as the great bund which diver-
 ted the flow of the Indus and caused the ultimate ruin of
 the city of Alor proved to be a very interesting series of
 mounds containing the ruins of the oldest city of Aror.
 Mr. J. Abbott says that the Indus flowed through the Bakhar
 gorge and the Hakro along the eastern boundary of the
 Province of Sindh, and that the modern channel of the
 Nara was on its upper reaches one of its later courses.
 "Our authorities, therefore, most definitely do not assist
 in assumption that the river was suddenly diverted from
 east to west of Alor between the eighth and eleventh cen-
 turies, but, on the contrary, there is some reason for thinking
 that even in these centuries there was a branch of the
 Mihran flowing through the Alor cleft west of Alor, and
 that the modern eastern Nara channel so far from having
 one of the earliest courses of the Hakro, was in its
 reaches, one of its later ones." But the evidence

against the above views. I found it extremely difficult to trace the channel of the Hakro south of the village called Hakro in the Ghotki taluka of the Sakkar district up to the village of Pir-Jo-goth in the Khairpur State. It is quite possible that the old bed of the Hakro is now represented by the dry channel of the small river called Baint in the old survey maps. If this was the case, then a branch of the river or a tributary of the Hakro flowed near Aror at the time when the Indus flowed along the Dhoro Sindh in the Kashmer and Kandhkot talukas of the Upper Sindh frontier or Jacobabad district. There existed an important town near the present site of the village of Alor or Aror from time immemorial which was quite distinct from the modern mound of bricks on which the present village of Aror was built and portion of which is now a protected monument. A scrutiny of the river beds which lie in the east of the present bed of the Indus from Sakkar shows that the eastern Nara channel, which is now used as an irrigation channel, separated from the present bed of the Indus much higher above Rohri, at some place where taluka Pano Akil ends and which is close to the village of Ali Wadhan. This channel goes and joins the present irrigation channel to the west of Aror. The head of the irrigation channel along the course of the eastern Nara is now to the north of the modern town of Rohri.

If we cross the railway line above the Rohri station and proceed along the great limestone hills which run due south from Aror, we find that the irrigation channel joins the old bed of the eastern Nara to the east of Aror village. The modern village of Aror or Alor is surrounded by a series of mounds, which are regarded in modern Sindhi tradition as the great dam which brought out the diversion of the bed of the Indus and the consequent ruin of the city of Alor. A careful examination of these ruins in three different years proved that the series of mounds, which lie at a distance of a quarter to two miles from the modern village of Alor.

Alor are really huge piles of bricks representing the ruined city of Alor. That this town is not modern or even mediaeval is proved by the discovery of sarabere or cherts and the distinctive type of burial urns with pointed ends even on the surface of these mounds. The employment of the eastern Nara as an irrigation channel has now made it very easy to survey the old bed right through except in the portion from Ghandka below the Anor hills in the northern part of the Khairpur State to the northern boundary of the Nawabshah district in taluka Sanghar. There are ruins of towns in this area along the Nara channel right up to Bhambhro-jo-Thul. The portion of the eastern Nara which lies in taluka Khipra has not been properly surveyed through the extension of the Jamrao canal has now made its exploration much easier.

The bifurcation of the river close to Bhambhro-jo-Thul shows that the old delta of the Hakra partly became the delta of the Indus when the latter river flowed along the eastern Nara channel, and that the present delta of the Indus is of quite modern formation. The eastern edge of this delta must have at one time reached taluka Mirpur Sajro of the Karachi district, because when surveying this area in 1919 I found ruins of a port of the historical period at Bambura near Gharo along the Kalri Wah, which is the same as the outline of the old Kalri creek. The eastern edge of this delta must have stretched along taluka Amarkot to fort Nawkot in the western part of the Mithi taluka. Most probably the desert talukas of Chhachhro, Dipla, Mithi and Nagar Parkan were not included in the later delta of the Indus when it flowed along the eastern Nara channel. That this channel of the eastern Nara was in existence in the mediaeval historical period, is proved by the statement of Mr. J. Abbot "Arab records of writers who for the greater part visit Sindh consistently shows Alor as near the river up to 13th century and, still more than this 1. after any dates assigned to the diversion describe in details the same as before the course of the river Alor to

Villagers of Aror find coins on the old mounds which are described as the bund that diverted the course of the Indus, during the monsoon. The coins collected by me at Aror (Now in the Prince of Wales Museum of Western India) fall in to six groups. The oldest of them are diestruck coins of the same type as those discovered in Room No. 34 of site No. I at Mohenjo-Daro. ~~described below.~~ Similar coins were discovered by me at Gharo or Bhambura in taluka Mirpur Sakro in the Karachi district and at Jerruck in the Kotri taluka of the same district. The second class of coins consist of larger indigenous issues of the local rulers of Sindh, exactly similar in type to those associated with the coins of Vasudeva I discovered in Room No. 35 of site No. I. ~~described below.~~ The third class of coins are round ones of the Siva and Bull type of the great Kushan emperor Vasudeva I. This class is rather rare at Alor. The fourth class consists entirely of the coinage of the early Khalifs in silver and in copper. The fifth class consists of the issued of Muhammad-bin-Tughlaq Shah and Firoz-bin Rajab Tughlaq. The latest of the sixth class of coins consists entirely of large copper dams of the Mughal emperor Akbar I. In addition to these coins, I discovered a large number of coins of the Durrani Afghans up to the time of Taimur Shah. This continuity proves that the city of Alor or Aror was not deserted even after the diversion of the river.

Aror or Alor is the modern name of the ancient city which appears to have been the capital of upper Sindh in the ancient mediaeval historical periods. It was the last Rajput stronghold which was taken by the Arabs early in the 8th century A.D. That the ancient city stood on a site quite different from the mediaeval, is proved by the existence of an ancient masjid close to the mound on which the modern village stands. The valleys between the mounds are very fertile showing that they once formed the beds of the river Indus. My first visit to Alor was paid in October 1917. Half a century before that date John Evans discovered a number of flint scrapers cores or nuclei in

the same area. Many of these scrapers and cores are still preserved in the Archaeological Section of the Indian Museum, Calcutta. Dixon's discoveries came for the most part from the rocky bed of the Sakkar gorge; but he found scrapers on the lime-stone hills, on both banks of the present course of the Indus. Writing in the Geological Magazine for 1885 the late Dr. Stanford expressed his opinion that the cores found in the river bed or the gorge were much later in date than the imperfectly shaped cores and scrapers found on the low white hills around Rohri, Bakkar and Sakkar. A closer examination of the hills during the working season of 1880 proved that they were in many cases old neolithic cemeteries. Many of them were destroyed during the building of the Sakkar bridge and they are still the quarries from which stone is excavated for the North Western Railway. These cemeteries contained burial jars of the pre-ceramic period of the type discovered at Mohenjo-Daro, Ghaibi-daro and Brahmanabad. The pre-historic remains around the medieval city of Aror is very large and has not been fully explored or mapped as yet.

The ruined townships and villages along the banks of the eastern Nara still remaining to be mapped and explored carefully. Up to this time the ruins of only three large towns in the area have been surveyed even superficially. These are the old mounds to the east and the south-east of the modern village of Aror, the ruins of the ancient city of Brahmanabad (which were excavated by Mr. Bellasis of the Bombay Civil Service and by Mr. Cousens of the Department.)

The ruins of the ancient city of Momil-jo-Mari or Badin have been described already. In age this city belongs to the same period as Vijnot near Reti, the older settlement near Aror and Mohen-jo-Daro. So long as the different river beds between Dhoronaro and the Kalri are not accurately mapped, it will be very difficult to determine whether Badin was the ancient port of Sind in the pre-historic period or only

1. J. C. Brown - A Catalogue raisonné of the Pre-historic implements in the Indian Museum, Calcutta, p.

1. The ruins of this town were surveyed by Mr. Cousens in 1902-4, when an accurate plan was prepared showing the old river bed. These ruins are now situated in the Kasabehah district and can be reached either from Bahadpur station on the main line of the North Western Railway or from Jhol on the

the capital of deltaic and the southern Sindh. At Mohenjo-daro or Badin I picked up a copper coin of the great Kushan emperor Vasudeva I at the time of my first visit.

Subsequently the railway between Hyderabad-Sindh and Badin was closed during the war and I had no chance of visiting these ruins till 1923, when the railway line was opened once more at the end of the first season's work at Mohenjo-daro.

In 1923 I discovered at Badin a tiny scraper of the same type as found at Mohenjo-daro and this discovery served to confirm my conclusion that these vast brick ruins of southern Sindh belong to the sub-neolithic period.

20.
M. H. S. O. D. A. S. O.
THE SINDH

I declined to excavate at Mohen-Jo-Daro at the end of the working season of 1921-22 and left for Calcutta to start with in December 1922. At my request Mr. V. L. Datta, J. L. D. Conservation of Sindh was pleased to transfer the entire area, then known to be covered with ruins to the Archaeological Department by order No. 251-AR.D dated 10-1-23.

was handed over to me by an Assistant of the Deputy Conservator of Forest in Sindh.

The area transferred was surveyed and a plan showing the general extent of the ruins was prepared. The nature of the ruins scattered over an area of more than two hundred acres was completely surveyed and the heights of all mounds inside it were accurately determined.

At the time of the survey I came to the conclusion that the ancient city was built on the southern bank of one of the oldest beds of the river Indus. In Sindh large towns could have existed in ancient times, only on the banks of the rivers. At Mohen-Jo-Daro the old bed of the river was found within a short distance of the ruins. This old bed is quite distinct from the western Nara on the right bank of which the modern village of Dokri is situated. The road from Dokri crosses one deserted channel of the Indus before reaching Mohen-Jo-Daro. A second old bed forms a loop around the ground covered with low scrub, consisting of Babul (*Acacia Arabica*) and Camel thorns (*Tamarisk Indica*) which surrounds the ruins of the ancient city of Mohen-Jo-Daro. This second bed is still called a "Dhand" which means in the Sindhi language the dried up channel of a river. A small hamlet, consisting of a few huts, named Dhand stands on the bank of this dry river bed. To the north of the ruins of Mohen-Jo-Daro there is a thick reserved forest at the north

1. Mr. V. V. Karandikar Upper Subordinate of the Bombay P.W.D. conducted the survey with the assistance of four lower subordinates of the Bombay P.W.D. all attached to the Western Circle of the Archaeological Survey of India viz. Messrs. N. S. Chikte, B. G. Panshe Dharmajay Sarma and Daulatram Beliram Rajput. The contour survey was begun in the middle of Dec. 1922 and was finished by the end of March 1923.

north eastern end of which this second dried river bed broadens, and is called the Lanyaro. Portions of the Lanyaro contains water in deep pits at all times of the year and one of these water holes is visited by water fowl in very large numbers. The land on the left bank of the Lanyaro has not been properly surveyed and we do not know whether a portion of the town or its suburbs existed on the north bank of the old river also or not. The river beds in and around the ancient city of Mohen-jo-Daro can be easily seen from the top of the mud drum of the Buddhist stupa of the second century A.D. in site No. I.

In the city itself there were large and small islands close to the south bank of the river. The inhabitants utilised these islands to build their temples or shrines. The most important shrines were built on a cluster of these islands during successive ages and the last of them were built on the top of site No. I in the second century A.D. Such situations are very frequent in Sindh both in the Delta and in the northern districts.

The ruins on three of these islands were excavated during the working season of 1922-23. On the south bank of the river, where the old city proper stood a broad paved street ended on the river's edge, just opposite to Site No. I. This street followed a south easterly direction and divided the ancient city into two unequal halves. The smaller half

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1. As an example we may compare the position of Sakkar, Bakkar and Rohri in Upper Sind. The river Indus between the towns of Sakkar and Rohri contains several large islands, one of which is Bakkar. Close to the Bakkar is another large island on which some of the cores described by W.T. Blanford were discovered. These cores are identical in shape and size with those discovered by me at Mohenjo-Daro. On this island a Muhammadan shrine dedicated to "Khwaja Khizr" or "Zinda Pir" has been built. The Sanatan Sikh Monastery of Sadh Belo occupies a third. Another island, which has now ceased to be so, bears on it the modern Musalman shrine and tomb called "Satyan-jo-Thar" or "Sat-bhain" which like the shrine of Lal Shahbaz at Sekwan and Uderolal near Hatdarabad (Sind), was originally a shrine of the eternal fire (Ananta-iyotih) of the Nathapanthis, also called Kanphata Yogis. The eternal light is still kept burning in a underground chamber of this Musalman shrine and is attended by the ladies of the Musalman attendants of the tomb above it.

half way to the west of the street and at the point of its junction with the river, lies one of the biggest mounds in the entire area, which may be the ruins of the royal palace. This mound is only lower in height than the great shrines here-in-after described as sites No. I and II. The site excavated by Pandit Madho Swarup Vats M.A. in the working season of 1923-24 lies on the other side of the road or street. The majority of the buildings of the ancient city were built in the area between the south bank of the old bed of river Indus and this main street.

IV. THE STUPA SITE OR SITE NO. I.

My attention was drawn to the site on the occasion of my first visit to Mohen-jo-daro, on account of its mud or sun dried bricks to visible for miles. The great height. The hollow tower of highest point of this tower is still 65 feet high from the ancient river bed and more than 70 feet in height from the cultivated area around the ruins. In December 1922 the excavations were begun at first in a small narrow valley between sites No. I & II which appears to have been originally a creek or inlet flowing between the two telade. I looked for the last step or landing of the grand staircase which led up to the top of the building. The villagers of the neighbourhood had unfortunately carried away all bricks near the ground-level, and therefore I could not find any trace of such a staircase. I turned my attention, then, to the top of Site No. I or the space on the platform surrounding the stupa. At the time of my first visit in December 1919 only a small portion of mud tower was visible above the surrounding waste of bricks. We began by clearing the area in the immediate vicinity of the mud tower or stupa. At the same time a second gang was employed in clearing the debris just below the eastern retaining wall of the high platform on which the stupa had been built. The excavation along the eastern retaining wall was productive of excellent results, as during the excavations, Mr. N.S. Chikte who was in charge of the trench, made the momentous discovery of two seals with pictograms or ideograms of the same class which had been discovered up to date, only at Harappa in the Montgomery Districts of the Multan Division of the Punjab. In December 1919 I had marked the eastern slope of the mound called site No. I. as a very important area and had fortunately taken the precaution of obtaining a good photograph of the entire site from the east. At that time the slope of the mound was much gentler than what I saw in December 1922. It appeared to me at the later date that the neighbouring villagers had carted away a good deal of bricks from that side alone.

5800 Site
 2000 C Buddhist
 2200 bp Ashoka



1. See Pl. X(b)

See Pl. IX.a

The

The simultaneous excavations in these two different parts of the same site proved that:-

(1) The extraordinary height of Site No. I was due to accumulations of debris of different periods over this small area which had continued right up to the second century A.D.

(2) That in different successive periods one of the principal streets of the ancient city was built at one and the same place; i.e. on this island.

(3) That long after the abandonment of the city site workship continued at this island.

(4) That the last two buildings on this site were Buddhist stupa and the last but one having been destroyed by fire, a hollow stupa (garbha-stupa) was built of sun-dried bricks instead of burnt bricks. This appears to be an indication of the fact that the lotty of the ancient city had grown very poor at that time-

(5) That the last structure built on this site, viz. the hollow stupa of sun-dried bricks was built in the middle of the second century A.D.

At the end of the excavations of 1922-23 Site No. I proved to be a high platform or tower with retaining walls on each of the four sides, on the top of which there was a oblong flat space. This area was covered with buildings, consisting of a quadrangle bordered with rooms with an open brick-paved courtyard in the centre. In the centre of this courtyard, again, there was a solid platform of burnt bricks on the top of which the hollow stupa of the second century A.D. had been erected. On four sides of this courtyard there were rooms, a double row on the north and a single row on others. The retaining walls of the main platform on which the quadrangle and the platform of the stupa were built, are visible on the southern and eastern sides only, and are still about 40 feet in height from the present level of the old river bed. On the eastern face the present retaining wall was supported by buttresses along

the exterior. Behind the old retaining wall on the eastern face there were at least two parallel walls. These are the exterior general wall of the quadrangle of rooms on the top of the flat space, and a second wall which belongs to a series of buildings, much earlier in date.

The first object which struck the observer, while passing through the belt of a forest in the eastern river bed, is the top of the old tower built on the top of the main platform in Site No. I. This old tower or hollow stump is visible from a distance of four or five miles all round. Throughout Sindh stupas have been discovered at various places and they belong to different periods, but none of them has been found at such a great height. At first I thought that the stupa on the site No. I was built on an artificial mound, but subsequent examinations proved that the great height of the flat space on which the burnt brick platform of the old stupa was built, is due entirely to the accumulations of levels of successive ages. On the analogy of the small temple in Site No. 3 it may be guessed that the original shrine in Site No. I must have been built on a comparatively lower artificial height. The retaining walls of burnt bricks were built parallel to each other and the inter-spaces were filled or rather packed with sun-dried bricks. The top of this height was paved with bricks and the shrine built on the top of this pavement. This is exactly what was found in Site No. III. But for some unknown reasons buildings ceased to be erected on Site No. III while they continued over Sites Nos. I & II. The panoramic view will give a very good idea of the shrines in the three islands excavated on 1922-23. The original shrines at these three sites must have been built on slight artificial heights to protect them from the devastating floods to which Sindh was subject. In between the sites there were creeks or branches of the river which must have been utilised by visitors to these shrines. One of them can still be seen between Sites No. I and II. The broad expanse

of the river bed between Site No. I and the main city is near a flat waste of sand. Subsequent excavations have revealed the fact that the river bed had once formed a part of the city itself and that a change in the direction of the current of the river had caused the submergence of this area.

Though the ruins of Mohen-jo-Daro have supplied building materials to the state as well as to the private people of the locality for centuries past, the first retaining wall is still 25' in height from the present level of the river bed and the third 44'. The preservation of these walls for millennia is due, no doubt, to the excellence of its masonry and bricks. The difference in the height between the existing top of the first and front retaining wall on the east and third, is due to the existence of the sloping staircase along the eastern face of the main general platform. This staircase began at the north eastern corner of the main general platform and ended at the south eastern. The eastern face of the main general platform was plain and undecorated. But on the southern face there is no high retaining wall; but a number of offsets, with walls at different heights, sometimes built one over the other, showing that the ancient architects did not consider it necessary to protect this side of the main general platform with a strong retaining wall and buttresses as on the eastern face. On the southern side subsequent excavations have laid bare a number of structures of different dates which proved definitely that the major part of the height of Site No. I is not artificial.

Near the south western corner of Site No. I the mound does not end abruptly, as is the case with the north eastern or the south eastern one, but is connected by a series of low mounds with the ruins of other shrines which lie to the south of Site No. II and to the south west of Site No. I. The discovery of inscribed seals here by Mr. H. S. Chikie led to

the clearing of the area at the foot of the first retaining wall of the eastern face. The first discovery was that of one of the low buttresses which supported this wall. Excavations in the area between the first and third retaining walls of the main general platform on the eastern face led to the discovery of a number of super-imposed brick walls. At first sight it appeared that these brick walls belonged to the foundation of the main general platform and that the entire area below the quadrangle of rooms, consisted of small or large oblong chambers filled with debris or sun-dried bricks. But subsequent excavations carried out by me outside the eastern general wall of the quadrangle on the top of Site No. I and those carried on by Mr. K. N. Dikshit, M.A., my successor in the Western Circle, proved that all of these walls belonged to buildings of a much earlier age which could not be regarded as being contemporaneous with the hollow stupa of sun-dried bricks or the solid platform of burnt bricks on which the latter was erected. The finds in these rooms also indicate that they belonged to a shrine built long before the regular historical period of India.

Mr. N. S. Chikte discovered two seals bearing figures of bulls statant, one entire and other broken in some structures which lay at the foot of the exterior retaining wall on the eastern face of the main general platform. Fortunately a photograph was taken of this area before excavations were started, and we are now in a position to compare this area as it was before and after excavation. Illustrations show very distinctly that the structures in which these two seals were discovered had no connection with the front retaining wall on the east. Two feet below the foundation of the front retaining wall of the main general platform and nearly three feet below the lowest course of bricks of the buttress of that wall, there were other structures consisting of a low wall running along the eastern

1. Plate VIII. b.

Plate IX a
Plate IX b

facade and a long narrow drain running parallel to it. The space above this earlier wall up to the lowest course of bricks of the front retaining wall of the platform was filled with debris and bricks, proving that right from the bottom the entire height of Site No. I consisted of ruins of buildings of many thousand years. The masonry of this low wall and the drain which runs parallel to it is quite different from that of the main general retaining wall on the roof of the quadrangle on the top of this site. Similar structures were discovered below room No. 3 of the quadrangle in this site and the altar in room No. 1, shrine No. 23 and drains No. 21 and 22 of Site No. II. The character and nature of this masonry will be described below. The low wall and drain end abruptly at a place very close to the northern extremity of the front retaining wall of this face. Some other buildings existed to the north of Site No. I the massive ruins of which still remain to be excavated.

1. Plate VI b.

On the southern side of the main general platform, just below the place where the grand staircase ended, numerous earthenware jars of two different types were discovered. Each of these jars contained either one uncalcined bone or some ashes. These jars fall into two different classes, the first of which is broad at the bottom but tapers slightly towards the neck. This class differs from the second class in being flat-bottomed. They resemble similar jars from the upper strata at south Kurgan, described by Rumpelly.² The second variety of these burial jars are pointed at the end and are exactly similar to the jars discovered by Rai Bahadur Pandit Daya Ram Sahni at Harappa.³

2. Raphael Rumpelly/
Explorations in
Merkistan Expedi-
tion in 1904, pl.
II, Plate III 1-8.

3. Annual Report
of the Archaeolo-
gical Survey,
Northern Circle,
H. & B. Monuments
1920-21, p. ; Do
D. G. A., 1920-21,
2. Pl.

The second type is more common and has been found all over the sites. In this class there are two varieties. In the first variety the jars are thicker in texture and broader in the middle, than is the case in the second. In both varieties of this type a spiral depressed line is visible in the centre.

The western side of the platform is covered with

ruins which consist of low necks joining it to Site No. II and to another mound on the south-west, which still remains to be excavated. So also the northern face of Site No. I consists of a sharp descent into the creek described above and a low narrow neck joining it to the unexcavated mound which lies due north of the stupa.

The buildings in Site No. I, as revealed after the excavation, consisted of:-

- (a) The stupa on the brick platform in the centre of the courtyard,
- (b) The quadrangle of rooms surrounding the courtyard and,
- (c) Older buildings on a lower level on all sides of and outside the quadrangle.

The stratification proves conclusively that the stupa and the platform on which it is built are much later in date than the paved courtyard and the quadrangle of rooms which surround it. This can be proved by the position of the stupa on the platform and by the position of the platform on which the stupa was built in the courtyard. In the first place the centre of the circular wall of sun-dried bricks does not coincide with any of the points of junction of the centre lines of the platform on which it was built, proving thereby that the brick platform belonged to a much older structure than the hollow stupa. While excavating the slope of the platform on the northern side of the hollow stupa, Mr. N.A. Wartekar, Head draftsman of the Western Circle discovered a number of fragments of frescoes with painted Kharoshthi and Brahmi inscriptions, which must have formed part of the decorations of the interior of the hollow stupa. The characters of these Brahmi and Kharoshthi inscription cannot be later in date than the second century A.D. This date coincides very well with the date of the copper coins discovered in the

In the uppermost levels of the rooms of the quadrangle, these copper coins are of the Bima and Ball type of the Great Eastern emperor Yasodhara I. It may therefore be taken for granted that the hollow Chaitya of sun-dried bricks was erected on the platform of burnt bricks sometime in the second century A.D. If we take this date as our starting point in the determination of the different strata discovered in Site No. I, then we must admit that all structures lying below the hollow Chaitya are anterior to the second century A.D. in date. The fact that the hollow Chaitya was not built exactly in the centre of the solid oblong platform of burnt brick, proves that the platform itself cannot be contemporary with the hollow stupa. While excavating the slope on the southern side of this platform a large quantity

of ashes were discovered in the crevices of the masonry of burnt bricks proving that the original structure on this platform was burnt down and the hollow Chaitya of sun-dried bricks was built in its place at some later date. The platform of burnt-bricks has, attached to it on its eastern side, a shrine with stairways for going up to the base of the stupa and a porch in front in the style of the Gandhara stupas of the first century B.C. and A.D. The discovery of a solitary but unique Greek coin in this area leads us to suppose that this structure was built in that period. While excavating below the lowest course of bricks of this platform, we came upon a layer of ashes running along the entire length of the northern side of a platform under which we found fallen masonry and the debris of an older building. It is therefore clear that an older structure was burnt down, in the place of which the brick platform was built in the 1st century B.C. or A.D. The pavement of the courtyard around the platform of this stupa is lower than the layer of dance on the northern side. In the western and northern sides a portion of the pavement was also found to run below the

1. Pl. II.

2. Pl. XIV. c

the level of the layer of ash. On all sides of the platform we found fallen masonry and debris of other buildings. This proves conclusively that the platform of the stupa is later in date than the courtyard around it. While excavating the north eastern corner of the courtyard we found across a lower pavement which appears to be older in date than the existing pavement of the courtyard on the southern and eastern sides. The quantity of ashes discovered in the ash-pit to the east of rooms No. 2 and 3 and west of rooms No. 9, 9 and 11 was so huge in quantity that there cannot be any doubt about the fact that after the conflagration which destroyed the shrine in whose place the platform of burnt bricks was created, the ashes were simply shoveled aside to make room for the Buddhist shrine of the first century B.C. or A.D. The shrine which preceded the platform of burnt bricks appears to have been built in the second or first century B.C. which also appears to be the date of the pavement on the northern and eastern sides of the courtyard.

The excavation of the rooms on the western side of the courtyard proved definitely that the upper layer of the walls was contemporary with the pavement of the northern side. Deeper excavations revealed the fact that the masonry of the rooms on the northern and western sides were re-built at different ages. This fact was proved by the blocking of all doors and windows in rooms Nos. 30, 32, 34, 46 and 47 on the northern side up to a certain height, in order to provide for the increased height of the floor levels. On the western side of the quadrangle the level of the sills of the doorways was similarly raised. In addition to this fact we found that below the original level of these sills there were at least two pavements, one below the other. In one case, at least lower walls were found below the lowest pavement, which correspond to the walls discovered outside the general wall of the quadrangle of rooms. It is therefore perfectly certain that the intermediate pavements in the

1. 11
2. Pl. XII. b

the rooms of the western side are earlier in date than the second century B.C. If we take a century to be the time which intervened between the level of the pavement of the courtyard of the northern side of the upper pavements in some of the rooms and the intermediate pavements of the rooms of the western side, then we cannot be very far from truth. Coins of Vasudeva I mixed with a number of square die-struck copper coins were found in a pot in room No.35 just below the intermediate pavement. The lowermost pavements in rooms No.30 and 32 must therefore be earlier in date than the third century B.C. This level is slightly lower than the findspot of a large number of square die-struck coins buried in a pot and found in room No.34.

Below this pavement we came across walls in room No. 34 which do not bear any connection in plan or in outline with the quadrangle of rooms in Site No.1. These walls belong to the same level as the earlier buildings on a lower level outside the eastern southern and northern main general walls of the quadrangle. The masonry of these earlier walls is quite different from the masonry of the quadrangle and the platform of the stupa. The lowermost walls in room No.34 are associated with the earliest painted pottery discovered in India and a number of oblong copper coins or tokens inscribed with pictograms or ideograms of the same class as that found on the seals discovered at Harappa and Mohenjo-Daro. It is evident from the position of these finds that the lowermost walls in room No.34 belong to the pre-historic period and are earlier than the fourth and fifth centuries B.C.

A drain of fine masonry was discovered outside the main general wall of the quadrangle on the eastern side to the north of rooms Nos. 10 and 11 just below the room No.3 of the quadrangle. At my request Mr. K.N. Dikshit opened up this drain and has traced it to the centre of the eastern side of the courtyard. It goes straight west from the point where it begins at the north eastern corner of room No.10 and after entering the quadrangle under room No.3

Pl. XIII. b

passed under the courtyard to a point close to the steps in front of the porch to be described below and then turns to the north. Mr. Dix has discovered another wall and a drain at this level to the west of the effect in this drain, both of which run north to south. The masonry of this drain is exactly like that of this small narrow drain discovered at the bottom of the front retaining wall of the main general platform in Site No. 1. The difference in the level of the courtyard on the eastern side and the topmost bricks of this drain below it shows that, several centuries must have elapsed between construction of these two. It is therefore certain that the lowermost walls in rooms No. 3₂ and the drain below room No. 3 are much earlier in date than the fourth and the fifth centuries B.C. It is also certain that the fine close-joined masonry of small bricks is contemporary with the seals and coins or tokens inscribed with pictograms and ideograms and painted pottery. This is the latest date in which the pictogrammatic alphabet appears to have been used in India.

On all sides of the quadrangle there are rooms which were most probably used as shrines and not as living rooms. These small rooms formed an enclosure around the courtyard in the centre of which the platform of the stupa was built. The space between the inner walls of the rooms of the quadrangle and the platform of the stupa was used as an open courtyard and was paved with bricks. This courtyard is 22' in breadth on the north, 20'2" on the south, 14'6" on the west and 20'8" on the east, and was paved on many different occasions, the latest of which seems to be contemporary with the layer of ashes which represents the remains of shrines of the 2nd or 3rd century B.C. on the ruins of which the platform of burnt bricks was built in the 1st century B.C. or A.D. This pavement could not be found intact in any place. On the eastern side, on which the main entrance stood, two different pavements were found one below the other; but both of them were much earlier in date than the

platform of the stupa, because this pavement is much lower than the pavement in the northern side of the courtyard, which again belonged to the building on the ruins of which the brick platform of the stupa was built. When the brick platform and the shrine attached to the eastern facade were built, a series of steps were built to reach the eastern portion of the courtyard and these three steps represent the difference between the level of the last course of bricks and this pavement. The difference between the levels of the earlier and later pavements on the eastern side of the courtyard proves that they were not laid at one and the same time. The double course of bricks of the upper pavement is $1\frac{1}{2}$ " above those of the lower. The former is $3\frac{1}{3}$ " below the level of the pavement of the porch in front of the shrine attached to the eastern facade of the platform. The upper or later pavement in the eastern side of the courtyard does not correspond in level with that on any other side of the courtyard. It appears therefore to be certain that the northern pavement, which goes below the layer of ashes on which the platform of the stupa was built, did not extend to the eastern side of the platform and is later in date.

Numerous small platforms came to light on the eastern side of the platform. These probably represent the remains of small votive stupas built around the main stupa. Unfortunately none of them has survived in a complete state like the stupas discovered by Dr. D. R. Ehandarkar at Kirpur Khas in

1. Annual Progress Report of the Archaeological Survey of India, Western Circle, for the year ending 31st March 1917 pp.

The stupa of sun-dried bricks was built on the platform of burnt bricks, and this platform measured 71' in length and $53\frac{1}{3}$ " in breadth. It is built entirely of well-made burnt bricks and mud. Almost on all sides of it the upper part of the original surface of masonry has disappeared long ago. The eastern or front side shows that in order to connect this platform with the earlier pavement, the

lower

lower courses of masonry were continued up to a depth of 1'10" below the last course of bricks and the northern, western and southern sides of the platform. This masonry wall on the eastern face of the platform is built in the shape of two distinct steps in front of the porch of the shrine and the eastern facade of the platform.

Excavation on the three remaining sides of the platform revealed the fact that it was constructed on the roughly levelled debris of an older structure. The fourth pavement on the western side is 4'3" below the lowest course of masonry of the platform of that side, and the whole of this height is full of ashes and the debris of an older structure. It is therefore quite certain that the remains of a much older building lie below this fourth pavement. This conclusion confirmed by the existence of older walls in the rooms of the western side of the quadrangle, below the level of the oldest pavement on the western side of the courtyard. It is certain that remains of two or three different periods may be found between the earliest pavement on the western side and the level at which the drain below room No. 3 outside the eastern wall of the quadrangle was found, which Mr. K.N. Dikshit traced as far as the eastern side of the courtyard.

V. THE STUPA.

The structure in the centre of the site has now proved to be a stupa of sun-burnt bricks and the platform on which it stands. The stupa is really a hollow structure, i.e. a Garbha-chaitya, which was built on this brick platform. The walls of the Garbha-chaitya were constructed of well formed sun-dried bricks, the courses of which can be clearly recognised even now. The interior of this structure was coated with a fine plaster of mud and was decorated with fresco paintings of the same style as those discovered by Sir Aurel Stein in the ruined cities of Central Asia. Fragments of this plaster with fresco paintings and other decorative motifs were discovered by Mr. N.A. Warteekar, while clearing the debris on the slope on the western side of the platform of the stupa. These frescoes are in an excellent condition in spite of their fragmentary nature. In spite of the long exposure they have preserved their colours wonderfully, and their age can be determined by the forms of the characters of their painted inscriptions, both in Kharoshthi and in Brahmi. We find the word samana written in Kharoshthi on one fragment. The word samana is equivalent to Sanskrit samana and most probably to form part of the Buddhist creed:

Ye dhammā hetu prabhavā hetuā tesāh tathāgato

āha tesāh oha ye nirodho evaṃ vādī mahāsamana.

Other fragments of plaster show the use of Brahmi letters of the same type as that used in the documents and inscriptions discovered by Sir Aurel Stein in Central Asia. The decorative design of these fragments of frescoes will be described below in the section on finds.

1. Pl. XI V.8
2. Pl. XLV.7
3. See page below.

We do not know what sort of structure covered this Garbha-chaitya. Most probably the roof was a dome of sun-burnt bricks. The interior of this Garbha chaitya is now partly preserved, and the uppermost course of bricks of the platform formed its floor. The villagers have excavated the centre of the solid platform up to the depth of 14' and some of them informed at the time of the visit of Mr. J.L. Rieu,

then Commissioner of Health, that some unknown people had
 excavated the center of the platform in search of relics.
 They had failed to find anything except various pieces and
 of marble. These marble pieces were the relics which in
 which the 2 sets of Buddha or some local Buddhist statue
 might have deposited inside the hollow platform. The treas-
ure-keeper broke the relics sockets and threw the fragments
 out, into the courtyard. Some pieces of these relics sockets
 were recovered during our excavations, but on all fragments
 could not be recovered, they cannot be restored or repaired.
 One of the marble relic sockets was an ordinary kind with a
 lid of the same material. The second one was shaped like
 a round socket, very small in size, and this was most prob-
 ably covered with a lid made of wood-stuff. Most probably
 there were other sockets made of precious metals like silver
 and gold, but these seem to have taken away and melted by
 the treasure-keepers.

The date of the ruin date of this stupa and therefore
 of the deposits of the relics in it, can be determined from
 the fact that the Kharoshthi characters found in the points
 presence correspond to the form of the alphabet in use found
 in the Sue Vibha Copper Plates of Kanishka I. This date
 agrees with that of the coins found in the highest layers
 or pavements of the rooms on the western side of the main
 range. In these rooms as well as the rooms No. 1 and 2 of
 Site No. II the Stupa and Ball type copper coins of Kanishka I
 were found in the undisturbed upper layer. A further de-
 scription of these coins will be found below. It can
 therefore be safely assumed that the South-chamber of sun-
 dried bricks and the uppermost layer of buildings of the
 quadrangle were constructed sometime in the 2nd century A.D.
Inscriptions discovered at Mathura prove that the great
 Kushan emperor Kanishka I reigned in the last quarter of
 the first century of the particular era used in the inscrip-
 tions of the great Kushan emperors. It presents the majority
 scholars hold that this era agrees with the chronology of

1. Cambridge
History of India
Vol. I. pp

2. Sir John
Marshall, A Guide
to Taxila, p.
3. A. Smith, Early
History of India
Fourth Edition.
pp.

1
Kushan I in 78 A.D. but others think that the era began
in 120 A.D. The difference of these two dates is so in-
significant that there can be no harm in affirming that
Vaughan I ruled over Northern India in the last quarter
of the 2nd century A.D.

The eastern face of the platform of this stupa was
the most elaborate, and contained a large niche with an
image of Buddha, after the fashion of the Indo-Greek stupae
of the North Western Frontier. Originally the older Indian
stupae, such as those of Sanchi and Bharhut did not possess
any shrine with a figure of Buddha in its centre attached
to the drum. At Sanchi, such images, which are now to be
seen inside the outer enclosure are undoubtedly much later
in date than the stupa itself. At some date before the
birth of Christ the artists of the Gandhara school started
the erection of a decorated niche on one face of the stupae
erected in their times. These niches, splendid examples of
which can be seen in Gandhara room of the Archaeological
Section of the Indian Museum, Calcutta, contained an image
of Buddha in one of the many conventional attitudes. As the
big stupa in Site No. I is not far distant in date from the
Indo-Greek stupae of Afghanistan and North Western Frontier
Provinces it is not surprising to find a similar niche with
an image of Buddha in this structure. This niche or shrine
occupies exactly the centre of the eastern facade of the
platform, and consists of a porch in front, a passage running
westward at right angles to the porch, a staircase on each
side of the passage and a narrow room with a higher floor
at the western end of the passage. This niche is 7' in
length and 4' in breadth. In the western wall of this recess
there was an image of Buddha seated cross-legged, most pro-
bably on a lotus. The core of this image consisted of bricks
placed in different positions and the positions of the knees
of the main figure are still indicated by bricks which held
the coating of mud and which no doubt was painted and gilt.

The position of the hole, the head and shoulders can still be seen in outline against the red and white masonry of the back wall of this niche.

In front of the niche there is a narrow passage 7' x 4', the floor level of which is 4' below that of the niche. From this passage two staircases, mentioned above, go up, one to the north and the other to the south. Six or seven steps of each of them were discovered undamaged. The purpose of these staircases is difficult to determine at the present date. It may be possible that they were used by later worshippers at the Buddhist shrine, for going up to the base of the stupa and performing the circumambulation (pradakshina) which forms a part of Buddhist, Hindu and Jain worship. But it is also possible that these steps were used by the priests or monks in charge of the shrine to reach the head of the image in the niche. These steps are exactly similar to those which are still to be seen in Jain temples at Khajuraho and U¹. The upper part of the niche was discovered in a damaged condition and it is not possible to determine, now, whether it was originally covered or not.

In front of the passage above, there is a porch along the eastern facade of the platform, 25'6" in length and 5'10" in breadth. On each flank of this porch we found a base of a square pilaster but no traces could be found of any pillars in front. The floor of this porch is 4'3" higher than the lowest or the early pavement of the courtyard in front and 3' than the upper or the later pavement in the same area. The difference in the levels of the floor of this spot and the two courtyards of two different periods was negotiated by a series of steps the remains of which were discovered exactly on the centre line of the platform. These steps measures 17' in length and 10'3" in breadth. The treads of four different steps can still be made out.

Though the centre of the main shrine or the stupa lies slightly to the south west of the junction of the centre lines of the platform, the centre of the niche, the passage,

1. Annual Report of the Archaeological Survey of India, Western Circle for the year ending 31st March 1919, p.

passage, the porch and the steps lie on that line proving that the latter are earlier in date than the stupa of sun-dried bricks. But if we cross the courtyard to the east of the platform then we find that the architect did not provide an entrance to the quadrangle in the middle of its eastern side. A continuous brick wall, which is the inner wall of the quadrangle of rooms on the eastern side runs almost parallel to the eastern face of the platform at a distance of 35'9". Just in front of the niche attached to the brick platform there is a gap in the inner wall of the quadrangle of the rooms leading to room No.4 of the quadrangle described below, but there is no exit in the eastern wall of this room. It is therefore certain that the principal entrance to the quadrangle did not lie through rooms No.3 and 4 on the eastern side.

Pl. V.a.

While clearing the eastern portion of the quadrangle certain objects of stone were found at different places. In the north eastern corner a large slab of red sandstone measuring 2' in breadth was discovered. The exact length of the original objects cannot be determined as the ends are missing. Besides these fragments, the legs of these two different seats, also made of similar reddish sandstone, came to light. Two fragments of two different lids of vessels or relic caskets were also discovered at the same place. They are too fragmentary to admit of measurement; but one of them appears to resemble the upper part of a lotus petal and is double convex in form. The top of this fragment is unpolished. The upper part of the second fragment is also tapering in shape towards the end like a lotus petal, but there is no convex surface inside. Another round lid of a vessel made of coarse marble or sandstone was also discovered in this area.

It has been stated above that the width of the courtyard is not the same on all sides, proving that it is much earlier than the platform of bricks on which the stupa was built. On the northern side the lowest course of bricks of the present platform is 3'2" higher than the pavement

on this side, which runs under the debris and the layer of ashes on which the platform of burnt bricks was built. There must have been other pavements on the northern side above the existing one and none of them could have been lower than the last course of the bricks of this platform. On the western side, where excavations had to be carried on to a deeper level on account of the damages to the platform of the stupa there were at least four different periods of building between the construction of platform of burnt bricks and the lowest pavement which runs under the layer of ashes. During each of these four periods the pavement on the western side of the courtyard must have been relaid. The lowest course of bricks of the platform on this side is almost on the same level as that on the northern side. The first pavement on this side must have been a few inches higher than the last course of bricks of this platform.

Later on a high wall was built parallel to the western edge of the platform in order to keep the masonry in position. The lowest course of bricks of this additional wall is 9" below the level of the lowest course of bricks of the platform. It must have been necessary to relay the pavement when this additional wall was constructed. Later on it became necessary to supplement this additional wall by a second one; but at that time the general level of the courtyard on the western side must have risen much higher and therefore the lowest course of the bricks of this second additional wall is exactly 2' higher than that of the first additional wall. When the second additional wall was built the pavement must have been relaid at a higher level than the second pavement. Just in front of room No. 31 on the western side another pavement was found, 3'5½" lower than the lowest course of bricks on the second additional wall. 2'2" below the level of this fourth pavement we came across the oldest pavement which corresponds to the level of the existing pavement of the northern side. The difference in level between the lowest course of bricks of the platform and the lowest pavement is 5'1".

Under

Under this lowest platform the same surface is used after with
the appearance of a series of steps of which is 1' 6" lower than
the lowest surface of the bridge of the platform. It is
therefore possible that the surface of structure in the center
of which the platform of lowest surface was built, was produced
by an older structure, the nature of which the quality of the
floor is.

In the highest side of the platform also a second
retaining-wall of masonry was built at some later date.
The lowest surface of masonry of the other side of platform on this
side is 2' 6" below the level of the lowest surface of masonry
of this wall or structure which runs from the north-western
corner to about two-thirds of the entire length. This side
of the platform of lowest surface is much more prominent
than any other side. Here, in the lower place, there was
a passage to the center of the bridge, just opposite to the
middle of the bridge. The level of the pavement of this
passage is 1' higher than that of the lowest surface of masonry
of the platform. To the right of this passage in the eastern
half of the southern side, there was a ^{small} structure on the
side of the platform which was originally the platform
of lowest surface was a stepped surface. The first or the
lowest step is 1' 6" in height from the level of the lowest
surface of masonry of the original platform. The second step
is 1' 6" in height above that of the first step. It
appears that the average height of each level of these steps
was about 1' 6" and the third step, the surface of the
platform is 1' 6" in a good state of preservation which was
never seen in the past.

Looking the position of construction in this side, there
is a marked discontinuity in the slope of the platform just
above the third step, proving that the last stage was built
on the ruins of an older structure for which the platform
of lowest surface was originally built. This case
was found in the same manner the lowest step on the
south and the level of the end of the bridge. But no

VI. THE QUADRANGLE AROUND THE STUPA.

1. Pl. XIV. a.

Turning to the oblong network of chambers which surround the courtyard we find that at the north western corner of the quadrangle there is a large hall 42'9" in length and 19'6" in breadth which appears to have been the main entrance. There are square bases of pilasters, tapering towards the top, along the walls on the west and south of this hall. There are also certain masonry structures on the floor of this hall, which belonged to two different periods of constructions. These structures are square in plan and there are altogether six of them. Two of these square bases stand in the centre of the hall and appear to be earlier in date than other similar structures in this room, because the lowest course of bricks at their bottom, is 1'7" lower than the lowest course of bricks of the adjacent upper and later square bases. This is the case with the first pair of square bases, the upper ones of which are built, partly over the lower one. Similarly, in the case of the second pair of bases which lie respectively, at a distance of 5'3" and 6'2" to the south of this pair, the difference in the level of the lowest courses of bricks of the earlier and later bases is 1'4½". In the case of the second group two concentric rings of bricks were found on the top of the earlier base. The diameter of the larger circle is 4'2" and of the smaller 3'8". From the construction it appears that these two rings or circles of bricks formed the round moulding at the base and the lower part of the shaft of a round pillar. To the south of this second pair two other square bases lying east and west at a distance of 4' from each other have been built on an older wall. This old wall does not belong to the present system of buildings on the top of the quadrangle. These two bases on the extreme right or south of this hall are equal in size to the two later pillar bases built on earlier ones to the north and therefore, they appear to belong to the same period of building.

This

This hall appears to have been supported by four pillars, three of which lie in one line and the fourth at right-angles to the bases on the extreme south. These four pillars no doubt supported the roof which may have been built of sun-dried bricks in the present style of the Punjab and Sindh or covered with tiles. The older and lower pillar bases correspond roughly to the pavement on the northern and the eastern sides of the courtyard. The upper and later pillar bases correspond to the upper pavement on the eastern side. The eastern wall of this hall has collapsed entirely and its decay has been assisted considerably by zeal of the local villagers in search of the building materials. With the exception of a thin strip of wall running along the entire length of this hall from the north to the south, which measures 2'6" in width at present, the rest of it has been carted away. It is difficult to explain the difference of level between the floor of this hall and the grand staircase discovered along the eastern facade of the exterior retaining wall of the main general platform of Site No. I. There may have been steps leading either to the northern or eastern walls of this hall, but all indications of such intermediate structures have disappeared totally.

To the south of this hall or passage there is a lo. narrow room, the use of which is difficult to understand at present. It is 23'8" in length and 3'4" in breadth, and so narrow that it is extremely difficult for two men to walk abreast in this room. It was paved with bricks and this pavement is 1 $\frac{1}{2}$ " higher than the latter or upper pavement in the eastern part of the courtyard. The sill of the door of this curious chamber is formed by a small slab of uncurved sandstone. Apparently the small narrow chamber was an important shrine; because, later on, apparently in the second century B.C., retaining walls or buttresses were built against the northern and southern walls of this chamber. Originally

the

the walls of this room were 2'6" broad, but afterwards an additional wall was built outside the chamber to support them and the breadth was thus increased to 5'. The bases of pilasters referred to above along the eastern wall of the hall or passage No.1 of the accompanying plan were built along the northern buttress of this narrow chamber which is room No.2 of the plan.

I.P.I.VV.B.

The adjoining room on the south, No.3, is more interesting on account of the fragments of Buddhist images of stucco discovered there by Mr. N.A. Watekar. The structures of this area, later on enclosed by the four walls of room No.3, appear to be much earlier in date than the oldest pavement of the courtyard, because its walls go much lower down. In a subsequent date when the rooms of the quadrangle were built a step had to be provided, measuring 2'0" x 1'1" to enable people to get down on the floor of this room from the eastern part of the courtyard. Subsequently the level of the floor of this shrine rose with the accumulation of the debris and it became necessary to lay down a second pavement. Over the remains of the older floor which was paved with burnt bricks, a layer of sand, about 3" to 4" in thickness was spread and three courses of sun-dried bricks were laid over this bed of sand. The top layer of which (sun-dried bricks) appears to have been whitewashed on the new pavement of burnt bricks laid over them. While cleaning this area Mr. N.A. Watekar suddenly came across a circular piece of plaster with deep mouldings, the depths of which were touched with black. Subsequently eight more pieces of stucco were brought to light. They formed parts of a loosely draped standing figure of Buddha in which the upper robe, (vanghatti) was depicted in the peculiar manner characteristic of the northern or Gandhara school of art. They resemble similar pieces discovered by Sir Aurel Stein in different parts of Central Asia. The pieces recovered represent fragments of drapery only. No head, leg or arm was found. When the entire mass of sand was shifted, only one fragment, which

looks like a spindle whorl was discovered which may have been the top-knot (ghata) of a dharti lamp. The stone images were most probably destroyed during one of the earlier configurations which destroyed this religious establishment at different periods. These fragments of stone are painted with alternate bands of red and white and the colours are very bright even now.

In addition to these stone fragments we discovered the torso of a clay image of ambhathar made of fine alluvial clay with a red neck, face or garland round his neck. The walls of the room originally appear to have been plastered with mud, the lower part of which consisted of a chala and was separated from the upper part by a raised moulding. These mouldings were coloured pink or carmine, fragments of which were also recovered. Room No. 2 measures 20'0" in length and 9'0" in breadth. Under the early pavement of this room we came across a much older wall which runs under the northern wall and thus passes under the pavement of room No. 2. The upper part of bricks in this wall is 1 1/2" below the step in the western wall of this room. Below this wall Mr. F. N. Dikshit found a drain which is a continuation of the very drain discovered in 1922-23 to the north of rooms No. 10 and 11 outside the exterior wall of the quadrangle.

The adjoining room, No. 4 lies exactly in front of the shrine on the eastern side of the platform of burnt bricks, and the door in the western wall of this room lies in the centre line of that platform, thus being exactly in a line with the passage and the shrine in the eastern facade of the former. This room measures 22'5" in length and 13'0" in breadth. At an earlier date this room was much narrower and an older wall ran east to west along its course. This wall reduced the width of the two narrow rooms which were later on converted to a single room, 12'0" wide. This

I. P. N. S.

early wall does not form any part of the quadrangle of the 2nd century B.C., being much earlier than the pavement in the eastern and northern parts of the courtyard. It is impossible to ascertain now what the southern end of this room was like before the second century B.C., because the southern wall of this room, which lies to the south of the older wall in the centre, does not go below the level of the older wall, thereby making it certain that this wall was built when rooms of the quadrangle took their present shape. The lowest course of bricks of this wall is 1'6" higher than the uppermost course of bricks of the older wall. There is no entrance on the eastern wall of this room proving that in the latest period of construction there was no outlet from the courtyard in the exterior general wall of the quadrangle through this room. Under the older wall in the middle of this room which runs from east to west, there are two cross walls both running from north to south. These walls had no connection with the older wall and must therefore be taken to be the parts of a much older structure. These cross walls belong to the same stratum as the older wall running under the northern wall of room No. 2. These three different periods of construction correspond to exactly similar strata discovered in the rooms on the western side. In addition to these superimpositions of structure, the remains of buildings discovered outside the main general walls of the rooms of the quadrangle on the south east and the north prove that the architects of the 3rd or 2nd century B.C. were constructed on a much smaller scale than the original buildings on the ruins of which the quadrangle of rooms was built.

The next room towards the south, room No. 5 is the largest chamber of the quadrangle. It is in fact a large hall, measuring 43'3" in length and 25'3" in breadth. The northern wall of this room is quite modern i.e. it belongs to the latest period of construction in the quadrangle, being the southern wall of room No. 4. The eastern and

the western walls belong to a much earlier structure and their foundations go further down than the lowest course of bricks of the northern wall. The southern wall of this room is the latest and was built on very insecure foundations, when room No. 6, which is the south eastern corner room of the quadrangle, was completely cleared it was found that the northern wall of this room, which is the southern wall of room No. 5, was built on a loose sloping mound of debris. In this wall the lowest course of bricks at the western end is 3'10 1/2" higher than that in the eastern end. There cannot be any doubt about the fact that in its present form room No. 5 belongs to the latest period of building in the quadrangle, in the construction of which older walls were partly utilised. As it stands at present this hall contains the lower part of a small chapel, access to which was obtained by means of a flight of steps. This chapel stood on a platform, 2'11" in height on the oldest pavement in this hall. Three steps lead from the level of this pavement to the floor of this shrine or chapel. The northern wall of the hall lies at a distance of 9'8" from the northern wall of the hall. The shrine or chapel was very small and measures 6'10" x 7'6". At some later date the back wall of this shrine was extended towards the west by 1'6"; but the bricks in this extension rest on mud filling, showing that the floor level had risen considerably at that time, making the use of steps unnecessary. To the south of this chapel there is an oblong brick foundation 5'a2'6", which appears to have been another miniature shrine. 9' to the south of the larger chapel and 2'3" from the smaller pedestal there is a large brick foundation roughly square in shape which appears to have been the foundation or the pedestal of another shrine. As stated above, the eastern and western walls of this room belonged to an earlier structure. When the level of the

courtyard to the west of this room became higher, it became necessary to provide two steps the treads of which measure 1'8" in breadth and 6'10" in length and were built along the western wall of this hall. Subsequently it became necessary to lay another pavement in this room or hall. This pavement is 2'1" higher than the older one, and a portion of it was discovered intact in the south western corner of the hall.

The last room on the eastern face is a small chamber measuring 15'6" in length and 11'3" in breadth. Certain facts connected with the construction of this chamber are difficult to explain. The eastern and southern walls of this room go much deeper down than the northern or the western walls. Moreover, its eastern and southern walls, as they stand at present, belong to two different periods. These two walls correspond course by course to each other; but at a height of 5'3" from the lowest course the upper parts of these two walls vary in alignment from their lower parts. The upper part leaves a little offset in the eastern wall, but in the southern, this part actually projects into the room, 2" to 3" at places. The northern wall which has been referred to above as the southern wall of hall No.5 has a curve for its base line instead of a straight foundation. At some later date, when the building was reconstructed, the northern wall was built on very insecure foundation. So, also, the western wall of this chamber which has an opening in its middle measuring 5'6" is built on debris. The eastern end of the northern wall goes down exactly to the same level as the eastern and southern walls and corresponds course by course to the masonry of the eastern one. In this room also we come across an earlier pavement 7' below the

the later pavement in room No.5. Below this pavement we come across cross-walls belonging to a much earlier period.

Room No.6, being the chamber of the north eastern corner of the quadrangle, is the last chamber on the eastern face and the first on the southern. We have now to turn to the south. Outside the main exterior wall of the quadrangle there are a number of rooms which do not belong to the quadrangle of the second century B.C. and are connected according to strata to the lowest or the earliest walls discovered under the rooms in the western side of the quadrangle. The southern side of the main general platform and the main exterior wall of the quadrangle appear to have suffered more damage than any other part of the buildings in Site No.1. In the first place, along with the disappearance of the buildings in the south western corner of the main platform, the exterior wall of the quadrangle along the southern face has almost totally disappeared with its foundation.

To the west of room No.6 is room No.15. This is a narrow cell which might have been a closed room at one time, but all indications of which have now disappeared. In the first place, this small room or cell is now open towards the south, as the exterior wall of the quadrangle in this portion has disappeared. The eastern and western walls of this chamber were built on debris. The level of the lowest course of the masonry in these two walls is only 1'10" lower than the level of the later pavement in front of the door of the shrine attached to the eastern face of the platform in the centre of the courtyard and only 10" than the level of the lower or earlier pavement. There cannot be any doubt about the fact that this room was built when the upper pavement in the eastern part of the courtyard was laid. In front of the opening on the southern side of this room there is an earlier wall running parallel to the outline of the southern exterior wall of the quadrangle.

To the west of this room is room No. 10, a larger chamber measuring 17'8" in length and 11'3" in breadth. The southern wall of this chamber, which was the southern exterior wall of the quadrangle, has disappeared completely. Excavations below the foundations showed that like the majority of structures belonging to the latent period of construction in quadrangle, the walls of this room as well as the pavement, were built and laid on the loose debris of an older structure and ashes. The pavement of this room is 9" lower than the upper pavement of the eastern part of the courtyard and 1'3" than the later pavement in the south western corner of the room No. 5. This pavement consisted of three layers of burnt bricks laid one over the other. The breadth of all rooms on the southern side is 11'3".

The next room on the western side is a very small narrow chamber like room No. 2 on the eastern side. The width of this room No. 17 is exactly 3'4" which is the case with the room No. 2 also; while its length is 11'3", the general width of the rooms on the southern side. The pavement of this room is on the same level as that in room No. 16. The adjoining room on the west No. 18 is larger and very nearly square in shape, measuring 11'10" x 11'3"; there are four superimposed layers of bricks in the pavement of this chamber and it is quite possible that they belonged to two different pavements of two different periods. There is an opening, 3' in width, in the western wall of this room, leading to room No. 19 and another in its northern wall of the same width leading to the southern part of the courtyard. There is a low wall running parallel to the northern wall of this room below the sill of the doorway.

The next two rooms on the southern side, No. 19 and 20, are almost equal in size. Their length is 11'3". The breadth of room No. 19 is 5'7" while that of room No. 20 is 7'. Three round copper coins were discovered in this room. They belong to the peculiar type discovered for the first time

time at Mohenjo-Daro. On the obverse we find the king standing on one side in the same fashion as on Indo-Soythio and Kuskān coins and on the reverse another indistinct human figure. No pavement was discovered in room No.19 and the level of the lowest course of bricks of its walls is the same as that in room No. 18; thereby proving that they belong to the same period of construction, i.e., the latest period of the building in the quadrangle. Room No.21, which lies to the west of room No.20 measures 21'3" in length while the width is 11'3". The pavement of this room is only 1 1/2" below that of room No.18, proving that both were laid at the same time. There is a door or opening in the north wall of this room leading to the southern part of the courtyard. This opening is 3' in width and in the western side there is a narrow groove on the sill most probably intended for the reception of the wooden door-frame. 7

The next chamber on the side, which lies to the west of room No.21, is extremely interesting on account of the finds made in it. It is a small narrow cell (No.22 in the plan), 9' in length and only 1'7 1/2" in breadth. It was formed at some later date by dividing the original square chamber to the west of room No.21 into two parts by building another wall close to and running parallel to the western wall of that room. This wall cut off a portion from the original eastern wall of the larger chamber and thus formed a narrow cell or shrine. This shrine or cell appears to have been regarded with very great reverence by the people of the locality. A small opening in the newly built wall led to this narrow shrine, the northern end of which contracted and met like the apex of a pointed arch. The side walls on the east and west of this narrow cell were made to curve inwards and join at a point, the joints are not perfect on account of the difference in the levels of the masonry on both sides. The pavement in this small cell is 2 1/2" higher than that in room No.21 proving that this narrow cell belongs to a date later than the latest period of construction of the quad-

quadrangle. At the time of its excavation this cell was found to be covered with debris and masses of fragments of burial urns with pointed ends. The upper part of this layer of jars was damaged, but the lower part was in better preservation, showing that these urns had been arranged one over the other, the lowest being placed on ring-shaped stands. Two large earthen jars were also discovered in this shrine, both of which contained smaller burial urns, each of which, in their turn, contained uncalcined bones of the human body in crude crucible-shaped terracotta reliquaries. After clearing the mass of burial urns we came across a crude relic casket made of coarse-grained sandstone measuring 6" approximately in diameter with a round cavity in its centre at the bottom, i.e. on the pavement. The depth of this cavity is 1" and it was covered with a very small lid made of conch-shell. A larger lid made of marble was laid on the smaller one. The lid of conch shell measures $1\frac{7}{8}$ " in diameter and the round hole in its centre possesses a diameter of $\frac{3}{8}$ ". Three round copper coins of Siva and Bull type of Vasudeva I were discovered in the upper layer of this room. In the large burial jars of this room we found a number of uncalcined large fragments of bones, which were too large to be contained in the smaller burial urns with pointed ends. Evidently this little shrine was regarded as very holy and was a favourite spot for the deposit of pre-oration burial urns.

The next room to the west of room No.22 was once much larger, but sometime after the latest period of construction in the quadrangle the breadth of this room was cut off for the construction of shrine No.22. At present room No.22 is 11'3" in length. This is the third room on the southern side of the quadrangle which possesses an opening in its northern wall leading to the courtyard. The level of the pavement of this room is 6" higher than that in room No.16. In addition to the door in the northern and eastern walls of this room there is another, 2'0" in width towards

the west, leading to room No. 24. But the later pavement in room No. 24 is 1' higher than the existing pavement of room No. 23. This accounting in room No. 24 another pavement was found 2' 3" below the upper one. To the west of room No. 24 is a long room which is only partially preserved, as the western portion of its southern wall and the whole of its western wall have disappeared completely with their foundations. It is therefore, absolutely impossible to determine where the south western corner of the quadrangle was. Excavations in room No. 25 revealed traces of walls of earlier buildings, one of which runs east to west, parallel to the supposed outline of the southern exterior wall of the quadrangle, but not co-terminate with it. This lower wall formed part of chambers, which extended to the south of the outline of the southern exterior of the main wall of the quadrangle and therefore belonged to a much earlier building.

From this point we shall have to turn to the west. The room of the western side of the quadrangle were excavated first of all and yielded numerous finds, the dates of which can be determined with much greater accuracy than those found in other parts of the quadrangle. At the south western corner of the quadrangle there were two rooms side by side to the north of room No. 25. Only one of these rooms lies inside the exterior walls of the quadrangle. But it is also quite possible that the northern side of the quadrangle was much wider originally and that there were many double rooms on this side, like those discovered on the northern side. The excavations revealed one continuous wall running along westernly of the chambers on this side. This wall has been taken to be the main exterior western wall of the quadrangle. The remains to the west of this wall have disappeared completely with the exception of room No. 26. But it is also quite possible that there was another wall to the west of and running parallel to this wall, which was really a continuation of the western wall of room No. 26. Beyond room No. 26 and the existing western wall of the rooms on the western side.

side of the quadrangle the ground slopes showing that originally Site No. I ended within a short distance of present wall. Narrow necks join it to Site No. II and a series of mounds to the south west and west of Site No. I. Rooms No. 25 and 27 lie side by side. Room No. 25 lies to the south of room No. 26. The pavement of room No. 26 is only 4" lower than that in room No. 16. The area to the west of the existing western wall has not been excavated yet.

Room No. 27 must have been a shrine of great importance and regarded with exceptional reverence. Its walls were plastered with fine mud and painted white and red. Two different systems of burials were discovered in this room.

1. Pl. XVIII. c
One of them consists of a brick cist containing the body of a young girl. The cist or tomb was built of bricks and a layer of debris and the wall consisted of single bricks, while the covering was provided by bricks of the same size laid lengthwise. On account of the brick covering, it was at first taken to be a drain. But on removing the covering the cavity was found to be filled with dry sand which had preserved the dead body almost entirely. The bust and the hair of the head were in a fine state of preservation though shrunk, but the nose and the eyes had disappeared, and the skull had rolled outside and was found on the lower pavement of the room. The bottom of the cist is 2.4' above the lowest course of the bricks of the platform in the centre of the courtyard on which the stupa had been built in later days. Before the Camera could be brought up, the torso crumbled to dust though muscles and flesh can still be seen adhering to the bones in the photograph.² The legs were doubled up but the toes had dropped off. The skeleton lay on its left side.

2. Pl. XVIII. a.
The second tomb is much earlier in date than this cist. Six feet below the floor of the cist and at the bottom of the mass of debris on which it was built, was the earliest pavement in this room, in the south eastern corner of which a large earthen ware burial jar was found in a fine state of preservation.³ The corner of the room in which it was found was unpaved and the way in which the

3. Pl. XVIII. b.

upper part of this jar protruded above this pavement and in which it was covered very carefully with bricks of the same size showed ~~very carefully with bricks of the same size~~ ~~showed~~ that this burial jar was most probably earlier than the earliest pavement of room No. 27. The mouth of this burial jar was covered with a slab of sandstone. In its interior we found a layer of white sand on the top and below it a number of small burial urns with pointed ends. These fragments were embedded in a thickish gluey soil mixed with small fragments of bones. In one or two cases a small piece of bone was placed inside a crude reliquary of coarse earthenware one sundried and others kilnburnt and then placed inside a comparatively larger burial urn with pointed end, surrounded by miniature necropolitan pottery. Among the fragments recovered from this large jar were pieces of the upper part of a painted vase. The painting in this case consisted of thin lines of white on the body, with a single horizontal row of stylized flowers at the base of the neck. The most peculiar finds in this burial jar were ten fragments of a highly polished black vessel, which appears to have been pieced together before its deposit. The different pieces were found together by means of little holes bored in many of them. The texture and the polish of these black fragments resemble the similar pottery discovered by Sai Saheb Monoranjan Ghosh, M.A., Curator of the Patna Museum during the excavations of Pataliputra. There cannot be any doubt about the fact that the large burial jar discovered in this room contained the bones of more than one person and several different deposits. Room No. 27 measures 12' x 10' and the lower pavement of this room is 6" below that in room No. 24. The level at which the jar was discovered is four feet below the bottom of the brick cist.

To the north of room No. 27 is room No. 28, a small narrow room 10'3" x 6', the western wall and the pavement of which have completely disappeared. But the lowest course of bricks in its northern wall is on the same level as the pavement in room No. 26. The next room on this side, No. 28 is

is larger in size the breadth being 10'3" which is the general breadth of all rooms on the western side and the length is 11'6". The pavement of this room is 3" lower than that in room No.27. There is an opening or door in the eastern wall of this room measuring 3' in width which leads to the western part of the courtyard.

The next room 30 on the side is more complex. As it stands at present, it has clear traces of three different pavements of three different levels and therefore belonging to three different periods. The length of this room is 11' while the breadth is 10'3". There is a niche in its southern wall, measuring 2'6" square which was partly filled up when the intermediate pavement was laid. The sill of this niche is 2'1 $\frac{1}{2}$ " below the level of the intermediate pavement, which latter again is 4" lower than the existing pavement in room No.27. A terracotta bull and a copper ring was discovered here. There is an opening 3' in width in the eastern wall of this room which leads to the western part of the courtyard and another of the same size in its northern wall leading to room No.31. The position of the sills of these doorways, which are 2'1 $\frac{1}{2}$ " higher than that of the sill of the niche in the southern wall, indicates the level of the second or intermediate pavement. The lower parts of both of these openings were partially blocked up most probably on account of the rise in the floor-level and the third uppermost pavement was laid at this level.

The next room No.31 is a small narrow cell measuring 10'3" in length and 3'6" in breadth. The pavement of this room is at the same level as that in room No.27. Room No. 32 which lies to the north of room No.31 is larger and more complex. As it stands now, it is 11'7" in length and 10'3" in breadth. It possesses openings or doors in its eastern and northern walls. There ² different pavements were found in it, the upper part of which is at the same level as the pavement in room No.27 and the upper one is room No.31.

1.Pl.XIX.a.

2.Pl.XIX.b.

3.Pl.XX.a.

The lowest pavement in room No.32 is 4'14" below the level of the upper one. As the level of the upper pavement in room No.32 is the same as that of the upper pavement in room No.31 and the only existing pavement in room No.27, it is quite certain that the lowest pavement in this room belongs to a much earlier period than the latest period of construction in the quadrangle of rooms. The door in its northern wall indicates the level of the intermediate pavement as the sill of this opening is 1'0" below the level of the upper or latest pavements. When this door was used there must have been another pavement between the upper and the lowest. One copper coin of the new round type with a human figure on each side was discovered in this room.

The next room, No.33 is smaller. Its length is 10'3" and the breadth 6'9". The only pavement found in this room is 2'9" below the level of the upper pavement in room No.32. This pavement in room No.33 is 11" lower than the level of the sill of the doorway between this room and No.32 and therefore belongs to the intermediate period. A fragment of a round marble relic casket, a toy jar, a horse made of terracotta and a round copper coin were discovered here. The coin is much smaller in size than the smallest Kushan coin discovered up to date but it is absolutely illegible.

The next room on the north, Room No.34, is one of the largest rooms on the western side. It is 14'5" in length and 10'3" in breadth. There are three different pavements in this chamber also. The uppermost pavement is 4" lower than that in room No.29 i.e. 7" lower than the only pavement in room No.27. Below this, is the intermediate pavement or the pavement of the second period. To this period belong the original levels of the sills of the doorways of this chamber in its eastern and northern walls which are 1'0" below the latest or uppermost pavement. Below the intermediate pavement walls of an earlier building running north to south were

discovered.

discovered. One portion of this early wall was found just below the southern wall of the room and the upper course of bricks in the early wall is 3'2" below the uppermost pavement. Another wall also running from north to the south was discovered just below the northern wall of the room and the uppermost course of bricks in this wall is 2'3" below the uppermost pavement of the room. Thus three different periods of building were found within the height of 8'4" in this room. The position of the lower walls indicates that they belonged to the period of the lowest or earliest pavement in room No. 32.

1. Pl. XII. 3.

The coins discovered in this room also corroborate the evidence of these strata. A coin of the later Kushan period showing the upper part of the standing king on the obverse and the *Stva* and *Bill* on the reverse was found at a depth of 4' from the top of the mound or the original level over this room. Another coin was discovered at a depth of 2'8" from the top of the mound. On this coin the figure of the king wears a long garment, exactly similar to the long coat worn by the great Kushan emperors and their coins and on the statue of Kanishka I discovered at Mat in the Mathura District. On account of a mistake in die-striking the head of the king has been deleted. On the reverse the man is standing to the left with his hands raised and in front of him i.e. to the right, an altar on which is a round object. No coin of this particular type has been discovered anywhere else. In the south eastern corner of this room, approximately 3'8" below the original ground level, a round earthenware pot, painted with horizontal brown lines, was discovered. This pot contained a large mass of conglomerate, which when cleaned yielded the largest recorded find of ancient Indian Karehapanas. These coins though they belong to the genus of the ancient Indian Karehapanas or copper coins belong to a new species and are entirely unlike any type hitherto described by numismatists.

2. Annual Report of
the Archaeological
Survey of
India, 1922-23.
Part. II. p.

3. Pl. XIII. 7

This find of square coins of the Karavappan type is very important because, in the first place, they consist of a new species of the variety and in the second place they are the earliest known copper coins of the province of Uttar Pradesh. In the centre of these coins there is a hole about 1/8" in diameter over which molten copper was poured before die-striking. A complete description of the find will be found below.

From the position of the findspot it is possible to associate the intermediate period of building with the period of the early Mauryas, approximately the third or fourth century B.C. The jar or pot in which they were found was buried above the uppermost course of bricks of the lowest wall and just below the level of the intermediate pavement. Seven other coins were discovered below the level of the intermediate pavement of this room. The best preserved among these are round. Two of them were discovered 5'2" below the original ground level. One of these bears on the obverse the figure of a dwarf with out-stretched arms, riding on the back of some animal, the reverse is indistinct. The other coin found on this level bears on the obverse standing human figure with arms out-stretched, while on the reverse appears the figure of a dwarf riding on some animal which we find on the first coin. 3'8" below the findspot of these coins two more coins of the same type were discovered. One inch below the findspot of the couple of coins described above i.e. 5'11" below the original ground level, an unique coin was discovered bearing a device difficult to describe. It looks like an opening lotus bud while on the reverse the outline of a figure of a man with a staff or sword in his hand are to be seen. Close to it and at the same level another coin was discovered, which shows an altar and a pillar on the obverse and a dwarf riding on an animal on the reverse. Another coin, discovered at a depth of 4'6" from the original ground level before excavation, shows traces of a human figure on the obverse, while the reverse is illegible. These seven

coins.

coins appear to belong exclusively to the province of Sindh
and are not known in any other part of India. The rectangular
copper coins found in this pot are certainly earlier in date
than these round coins.

The adjoining room, No.35, is a small narrow chamber
possessing only one entrance, which opens in room No.34. The
length of this room is 10'3" while the breadth is only 3'4".
The only pavement discovered in this room is 1'6" below the
level of the intermediate pavement and 2'9" below that of
the uppermost pavement of room No.34. This room also yielded
a find of coins which are very important for the determination
of age of the different strata in Site No.I. This hoard was
discovered, in a pot 3" below the level of the existing pave-
ment and consisted 76 round copper coins of Vasudeva I along
with some square Karshapanas. Among the coins of Vasudeva I
which are the usual Sixa and Ball type, some coins were found
to consist of two or three thin sheets of metal covered with
molten copper. While cleaning, the upper layer disappeared in
many cases leaving the impression of the die on the thin sheet
of copper in the core of the coin. The Greek inscription
usually to be found on the coins of Vasudeva I is partly pre-
served on some specimens. 53 rectangular Karshapanas of a
type quite different from the find in room No.34, were also
discovered in the same spot. They are slightly larger and
heavier in size and they differ from the ordinary Karshapanas
or the punch-marked copper coin in one particular characteris-
tic. Like the indigenous coins of Taxila all of these coins
are die-struck and not punch-marked. Some of them bear a
beautifully shaped fire-altar on one side while other bears
a rude human figure, similar to those stamped on the round
copper coins found in Orissa which are known to the numisma-
tists as Part-Kushan coins. Other coins of this find bear the
figure of a seated or standing god with a halo behind his head.
One specimen bears a figure of a dwarf (gana) with curly hair.
In addition to this find another copper coin of Vasudeva I
was discovered among the debris in this room.

1. Pl. XXI 5

2. Cunningham's
Coins of Ancient
India, pp.
Catalogue of Coins
in the Indian
Museum, Vol. I, pp

3. Ibid, pp.92-93.

To the north of this chamber is room No. 36 measuring 10'3" square which leads into the corner room on the north west. Room No. 36 possesses two pavements at present none of which corresponds to those in room No. 34. The upper pavement is 1'10" lower than the upper pavement of room No. 34 and 9" lower than its intermediate pavement. The lower pavement in room No. 36 is 2'8" lower than the upper pavement and 1'5" than the intermediate pavement in room No. 34. A large number of coins were discovered in this room mixed up with debris. They were generally found at a depth of 4' from the original ground level at the spot. They fall into two distinct classes, though all of them are round. The Siva and Bull type copper coins of Vasudeva I form one class while the second class consists of coins bearing the figure of a dwarf riding on animal. In the second class Siva is to be found with his Bull on the reverse in one or two cases. Some others bear long cylindrical object which may be a fire altar. All of these coins were found above the uppermost pavement. A copper ring without any ornamentation was also discovered in this room.

Room No. 36 possesses a doorway in its northern wall which leads to room No. 37 which is peculiar in shape. It is not square but a regular gnomon covering the northern and the eastern sides of room No. 36. The north western corner of this room has totally disappeared exposing to view remains of older buildings, and therefore it is extremely difficult to determine the outline of the north western corner of the exterior general walls of the quadrangle. The length of this gnomon-shaped room is 28'6" both from the north to the south and from the east to the west. The breadth of the room is 10'3" on both arms of gnomon. A pavement was discovered in that section of the room which lies to the east of the room No. 36 and this pavement lies 1' below the upper pavement and 4" above the lower pavement in the former room. This pavement therefore belongs to the second or intermediate series of building in the quadrangle being 2'10" below the

upper pavement in room No. 36. Below the level of this pavement, walls of an earlier period were discovered. This pavement is 5" below the lowest course of bricks of eastern wall of this room and 64" below that of the western walls. The top of the early wall, found below the pavement, reaches the bottom of it. Among the coins discovered in this room there are at least four of the Sita and Ball type of Vasudeva I and three of the peculiar type with the figure of the dwarf riding on an animal. A peculiar coin was also discovered in this room just below the pavement and above the top course of bricks of the early wall. It is a thin piece of copper measuring $1\frac{5}{16}$ " in length and $\frac{3}{8}$ " in breadth. The thickness is less than $\frac{1}{16}$ th of an inch. On one side there are three or four characters belonging to the same variety as those on the seals discovered at the bottom of the eastern retaining wall of the main platform and also at Harappa. A number of cornelian pipes or beads similar to those used by Turks as mouth-pieces for their chibouques were discovered in this room along with a number of fragments of glass bangles and the terracotta figure of a rhinoceros.

The rooms on the northern side really begin from room No. 37 and consist of a double series of rooms, instead of a single one. Immediately to the east of the room No. 37 there are two rooms, to the north and south of each other. They are approximately equal in size measuring 15' in length and 10' in breadth. Room No. 38 lies to the south or on the side of the courtyard and room No. 39 to its north. No. 38 is complete and is provided with a door, 3' wide, leading to the northern side of the courtyard. While clearing this room two copper coins of the rectangular Karahapana type were discovered with a round Greek coin. On the Karshapanas, the loop of a crude human figure exactly similar to those to be found on the coins of the find in room No. 38, can be discerned. The Greek coin is peculiar and appears to be unique. It is round in shape and of the same size as the large copper coins of Kadphises I and Kadphises II. On the

obverse the King is seated on a throne on the left facing and is throwing incense on an altar on his right, the right. To the right of the altar there is a tall pillar surmounted by a wheel. On the reverse we find a lion statant. Traces of an inscription in Greek are to be seen in the space between the pillar and the margin of the coin, but the legend cannot be deciphered. This coin, the only Greek one discovered in 1922-23, is not sufficiently well-preserved. No coin of the Indo-Greek or Indo-Scythian period belonging to this particular type appears to have been discovered anywhere else in India up to this time.

Two different pavements were discovered in this room, the upper one of which is 2'10" above the pavement in room No.37 and the lower one 1'10" higher. There is thus a clear difference of 1' between the two pavements of this room. The adjoining room on the north, No.39 is not so well preserved as the remaining rooms on the northern side of the quadrangle. The western wall of this room is projected beyond the outline of the exterior northern wall of the quadrangle but the northern wall of this room has disappeared with its foundations. The lowest course of bricks in the eastern wall of this room is 2'7" below the upper pavement of the room No.38. A large earthenware jar containing numerous smaller burial urns was discovered below the level of the lowest course of bricks of the eastern wall. This jar was badly cracked at the time of discovery and could not be removed entire. The contents of the jar were examined on the spot. Like the large jar discovered in room No.27, it contained a number of burial urns with painted ends and a large vase-shaped urns covered with white-glaze (A.63) and each of these urns contained miniature pottery, flint scrapers, copper ornaments and uncalcined bones in small terracotta crucibles. Six round coins of copper very much corroded, were discovered in this room, but after clearing, none of them was found legible.

To the east of these two rooms there are two long narrow rooms, running north to south and the length of each of them covers the entire width of rooms No.38 and 39 on the west and 42 and 43 on the east. These two rooms are single

ones occupying the entire breadth of the rooms of the quadrangle on the northern side. Room No. 40 is a long narrow shrine, 24' in length and 4' 3" in breadth. There is an opening or door in the southern wall of this room leading to the northern part of the courtyard. A large round earthen ware pot of a peculiar type was discovered in this room. The lower part of this pot is encrusted with fragments of pottery and was evidently designed to resist very great heat, like a crucible. The pavement of this room is only 9" below the upper pavement in room No. 38 and 2 1/2" below that of room No. 34. To the east of this room is another long narrow chamber room, No. 41. Originally this room was an open shrine having no wall on its southern side, and at that time it measured 25' 6" in length. The breadth of this room is only 3' 6". Traces of a wall running from the north to the south were found in the southern opening of this room, which must have, originally, blocked up a portion of that opening. The pavement of this room is 2' 7" lower than the upper pavement of room No. 38 and 1' 7" than the earlier one in that room and 2' 7" below that of the upper one in room No. 34. This pavement therefore belongs to the intermediate or second period of building in the quadrangle. Three peculiar round copper coins of the new type were discovered here. One coin was discovered while clearing the debris at the top. It bears the figure of a king on the obverse and that of a tall human figure, a pillar and an altar on the reverse. The obverse of all these coins bears a human figure. The remaining two coins were discovered at a depth of 3' 6" below the original level of the mound.

To the east of this room there are two others exactly similar to rooms No. 38 and 39. These are rooms No. 42 and 43 of the accompanying plan. Room No. 42 is provided with a door or opening in its southern wall, measuring 3', which leads to the northern part of the courtyard. This room measures 12' in length and 10' in breadth. The pavement

1. PL. XIII. b.

2. PL. XIII. c.

new
found

of this room is only 5½" below the upper pavement in room No.34 and may therefore be said to correspond to the same period of building. A round lid of some vessel possibly a relic casket, made of conch-shell was discovered in this room. The size and make of this lid is exactly similar to that discovered in shrine No.22 on the south; the only difference being that instead of a hole in the centre, this one is fitted with a copper ring attached to the hole. (a.221)

1, Pl. LVI 12.

Room No.43, which lies to the north of room No.42, is exactly of the same size and possesses an opening into the former room through its southern wall. Its pavement is 5½" above the level of that in room No.42. There is an opening in the western wall of this room, leading to room No.41. The sill of this door is 1'2½" above the level of the pavement. To the north of these two rooms there are two others, Nos. 44 and 45. Both of them are of the same size, measuring 13' in length and 10' in breadth. Like rooms No.38-39 and 42-43, the southernmost room of this pair is provided with a doorway 3' in width leading to the northern part of the courtyard. The pavement of this room is only 2" higher than that in room No.34. Room No.45 can be reached through a door in the northern wall of room No.44 which is 2'9" in breadth. A small human head made of porcelain or glass paste and burnt during some conflagration was discovered in this room (B.18). This find is of great interest as the head is that of a barbarian with a straggling beard and resembles the stucco figure of a barbarian discovered by Sir John Marshall in the Jaulian Monastery at Taxila. The head-dress is missing in the specimen discovered at Mohen-jo-Daro, but the white empty space enclosed by the black curls on the top of the head indicates that the conical head-dress was originally present.

2, Pl. IV. 9

3. Marshall- A
Guide to Taxila,
Second Edition,
Calcutta, 1921,
Pl. XXVIII.

Abutting on the northern walls of room No.41, 43 and 45 there is a buttress 2'9" in thickness, which runs along the exterior northern wall of the quadrangle. This buttress

ends abruptly in the north western corner of room No.47. At this point the main exterior wall of the quadrangle thickens. To the north of this pair (Room No.44 and 45) there is another pair of rooms, Nos. 46 and 47, equal in size measuring 12'6" in length and 10' in breadth. No.46 is provided with a doorway 2'9" wide, leading to the northern part of the courtyard. Another door in the northern wall of No.46, 3' wide leads to room No.47. The lower part of this door is completely blocked up showing that the level of the floor had risen considerably necessitating a rise in the level of the door sill. Similarly the door of room No.48 leading to the courtyard was also found blocked up to the height of 2'6" or 3'. The pavement in room No.46 is 1" below the upper pavement in room No.34 and may therefore be taken to be of the same period. The pavement in room No.47 is 2 1/2" below the level of that of No.46.

To the east of these two rooms there is another long narrow shrine, similar to rooms No.2, 17, 40 and 41. This room No.49 is 23' in length and 3'3" in breadth. Its pavement is at the same level as room No.47. To the east of this room there are two others, Nos.49 and 50 which are exactly equal in size; 12'6" in length and 10' in breadth. Like all pairs of rooms on the northern side of the quadrangle, No.49 is provided with a door leading into the northern part of the courtyard 3' in width. A door of the same size in the northern wall of this room leads to room No.50. The pavement in room No.49 is 5" below the upper pavement in room No.34, while that of No.50 is exactly at the same level as the upper one in No.34. To the east of this pair of rooms is another pair, the last on the northern side which brings us to the western wall of hall No.1. Both of these rooms are 12' in length and 10' in breadth. No.51 which is the southernmost of this pair, possesses an opening in its southern wall leading to the north eastern corner of the courtyard. Like the majority of the doorways of the quadrangle, this opening measures 3' in width. Another doorway to the northern wall

wall of the Room No.51 leads to room No.52. The main northern exterior wall of the quadrangle thickens to 3' from 2'6" from the northern side of the room No.47. This thickness lasts up to No.50 and to the north of room No.52 the thickness of this wall is again 2'6". Later on a buttress 3' in width was added along the entire remaining portion of the main exterior wall from room No.50 to the end of the room No.52.

We have, now, reached the north eastern corner of the main general platform and shall pass out of the quadrangle through the passage in hall No.1. In front of the rooms on the eastern facade of the quadrangle there are eight rooms, numbered 7 to 14 in the accompanying plan, which lie at a much lower level than the buildings of the quadrangle, but correspond to the level of the walls of the sixth period found under the rooms of the quadrangle. We cannot judge now whether the area outside the quadrangle was roughly levelled at the time of the latest period of building of the quadrangle or not. But it is quite possible that these earlier buildings were standing in a ruined condition when the quadrangle around the courtyard took its final shape. The depredations of the villagers in this area have deprived us of all means of reconstructing the plan of these older structures. To the north of this wall we have to descend abruptly to a lower level and to the west of this wall we find that the north eastern exterior wall of the quadrangle ends all on a sudden. There is no sign of masonry here and it is quite impossible to say whether this northern wall was continued further to meet the eastern wall at the north eastern wall at the north eastern corner or not. We are therefore at a loss to determine how people descended from hall No.1 to the grand staircase along the eastern facade of the main platform in Site No.1. Remains of this staircase were discovered to the east of the second and third pillar bases from the north in hall No.1.

The space between the grand staircase and rooms No.1-9

is occupied by a deep pit or a room, which when excavated yielded tons of ashes mixed with mounds of lime, fragments of bones and charcoal. The entire amount of ashes excavated from this room alone, could not have been less than five or six tons. Rooms No. 1, 2 and partly 3 of the quadrangle were built right over this heap of ashes. Just at the north eastern corner of room No. 2 there are five different strata of ashes under the lowest building in that room. The height of the mound of ash under room No. 2, even in its present compressed state, is 5'3". After excavating the huge quantity of ash a cross wall was discovered running east to west, just under the south eastern corner of hall No. 1. The upper course of bricks of this wall lies at a depth of 4' below the lowest course of bricks of the bases of pilasters in the southern wall of hall No. 1 above it. This room, of ash-pit, is of a peculiar structure, to which there is an entrance near its south eastern corner. This opening is only 2' in width and it leads to a small narrow chamber (No. 9), to the north of which is another large room (No. 8), by the side of which is the grand staircase. There was another narrow chamber to the north of the staircase (No. 7¹). There are therefore at least three rooms to the east of the ash-pit. The first of these rooms (No. 7) is only partly preserved as the front or eastern wall has collapsed totally. The length of this room as it exists now is 20'. It is provided with an opening in its western wall, which is 4'2" wide, while the breadth of the entire room is 7'9". This entrance is now completely blocked up by debris and the room has a niche or a small bay in its southern wall measuring 3'8" in length and 3'2" in breadth.

To the south of this room lay the grand staircase, the existing top step of which is 5'11" below the lowest course of bricks of the pilasters in room No. 1. In its present state the size of the treads cannot be determined.

Below it there are two other steps to the east in a very imperfect state of preservation, but enough remain to proclaim that they once formed part of a very imposing stairway. It is also very difficult to determine the exact height of each tread, but the approximate height can be easily deduced by the difference between the levels of the landing in front of the third step and that of the top one. This difference is exactly 38". Making allowance for wear and tear we can take this difference to be 3'4" which will make each step 10" in height. The breadth of the second and third steps is 4'3". The existing top step, which was the first landing of the stairway, and the fourth step, which was the second landing, are too much mutilated to admit of correct measurement. At the eastern edge of the fourth step or the second landing there is a sheer drop of about 40' leading to the bottom of the retaining wall of the main platform on the east. There is an offset in the masonry of this retaining wall of the main platform in Site No. I just under the second landing. From the second landing the stairway turned to the south and its remains are represented by the gentle slope along the top of the eastern retaining wall of the main general platform in Site No. I. Trial pits dug at the south eastern corner of Site No. I revealed the remains of the parapet wall of the staircase gradually rising from the south eastern corner to the north eastern to which buttresses had been added from time to time; but the masonry in the entire area has been so much mutilated that at the present day it is absolutely impossible to state definitely whether the staircase descended gently from the second landing to the south eastern corner of the mound or ended in a steep staircase up to the point at the south eastern corner where the offset was found below that landing.

To the south of the second and third steps there is a room (No. 8) measuring 14'10" in breadth, but the length of which cannot be exactly determined as the northern wall has disappeared totally. If it was continued right up to the

southern edge of the stairway then its length was 20'6". The pavement of this room lies approximately at a depth of 10 1/2" below the level of the existing top step of the stairway. There is a niche in the western wall of this room measuring 4'6" in length and 2'6" in breadth, which appears to have been originally a doorway. The level of the sill of the niche is only 7" higher than the approximate floor-level of the room. The back wall of this niche is formed of burnt bricks alternately laid on edge and flat. To the south of room No.8 there is a small narrow room which is really a passage to the ash-pit (No.9), measuring 10'9" by 4'. Originally there was no wall on the western side of this room or passage, but later on a square pillar was built at the north corner, narrowing the opening on the west or the entrance into the ash-pit. The base of this pillar measures 2' x 1' 10". To the south of the passage of room No.9 there is a very small niche or room in the thick wall.

The regular series of chambers in the lower level on the eastern side of the quadrangle may be said to end at this place. To the south of room No.9 or the passage into the ash-pit there is a thick wall wide, which bordered on a long narrow but deep drain coming from the interior of the first series of rooms. This drain has now been traced right under the eastern rooms of the quadrangle to the eastern part of the courtyard, for a length of 19'1". Its bottom is 5'10 1/2" below the pavement in room No.3, which lies exactly to the west of the stupa. The masonry of this drain is quite different from that of the quadrangle or of all other structures in Site No. 1. The bricks are smaller and well-made and the masonry very close-joined. The mortar used appears to have consisted of mud but very little of it can be seen. This masonry is exactly similar to that of the drain immediately below the exterior eastern retaining-wall of the main general platform of Site No. I, the altar in room No.1 and bay No.23, along with drains in passages No.13, 21 and 22 of Site No. II. The length of this drain so far as it was excavated in 1922-23 was 19'1" from the eastern exterior wall of the quadrangle.

To the east of this drain there are a series of small walls, running almost parallel to the eastern exterior wall of the quadrangle which enclose a number of very small oblong cells. To the south of the drain the space outside the eastern exterior wall of the quadrangle is divided into two small rooms which are Nos. 10 and 11 of the plan. Room No. 10 measures 14'10" in length and 9' in breadth. A portion of room No. 12 projects into the south western corner of this room. Most probably No. 12 was built when rooms No. 10 and 11 had collapsed. The northern wall of both of these rooms are missing. Room No. 11 measures 13'0" by 4'. To the south of these two rooms there are two others No. 12 and 13 which lie north and south of each other. To the east or front of these there is a narrow corridor, the southern end of which has vanished altogether. Room No. 12 measures 10' square and No. 13 14'7" x 10'. Only 48' of the corridor is left and its breadth is 3'0". In front of the corridor i.e. on its east, there is a long narrow room or cell just opposite No. 13; but it is not certain whether this cell forms part of the building of the earliest period or not. The remaining portion outside the eastern exterior wall of the quadrangle has disappeared totally. The distance between the eastern exterior wall of the quadrangle and the eastern retaining-wall of the main platform is Site No. 1 is 75. The structures in the last 50' of this area appear to have tumbled down bodily over the brink of the precipice.

1, Pl. XVII, b.

Measurement
to be carefully
checked at Mohen-
jo-daro.
It'd. R.D.B.
10-1-23

Traces of chambers, probably belonging to an earlier period were also found outside the exterior northern wall also i.e. to the north of the quadrangle. Similar projections were also discovered running at right-angles to the eastern exterior wall and the western exterior wall also. The walls against rooms No. 47 and 50 belong to the latest period of buildings of the quadrangle, because their foundations are much higher.

Higher than those of the buttresses built against the northern exterior wall. To the north of room No. 37 there is a wall running east to west which belongs to the intermediate period. But three walls to the north of this wall running north to south or at right-angles to it belong to the oldest period. Below the middle and eastern of these walls there are two parallel walls running east to west which are older than the lowest pavement in room No. 32. Just outside room No. 41 there is a room to the north of the northern exterior wall measuring 30' 8" in length and 7' 10" in breadth. The southern end of this room is occupied by a platform 7' 3" in breadth. To the east of this room another room appears to have existed at some date of the same size, but the northern half of it has disappeared completely. An old wall of the third or earliest period of building in the quadrangle was also discovered running at right-angles to the northern wall of room No. 47.

81.
G. SITE NO. II.

THE SITUATION.

The highest point on the northern side of that group of mounds, the apex of which is formed by Site No. I, is the northern end of the platform, which is described as Site No. II. The excavation of this site was undertaken, mainly, to find out the causes of the subsidence of this mound. Large tunnels, high enough to admit of a man's passage were visible at the north eastern corner of this mound, which has fortunately been photographed in December 1919. The local people took these tunnels to be the lairs of wild animal especially wolves called Baghghade in Hindi who bored holes in such remote and secluded places. But during excavation it was found out that the tunnel had been excavated by treasure-seekers and was 6' in height, 5' in breadth and about 100' in length. A man could easily walk through the tunnel and entering it through the hole in the eastern face of the mound pass out through what subsequently proved to be a bay or shrine, No. 23, in the western facade of the main shrine in the north eastern part of the site.

During the excavation, the mound proved to be another important shrine also built on an island or sandbank in the ancient river bed. The shrine was built on a high platform which was at first artificial but which had risen considerably by the accretion of buildings of different periods. During excavations it was discovered that on account of vigorous assistance of villagers the northern retaining-wall of the main general platform, on which the shrines had been built had disappeared almost completely, causing the collapse of all buildings on the northern edge of the main platform in this site. As in Site No. I, in the latest period of building there were enormously tall retaining walls along the eastern northern and western faces of this site also. There is a gentle slope on the southern face of the site which extends

1. Pl. XLIII a
and b. XLIV
a and b.

2. Progress
Report of the
Archaeological
Survey of India,
Western Circle,
for the year
ending 31st
March 1920. P.
80, pl. IX.

up to the western side and the north western corner of the quadrangle to Site No. I. But between the large unexcavated mound to the north of Site No. I and this mound there is a deep valley, full of trees which appear to have been a creek or inlet of the river at one time. At the entrance of the creek there was a very small low mound of alluvium which appears to represent the core of sun-dried bricks of a burnt brick pillar at the end of a staircase, but this staircase did not lead to the top of Site No. II. It was intended for access to the top of the unexcavated mound, due north of Site No. I.

During excavations no remains of steps or staircases for access to the top of Site No. II came to light. If there was one then it must have been along the northern or eastern faces of the mounds, and it has collapsed with the retaining wall on that side. The excavations revealed that the structures on the top of Site No. II can be divided into three parts; (a) The shrines on the west, (b) the shrines in the south-east and (c) the main shrine in the north east.

VIII. THE BUILDING OF THE TEMPLE,

The curtain on the west end separated from the structures in the southwest by a long narrow passage (No. 10 of the plan) which however was closed up and built over in the latest period of building in Site No. II. The passage is not perfectly straight and ran from the north to the south with a slight bent to the east between the rooms No. 12 and 17. The northern end of the passage was completely blocked up at some later date when the buildings of the uppermost stratum were erected. The western half of the site contains nine rooms with a large hall and a corridor covering the entire length of the suite of rooms on each side of the entrance. Beginning at the western end we came across the three pairs of rooms. There is a low terrace, which may have been a roof belonging to some earlier building to the west of these rooms. But the existing structures begin with these three pairs.

The first of these pairs lies at the north western corner of the site. They are two rooms almost equal in size. The first of them, Nq. 1 of the plan, contains very interesting remains. As it was brought to light it appeared to be an open shed without any wall on the north. Below the lowest course of bricks of the southern wall of this chamber we came across a brick pavement which proved, after complete excavation, to be an altar provided with a low screen of single bricks. ¹ At first this altar was taken to be a pavement, but as excavations proceeded we found that the pavement in other rooms was much higher than the level of this altar and that its pavement does not reach the four walls. Besides this, in all of these rooms no doorway or entrance could be found at the lowest level. Most probably the openings or doors in the walls of these rooms existed at a higher level and had collapsed long ago. Thus the highest pavement in room No. 4 is 8'10" higher than the level of the limestone cover over the drain in passage No. 15. This proves that within the short height of 3' there are remains of at least six different periods of building.

As it stands now room No.1 is an oblong chamber 12'8" in length and 6'2" in breadth. There is no wall on the northern side of this chamber except a small offset on each side, 2'6" on the west and 2' on the east in length. The latest openings of this room had disappeared long ago along with the intermediate and uppermost pavements. The level of the altar is 5'4" below the uppermost pavement in room No.4. The altar appears to belong to the same date as the drain in passage No.13, the shrine or bay No.23 and the drains in passages No.21 and 22 of this site. It is built of very finely moulded small bricks, closely joined together. The masonry is exactly similar to that of the drain below the eastern retaining wall of the main platform in Site No.1 and the very early drain discovered under room No.3 and the eastern part of the courtyard of the same site. Another low wall runs along the breadth of this altar on the western side. The level of this altar is 2' lower than that of the pavement in bay or shrine No.23, and it measures 8'6" by 5'3" approximately.

Room No. 2, which lies to the south of room No.1 is also 12'8" in length but 10'6" in breadth. As it stands at present, no opening or doorway is visible in any of its four walls. Most probably the doors or opening belonging to the latest periods have already collapsed. Originally room No.2 was also an open shrine or shed like No.1. The southern wall of this room, which is the southern wall of all the rooms on the southern side of western half, appears to have been constructed at some later date. At the point where it joins the eastern and western walls of rooms No.2, 4 and 6, a slight addition had to be made, about 6" in length, at the point of its junction with each of the walls running at right-angles to it. Moreover the facing of the eastern and western walls of rooms No.2, 4 and 6 is perfectly smooth and finished at the point of their junction of the new offsets from the southern wall. It appears therefore that originally rooms No.2 4 and 6 were open shrines like room No.1.

Pl. XVII.a

later on the open shrines were converted into closed ones or rooms by building the long eastern walls along the entire length of the western side from east to the west. Running at right-angles to the rear on the northern wall of room No. 2 there is a small cross wall about 8' in length, at the level of the latest pavement of room No. 4, the object of which is difficult to explain. There are traces of a pavement in this room, which is 8" higher than that in room No. 4 and is in fact the highest pavement in the western half.

The next room is No. 3 which lies to the east of room No. 1. In this room, the eastern wall, i. e. the partition between it and room No. 4, is of a later date. The remaining walls such as, the northern, eastern and western walls go much below that of the level of the lowest course of bricks in the southern wall. The lowest course of bricks of this wall is 1'2" higher than the level of the early pavement discovered in the same room. This pavement again is 5'2 1/2" below the level of the latest pavement in room No. 4. It is clear therefore that like rooms No. 1 and 5, room No. 3 was originally an open shed or shrine, and that the partition wall was added later on, dividing it into two small rooms. Room No. 3 is practically of the same size as room No. 1, being 12' in length and 8'6" in breadth.

Room No. 4 gave us an important criterion in its latest pavement, which is only 8" lower than that of the adjoining room on the west (Room No. 2). This room measures 12'3" in length and 10'2" in breadth. The next room is No. 5, which lies to the east of room No. 3. It measures 12'0" in length and 8'6" in breadth. The upper pavement of this room has disappeared entirely; but 3'7" below the level of the uppermost pavement is in room No. 4, an earlier pavement was discovered. To the south of room No. 5 is No. 6, 12'0" in length and 10'2" in breadth. No pavement was discovered in this room.

We have now come to the eastern extremity of the three pairs of rooms in the western portion of this site. To the

part of room No. 10 and 4 is a long irregular passage (No. 7) the length of which consists of the entire length of rooms No. 4 and 5. It is 22' 6" in length and 11' 2" in breadth at the north entrance end. At the south entrance end a later wall was built at some date, encroaching into the room and reducing the breadth of this place by 1'. Traces of two pavements have been found in this room the upper one of which is 2' 10" below the level of the uppermost pavement in room No. 4 and the lower one about 4' below that level. In addition to these pavements, there is a cross wall in the midst of this room, the upper course of bricks of it is about 6" above the level of the upper or lowest pavement. To the east of it, there are two small irregular chambers, Nos. 11 and 12. No. 11 is irregular in shape and its longer walls do not run parallel. In size it is 12' 6" and 11' 10" in length and 5' 9" and 5' 2" in breadth. To the south of this room is No. 13, which is open towards the east. At its end an eastern wall at any time, all traces of it had vanished at the time of excavation. It measures 12' in length and 5' 11" in breadth.

We have now come to the end of the structures in the western part of Site No. 11 and passage No. 10 referred to above, which divides the structures in the western portion from those in the north eastern portion. Originally room No. 12 appears to have been a passage leading from No. 10 to room No. 7. Later on, when the height of the pavement in these rooms rose with the accumulation of debris, this passage had to be closed. A small pilaster was built at that time in the door leading from No. 12 to No. 7 reducing to this opening to about half its original size, which was about 5' in length. The pilaster measures 2' 5" square and the present opening is 2' 9" in length.

To the south of these eleven rooms there is a broad corridor or hall, which was divided into two parts at some later date. The breadth of room No. 9 is 11' 9". As they stand now these two rooms appear to be two different rooms,

1. PL. XLVII. 2.

which are Nos. 3 and 4 of the accompanying plan. The room on the west measures 12' 2" in length and the upper pavement is 4' 7" lower than the pavement of room No. 4. It appears therefore that this pavement belongs to a period much earlier than the latest period of building in this No. 11. The top courses of bricks of the lower wall which divided this long hall into the different parts is 2' above the level of this pavement. The eastern part of this long hall, which is No. 5 in the accompanying plan, is only 22' in length. While excavating at the eastern end of this room a practical illustration of the method by which these different pavements were gradually raised in height, was discovered accidentally. While clearing the debris from the eastern end of the room No. 5 we came across another retaining wall, built to prevent the loose mass of debris which formed the bed of the later pavement from slipping. Below this wall an older pavement was discovered which is 2' 5" lower than the upper pavement in this corridor and only 1 1/2' lower than the level of the altar in room No. 1. Under this wall was discovered a low terracotta coffin or larva, crushed in pieces, containing a complete human skeleton. The bones were turned into shapeless masses of lime, but the outline of human frame was complete. In shape this larva or coffin is exactly like the specimen from Behuret in Mesopotamia which is now preserved in the Palace of Wales Museum of Bombay.

2. PL. XLVIII. II

Unfortunately the fragmentary condition of this larva made it impossible to have it photographed, and by the time our photographer had returned from Karachi the body had crumbled into dust and it was impossible to take a distinct photograph of it. A similar coffin or larva was discovered by Mr. H. Cressens at Hamiro-jo-Uchi or Shalmarabad.

The area to the north of this pair of rooms is occupied by another long narrow corridor, the western end of which had collapsed. Even now it measures 27' 6" in length from the end of the passage No. 15. This passage, No. 13, is considerably

3. Annual Report of the Archaeological Survey of India, 1908-09, Pt. II, Pl.

1.21.1925.3

considerably older than the ~~rooms~~ described above and appears to be contemporary with the altar in room No.1. A finely built drain of small bricks, of the same size as those used in the construction of the altar in room No.1 and of bay or shrine No.23 and of the same type of masonry as the drain under the eastern retaining wall of the main platform and that under room No.9 of the quadrangle on Site No.I, was discovered in this passage. A pavement belonging to an intermediate period was also discovered in this passage which is only 5" higher than the pavement in room No.8 on the southern side and 4" lower than the latest pavement in room No.4. The bottom of the drain in this passage is 2'4" below the level of this pavement. The northern wall of this corridor still exists partly to the north of rooms No.7 and 11 but it has entirely disappeared in front of rooms No.1 and 5. Room No.II was originally provided with a doorway or opening, leading to this passage or narrow corridor, which is 1'9" in length at the northern end and 2'3" in the southern but it was bricked up at some later date. Passage No.10 which divided the structures in the western portion of Site No.II from those in the north eastern portion originally opened into this corridor. Just in front of room No.7, this corridor (No.13) is 2' in width; but it narrows to 2'6" at its eastern end, just opposite room No.11. In front of room No.5 it opens out to 11'4" and in front of No.3 to 11'6" in breadth. Beyond room No.11, i.e. on the eastern side, it is continued right up to the platform of the main shrine in the northern portion of Site No.II. In 1924-25 two large earthen ware jars were discovered in a bay or room measuring 7'6" in length and 4'6" in breadth at the eastern end of this corridor just in front of, i.e. to the north of passage No.10. Beyond passage No.10 i.e. from the northern end of staircase No.14 the corridor broadens considerably and this portion has been marked as corridor No.15 of the plan. In

I. Pl. XXVIII a. this portion the breadth varies from 9'6" to 9'6"¹.

The western end of the structures in the western portion of Site No. II has entirely collapsed, but the manner in which the main southern and northern walls extend towards the west, indicates that there was a chamber of same size as room No. 7 at the end. The western end of corridor No. 8 and passage No. 13 could not be traced on account of the disappearance of the walls. During the first days of the excavation of Site No. II a number of coins of the Siva and Balli type of Vaesudeva I were discovered among the debris on the top. This is the only indication discovered of the date of the uppermost stratum of the buildings in this site.

IX. THE CHURCH IN THE NORTH EAST.

The western group is divided from the north eastern group by the long narrow crooked passage, No.10 of the plan, which opens into corridor No.13 at its northern end. This passage seems to be ~~very~~ early in date because it was entirely choked up with debris and when the uppermost pavement in room No.4 was laid, then this passage must have been closed up. Near its northern end, i.e. to the east of it, a staircase was discovered which is certainly earlier in date than passage No.10. Seven steps of this staircase are still existing. The length of each step is 3'6", height 10" and breadth 10 $\frac{1}{2}$ ". The difference in the levels of the existing steps at the top and the bottom is 4'5". This staircase belongs to a much earlier period than to which passage No.10 and the pavement on the uppermost level in room No.4, because at the time of its discovery the lower end of this staircase was found entirely blocked up by brick wall.² As this staircase was in use when passage No.13 and 15 were one and the same and as the level of the limestone covering of the drain discovered below its lowest step³ is 6'10 $\frac{1}{2}$ " below the level of the uppermost pavement in room No.4, this pavement clearly belongs to the oldest period of construction in Site No.II.

The south eastern portion begins from the eastern wall of passage No.10. It is further divided from the main shrine in the north eastern portion of Site No.II by passage No.15. The south eastern portion consists of a number of rooms belonging to different periods. To the east of the staircase is room No.16 which is 14'9" and 14'3" in length and 9'3" in breadth. To the south of this room is the room No.17, which was divided into two different rooms at some later date by building two walls in its south western corner. As it stands now No.17 is a gnomon-shaped room measuring 17' and 6'10" in length and 9'3" x 5'3" in breadth. Room No.18, which is a small chamber occupying the south western corner of room No.17 is 7'9" in length

1.Pl.XXIX.b.

2.Pl.XXIX.a.

3.Pl.XXX.a

and 2'6" in breadth. There is a wall running tangentially to the north east from the north eastern corner of room No.18 measuring 3'6" in length. To the east of room No.17 lies room No.19 which is 34'6" in length and 7'10" in breadth. There are two openings in the back of northern wall of this corridor leading to passage No.20, which is a long narrow hall. The eastern end of this hall has vanished entirely and there are a number of doors in its southern wall. All of these rooms are contemporary with staircase No.14 and the drains in passage No.15, and therefore they belong to an earlier stratum of building than passage No.10 and much earlier than the latest period of building on the western half of this site, for example, the upper pavement in room No.4. The breadth of passage No.20 is 10'1". All traces of buildings to the east of rooms No.19 and 20 have disappeared entirely.

Rooms No.16 and 20 are divided from the main shrine in the north-eastern end of this site by passage No.15, which, as it exists now measures 54' in length from the eastern end of passage No.13 to the western wall of room No.35. This passage is 8'6" broad at its western end, 9'8" at the middle and 8'8" at the eastern end. The walls of rooms No.34 and 35 tower high at the eastern end of this passage and above halls No.19 and 20. Just in front of staircase No.14, i.e. to the east of the point where corridors No.13 and 15 meet, a deep drain was discovered below the level of the lowest step of the staircase. At the time of its discovery the drain was covered with roughly dressed limestone or marble slabs. A portion of this drain is north to south in front of staircase No.14 and in a line with passage No.21, but at each end it goes east to west. It is much below the drain in passages No.13 and 21. Passage No.21 of the plan is very narrow being 2'10" in breadth and 16' in length. The pavement of this passage is at the same level as the bed of the drain in corridor No.13.

Nothing remarkable was discovered in the south eastern portion of Site No. II except certain oblation-tables of terracotta resembling modern fruit-stands. The majority of the walls in this area are very old showing that disintegration has started in the case of many of the bricks, a sign which is nowhere evident in the upper layer of buildings in any of the sites. Among other finds must be mentioned a chess-man of terracotta exactly similar to those still made at Benares out of wood and used all over northern and southern India and another chess-man figure of the type used for pochisi.

X. THE MAIN SHRINE IN THE NORTH EAST.

Passage No.21 originally ran in front of shrines No.23 and 24, which were built along the western facade of the most important shrine in this area. This shrine occupied an oblong area and its eastern and northern sides hung over the main external retaining walls on the eastern and northern sides of Site No.II. Traces of walls in front of shrine No. 24 show that originally this passage was 39'10" in length. In this passage, we came across another narrow passage running at right angles to it and beginning at a point 4'8" from its southern end. This second passage, No.22, runs to the east up to a distance of 8'10" and is 2'3" in breadth. Then turns sharply towards north and joins shrine or bay No.23. This arm of the passage No.22 is broader being 6'6" in length and 3'6" in breadth. The pavement of this passage (No.22) is 2'3" higher than the pavement in passage No.21. Passage No.22 leads us to the western facade of the main shrine along which the first point is bay or shrine No.23, measuring 10'8" in length and 6'6" in breadth. The pavement of this bay was composed of small finely moulded bricks of the same type as the altar in room No.1 and the drain in passage No.13. The pavement is stained dark blue or black, and at first it appeared that some sort of coating had been applied to the top layer of bricks. The level of this pavement is 2' higher than that of altar in room No.1, and 3'3" lower than the uppermost pavement in room No.4. The walls of this shrine are also built of the same class of bricks and the masonry is as fine as that of the drain under room No.3 of the quadrangle on the top of and that at the bottom of the eastern retaining wall of Site No.I. In fact, it is possible to observe at the first casual glance that the masonry of the walls and the pavement of bay No.23 is absolutely unlike that of the next bay, No.24. The masonry drain in passages No.21

1.Pl.XXXI.a.

and 22 and the walls of these passages are of the same class and type of masonry. At the time of its discovery the pavement of bay No. 23 was found to be disturbed as the tunnel excavated by the treasure seekers under the main shrine of Site No. II had ended at this point. It was discovered that the excavation of this tunnel had caused the subsidence on the eastern face of Site No. II, which was not noticeable in December 1919. The side walls of bay No. 23 had gone out of plumb on account of the excavation of this tunnel. The hole had to be filled up up to the level of the floor and the pavement repaired in order to prevent the walls from collapsing altogether.

P. XXXI. b.

12'3" from the northern wall of shrine No. 23 we came upon another bay or shrine, which was much smaller in size and the masonry of which was the ordinary masonry discovered in the upper strata of the three sites at Mohenjo-Daro excavated in 1922-23. From the existence of this shrine the western facade of the main shrine it appears that originally the exterior of the main shrine on all four sides were decorated with a number of bays. Bays No. 23 and 24 are widely different in size. No. 23, though belonging to approximately the same level as No. 24, is much earlier in date and it appears that bay No. 24 was rebuilt at some later date. This bay appears to have collapsed with half of its back or eastern wall, which was partly rebuilt at some later date. It is 8'3" in length and 3'10" in breadth. Its pavement is only 2" lower than that in corridor No. 13 but it is 11" lower than that of bay No. 23. To the north of shrine No. 24, the structures in the northern facade of the main shrine of Site No. II have disappeared totally.

The highest point in this site is the area lying to the immediate east of shrines No. 23 and 24 and to the north of passage No. 15. From the existing drains it can be judged that the main shrine in Site No. II was square in shape, surrounded by massive walls which had openings or bays in them. The interior is a confused mass of alluvium and with

The excavation of a small damaged piece of plaster, the
remains of which were discovered in this area within the
four walls of the shrine. The absence of definite
structural remains makes it very difficult for me to deter-
mine the shrine. Four different parts are distinguished
along the southern row of structures in the north eastern
portion of Site No. II. In the center, 21' due east of the
eastern or inner wall of a row of lay No. 23 there is a
shaped wall of burnt bricks, (No. 24 of the plan) running east
to west and measuring 6' in length. The area of this
measured 1' 9" in length. It was completely covered with a
loose alluvium at the time of the discovery, and a cross-section
all round it proved that it does not go deeper than 1' 9". It
was therefore the boundary or side wall of a shrine or pit.
The lowest course of bricks in it is nearly 3' above the level
of the pavement in lay No. 23. This shrine was built with
bricks, but it cannot be connected in any way with the
building in Site No. II.

The ruins in the north eastern corner of the
shrine consist of a long wall running east to west and
provided with three openings or bays. At the northern end of
this wall there is a bay or doorway 3' in length and 2'
breadth. This is different from lay No. 23 and is
western facade because there is no such wall in the
is quite possible that this was a gateway and not a shrine.
sill of this gate or doorway is full 3' above the level of
the pavement in lay No. 23. This doorway is 1' 9" in
the plan. Between this doorway and the next, there is
a brick wall 7' in length and 3' 6" in breadth. At present only
5' 9" of this wall (No. 25 of the plan) remains above ground.
of the door sill of No. 23. Still above the door sill
of the door built this wall, a large number of fragments
of bricks, tiles, pipes and other things were
described below in the section of Site. All together
hundred fragments of

Pl. XXIII. b.

of marble have been recovered in this area. They were discovered a foot above the level of the sill of the doorway or bay No. 28. The find consisted of half of a large ring of marble, one small entire ring of the same material and hundreds of fragments of other rings together with fragments of pieces which formed part of some architectural members with square holes running along their lengths. These holes appear to have been intended for the passage of a liquid, because in many cases a smaller square drain joins a larger one either at right angles or forms an acute angle with it. None of these fragments can be joined with any other.

The central doorway or niche in the northern wall, No. 28, is 4'8" in length and 2'0" in breadth. This opening was closed up to the existing height of the northern wall of the main shrine at some later date by building a brick wall across it. The level of the sill of this doorway is 1'6" higher than that of No. 26. To the east of No. 28 there is another bay or niche or doorway, No. 29, in front of which there is a small brick cistern with a covered drain leading towards the north. The level of the bottom of this drain (No. 30 of the plan) is 1'7" below the level of the sill of No. 26. To the east of this covered drain is the cistern mentioned above, the walls of which consist of a single row of bricks. Rai Bahadur Pandit Daya Ram Sahni discovered a similar cistern of brick at Harappa with a small brick drain² leading into it. For the overflow of the water from this cistern there is another narrow drain, which leads eastwards from the cistern and then turns sharply to the south (No. 31 of the plan), proving that we are very close to the original north eastern corner of the main shrine of Site No. II. The bottom of this drain is nearly 12" lower than that of the first drain in front of bay or niche No. 29. Traces of a pavement were found by the side of this drain, which is nearly 11" higher than the bottom of the drain (No. 32 of the plan). Just behind the niche or bay No. 29 we came across a

much

1. Pl. XXXIII. a

2. Pl. XXXIII. b, I am indebted to my friend Rai Bahadur Pandit Daya Ram Sahni, M.A., for this photograph.

3. Pl. XXXII. a.

such later pavement laid on the mass of debris. This pavement (No. 33 of the plan) is the latest pavement in the interior of the main shrine, and it is fully 6' 6" above the level of the pavement by the side of the drain in the north eastern corner outside. This pavement in fact is the highest pavement discovered in Site No. II, being 2' 7" higher than the uppermost pavement in room No. 4, 9' than that in room No. 2 and 10' 10" above that in bay or shrine No. 20.

The ruins at the north eastern corner of the main shrine end very abruptly with this pavement, and the entire eastern facade appears to have been tumbled down bodily over this precipice. There is a huge gap between the wall or niche No. 20 and the south eastern corner of the main shrine, where traces of buildings can still be seen. Just behind the high pavement No. 33 and 2' to the east of the back wall of bay No. 30 three thick plates of copper were found, pierced by a copper bolt. Only a portion of the two plates is saved, the third plate only being entire. (D. 10)

1. Pl. LVII. 13

The ruins on the southern side consists of the remains of two square rooms, of which one, No. 34, was built over the remains of the north eastern passage hall No. 30. The southern and eastern walls of this room have disappeared and only the north and eastern walls remain. Traces of pavement were discovered in this room which is 7' higher than that of the sill of door No. 26. To the east of this room and to the east of passage or corridor No. 15 we came across the remains of another room, No. 35 of the plan which is 10' 3" in breadth, the south western portion of which had disappeared.

It is very difficult to imagine now what the nature of the shrine in the north eastern portion of Site No. II was. The different drains in the north eastern corner indicate that a large quantity of liquid was used by the worshippers at this shrine. The cistern in the centre of the interior of the shrine and the round holes in the marble fragments discovered

discovered near the northern wall all indicate that the ritual consisted of the flow of liquid which accumulated in a larger drain of marble after passing through the smaller ones. From the marble drains the liquid used to flow into the cistern of the interior. The absence of connection between this cistern and that outside the north eastern corner makes it very difficult to establish a connection between these two systems. The remains outside the north eastern corner of the main shrine prove that the central drain leading to the north from bay or niche No. 29 was intended to serve a different purpose from the other drain by its side, which emptied its contents into the cistern in front of bay No. 29. It would not be out of place to suppose that the plain drain was intended for the discharge of refuse-water from the interior of shrine, such as that used in washing. The smaller drain which led from the cistern was intended for the conveyance of the overflow of liquid libations which used to accumulate in the cistern. This cistern is very much like the charan-ārita-kundās or "reservoir for the nectar of the washings of the feet of the god" of modern shrines of Brahmanism such as those of Viśveśvara at Benares and Jagan-natha at Puri. The existence of a similar cistern on the top of a large mound at Harappa proves that the culture of the people of Harappa is bound by a ritualistic ligature also with that of Mohenjo-Daro.

The little E-Shaped platform in the interior of the shrine proves that there were altars of libation in its interior. That the pouring of libations formed an important part in the worship of the primitive people who inhabited Mohenjo-Daro four or five thousand years ago is proved by the discovery of numerous oblation tables in this site and of numerous libation cups with small spouts attached to them and carved out of gigantic oonch-shells, on the surface of the mounds

found all over the area during the continuing survey. With the exception of the marbles the most important finds in the main shrine area are a painted terracotta head of a snake, which is a spotted viper, red in colour with black spots, round balls of terracotta, a bowl shaped funnel vase filled with shells and bones the exterior of which is covered with whitish glaze, some terracotta figures of the mother goddess Nana or Astarta, a fragment of a cup of greenish glass and a number of miniature neopolitan pottery with figures of animals. Just above the uppermost pavement near the north eastern corner of the main shrine we came across a terracotta plaque broken into half representing the great temple at Bahabodhi or Bodh-Gaya and exactly similar to thousands of such plaques discovered in Bodh-Gaya and carried by Buddhist pilgrims to all parts of the world. This plaque cannot be older in date than the 8th century A.D. In the interior of the eastern outside the north eastern corner of the main shrine we found pestle of black marble or some volcanic rock which appears to have been used as a weight, three long hollow tubes of Cornelian, some beads of white faience and numerous fragments of bangles made of conch-shell. Inside the E-shaped eastern of the interior of the main shrine were discovered fragments of a silver vessel and the large plate of copper along with a number of flint scrapers and cores. While clearing room No. 35 a fragment of a marble image along with a bowl made from a human skull were brought to light, together with two lozenge-shaped fragments of ivory intended for inlay-work and three similar ones made of horn.

The excavation of the different strata in Site No. II was far more interesting than that of Site No. I on account of the link provided between the earliest buildings and the latest. In Site No. I, inspite of the number and variety of the finds, no connection could be made bet between the structures which of the oldest and those of the latest historical periods. The earliest structures which came to light

in Site No. I were the early pavement in room No. 32, the lower wall in room No. 34, and the early drains under room No. 3 of the quadrangle and that at the foot of the eastern retaining wall of the main general platform. No connection could be established between the dates of these structures and that of the quadrangle or the brick platform of the stupa or the hollow chaitya of sun-dried bricks erected in the second century A.D. All that can be said of these structures is that the pavement in the northern part of the courtyard in Site No. I belongs to a shrine or structures erected after the ruin of the structures of the intermediate and the oldest period and that the brick platform, on which the stupa was built, was erected after the destruction of the shrine connected with this old pavement.

The case is quite different in Site No. II. Here, in the western half, the discovery of the coins of Vācuḍeva I on the top of the mounds indicates that the shrines on the top, the remains of which have not come down to us, were still in use in the second century A.D. The three pairs of rooms were used as closed shrines some time in the first centuries A.D. and B.C., but before that date, most probably the second century B.C., they were open shrines. The altar in room No. 1 and the drain in corridor No. 13 are buildings corresponding in date with the oldest structures discovered in Site No. I. Now, the altar in room No. I belongs to the same date as the drain in passages No. 21 and 22 and the bay or shrine No. 23 in the western facade of the main shrine. Moreover, shrine No. 23 related up to later times when shrine No. 24 to its north was rebuilt. The masonry of shrine No. 24 is quite different from that of shrine No. 23 or the drains in passages No. 13, 21 and 22, but it is exactly similar in nature to that of the later buildings, for example the open and closed shrines in the three pair of rooms in the western portion of Site No. II. This proves that shrine No. 23 though, belonging to the oldest period of building and associated in Site No. I with

beads bearing pictographs of the Sumerian type and painted
 pottery of room No. 34, continued to be used as a currency
 for thousands of years afterwards, most probably foreign
 to Indo-Aryan ideas. This corroborates the definite hint
 given in the Indian epics about the existence of a separate
 culture in north western India, the people of which are
 described as ^{Asuras,} Dinaras or Daityas. The cities of these people
 are described as being fabulously rich and the position of
 these cities is indicated by the fact that they continued to
 harass the settlements of the Indo-Aryan Yodavas in Dwārakā
 or Dvārakā in the Okhamandal district of Kathiawar during
 the life time of Krishna, the hero-god of the Mahābhārata.

III. The Situation.

Site No. III is a comparatively low mound situated due north east of Site No. I and east of Site No. II. This little mound had attracted the attention of the British in 1850. It lay at the southern extremity of the open space between our camp in a grove of trees to the north of Site No. II and the northern end of the low hills which lie to the north of Site No. I. This open space is bounded on the north by the walls of the city proper and on the north by a belt of old forest, the bigger trees of which were gradually kept away. To the east and north east of this mound there were the mounds of the city proper and a number of low mounds consisting of bricks and debris to the north east. But due north and north west of Site No. III there is a low but very fertile flat plain which is now covered with dense forest of short trees and is known as the Deori reserve area. There are no mounds or ruins to the north east or north of this mound till we reach high ground at a distance of three miles due north to the village of Langpara. To the north east of Site No. III at a distance of two miles and a half is the extensive marsh called Langpara where water can be found at all times of the year. From the contour of the ground it appears that this depressed area, now occupied by the Deori-reserve-forest was the main channel of the Indus immediately before the denudation of this bed. Certain low walls built at a tangent from the oblong sites of the structures excavated from Site No. III can only be explained with reference to the position of this mound in the ancient river bed. Thus the excavation of this site began, the survey of the entire area had not been completed and therefore it was not known that the flat sandy plain between Site No. I, Site No. II, Site No. III, the camp and the mounds of the city proper had at one time been the bed of the Indus or that of the belt of forest to the north of these sites was the main channel of the Indus.

from the second century A.D. and backwards. I expected the
 little mound to be nothing else but the remains of a ghatika
 steps of unadorned masonry, exactly similar to the hollow
ghatika on the top of Site No. I. The excavation of the site
 began in January 1923, when the labourers had to be given
 some other work than Site No. I or II, during the visit
 of an important official to the excavations. The exploration
 of this site was not regularly continued and was taken up
 only when a large number of labourers were available. It
 was taken up seriously at the end of March 1923 when the
 main structure was laid bare. The low wall being at a dis-
 tance from it, specially on the southern side was not com-
 pletely excavated when work was closed at Mohenjodaro on
 30th March 1923.

XII. The nature of the Structure.

Immediately after the removal of the low scrub and the trees which grew on it, a large number of irregularly shaped flat thick pieces of limestone or marble were discovered near the top. They had been displaced by a large tree which had grown over them. It was evident that these slabs of limestone and marble had come into prolonged contact with fire, because they had partly turned into friable shale or unslaked lime. When they were being removed the exact object of their presence on the top of the mound was not fully understood. They formed sort of crude pavement on the top which even then I was mistaking to be a Buddhist stupa. As excavation proceeded and the sides of the structure were laid bare I found out that it could not have any connection with a Buddhist stupa. The marble or limestone pavement on the top was roughly circular in form and it was laid on perfectly level floor, consisting of three courses of bricks laid in mud, one over the other. A crude circular line was discovered on certain stone of the pavement; which, when joined, proved to be a large circle with a diameter of nearly six feet. As the pavement had been disturbed before its discovery only a segment of the circle could be completed from the pavement stones discovered.

The plan of the temple in Site No. III became apparent immediately after the removal of this marble or limestone pavement and the brick floor below it. In plan the building was a long rectangle consisting of three parallel walls of the same size running east to west. The length of these walls is and the wall on the extreme south had practically disappeared. These three parallel walls were joined together by cross walls of burnt bricks running at right angles to them. Inside these three walls the rectangular spaces formed by the long and short walls were filled with

with sun-dried bricks laid in regular courses, the lines of which can even be seen now.

At some later date a retaining wall was added at a short distance both on the north and the south. The entire structure was solid and my attempts to find traces of rooms inside it were abortive. It became apparent at the close of the excavations that this new temple was nothing but a solid platform, oblong in shape built on a small island. Later on it became necessary to build buttresses both on the north and the south in order to protect the structure from the current of the river. At the top of this solid platform there was an open shrine consisting of a row of pavement of marble or limestone laid on a brick floor. About forty-six feet from the south eastern corner of the new platform of this site we came across a square brick sink or cistern, just below the level of the brick floor over which the stone pavement was laid. This pavement was connected by a long narrow brick drain with the centre of the circle on the stone pavement. No measurements of this sink were taken at that time and only a corner of it can be seen in the photograph of the site taken from the south east.

1. Pl. XXXV, a.

2. Pl. XXXV, b.

The interior of this sink was discovered Site No. II, specially the main shrine in the northern part of that site, had not been excavated. The square brick sink or the drains leading out of it had not been discovered and therefore much attention was not devoted to this sink. When the excavation of Site No. III were resumed at the end of March 1923, the sink had collapsed and its remains were removed bodily in order to enable the labourers to reach the lower part of the platform. The existence of this sink was first brought to my notice by Mr. Dharmajoy Sarma of the Bombay P.W.D. but on account of continued absence of Mr. J. P. Joglekar, on account of his illness, the only photographer available at Mohenjo-daro during the first season's work no special photograph of this sink could be taken.

At a distance of 30 to 35 feet from the later buttress on the southern side a low wall was found on the south, below the main ground level, the excavation of which could not be completed during the first season. It appears to me that this wall was originally built up to its existing level in order to prevent flood waters from reaching the main exterior wall or the buttress on the southern side of the structure. The walls on the western, northern and eastern sides, all built at a tangent from the main exterior walls or buttresses of the original structures helped us to determine the nature of the wall on the south. From the position of these walls against the main exterior walls of the structure it appears to be quite clear that at some later date the velocity of the current, which struck the eastern and northern walls increased considerably. In order to protect these walls and their foundations the new walls at b.o., d.e., f.g., h.i. and j were built to train off the current. Among these training walls d.h. and i were built at right angles to the main buttress and the rest were built at a tangent forming obtuse and acute angles with the main exterior walls on the east, north and west. A glance at the plan will show at once that the walls b.o., e.f.g. and j were training walls and nothing else. The projecting angle of the wall at "n" was built later on to protect the end of this staircase at "n" from the current. The biggest of these training walls is "n" and it was added after the erection of the tangential walls at "e" and "f". The erection of these bigger training walls became necessary after the construction of the stairway at "n". We do not know when this stairway was added but the fact that there is no binding between the masonry of the staircase and the earlier buttress on the north, which runs parallel to the main exterior wall on that side, proves that the staircase was added long after the construction of the buttress. It cannot be determined now

how people obtained access to the top of the platform before the construction of the staircase. It is quite possible that a staircase existed on the western facade at "o" where certain low walls were discovered. The object of the square platforms on the northern side at "d", "h" and "i" cannot be understood at present. The platform or buttress at "d" is the largest of them. This one and the tangential wall at "e" were built before the construction of the larger tangential wall "n" and were totally surrounded and engulfed by it.

The tangential wall or buttress, "n" begins near the north eastern corner of the main structure but instead of beginning at that corner was projected towards the south east; thus providing that the intention of the architect was to protect the north eastern corner of the main structure as well. Originally this buttress or tangential wall, "n", was ^{stepped} pyramid. The second step of the pyramid was discovered at "t" at a distance of 13'6" from the projecting northern angle on the northern side. In the north eastern arm of the triangle formed by this tangential buttress, there is a little offset the exact import of which cannot be understood. The north western arm of the triangle is broken into two clear offsets and most probably there was another apex of a second triangle just in front of the staircase at "m".

The evidence of this tangential training walls prove that the current of the river Indus was not originally very strong on this side and therefore when the oblong structure was originally built the architect did not consider it necessary to protect the northern and eastern walls more carefully. Subsequently when the direction of the main current changed, as it does in the case of the strong rivers flowing through alluvium, the northern and the southern straight buttresses were added. When the velocity of the current striking the north eastern corner became greater, then the tangential training walls at b.c.e.f.g. and j were added. Even these training walls proved insufficient and therefore the larger

triangular bastions were added at some later date hiding b, e and g totally. I take the construction of the staircase at "m" to be later than the buttress at "n". It is therefore perfectly clear that at some date the velocity of the current on the northern and eastern sides became much greater than what it was originally. The long tangential buttress at "j" along the western side was constructed along with the distant southern wall to prevent deluvion on these sides. When we take into consideration that the shrine on Site No. III had fallen in disuse long before the erection of the quadrangle of rooms in Site No. I or the main shrine in site No. II, we are bound to admit that even in the copper age the ancient inhabitants of Sindh possessed sufficient knowledge of the laws of alluvion and deluvion and of enough engineering skill to gauge the velocity of the river currents and erect training walls to break its force.

The date of the structure in site No. III can be proved from the fact that not a single coin or iron object were discovered therein and the only specimens of metal were a bead of silver, a broken bowl of copper and several fragments of copper implements. The ruins on which this temple was built, was erected at a lower ~~level~~ level and a portion of the brick pavement of that shrine was discovered at "q" under the main retaining walls in the centre and on the north.

The small shrine described above is altogether new to Indian Archaeology and the antiquities discovered in it are of very great interest. Just over the top we discovered hundreds of ovoid urns, of the ordinary post-cremation type, containing earth and small quantity of ashes, which prove that immediately before the desertion of the city the worship of the circle of this shrine had been given up, but it was considered holy enough, to make people to deposit the ashes of their relatives at this spot. The second entire seal of the new type was discovered in the brick drain near the sink discovered above. Like the majority of the seals discovered

discovered during subsequent excavations at Mohenjo-daro the specimen bears up to the figure of a bull standing with a standard in front of it. The next find of importance is a complete specimen of tumbler burial of the post-cremation period, to be described below, in which the ashes instead of being placed loosely in the tumbler-shaped urn were pressed into a little ball of clay and then shaped roughly. The antiquities discovered in this site are fewer in number compared with those from Sites No. I and II, but they were very important for the history of the new class of ceramics discovered in India for the first time at Harappa and Mohenjo-daro. A new variety of tumbler-shaped urn was discovered in this site. In outline, the lower parts of these urns resemble the black and red vases of early Achaean culture. Five fragments of a plate or the upper part of an oblation table were discovered in this site. Of these four (A.564) apparently belonged to one specimen and the fifth (A.565) to a smaller one. The firing of these fragments is very even and the texture also is much superior to the ordinary pottery of the post-cremation period and the large ovoid urns associated with it. It is apparent that these fragments of red ware are much earlier in date than the ovoid urns discovered along with it. The texture and the character of the pottery indicates that they belong to a class of pottery almost forgotten in the historical period or even in the period of cremations. These five fragments are covered with the sort of red glaze or paint, exactly similar to that discovered in the earlier strata of Sites No. I and II. This red ware is described in detail in the section of finds. Among other objects of pottery must be mentioned stray specimens of miniature neopolitan pottery such as a small saucer, resembling a modern soup plate, (A.568), a tumbler (A.569) and a water jar (A.536).

The only object of stone ware discovered in this site

is a small scraper found inside the ossuary burial in the
tomb of the post-ossuary period. One stone Luia,
inscribed with a charm in Pehlevy, was found on the top
among the debris. This object appears to have been dropped
by one of the shepherds who bring their camels to feed on
the thorn bushes. Several specimens of copper were disco-
vered at the same place. These several tubes of copper with
two darts were discovered near the pavement of limestone or
marble and below this pavement were found a hollow bead of
copper containing a piece of blue glass.

B. THE FINDS.

XIII. THE MASONRY.

The most important question in connection with the antiquities of Mohenjo-Daro is the size of its bricks. My predecessor in the Western Circle Mr. (now Prof. Dr.) D.R. Bhandarkar had visited this site in 1912 and his report was so discouraging that I could not venture on selecting this site for excavation, when I saw it for the first time in December 1919. The size of the bricks which are to be found over the entire area is with a few exceptions I started examining other sites of Upper Sind, especially those in the Upper Sind Frontier and Larkana Districts, though I had noticed one or two stone scrapers or flakes at Mohenjo-Daro at the time of my first visit. The survey of the ruins of the most important pre-historic sites such as Vijnot near Reti Railway Station, Hakro in the Ubaun Taluka of the Sukkur District, Anor near Rohri, Thul near Kashner in the Upper Sind Frontier District, Ghazi Dero and Jhakar in the Larkana District, along with Badin in the Hyderabad District proved definitely that Prof. D.R. Bhandarkar's estimate of the age of the ruins at Mohenjo-Daro was incorrect. The small bricks, with which the majority of the buildings at Mohenjo-Daro were built, are no doubt very much older than the large old bricks discovered at various old sites in Northern and Western India during excavations. The small bricks of Mohenjo-Daro belong to different strata, ages and classes. The oldest of these bricks were found in the masonry drain at the bottom of the eastern retaining wall of Site No. I. The small narrow drain along the river bed in which the first seal of the new type was discovered, as well as the steps along the river front, are made of very small, finely moulded and well-burnt bricks, which can be easily distinguished among the debris and ruins of buildings of different periods. In Site No. I such bricks were discovered in another place. Under the thick layer of ashes, which was discovered under

To be filled
up at Mohenjo-
Daro. J.D.R.D.B.
16.1.26

s. 2 and 3 of the eastern side of the quadrangle of
 found a drain built of similar bricks. The masonry
 drain is very fine and the joints can hardly be dis-
 shed. The position of the masonry of this particular
 of bricks shows that they belong to the seventh or
 oldest period of construction discovered in 1922-23.
 at the bottom of the eastern retaining wall of site No.
 the masonry of the retaining wall ends abruptly and there
 a difference of
 between the lowest bricks of
 the retaining wall and the uppermost course of masonry of
 the drain and the steps built along the river-front.

The existence of this ancient masonry at the top and
 the bottom of Site No. I proves that even at the time, when
 this finely moulded brick and very fine joints in the masonry
 were used, a high platform on the island in the old bed of
 the Indus, was already in existence. It seems clear that
 the mound is not altogether the result of accumulation of
 debris of ages but that originally some unknown race had
 built a high oblong platform on which they built their shrines

Similar masonry was also discovered in Site No. II, e.g.
 the altar in room No. 1, the drain in passage No. 13 and 22
 the bay or niche No. 23. In the case Site No. II the strata
 are not quite distinct or separate. In room No. 1 where coins
 of Vasudeva I were found above the pavement in the adjoining
 room, at least three different strata can be distinguished

- I. The brick pavement of the top.
 - II. The brick pavement below it.
 - III. The buildings of the oldest period in which
 the altar of fine brick was built, below the
 level of the lowest course of bricks of the walls
 corresponding to the second pavement.
- The drain in the passage to the north of room No. 1
 also belongs to this period. But on account of the total
 destruction of the northern retaining wall of Site No. II,
 the more modern buildings in passage No. 13 have toppled
 down over the brink of the precipice.

The niche or shrine (No. 23) in the eastern facade of the temple in the eastern part of site No. II presents a more complicated problem. The drain in passages No. 21 and 22 is certainly much higher than the drain found at the bottom of the western end of the passage No. 15 which was built just in front of shrine No. 14. At the same time it is almost on the same level with shrine No. 24, which is adjacent to it; but which is much later in date. The bricks used in the masonry of shrine No. 24 is the ordinary type of the upper strata of Sites No. I and II. The buildings to the north of shrine No. 24 have collapsed with the north-western corner of the shrine in the third or early part of Site No. II; so it is not possible to judge at the present day how far the old masonry of small and finely moulded bricks of passages Nos. 21 and 22 and shrine No. 23 was continued. The tunnel excavated by the treasure-seekers along the entire length of the main shrine in the eastern part of Site No. II has caused the destruction of about one third of the pavement in shrine No. 23.

With the exception of the drains and passages No. 21 and 22 and shrine No. 23, in all other cases, the masonry of nicely moulded small bricks is separated from comparatively later masonry by a layer of debris, the height of which varies at different places. The drain behind shrine No. 3 in the eastern side of site No. I indicates that this masonry belongs to the oldest stratum reached in 1922-23 and is associated with the scale bearing the pictograms found in the drain in front of the eastern retaining wall of site No. I.

XIV. BURIAL CUSTOMS.

The excavation of the three sites in 1922-23 revealed very peculiar burial customs; varying from the Aryan burial of the post-cremation period, when the ashes were placed in an urn after the cremation of the body and deposited in some holy place, to the complete burial of the human body in the brick tomb. The burial fall into four different classes:-

A. THE BRICK TOMB OF THE CIST.

The only example of this class of burials was discovered under the eastern wall or room No. 27 in the south western corner of the quadrangle of buildings in site No. I. This grave belongs to the fifth stratum. Subsequently, when the monastery or the shrines on four sides of the stupa was built, it was left undisturbed and the walls were built over it. The grave consisted of a small oblong cell built and covered with bricks laid lengthwise. At first it was taken to be a drain but on removing the covering of bricks the cavity was found to contain the complete skeleton of a young female in a comparatively fine state of preservation. The long yellowish hair and the finely moulded torso was perfectly preserved though shrivelled up. The camera was not ready for it at the time of its discovery and the outer covering crumbled into dust. The preservation of the body is due to the packing of fine dry river sand. The nose and the eyes had disappeared at the time of the discovery but the skin was perfect in places. The colour of the skin was dark red. The grave contained ornaments of copper e.g. bangles and perhaps bracelets, but they were discovered in a very fragmentary condition.

I. 21. XVIII a.

B. THE CHEST OR COFFIN BURIALS.

No chest or trough was recovered entire. Only one beautiful specimen was discovered in fragments, right under the cross wall of the latest period, which divided the long hall on the southern side of the western hall in site No. II, into rooms Nos. 8 and 9. This coffin or terracotta chest

was oblong with rounded corners, and in shape it is exactly similar to the terracotta chest or urn from Sahrach near Baghdad which is now preserved in the Prince of Wales Museum at Bombay. It contained the bones of an adult who had been placed on his left side at the time of burial with his legs hunched up near his breast. The weight of the later wall built across this hall has caused the chest or the urn to be broken into minute fragments and crushed this skeleton into a mass of mouldy lime. Around the skeleton were placed a number of earthenware pots and jars, the majority of which were broken into fragments by the weight of the walls, but were undisturbed. In this chest were found three gypsum beads, fragments of a cup of greenish blue glass paste, a toy rhinoceros of terracotta, a collyrium stick of the same material and a toy water-jar with a broken neck. It is interesting to note that Mr. Henry Cousens discovered a similar terracotta coffin at Brahmaghat in the Mandla District in 1908. Such terracotta sarcophagi of the iron age are quite common in southern India.

C. THE JAR BURIALS.

The peculiar custom of jar burials was hitherto known to be prevalent among the Mundas or Oraons of Chota-Nagpur, but was not known in Baluchistan or Sind. One particular bone of the human body was cleaned and placed inside an urn. These urns fall into three different classes:-

(a) Round with pointed bottom:-

(i) Large, (A.4)¹

(ii) a. Medium (A.14)²

b. elongated and

c. short

(iii) small and

(iv) miniature,

(b) Tumbler shaped, (a.32)

(c) Vase-shaped,

(i) Large (A.63)²

(ii) Small (A.78, 800)

1. See Pl. XLVII.11

2. Annual Report of the Archaeological Survey of India 1908-9. pt. II, Pl. xxi.

1. Pl. XLII.7

2. Pl. XLII.1

3. Pl. XLII 2 & 4

4. Pl. XLII.3

5. Pl. XLII.4

1. P.I. XL. 2-3
and 7-8.

2. P.I. XLI. 9-11.

In many cases the bone was actually placed inside a diminutive, round, pointed or flat bottomed, funeral urn, which was placed inside the larger urn. A collection of such larger urns were then placed inside the larger jar. These jars are round bottomed vessels, of the type still used in India for the storage of water. The mouths of the jars were closed with terracotta covers with handles or stone slabs. Exactly similar jars are used by the Hindus as family vaults. A single bone of the body was cleaned and placed inside a small urn, which again was placed inside a larger urn along with votive offerings of food, clothing, etc. The larger urn or jar was then placed inside the round bottomed jar, which was used as a family vault and a collection of them was covered with a very large flat slab of stone.

3. C. J. Roy, The Hindus etc. p. 7.

A similar custom prevailed among the Ongons of Chhota-Nagpur. See Roy's Ongons, p. 7.

Several examples of such jar burials were discovered under the layer of ashes below this burnt brick platform on which the hollow stage of sundried bricks was built in the second century A.D. and in room No. 22, but the best-preserved examples came from room No. 27 and 39 of the quadrangle of room No. 1. Similar jars containing ashes were discovered by Mr. Henry Cousens at Brahmanabad. Many of them contained miniature Neopolitan pottery. Rai Bahadur Pandit Daya Ram Sahni discovered some jar burials with miniature Neopolitan pottery at Harappa during the excavations of 1920-21, but they were not recognised as burial jars at that time.

4. Ibid., 1928-4, pt. II
pp. 124-25, pl. XVI.

5. Annual Report of the Archaeological Survey of India & Buddhist Monuments, N.O. for 1920-21, pp.

6. P.I. XLII. 6.

The large vase-shaped urn discovered in the jar found in room No. 39 is covered with traces of a fine whitish glaze. Inside it we found a number of small cooking pots and water jars. At least one such urn was discovered by Rai Bahadur Daya Ram Sahni at Harappa in 1920-21. The large burial jar discovered in room No. 27 was found in the south eastern corner of that room. It was placed partly under the earlier pavement of that room and was covered with a larger square slab

slab of limestone. The care, with which this jar was preserved, indicates that the builders of the second and third century B.C. were aware of its contents and were therefore anxious to preserve it intact. The shapes and sizes of the various forms of funerary ware discovered in these two jars will be discussed in the next section on pottery.

D. THE URN BURIALS.

The fourth form of burials discovered at Mohenjo-Daro are the urn burials. In the first three forms the skeleton and the bones discovered in the brick tombs, terracotta coffins, and the jars belong to pre-cremation period as none of them show any signs of calcination. Even the smaller particles of bones discovered in the funerary urns are uncalcined. The urn burials of the fourth type belong to the post-cremation period. The pottery also is very crude and shows a total absence of incised or painted decorations. The ashes of the dead were collected and placed in some urns. Such urns were brought to the temples and grouped round some favourite sanctuary. The small shrine in room No.22, the bottom of the grand-staircase along the eastern facade of the front retaining wall of the main platform of Site No.I and the small shrine in site No.III appear to have become favourite places for the deposit of such post-cremation burial urns. In the majority of cases crude round urns with a pointed bottom, which are incapable of standing erect by themselves, were used for depositing ashes. No urns were discovered among the great heap of ashes under the platform of the stupa in the centre of Site No.I or in the great thick layer of ashes under room No.3 on the eastern side of the quadrangle in Site No.I.

A peculiar type of tumbler burial was discovered in Site No.III in a tumbler¹ urn. Inside the tumbler was found a crude solid sun-dried tumbler about an inch and a half² in height. The bottom of this smaller tumbler is pointed.

1. Pl. XLVIII.1.

2. Pl. XLVIII.2

1.Pl.XLVIII.9

A section was cut across this tumbler revealing the fact that the core is formed of hard black ashes. Ashes were forced into a lump of clay, while still wet, which was then roughly moulded a tumbler-shaped urn and then placed inside the wheel-turned oven-backed tumbler. The entire collection was then placed near the marble or limestone pavement in Site No.III.

XV. THE POTTERY.

The excavations of the three sites undertaken in 1922-23 proved conclusively that none of them were used for habitation from the Copper Age right up to the end of the second century A.D. No domestic utensils, such as those used for cooking and storage of food or water, were discovered in any of the rooms on any of the three sites. The absence of domestic utensils proved that rooms on Sites No. I and II and the platform on Site No. III were shrines and not monasteries or habitations.

The finds of the excavation of the three sites in 1922-23 yielded pottery of a distinctive character in very large numbers. This pottery is quite different in character from those hitherto obtained by the excavations of ancient sites in northern India. Previous excavations of ancient sites in Sindh also have not discovered such pottery anywhere else. Thul Mir Bakh, Tando Muhammad Khan, Ehambrojo-Thul or Mirpur Khas have yielded potteries, but their nature is quite different from those discovered at Mohenjo-Daro. The potteries exhumed at Mohenjo-Daro fall into two broad groups:—(a) The neopolititan ware and (b) objects used in worship. The funeral ware can again be sub-divided into three different heads:— (i) the funeral jars and urns, (ii) miniature neopolititan pottery and (iii) ornaments and offerings deposited in the burials of the first three types.

(a) NECROPOLITAN WARE.

(i) Funeral jars and urns.

The larger jars resemble those used for the storage of water called Matkas in northern India and matas in western India. At first sight it is impossible to recognise that they are in any way connected with ancient burials. The earlier excavators of ancient sites in Sindh especially Mr. H. Cousens was misled by their appearance. Numbers of them were discovered by him in the ancient city of Brahmanabad. Writing in 1903-4, he says that "if they were connected

The wall was built in the second century B.C. and is made of brick and stone. It is 10 feet high and 12 feet thick. The wall is built on a foundation of stone and is surrounded by a ditch. The wall is built in the second century B.C. and is made of brick and stone. It is 10 feet high and 12 feet thick. The wall is built on a foundation of stone and is surrounded by a ditch. The wall is built in the second century B.C. and is made of brick and stone. It is 10 feet high and 12 feet thick. The wall is built on a foundation of stone and is surrounded by a ditch.

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with funeral customs such as to bury ashes in, they would have been far too large for the purpose of single interments, and one would have expected them in such a case, to have had narrow closed mouths. They are all in perfectly upright position in many cases telescoped one into another, and in some cases cutting into the sides of those below. I had several of them emptied very carefully, but could find in them nothing of a distinctive character, unless it be small quantities of ash and bits of disintegrated bone; for the rest they are filled with earth, potsherds, bits of brick, and charred coal. Their contents thus differ in nothing from that of the mounds around them. The ash and bone are mixed throughout, and do not appear to have been placed in any particular position.¹ Mr. Cousens also discovered miniature pottery but he could not connect them with the jar

burials, as he did not recognise the necropolitan nature of the jars themselves. Finally, excavating at Harappa in 1920-21 Rai Bahadur Pandit Daya Ram Sahni found miniature pottery inside these large jars but he also does not describe them as necropolitan pottery.

The nature and affinities of this miniature pottery were finally established by the large jar discovered in the south eastern corner of room No.27 in Site No.²I. This jar was imbedded below the earlier pavement of the room. But this pavement belonged to a much earlier building than the quadrangle of rooms around the stupa of the second century A.D., because in the first place the eastern wall of this room which bears on it the brick cist containing the dead body of the young girl may belong to the second century B.C., but it is certain that the brick cist belongs to an older structure which was not demolished when room No.27 of the second century B.A. was constructed. In the second place this wall came to an end much above the pavement in which the large jar was partly buried. As in the case of room No.6

in

1.A.S.R.1903-4,
p.134 pl.XLV-XLVI

2.P.XVIII.b

in the south eastern corner at the quadrangle, the eastern wall of room No.27 was not built on perfectly solid foundations but on a mass of debris. The pavement in this room, which was discovered in 1922-23, lies at some distance below the bottom of the brick set. It is therefore perfectly plain that at least two different periods elapsed between the mud-plastered painted and decorated walls of room No.27 and the brick pavement in it. The large jar, belonged to an earlier period, because it was imbedded in a course of sun-dried bricks and the portion of a brick pavement was left incomplete for the sake of this jar. Moreover the upper part of the jar which protruded from above the pavement was carefully covered with brick bats in order to prevent it from injury. It is therefore quite certain that this large jar was buried before the oldest pavement was laid in room No.27 sometime before the third century B.C. and long before the burial of the girl in the eastern wall of that room.

The jars belonged to that particular period of Sindh burial when cremation had not obtained general currency in the country. One particular piece or one small bone was cleaned and disintegrated from the rest of the skeleton, but in what way we have no means of ascertaining at the present day. This fragment or small bone was then placed in a smaller jar and this in its turn was placed inside a smaller jar or urn. A collection of such jars or urns were placed inside the larger jar. These smaller jars or urns can be divided into three broad varieties. The most peculiar variety is the vase shaped urn of the type discovered in room No.34. Only one complete specimen was discovered in the jar excavated in room No.39 but the lower parts of several such jars were found in Site No.1. Excavating at Harappa in 1920-21 Rai Bahadur Pandit Daya Ram Sahni succeeded in unearthing at least similar specimen, but we do not know what its contents were

(Photograph

(Photograph No.1757 of the Northern Circle Lahore). The contents of the jars discovered in rooms No.27 and 39 vary. Around the long vase in the jar of room No.39 we found a number of curder burial urns of a peculiar type. These urns have round bodies and are pointed towards the bottom. The mouth is sufficiently wide for the insertion of three or four fingers. These urns were carefully arranged inside the jar and each of them contained a reliquary with one small bone surrounded by its offsprings. These urns again can be divided into two varieties:- (1) Ovoid shapes and (2) perfectly spherical shapes. In both sub-varieties we find larger and smaller specimens. In the first variety it is even possible to detect four sizes:- (a) large, (b) medium, (c) small and (d) very small. Large and small specimens of the ovoid urn are rather rare but the medium size is very common and persisted up to the second century A.D. Exactly similar urns were discovered by the late Dr. L.P.Tessitori in the ruined cities on the banks of the old Sutlej now called Hakro in the northern part of the Bikaner State. The spherical urns are much better made and evenly fired than the ovoid ones. In this variety also the very small ones are very rare. Now, the ovoid or spherical urns did not contain a bone of the human skeleton only at their bottom. Another earthenware vessel was placed in the interior of the urn and the rest of the space inside it was occupied by miniature neoropolitan pottery. This actual receptacle of the bone in jar burials can be divided into three different varieties:- (a) a small flat-bottomed receptacle or reliquary varying in size from that of a tiny tumbler to a bottle less than an inch in height, (b) a small ¹ oruible shaped receptacle which looks more like a crude test-tube and (c) a very small receptacle pointed at the bottom of ² burnt or unburnt ³ clay. Excavating at Harappa in 1920-21

1.Pl.XL,2,3 & 8

2.P.XL.7

3.P.XLVI.8

Rai

1. Pl. XLII 1,8
 Hal Bahadur Pandit Daya Ram Sahni discovered ovoid urns of all shapes. One of his larger size ovoid urns appears to be flat-bottomed, but the medium sized ones (Photograph No. 2750 of the Northern Circle, Lahore) and small ones (Photograph No. 2757) are pointed at the bottom. The majority of these urns have a horizontal spiral depressed line in their middle. The same characteristic is to be observed in the case of both classes of urns discovered at Mohenjo-Daro and at Harappa.

2. Pl. XLVII.4
 3. Pl. LVI.15
 The use of the ovoid urns were continued in burials of the post-cremation period. The post-cremation burials were very carefully observed in room No. 22. In the pointed northern end of this room the bone of a saint was placed inside a crude reliquary which is nothing but a flat round piece of coarse sandstone with small round hole in its centre. This hole was covered with a small but perfectly polished lid of conch-shell having a round hole in its centre instead of the handle. A second cover of sandstone was placed over the lid of conch-shell. Over and around this reliquary of sandstone, ovoid urns, of all shades and sizes were heaped up to a height of four feet from the floor level. The entire series were carefully arranged in such a way that the collapse of the mud-roof had not damaged the lower ones. The arrangement of these urns in room No. 8 was not very careful. The entire room was almost packed with medium sized ovoid urns, but the majority of them were damaged. At the bottom the grand staircase i.e. the south eastern angle of the retaining wall, thousands of such urns were heaped along the sides of the buttresses of the staircase. The cross walls beginning from the level of the ancient river bed were similarly used as repositories of the post-cremation burial urns right up to the bottom of room No. 23. In the case of the majority of urns with pointed ends the pottery is coarse, the firing is even and denotes very long practice both with the potter's wheel and the kiln.

The third class of urns were of a peculiar shape they

resemble drinking glasses or tumblers. These tumblers are not straight sided like Cretan specimens¹ or those discovered in the iron age tombs of south India.² Some of them bear great resemblance in outline to the pair discovered at Milo and now preserved in the Musée de Seures.³ These tumbler shaped urns belong to three distinct classes and were used even in the post-oration period. The best specimen is no doubt the fine hand-polished tumbler discovered in Site No. III, (A.562), the outline is much more delicate than all other tumbler-shaped vessels found in the three sites excavated in 1922-23. The original shape was no doubt that of a vessel with slightly bulging sides, the oldest specimens of which was discovered in the oldest stratum of Susa. H. Frankfort describes these in the following words; "First there is a long, more or less straight sides tumbler, bulging out somewhat above its ring base, which is always very slight and straight sides."⁴ The Indian types of these tumblers, while showing an almost straight side indicate widening of the mouth. They resemble the specimens from Milo exactly in their outline.⁵ Both of the non-Indian specimens are however painted. The remaining specimens are of ordinary pottery, as is the case with the solitary specimen from Baluchistan (Bn.36).⁶

Allied to this class are a number of cruder specimens many of which were discovered in 1922-23 and 1923-24. These vases or tumblers are narrower at the bottom than the specimens discovered in Site No. III. In the majority of cases

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1. *The Palace of Minos at Knossos*. pp.79-80, fig.47A
 2. Annual Report of the Archaeological Survey of India, 1908-9, pt. II, pl. 15
 3. *Les Civilisations Pre-helleniques*, p-107, fig.77.
 4. H. Frankfort, *Studies in Early Pottery of the Near East* (Royal Anthropological Institute Occasional papers), No.6 London, 1924, p.25; pl.1,3.
 5. *Les Civilisations Pre-helleniques dans Le Bassin de la Mer Egee, Paris, 1914, p.107, fig.77.*
 6. *Anderson Catalogue and Handbook of the Archaeological Collections in the Indian Museum*. pt. II, p.448. From Suktagen Dor. Pl. XL.1

these tumblers are flat-bottomed ugly looking things. One specimen from Site No. III proves that in the majority of cases they were used as burial urns of the third and fourth types. Inside this tumbler was also discovered a crude tumbler shaped object of sun-dried clay but with a pointed bottom described above. This discovery led to a closer examination of the contents of these tumblers and in the majority of cases they were found to contain a cleaned bone of the human system or a quantity of ashes.

(ii) Miniature Neopolititan Pottery.

Closely associated with burial jars and urns are a number of vessels and utensils made of terracotta or coarser earthenware which were discovered either inside the burial jars or urns or in the debris of the favourite sanctuaries, such as shrine No. 22 in Site No. I. More than half a century ago Major Mackler found similar miniature pottery in the dunes of Baluchistan and presented the collection to the Indian Museum. Some of the miniature pottery discovered by him can still be found in that institution. The best examples are illustrated in plate XXXIII. Bn. 132 is a platter or dish of a new shape. Bn. 129 is "a miniature urn swollen below but contracting above with an expanded mouth." Bn. 127 is a miniature vessel for the storage of water, while Bn. 135 is a basin used for the storage of liquid food. Bn. 44 is a cooking pot and Bn. 132 a saucer or plate.

The miniature neopolititan pottery from Mohenjo-Daro presents a very large variety of objects which may be divided into two species according to their sizes. Even the specimens of the largest size are not too small for human use. These larger vessels fall into three different classes:-
(i) Vessels for cooking, (ii) Vessels for the storage of water and food, and (iii) Tumblers. Among vessels for

3. See J. Anderson- Catalogue and Handbook of Archaeological collections in the Indian Museum, Calcutta, pt. II, pp. 443-55. Pl. XXXVII. 5

1. Pl. XLII. 4

2. Pl. XLII. 2

4. Pl. XXXVII. 2

5. Pl. XXXVII. 4

6. Pl. XXXVII. 1

7. Pl. XXXVII. 3

97

cooking, the best specimen is A.80 and that for the storage of water is A.70. In the second class we find miniature vessels only which cannot be, in any way, taken to have been used by human being. They were miniature replicas of objects used in the domestic life of the country, of the period to which they belong. They can be sub-divided into three different varieties:—(i) Objects for domestic use; such as plates, cups, flagons, (ii) Vessels used for the cooking and storage of food and (iii) Objects used for worship. Among objects for domestic use must be mentioned cups resembling modern egg cups (A.436), plates (A.437, 544, 546), tumblers (A.86, 183), a plate used for suspension (A.424) and flagons (A.431). In the second class must be placed curious neckless pots (A.497) resembling neckless vases from Crete, vessels for the storage of water with wide mouth and low necks, cooking pots, large at the middle but very narrow at the top (A.84), sieves (A.438), grinding wheels (A.422), ovens etc. The first style of pots resembles the coarse gritty hand burial urn discovered by Mockler with some human bones near Surag (En.1). The cups and the flagon belong to a new variety of Indian pottery and do not appear to have been discovered elsewhere in this country. Both classes are provided with stands. The plates or dishes belong to two different varieties. The first, variety resembles the modern Indian type (Thali Hindi; Prat Marathi) with its narrow edge and broad flat centre. Several specimens of this particular type but very large in size were also discovered in Site No. II. The second variety resembles the soup plate with a narrow cavity. The miniature suspension plate is unique. It is a plate of the second variety provided with three holes. Suspension pottery of larger type have been discovered by Rai Bahadur Pandit Daya Ram Sahni at Harappa and by Mockler in Baluchistan, but all of these specimens are sufficiently large in size for human use. The sieve and the hearth are miniatures representing the objects actually used.

The third class of objects represent oblation tables used in worship. Larger specimens of this particular object have been discovered in Site No. I and the miniatures were identified afterwards. In shape these oblation tables resemble fruit stands of the modern day and consists of a plate placed on a short stand. Numerous objects generally called spindle whorls were discovered in all three sites. The fall into eleven different classes:-

- (a) Conical objects of terracotta with thick holes at the bottom and with rings round them.
- (b) Exactly similar to the above without holes or ornaments.
- (c) Ditto. without holes, but with rings.
- (d) Ditto. with holes and rings but of medium size.
- (e) Ditto. of medium size without holes or rings.
- (f) Ditto. without holes but with rings.
- (g) Thin elongated specimens with holes at the bottom and circles of incised dots and knob at the bottom.
- (h) Ditto. without rings of dots, but with knobs.
- (i) Ditto. minus the hole at the bottom but with knobs.
- (j) Ditto. without the hole at the bottom or the knob.
- (k) Unfinished sun-baked specimens of similar shape.

The exact object for which these articles were used is not apparent. Older writers on the Indian Archaeology have described them as spindle whorls but it is difficult to believe at the present day that any of these objects were used as such. They might have been used as loom weights.

Two fragments of miniature weaving frames (A.441) were discovered in two of the jars. These frames could not have been used actually and appears to have been merely votive offerings to the dead. These elongated objects, which had been termed spindle whorls up to the present day may have been used as loom weights and were most probably placed along with the neopolitan votive offerings as accompaniments to the weaving frames.

Another class of objects discovered in the jar were miniature

miniature figures of animals. These range in variety from the crude figures of quadrupeds, used by the Musalmans of Bengal at the present day as offerings of horses in the shrines of Pire, to finely moulded objects of terracotta. The crude objects are representations of horned animal with-¹out or with the hump and may generally be taken to represent bulls. The better class miniature animals discovered in the three sites excavated in 1902-23 are:- (a) humped bulls³ (b) caparisoned horses or donkeys,⁴ (c) rhinoceroses⁵ (d) birds,^{*} (e) Tapirs or Hippopotami⁶ and (f) dolls. Several specimens of the rhinoceroses were discovered. This animal appears to have become extinct in Sindh more than two thousand years ago, but the miniature representations show that the inhabitants of the Indus valley were quite familiar with this rare Pachyderm. Dr. E.H. Pascoe, the Director of the Geological Survey of India states that fossil bones of the rhinoceroses have been discovered in the Madras Presidency in the Pleistocene period but nothing is known of this Pachyderm in modern⁷ times in the Indus valley.

7. The Rhinoceros was known to exist near Peshawar in the sixteenth century Akbar killed one in that locality. V.A. Smith-Akbar, the Great Mogul, p.

Among miniature figures of animals must be mentioned a hollow cook of fine terracotta with a hole at its bottom. If this hole is stopped then the bird floats easily in water. The best specimen no doubt is the head of a small camel which can be easily recognised by the wrinkles on its nose and above its eyes, the short slit of the eyes and the horizontal cavity⁸ of the nose. Similar miniature figures of animals have been⁹ discovered in tombs at Sindh in Cyprus and at Anau in Central¹⁰ Asia. They have also been found at Adichanallur,¹¹ and in the Nilgiris.¹²

8. A. 392, Pl. XXXVI. 9

1. Without humps; A. 372, 374, 376, 377, 386; Pl. XXXVI. 5
2. With humps, A. 368. Pl. XXXVI. 3.
3. A. 369-71. Pl. XXXVI. 6
4. A. 378, 388, 389, 383, Pl. XXXVI. II
5. A. 390-91, 547. Pl. XXXVI. 8
6. The Hippopotami are probably represented by certain figures with a curly snout. (A. 381). Mr. Vats found a better preserved specimen (400 M. IV).
9. Les Civilisations Pre-helleniques, p. 265, fig. 188, 9-10.
10. Pumpelly- Pre-historic Civilization of Anau, Vol. I pl. 47, 196.
12. List of Photo-negatives in the office of the Superintendent Archaeological Survey, Southern Circle, Madras, 1919, p. 96, 4-29.
11. Annual Report of the Arch. Survey of India, 1902-03, p. 117.

* A. 394; Pl. XXXVI. 10.

The miniature funeral pottery was provided with lids of various shapes. Among the latter we find crude handmade lids of sun-baked ware (A.423)¹, finer specimens of the pottery art (A.427, 541)³ and some very fine specimens (A.428)², so thin in texture as to deserve the designation "egg-shell-ware," (A.429).

1. Pl. XXXVI. 13
2. Pl. XXXVI. 16
3. Pl. XXXVI. 18.

(111) *The Ordinary Pottery.*

The excavation of the three sites on the islands of the river-bed proved definitely that none of them were ever used as habitations and that all of the buildings examined in 1922-23 were shrines, which were visited by large numbers of people during the day and were used as places of burial. In the buildings discovered, no traces were found of fire places, cooking pots or utensils of domestic use. Even ordinary jars for the storage of water were not discovered in any of them. The largest pieces of pottery consisted of burial urns or of vessels used in worship. The large round bottomed pot discovered in Room No. 40 of Site No. I resembles a cooking pot. Its bottom was thickened by addition of a coating consisting of broken bits of pottery and an adhesive plaster, but the interior contained bones and ashes (A.64).¹ Similarly the two large pots discovered in room No. 34 and 35² containing square and round coins were the only vessels of domestic use discovered in Site No. I. Both of them are still practically new and show that they were never used for cooking. The smaller pot bears a chocolate ring round it on a white ground in three different places (A.65). There is nothing different in the shapes of these vessels to indicate that they are old, but the coins discovered in them, along with the stratum in which they were discovered, prove that the smaller one cannot be later in date than the second century A.D. while the larger one must belong to the early centuries preceding the birth of Christ (A.66).

Two other objects may have been used for ordinary domestic purposes. One of them is a round bowl with a slight flat bottom which has now been restored in the Indian Museum (A.399).⁴ This may have been used for the storage of food or water. Two fragments of a flat dish or platter were also discovered in the Site No. III and have also been restored

from

1.Pl.XLII.3.

2.Pl.XLIII.7.

3.Pl.XLIII.8

4.Pl.XLI.1-2

from the pieces recovered. Another fragment of this type was also discovered in Site No. II. On the one hand it is quite possible that these two vessels were used for taking food but on the other hand it is also possible that they were used as oblation tables and were placed ~~in the centres~~ ^{at the} centres of both of these vessels were not discovered it is not possible to determine whether they were actually used as stands or not but there is a breakage at the bottom of one piece. A third specimen was discovered in Site No. I. It is much smaller in size than the plates described above and its ends curve inwards. This specimen also has been restored in the Indian Museum (A.398). Such plates are still found in Northern India and are usually made of brass or bellmetal.

A large number of stands were discovered in all the three sites. Some of them represent the lower parts of the oblation tables and vary in size from an inch to a couple of feet. The smallest of them is covered with a fine red paint and appears to belong to the class of miniature pottery. The rest fall into two different classes:- (a) crude handmade stands shape like a horse's hoof, and (b) fine wheel-turned specimen, which are undoubtedly objects of art. That these stands belong to the same type as the oblation tables described under necropolitan pottery, shaped as fruit stands, is evident from one specimen in which the upper part is still extant. The remaining stands belong to funeral urns. One type resembles the round South Indian type, which is merely placed on a small dish or platter. The third type consists entirely of a small or large round rings of earthenware. Among them were also found a small cup or loop with perforated handle, low cups with glaze, vases of distinctly hellenic shapes. Two of the latter are smooth and wheel-turned, perfectly round with a carinated mouth (A.352). The

1. A. 563 a and b
Pl. XLI, 3
2. A. 401.

3. A. 339, 345-46, 486.
Pl. XLIII, 1, 3, 5

4. A. 351. Pl. XLIII. 6

5. A. 71. Pl. XLIII. 2

6. Annual Report
of the Archaeological
Survey of India,
1908-09, pt. II, pl.
XXXV. 1.

7. A. 482, Pl. XLIII, 12

8. A. 447, Pl. XLVI. 3

9. A. 364-65, 367;
Pl. XLVI, 1, 9-10.

10. A. 361, Pl. XLIII,
9.

11. A. 410; Pl. XLIII
14

12. A. 58-59, 70, 73,
115, 560; Pl. XLI;
4-5.

second

second specimen shows a level top with a raised point at one place of the mouth. The shapes of the necks of these vases are distinctly classical. With these two specimens may be compared some of the tumbler-shaped vases, the lower parts of which retained one very forcibly of Athenian red and black vases (A.73). Two perfect specimens of this type were discovered by Pandit Madho Svarup Vate, in 1923-24. Lids of various shapes and sizes were discovered all of which were provided with knobs. Some of these lids are covered with a red paint or glaze. Some of them are provided with a flat round knob, flat at the top. Others have a small cone in the place of the flat top. Larger lids are provided with a thick vertical piece, either round or angular, in the place of the knob; while in some a ring takes the place of the former. Some of the better specimens are wheel-turned, but many appear to have been hand-made.

1.A.143, 140, 415
Pl. XLI, 6, 8, 11.
2.A.539, Pl. XLI. 7
3.A.130; Pl. XLI. 9
4.A.138; Pl. XLI. 10

Among miscellaneous terracotta specimens must be mentioned an ink-pot discovered in the buildings of the second

5.A.409; Pl. XLVI, 5) century B.C. a fragment from the rim of a bowl with incised

6.403; Pl. XXXVIII decorations consisting of half diamonds. A third specimens show rough incised lines indicating the outline of a lotus

7.A.406; Pl. XXXVIII on a flat object. A cup with a slightly raised bottom

8.A.448; Pl. XLVI. 2. appears to have been used for libations. Chess or dice was

one of the favourite pastimes of the priests of these shrines.

Chess or dice pieces of three different types were discovered

9. C. 240, Pl. L. 18

The first type was made of red egate. This object is believed

by Sir John Marshall to be an uncut seal, because there are

certain incised dotted lines on its unpolished bottom. An

exactly similar specimen in greenish blue glass paste or

10. A. 535. Pl. L. V. 10

faience was also discovered. This specimen is hollow. A

round piece used in plain dice (A.1338) is made of rough

terracotta. A small piece made of fine red terracotta is of the same shape as the chess-pieces made of wood and ivory in

11. ~~XXXVI~~ 27.

Northern India at the present day. This specimen (A.534) was discovered in Site No. II. Finally a curious dice was discovered in Site No. I (A.338). This specimen is a solid cube of fine terracotta with the numbers 1 to 6 incised on each of its six sides.

Discovered among with these specimens were a class of pottery hitherto unknown in India. The best specimens of these are the hand-glazed and decorated ware which has been partly alluded to in the case of the tumbler shaped burial urn (A.562) discovered in Site No. II. Two specimens were discovered in Site No. I. The best of them (A.68) is round vessel, with a short raised bottom, beautifully glazed or polished and painted red. This specimen has been recovered almost entire, only the neck being missing. Some of the missing portions have now been restored in the Indian Museum. The neck of this vessel was narrow and it had most probably a small rim. The polish of the second specimen is not so perfect, though it has been recovered almost entire and small pieces only are missing from the neck. This vessel was also round and placed on a short round band (A.69). It is covered with a red paint which was afterwards hand-glazed. These specimens remind us very forcibly of the undecorated red ware from Suse. The red paint or glaze is to be found in many of the specimens discovered in the three sites excavated in 1922-23, which again fall into two different classes:- (a) the red painted or hand glazed vessel described above (A.68, 69 and 562), (b) red painted but undecorated vessel which has been discovered in large number. The bowl (A.539) and the fragments of the two plates (A.564 and 565) belong to this variety. The best specimen of the red ware discovered during the excavations of 1922-23 in the neck of a jar or a funnel-shaped vessel. It is quite possible that this specimen was a portion of a table of oblation the stand of which was hollow for the drainage of the liquid poured

1. Pl. LXVI. 7

2. Pl. XXXIX. 13

3. Pl. XXXIX. 4

4. Pl. XXXIX. 1

5. Pl. XXXIX. 2

1. Pl. XXXXII - a poured on the top (A.363). The majority of specimens of red ware jugs within the province of painted pottery and the best specimens were discovered by Sri Bahadur Prasad Daga and Sahai in 1922-23 at Harappa.

Among miscellaneous fragments discovered in the three sites excavated at Mohenjo-daro in 1922-23 may be mentioned some fine handles of vases. One of these is decorated with three flowers which resembles the thistle (A.468).² Another handle belongs to a larger vessel with straight grip and seems to have belonged to a heavy flagon or jar (A.407).³ Some of these jars were intended for suspension. Round holes were pierced in their sides or projections. In the majority of cases the holes in the projection are horizontal indicating that the vessel was intended for suspension, but in this case the hole is vertical showing that it was intended for the passage of a rope round the vessel. In this characteristic this specimen resembles the lug-eared storage jar belonging to the first civilization of Suse. Peculiar interest attaches itself to single and double spouted vessels. Single spouted vessels both painted and unpainted are very common (A.464). Two cups or libation vessel with a double spout were discovered in Site No. I. The best preserved specimen is A.360. This is a shallow cup pierced with two holes ending in two short spouts. The other specimen (A.362) belonging to the same type but in this case, instead of separate spouts both holes are pierced in same projection on the side of the vessel. The larger specimen shows that these double spouted vessels were used for pouring out libations or liquid offerings simultaneously before double altars or gods. Such simultaneous libations of the same material are altogether foreign to the Vedic ritual, but were used in early Cretan worship. Large jugs with double spouts have been discovered at Gournia in Crete. This specimen is made of steatite. Cup-shaped and vase shaped specimens with double spouts have been discovered in Egypt also. The cup-shaped double spouted

vessel

2. Pl. XXXXIV - 8

3. Pl. XXXXV - 7

vessel belongs to the pre-dynastic age of Egypt and is made of limestone. The vase shaped specimen belongs to the fourth dynasty and is made of alabaster. Egyptian and Greek double spotted vessels do not appear to have been previously described as yet. Petrie suggests that "the motive for so strange a form may be seen, perhaps in the ceremonial worship of Set and Horus in this reign; the simultaneous offering of libation to both gods could be secured by this double spout. Exactly similar specimens were discovered at Purnahar in Southern India and is preserved in the Madras Museum."

Another peculiar class of specimens discovered during these excavations were pierced vessels of oblation. The largest fragment of a vessel of this type was discovered in Site No. I. It is a pear-shaped vessel with numerous holes in its sides.³ Altogether sixteen fragments of similar vessels of many different sizes were discovered in this site alone.

They belong to vessels of different shapes and sizes, varying from a small pot with straight sides and a round bottom, to the large pear-shaped vessel nearly 12" in height. A similar vessel was also discovered among the square coins discovered in the earthen ware pot in room No. 34 on the western side.

This vessel is made of bronze or copper and is very small in size.⁴ A smaller but more complete specimen was found in Site No. III.⁵ Perforated vessels of this particular type are unknown in Buddhist worship. They are used at present in eastern provinces of Northern India in modern Hindu temples. A perforated earthen ware vessel full of water is placed over the head of a phallus of Śiva or an image of Viṣṇu in the form of a round pebble (Sālagrāma) and filled with water. Water drips slowly from these perforations which are filled with small bundles of straw and keeps the stone cool during the hot months of the summer. A perforated vessel is used during the Durga Puja ceremony for bathing the Navapatikā or the emblem of the fertility. Similar vessels made of terracotta were discovered by Rai Bahadur Pandit Daya Ram Sahni at Harappa in 1923-24.

1. The Palace of Minos at Knossos by Sir Arthur Evans, London, 1921, Vol. I, Pt. 21, 22; figs. 49-50 quoted from Petrie's Royal Tombs, II, p. 27.

2. See ante p. 44. PL. LVIII. 10

3. A. 397, PL. XI. 9

4. Pl. LVII. 21

5. Pl. XLVIII. 6

- Among miscellaneous objects must be mentioned, a mould for sweets of the shape of a inverted truncated cone, with incised decorations consisting of double triangles (A.337).¹ Two peculiar objects made of gum or resin resembles modern door knobs (A.334-35).² The exact object for which they were used cannot be determined. Potter's knobs of different shapes and sizes made of terracotta were discovered in all three sites (A.444,512)³ but no traces were found of hearths or kilns. Several small sticks of earthenware^{were} decorated with peculiar ornament. At one end of them is the representation of a thin rope twisted round it (A.450)⁴ Similar rods of a thinner texture might have been used for the application of collyrium (A.451).⁵ The spiral or twisted rope pattern appears to have been a favourite object of decoration (A.449).
- 1.Pl.XL.4.
2.Pl.XL.10-11.
3.Pl.XXXIX.14-15
4.Pl.XXXIX.5
5.Pl.XXXIX.6

We come to the class of antiquities described hitherto as terra-cotta beads. Some of them bear a serrated pattern while others are fluted. A third type is really a long tube of terracotta but the majority of them are thick round discs or cylinders which must have been used for the spinning of yarn.⁶ They are generally taken to be spindle whorls in Crete and the Near-East.⁷ In shape they are roughly circular but many of them are spheroids with a hole in the centre while convex cylindrical shapes are not unknown. In the majority of cases these real spindle-whorls are undecorated, but the finds from Mohenjo-Daro possess the unique distinction of containing several with white and green glaze.

Among objects of pottery certain dolls representing young women are of surpassing interest. They offer a connecting link with the older civilization of the Near-East with that of India and the Far-East. These dolls are often very crude representations of the human figure (A.395-96,435)⁸ In many cases a long pointed horn appears on each side of
the

6.Pl.XLVI.11.

7.
Les Civilisations Pre-helleniques, p.271, fig.192.

the head and in certain cases the breasts have been added later on. Such specimens were discovered by Pandit Madho Swarup Vate in 1923-24 (302 M.4) Such dolls have also been found by Rai Bahadur Pandit Daya Ram Sahni on different occasions at Harappa and by Rai Sahab M. Ghosh at Patna. The figures of these women belong to a class apart from other dolls discovered in India and no doubt they represent the great mother-goddess of the ancient religion of Anatolia or North Syria. At Anau these figures were discovered along with terra-cotta figurines of animals. Mr. Pumpelly says of these figures, "these female figures being undoubtedly in the class of images of the life-creating and life nourishing goddess. As Beltis Ishtar, Mana, Anat, Astarte, Astoret, this goddess was fundamentally connected with the cult of the ancient Semitic religions of Arabia, Elam, Chaldea, Assyria, and Asia Minor. These figures occur throughout these countries, and among Phoenician colonies on the Mediterranean. She was worshipped also in Armenia and among the Hittites, whose racial affinities are still undetermined, and in II and III cities of Troy. Similar votives are found in the remains of Neolithic and transitional culture of southern Europe. Whether they all point back to a common Semitic origin or not, they are doubtless the expression of a very primitive idea of the All-mother, the giver of life and the nourisher, into whose care the dead are given. The expression of this fundamental character is common to the figurines wherever found; it is always shown in the relatively accentuated representations of the breast, the navel, and the organs of generation. Beyond having these attributes in common, the treatment varies with different peoples. The next characteristic that is common to the greatest number of localities is that in which both hands are holding the breasts, as if to emphasize the nourishing function, or rest on the body below the breast. Among the Phoenicians the

1. In one case at least the genitals are covered; (195 M 4) discovered by Pandit Madho Swarup Vate in 1923-24.

2. Several specimens discovered by Rai Bahadur Pandit Daya Ram at Harappa in 1920-21 show the crude hands on or near the breasts.

goddess, besides the characteristics just mentioned, is frequently accompanied by doves, or holds the lunar disc as an attribute of the Semitic moon-goddess, as in Chaldæa¹ she favours the crescent shaped horn of the cow or bull, and these figurines are frequently accompanied by figures of the cow or bull, recalling the cow sacred to Hera. These representations are often reduced to the simplest form, as in Troy, where frequently only the eyes and nose with mere indications of the breasts and hands occur, made in the most rudimentary manner of vases. Again in many of the neolithic sites of the Mediterranean, a more or less developed steatopygous character is given, often comparable to the form of the 'Hottentot Venus.' Lastly, it is not unusual to find figures on which the arms are represented only as stumps, even associated with others in which the hands hold the breasts. This last mentioned character attaches to our figurines of the South Kurgan. While the realistic treatment leaves no possible doubt of their cult affinities, the arms were not bent towards the breast, but were merely indicated by stumps, which either projected² outward or hung down. At Musyan these clay dolls were found with stone axes, flint flakes, arrow heads and "pegs" or "curved nails" of baked clay, spindle-whorls or not sinkers, beads of Carnelian and lapis lazuli and animal figures of clay.³ Prof. J.L. Myres has given an admirable summary of the *épaves* of these clay figurines, "In another line of advancement the originality of the Syrian culture is less disputable. It is with the reoccupation of Anau by its third culture that the first clay figures of nude women appear. At Hissarlik they begin in the first city, and are copious in degenerate clay and stone types, from the second onwards. In south western Asia Minor similarly, they are found in the black-ware technique, and beyond the margin of this region they are part of the repertoire of neolithic Crete, and of the early bronze age of the Cyclades; in the latter case

1. In many specimens discovered at Mohenjo-Daro and Harappa these dolls are horned.

2. Raphael Pumpelly, *Pre-historic Civilizations of Anau*, Washington, 1908, Vol. I, p. 46-47, Pl. 46, 10.

3. Frankfort, *Studies in the Early Pottery of the Near East*, p. 54.

contemporary with a local school of red-ware. In Cyprus they are frequent in the local red-ware and even in a fairly early phase of it. In other parts of Asia Minor, and throughout Syria, they occur in various early techniques, in more/and more traditional and grossly accentuated forms. Though a few female figures in local red-ware have been found in three dynastic Egypt, they are unconventionalised and even this type had no regular vogue. In Palestine where it became popular in bronze age, there are only late and secondary types. In Babylonia it was unknown till the time of Hammurabi and then became popular, and Hammurabi's people are thought by some authorities to have come down the Euphrates out of Syria, about 2300 B.C. In Syria itself alone on cylinders of rather earlier date, the conventional type can be traced in course of development. Everything therefore points to the creation of this artistic type and of the religious conceptions which it symbolises, within the region dedicated in historic times to the 'Great Mother of Asia.' With the exceptions of the figures of palaeolithic women, no relationship with which can be established at present for this Asiatic type, it is the earliest 'ideal type' in history; and the earliest cult of which we know the meaning as well as the symbol.

Pandit Madho Svarup Vats found one specimen of "curved-nail" or "peg" of terracotta along with figures of animals and female dolls. During my excavations of three sites I found well made figures of camels, bulls, asses and rhinoceroses with cruder representations of horned bull with or without humps and female dolls. Numerous such specimens were also discovered by Rai Bahadur Pandit Daya Ram Sahni at Harappa. The discovery of these female dolls with accentuated breasts and genitals along with "pegs" or "curved nails" and representations of animals at Mohenjo-Daro.

Harappa and Patna prove that the cult of the mother-goddess was well-established in Northern India in the very dawn of human history.

(IV) PAINTED POTTERY AND FRESCOES.

The most important class of antiquities discovered at Mohenjo-Daro during the first excavations were fragments of painted pottery. Painted pottery of this type was hitherto unknown in India proper and the specimens discovered by Mookler in Baluchistan have not been recognised as belonging to a culture any way connected with any important sites in India. The discoveries of Mohenjo-Daro and Harappa have now proved beyond doubt that the painted pottery from the dams of Baluchistan are inseparably connected with similar specimens discovered in the Indus Valley. Two collections of the painted pottery from the dams of Baluchistan are known to exist. The first of these is the Mookler collection from Guadar, Gati, Surag, Chidizi, Damba Koh etc. ¹ The second collection was discovered in the Sohr dam near the village of Nal in the Jhalawan District of Baluchistan and was described by Sir John Marshall in 1904-5. ² This collection of painted pottery from Baluchistan is now preserved in the MacMahon Museum, Quetta.

Fragments of painted pottery from different places of Afghanistan and Baluchistan have been noticed from time to time. One such find from Zhob-Thal was noticed in 1898. ³ Many fragments of painted pottery from Baluchistan exist in private collections.

The painted pottery from Harappa and Mohenjo-Daro falls into two distinct classes:—(a) the monochrome and (b) the polychrome. The Monochrome pottery probably belongs to a later date than the polychrome. The polychrome pottery from Harappa consists entirely of chocolate or dark brown

1. Anderson—Catalogue and Handbook of the Archaeological collections in the Indian Museum, Vol. II, pt. II, pp. 438-62

2. Annual Report of the Archaeological Survey of India, 1904-5, Vol. II, pp. pls.

3. Zeitschrift für Ethnologie, 1895, pp. 464-71.

lines or designs on a background of deep red. The painted pottery from Mohenjo-daro can be divided into three classes: (1) The fine monochrome with red glaze, (2) the simpler polychrome consisting of black and brown lines on a chocolate or red slip and (3) the finer polychrome consisting of dark or brown and white lines on a pink slip. The simpler polychrome of Harappa is undeniably connected with the Hal vases. The motifs are in many cases the same, e.g. the leaf of the Pipal (Sanskrit Asvattha, Pious Religiosa) and a modified double axe type. At the same time the Hal vases show spiraliform designs which are so clear in the case of M.56 a and b, of the Mackler collection in the Indian Museum. It is therefore evident that though the age of the strata in which the Hal and the Mackler vases were discovered are not known to us, there is a very intimate generic relation between them and the painted pottery from Harappa and Mohenjo-daro.

The fragments of red monochrome pottery discovered at Mohenjo-daro come from the intermediate structures which lie between the deepest or the oldest stratum and the building of the second century B.C. The best example is from the bottom of a beautiful vase. The texture is very thin and the firing is even. The outside is well polished and painted with a deep glossy red (A.349). This is no doubt the finest specimen of the red monochrome discovered in 1922-23. The next best specimen belonging to this class is the lower part of a stand of an oblation table of the fruit stand type (A.347). The third place should be assigned to a miniature oblation table (A.434) and a platter of soup plate type (A.544). The first specimen comes from site No. I and the second from Site No. II. Fragments of pottery of the red monochrome type have been discovered in very large numbers by Pandit Madho Swarup Vate in Site No. IV. But these

1. Anderson, Catalogue and Handbook etc. p.450.

shows a deterioration in quality due no doubt to the advance in the knowledge of metals. The simpler polychrome which is so common in Harappa shows the transition stage between the finer polychrome and the red monochrome. The specimens from Harappa show the use of animal figures in black or dark brown on the red ground and the effects of their discovery are very far reaching. One of the vases discovered by Rai Bahadur Panth D. R. Sahai shows the use of the pipal leaf which connects it with the main style in the Indus valley but in another specimen we find the representation of horned

stag in a manner which no doubt indicates the same type of stylisation in the representations of animal figures, which we find in the simple polychrome designs on the painted pottery from Area II and Muryan. Specimens of this simple polychrome discovered at Mohenjo-daro in 1922-23 are in the

majority of cases mere fragments. Thus we find the use of black or dark brown plain lines on fragments of bowl (A. 452 457), spout of a vessel of libation (A. 455) and a large lid with a knob in its centre, the upper part of which is painted with regular circles at an interval (A. 122). To the same class belongs the small fragment (A. 544) on which we find rhomboid objects with concave sides painted on a deep red slip. A small lid (A. 545) and two other fragments (A. 457, 459) complete with lid. The presence of these specimens amongst the objects discovered at Mohenjo-daro proves that the simpler polychrome at one time prevailed over the one now represented the valleys of Indus and the Hoab.

Yues Para

[[The specimens of the third class or more complex polychrome from Mohenjo-daro show that quite a different style in motifs was prevalent at this place. This particular class of motifs have not been discovered anywhere else. In the class we find an ivory or white background or slip on which the designs were painted in sepia or dark chocolate. In the case of A. 455 we find zig-zag lines on the top, six straight lines round the centre of the vessel and four lattice pattern ornament at the bottom.

1. Stuties in Early Pottery of the Near East. P. 61, fig. 6

2. Pl. XLIV. 11
3. Pl. XLIV. 10

The best specimens of painted pottery from Mohenjo-Daro were discovered in Site No. I and the most remarkable ones came from the lowest levels in room No. 34. The finds in this room are associated with one oblong strip of copper inscribed with pictograms or ideograms of the same type as that to be found on the seals of Mohenjo-Daro and Harappa which is most probably a coin or token. None of these three vases are complete. In the case of two of them, only the lower part of the vase and a portion of the round body have been preserved and in the case of the third we have got only a portion near the rim of what appears to be an egg-shaped bowl. Among these three specimens the most complete one is A.454. Two other fragments of this vase were discovered at the same level, later on, proving that the discovery of these fragments of painted pottery was not quite accidental. These fragments have now been joined to the larger fragment in the Indian Museum. The affinity between the shape and the ornaments of these three vessels with Cretan polychrome of the early Moncan period is undeniable. In shape two of these three vases appear to have been a jar with a round body on a short round pedestal with a long round narrow neck. These two appear to have resembled Indian water bottles (Soral or Surahi in Hindi and Hindustani, Kuja in Marathi and Chatti in Southern India). The ornamentations consisted of, in the case of the first, of thin white horizontal lines rising in a regular spiral from the base to the neck. In addition to this there is a circular row of dots in chocolate brown near the neck and another row of flowers or aquatic animals below it (A.454). The neck was joined to the round body after turning and its marks are still very distinct. Exactly similar to this specimen is a fragment of a beautiful white vase found at the same spot (A.452). This specimen was slightly smaller than A.454 and only one fragment of it has been recovered. The vase was covered with a slightly bluish-green-tinged white. There was a row of dots around the base

1.Pl.XLV.12.16

2.Pl.XLV.14-15

base of the neck and a second and larger row of branches
of trees with leaves and flowers below it. The third spe-
cimen the fragment from one side of an egg-shaped vase
(A.453). Like A.454 the exterior surface of this vase
is covered with a rosy white slip. The neck or mouth of
this vessel is very narrow and instead of a carinated lip
consists simply of a slightly thicker edge. The ornamenta-

tion is in dark brown chocolate and consists of three paral-
lel horizontal groups of lines, each group consisting of
four separate horizontal lines dividing the extant area
into three unequal bands. The lowest band is the smallest
and contains an irregular zig-zag line. The remaining two
are ornamented with clusters of four semi-circles attached
alternately to the top and the bottom of the band. To the

same class belongs a fine painted terracotta head of snake,
the colouring of which makes it possible for us to recognise
a red spotted viper unfortunately still very common at Mohen-
jo-Daro. (A.527) ² small head of a duck was discovered in the
lowest level in room No.5 (B.4). ³ This specimen is exquisitely
moulded and was not burnt. The moulding of the bill and
patches of painting which still adhere it proves that it was
a real object d'Art at one time.

There is a good deal of difference between the differ-
ent classes of painted pottery of Baluchistan, Harappa and
Mohenjo-Daro. The red ware or the red-glazed specimens are
common to all three regions, but the finer pottery of Mohen-
jo-Daro and the specialised painting of the three vases
described just now are quite different. There are certain
points in common between the painting of the vases of the
Baluchistan collection of the Indian Museum, the Nal vases
and the pottery from Mohenjo-Daro. This similarity lies in
the exclusive use of a deep red glaze or slip in the spec-
imens from Baluchistan and Harappa which is to be found in
certain cases in specimens from Mohenjo-Daro and the use
of spiralliform ornaments in specimens from Baluchistan and
Ha

2.Pl.XLV.11
3.Pl.XLV.10

4.Pl.XLV,2-3

1, Pl. XLV. 4-6

2, Pl. XLIV. 14

3, Pl. XLV. 6.

Harappa. Vessels of suspension, painted and unpainted were discovered in all three areas. At Mohenjo-Daro the specimens of this class are rather rare. The deep red ground is to be found in the case of a large lid (A.122) and a smaller one (A.545) a fragment from the neck of a vase (A.313) and a portion from the round body of a vase (A.452). The spiral-liform ornaments so common at Nal and in the Indian Museum collection are totally absent at Mohenjo-Daro but in this case the affinity lies in the stylized animal forms found on small vase discovered at Harappa in 1923-24 and a large one discovered at Mohenjo-Daro by my successor Mr. K.N. Dikshit in 1924-25. A sort of light filmy whitish glaze or slip noticeable in the case of Br. 52 of the Baluchistan collection of the Indian Museum is also to be found in a fine large vase now preserved in the Lahore Museum to which my attention was drawn by Mr. S.N. Gupta, Vice-Principal of the Mayo School of Art in March 1925.

This analysis tends to show that the painted pottery and the egg-shell ware of Mohenjo-Daro are much finer in quality and execution than that of Harappa and that the painted pottery of these two sites is infinitely superior to pottery of the same class from the dams of Baluchistan. Incidentally it may be mentioned that this difference in quality is to be a certain extent indicative of a later date, comparatively speaking, of the painted pottery from Baluchistan.

The frescoes discovered in site No. I belong to a much later date. They come from the interior of the hollow chattrya erected on the top of a Site No. I in the first or second century A.D. They are of very great interest because they are the earliest specimens of the fresco paintings discovered in India; being much earlier than the frescoes of Ajanta, Ellora, Badami, Bagh and Ramgarh. Their date can be judged very accurately from the forms of the Kharoshthi and Brahmi characters used in them. One fragment bears on it

three lines of Brahmi writing. The original fresco consisted of a pink panel enclosed within a deep blue border on which were little flowers in pur white. The inscription is in deep black. The form of ka, the medial long i in di and the initial form of the vowel a prove that it cannot be later than the second century A.D. This estimate of the date is corroborated by the form of the dental sa in the word samana written in Kharoshthi on another fragment.

This fragment was a long panel of deep blue with a pink border. The other fragments show that the frescoes inside the chaitya bore a number of Kharoshthi labels attached to scenes from the life of Buddha and the Jataka stories. The fragments recovered are extremely minute but some of them are of great importance on account of the resemblance they bear to the frescoes discovered by Sir Aurel Stein at Dunhuang

Ullig and the Niya river site in Central Asia. The beautifully painted drapery of the Buddha figure in B.13 shows that in Gandhara was very deeply felt. The colours used are still very bright and they have not lost any of their brightness in spite of twenty centuries of contact with air and light

and what is still more destructive the corrosive alkaloids of the desert soil. These fragments show the use of almost all colours, indigo, blue, yellow, orange, red white etc. The fragments of the fresco with the draperies of Buddha are done in deep indigo and deep green with black lines. The plaster for the frescoes was composed of fine alluvial clay mixed with bran or chopped hay. In the case of stucco fragments the depths are touched with black while the heights are painted red.

3.Pl.XLV.6.

The most part conventional but there no spreading is evident in any of the fragments discovered and the lines of junction are invariably clear and distinct even after the lapse of two thousand years.

XVI. ORISOTS OF STONE.
A. NEOLITHIC STONE IMPLEMENTS.

The objects or the class of objects which attracted me to excavate Mohenjo-Daro was a tiny scraper on chert or some sort of flint. When I visited Mohenjo-Daro officially for the first time in December 1919, I picked up the small chert on the top of site No. II. I visited Mohenjo-Daro again on 17th December 1920 and at that time again my friend Mr. D. B. Rajput, a lower subordinate of the Bombay, P. W. D. attached to the Western Circle of the Archaeological Survey, picked up another chert of the same type in the south western corner of the site No. I. At that time I was on my way to visit the newly discovered stupa at Dhamraho and could not spend much time at Mohenjo-Daro; but the second find of a neolith served to confirm my own conclusions and I determined to survey some more sites of Upper Sind in order to find out whether the ruins of Mohenjo-Daro were really older than the Buddhist sites of central and southern Sindh or not. The size of the bricks in all parts of the ruins is very suspiciously like the modern bricks used by the Public Works Department in Sindh. But on the other hand the repeated discoveries of flint, cherts or scrapers pointed to a pre-historic or very old date.

The stone scrapers found at Mohenjo-Daro were discovered at all levels. They were found mixed with the coins of Vasudeva I of the topmost level of room No. 36 and in the deepest level along with painted pottery in room No. 34. In Site No. II they were found in the altar in room No. 1 in the drains in passage No. I, in front of staircase No. 14 and in passages No. 21 and 22. These cherts and scrapers vary in size from the keen edged razors four inches in length to the toy pigmy flake barely an inch and a half in length. Some of them are evidently coarse objects never meant for real use, while some are beautiful double-edged sharp razors with a single ridge running along the centre. The larger

pieces are quite similar to the celebrated Rohri flakes described by Blandford, which found their way in the Indian Museum, but they do not appear to be exactly of the same material and the pigmentation is certainly different. On the top of the dead-white flat-topped hills which surround Rohri and Sakkur these flakes can still be found in neolithic burial grounds, which have not been properly explored as yet. Writing in 1875 Blandford stated that the cores from the bed of Indus were much later in date than the flakes found on the Rohri hills and that the people who chipped the scrapers were quite different from those who struck scrapers from the cores found in the bed of the Indus.

This statement can be better understood now because we know that scrapers or cherts were struck from cores even in the second century A.D. when iron was in universal use. The use of flint scrapers or cherts was continued by the people who lived in the Indus Valley from the sub-neolithic phase down to the early centuries of the Christian era on account of their conservatism. They simply continued the old practice of placing flint knives or razors with the bodies or bones of their dead long after they had learnt the use of copper and iron. Thus, the use of flint knives or razors was simply a continuation of a neolithic usage of the pre-cremation period in the iron age and the post-cremation period. It is no wonder therefore that from the same site we have discovered beautifully made sharp-edged knives or razors along with miniature pigmy flints and cruder specimens not meant for actual use. As a result of the survival of this neolithic custom in historical time I found no less than one hundred and fifty six well-made cherts or scrapers in Site No. I alone. Only ten or twelve scrapers were found in site No. II and a single one in Site No. III. In Site No. I also

1. J.C. Brown - Catalogue Raisonne of the Pre-historic Antiquities in the India Museum, Calcutta; Simla 1917 pp. 119-22.

2. J.A.S.B., Vol. II, 1875, pp. 135-136.

cores were discovered proving that some at least of these
cherts were struck on this spot.

1. C. 195, Pl. L. 3

2. C. 189, 190, 196;
Pl. L. 5, 7-10.

3. Pl. L. 11-12

Real neoliths were very rare. A fragment of a hammer¹
of coarse gritty white sandstone and three fragments of celts²
polished and later on used as goldsmith's stones were dis-
covered in Site No. I. A number of small and large hammers
of polished marble were also found in Site No. I, but they
appear to be much later in date. They are indeed the finish-
ed products of the sculptor's art and cannot be relegated to³
the neolithic period. They appear to have been used more or
less as cult objects. In this case we find the survival of
a neolithic custom in the historical period. The best spe-
cimen is a fragment covered with a number of mystic symbols
on the exterior, consisting of three circles arranged in the
form of a triangle. According to Dr. E. H. Peacock, Director
of the Geological Survey of India this specimen is made of
Talc (C. 182).

B. MISCELLANEOUS OBJECTS OF MARBLE AND STONE.

With the exception of the neolithic implements mentioned above there is nothing in common between other objects of stone discovered in the three sites excavated in 1922-29. The specimens from Site No. I are of greater interest on account of their diversity and the affinities of the ancient civilization of the Indus valley with those of southern India and Mesopotamia. These specimens vary from crude relic oasket or pots of marble to finely carved and polished objects of art.

C.198 is a fragment of the lid of a oasket or receptacle of peculiar shape. Originally this oasket or receptacle was shaped like a fully ballooned lotus and its cover or lid was also shaped exactly like the lower part. Only one petal of this cover was recovered in the north eastern corner of the courtyard around the platform of the stupa. In shape this fragment is concavo-convex with the pointed top of the lotus petal. The material is also interesting as it is Agra or Karri red sandstone, which is used in the majority of oases in Kuchan sculptures and Mughal buildings of the period of Akbar I. So far as I know red sandstone of this texture is not obtainable in any quarry in Sindh or Baluchistan. The next item of interest are four fragments of a large marble lid or umbrella with a round but tapering projection at the top (C.165). These fragments were discovered during the excavation of the passage to the niche or shrine attached to the eastern part of the stupa or platform. The handle at the top can be seen on one fragment, and the polished lower part on another. The texture of the marble shows that it came from the same quarry as that from which the marble fragments discovered in Site No. II also came.

C.182 is an unique specimen and I have not seen anything like it in any of the Museum in India. Dr. E.H. Pascoe, the Director of the Geological Survey of India to whom this specimen

1. See plate L.1.

2. See Pl. L.2

3. Ibid. L.4&21.

specimen was sent for examination pronounced the material to be Talc. In shape it was a round ring with a round hole running through it and appears to have been exactly similar ~~throughout and appears to have been exactly similar~~ in appearance to C.243 and other marble rings discovered in site No.II. The only difference is that in this specimen there are two round mortise holes for the insertion of tenons or rivets. These mortise holes are exactly similar to mortise holes discovered in the marble channels and rings (C.243) found in the main shrine of Site No.II, to be described below. The exterior of this specimen is covered with a design, roughly triangular in shape, composed of three small circles joined together. This specimen may have been a mace-head, used as a cult object because Talc is not sufficiently hard to be used for offensive purposes.

1. Pl.L.11-12.

C.179 is a thin fragment of marble of exceeding interest because it bears on it a neatly incised symbol of that peculiar pictographic system of writing which we find on the seals discovered at Mohenjo-Daro and Harappa.² This specimen is the first recorded discovery of a stone inscription of this script. A similar but larger piece was discovered at Harappa by Rai Bahadur Pandit Daya Ram Sahni in 1924-25.

2. Pl.L.13

C.545 is a perfect specimen of a long Carnelian bead shape like mouth-piece of a Turkish Chibouque,³ hundreds of specimens of which were discovered by Mr. K.N.Dikshit at Mohenjo-Daro in the working season of 1924-25. The specimens discovered at Mohenjo-Daro in 1922-23 fall into three classes:- (a) perfect or uncalcined in which there is no change in the

3. Pl.L.14

pigmentation, (b) partly white and partly red due to calcination and (c) entirely calcined and therefore white in colour.⁴

4. C.184; Pl L.34-35

Six such specimens were found in Site Mo.I. Exactly similar beads were discovered at Drak near Kch in Baluchistan and are preserved in the Indian Museum.⁵ C.177 is a round disc of thin marble which was apparently used as a cover or lid of a

5. Anderson-Catalogue and handbook of the Archaeological Collections in the Indian Museum, part.II p.457; Pl.L.16 & 32.

1. Pl. L. 16

2. Pl. L. 17

3. Pl. L. 18

4. Pl. L. 20.

5. Pl. L. 22

6. Illustrated
London News for
5th Oct. 1924, p.

7. Pl. L. 23.

8. Pl. L. 24.

9. Pl. L. 25

10. Pl. L. 30.

11. Pl. L. 28

12. Pl. L. 36.

small marble vessel. C.564 is a fragment of a crude marble pot with a rough exterior but comparatively smooth interior found in site No. II. C.240 is a beautifully polished chess-man of red agate. In shape it is like the pieces used in plain a game called *paahlot* in Hindusthan but *paas* in Bengal. The bottom is not smooth and certain dotted lines indicate that the artists intended to carve something else. This fact leads Sir John Marshall to suppose that this specimen may be an unfinished seal. C.543 is a round saucer-shaped stand only a fragment of which has been discovered. Plate L.27 shows the interior of the polished marble umbrella or lid showing the numerous cracks in it caused by fire. C.544 is a cylindrical object of deep black volcanic rock with tapering ends which resembles pestles of black chlorite made at Gaya for the use of India Hakims and Vaidyas. The difference lies in the fact that the pestles are tapering at one end only. Inscribed specimens of exactly similar shape prove that they were used as weights. C.284 is round stand of marble or the neck of a marble jar tapering towards the top with a round hollow in the centre. This specimen was recovered from the main shrine in Site No. II. C.192 is a much calcined fragment of a round part of a marble jug or vase. C.193 is also a much calcined marble ring of the same type as C.243 and 244 discovered in the main shrine in Site No. II. C.171 is a calcined fragment of an image of marble representing one of the feet. Plate L.21 & 26 illustrate the moulding of the rim of the marble lid or umbrella (C.166). Plate L.28 shows the interior of the crude walls cased, already described, the exterior of which is to be seen in L.18 (C.564). Plate L.29, 31 & 33 are illustrations of pigmy flints. C.239 is an unique specimen, being a thin polished small stick of faience of the same type as modern Collyrium sticks used in Northern India.

C.200 is a concavo-convex lid of coarse grained sandstone discovered in sanctuary No. 22 of the southern side.

1. Pl. LI. 1.
 2. Pl. LI. 2
 3. Pl. LI. 7-8
 4. Pl. LI. 3-4
 5. Pl. LI. 5 & 10.
 6. Pl. LI. 8
 7. Pl. LI. 9
 8. Pl. LI. 10

of the quadrangle in Site No. I. C. 164 is a large fragment¹ of cubical Jeweller's weight of banded Quartz, exactly similar to the specimen discovered by Major Meekler more than half a century ago in Baluchistan. Several specimens were found in 1922-23 but a very large and varied collection was discovered by Pandit Madho Svarup Vats in site No. IV in 1923-24. Smaller specimens from Mohenjo-Daro (C. 166, 167) are of the same shape. C. 168 is possibly a two armed bracket or capital of small pilaster or pillar.² There is a round hole running through the trunk or the main part of the capital and the two smaller mortise holes running through the two arms. The bottom of the bracket is concave in shape. The material is fine-grained yellow sandstone called Jungshahi stone in Sindh, which is very largely used in the buildings of the ancient port of Thaththa (vulgo. Tatta). C. 167 is a wheel of red sandstone, resembling Katmur sandstone in colour and texture. It is convex on one side and flat on the other.³ C. 189 is the upper part of a neolithic stone implement which was used later on as a goldsmith's stone.⁴ A. 342 is the neck or the upper part of a stone jar or vase, which was originally mistaken to be a terracotta specimen and placed in that category. It appears to have formed part of a jar or water vessel, which, though polished and smooth, appears to have been very primitive in nature. The hole through it though round and smooth is very narrow compared with the size of fragment. Originally this specimen may have been a moveable lid attached to the vessel by means of a bolt.⁵ A. 188 is a fragment of a relie casket of very early date which is of the same type as some of the stone vessels discovered at Anau by the Pumpelly expedition.⁶ The hollow in the interior is very rough and narrow towards the mouth. C. 178 is another crude marble object, round in shape, with a round hole through its centre. It may have

been a wheel or lid of a crude terra cotta basket like C.188. C.175 is a piece from the neck of another stone bottle or jar of the type of which A.342 formed a part. This piece, however, is from the middle of the original as there is a flat portion above and below it. C.242 is another curious object discovered in Site No. I. It is in a fragmentary state and extremely difficult to describe. In the list of finds given below it is described as the torso of a Bodhisattva, made of marble. One of my friends suggests that it is fragment from the front part of the face of a horse. There are three marks at one end which may be taken either to be a part of the snaffle of the horse or a portion of a man's loin cloth. In the interior of this fragment there are two round holes; one of which is a mortise and end in the fragment, while the other runs through its entire length and most probably intended for the reception of metal rod, the object of which is not apparent. C.412 is a fragment of an angular receptacle made of marble with a round cavity in its centre. C.185 is a fragment of a human figure in horn-blends schist of the same type as those used in Multan District and the Bagti country to the west of the Indus in making Buddhist images. C.183 and C.565 are four fragments of corrugated marble rings as those described by Cunningham in his note on Harappa. Stone rings made of flint or sandstone are discovered in large numbers in the large mound at Harappa and have been gathered near the Musalman shrine called the Mazar of Nawgaza Pir or "the tomb of the saint whose height was nine yards." The discovery of these corrugated stone rings corroborates the affinity between Mohenjo-Daro and Harappa disclosed by the discovery of the seals with pictograms. C.175 & C.170 are fragments of draperies or white marble images.

Altogether 321 marble objects were discovered in Site No. II in 1922-23 and among them 301 specimens were found behind the wall marked No. 27 in the plan of the main shrine

1. Pl. LI. 9.

2. Pl. LI. 13

3. Pl. LI. 14 and
b. 19, Pl. LIV. 13.

4. Pl. LI. 15.

5. A. Pl. LI. 17.

6. Pl. LI. 18

7. Cunningham
Arch. Survey
Reports, Vol. V.
pp. 106, Pl. XXXIII.
8.

8. Pl. LI. 20-21.

shrine in Site No. II. The majority of them were found in the tunnel excavated by the treasure-seekers from shrine No. 23 eastwards. With the exception of one, all of these marble specimens were discovered in a fragmentary condition. It appears from their present state that the treasure-seekers deliberately broke them to pieces in order to find out whether any gold or precious stones were inside or not. At the time of this ruthless destruction these marble fragments appear to have formed part of a structure consisting of many different pieces joined together with copper bolts or tenons. The majority of these marble pieces were polished round rings or oval pieces of marble.

They fall into two classes:-

A. Specimens with a round hole.

B. Specimens with a rectangular cavity.

Among the specimens discovered in 1922-23 the second class predominates in number. The largest specimen of the first class is C.243, half of a huge marble ring. Originally the surface of this ring was beautifully polished but it appears to have been subjected to severe heat for a long time and therefore the polished surface has cracked in many directions. The diameter of this ring is ¹ and there is a large round cavity in its centre, the diameter of which is ¹. Like C.242 there are two mortise holes at one end of its central cavity, showing that rivets or tenons were affixed to some other objects attached to this side. ² Similar mortise holes have been found in many other specimens discovered in wall No. 27 in 1922-23 as well as the lotus bud-shaped marble specimens discovered by Pandit Madho Svarup Vats in Site No. IV. The only specimen of class A, recovered entire from the main shrine in Site No. II, is a plain round ring of marble (C.244). ³ Some archaeologists have taken this specimen to be a mace but it is not so because a portion at the top and at the bottom of the hole in its centre is flat showing that it formed part of its structure consisting of a number of such specimen placed one over the other.

1.Pl.LII.2

2.Pl.LII.1

3.Pl.LI.3

A specimen exactly similar to this one is preserved in the shrine of Lal Shahbaz in the ancient city of Sehwan in the Larkana District of Sindh.

Similar specimens were also found by me in the ancient shrines of the Kanphata yogis at Dada-Khedt in the Indore State and at Seriska in the Ajmer State. A comparison with the nose head from Damba Koh in Baluchistan now preserved in the Indian Museum shows that the marble rings from Mohenjo-Daro were never intended for use as nose heads. C.245 is a fragment of the same size as C.244 and shows a neat section of it. C.348 and C.379 are oval pieces with rectangular holes in them. C.374 shows the interior of one of these rectangular holes C.332 is a flat slab of marble with marks of a flat rectangular channel in it. C.302 shows the inside of one of these oval specimens with a rectangular groove running through its entire length. The specimen proves that several of these oval specimens were joined end to end for the passage of some liquid or a rectangular metal frame. C.395 is a peculiar specimen with a round hole in its centre and a concave exterior.

The specimens belonging to class B are more interesting as almost all of them are unique. C.254 shows two rectangular grooves or channels joining at a right angle. The same thing can be seen in C.375 in which both of the grooves are equal in size. In this case and in the case of C.262 we see the grooves joining each other in the same level. But in C.306 we find a smaller groove joining a larger one at a higher level than the former. In these specimens we see grooves joining each other at right angle. But in C.373 and C.377 we find the grooves joining each other at an acute

1. Anderson- Catalogue and Handbook of the Archaeological collections in the Indian Museum, pt. II p. 458, Pl. 208.

2. Pl. LII. 6 3. Pl. LII. 4 4. Pl. LII. 8 5. Pl. LII. 7
6. Pl. LII. 5 7. Pl. LIII. 1 8. Pl. LIII. 2-3 9. Pl. LIII. 4
10. Pl. LIII. 8 11. Pl. LIII. 5 12. Pl. LIII. 12. 13. Pl. LIII. 10.
14. Pl. LIII. 9

angle. In the majority of the specimens of both classes
 the sides are curvilinear. But C.353 & 267 are excep-
 tions and in these two specimens the exterior is flat
 and joins the adjoining sides at a rightangle. C.298
 shows the end of a large square groove in the oval side
 of a marble piece. C.267 shows two parallel circular
 grooves in a specimen with a flat side. C.261 shows the
 junction of a small narrow groove with a larger one at a
 different level inside a small oval specimen. C.425
 shows a specimen of the first class in which both the exte-
 rior and interior are perfectly circular. The edges of
 the large square grooves in small oval areas of marble
 can be seen to greater advantage in C.386, C.295 and C.407.
 C.358 and 262 are thin flat slabs of marble showing two
 different groups. In C.262 as in C.375 two grooves join
 each other at right-angles. In many cases these flat slabs
 of marble, bearing grooves square in section, were held in
 position by round bolts or tenons of metal and grooves or
 mortise holes for such tenons or bolts can be seen in
 C.306 and C.324. C.283 is a fragment of a round spout of
 some marble vessel and C.479 a small round ring, which
 was most probably used as a stand. C.201 is a polished
 lid of marble concavo-convex in shape discovered in the
 northern part of the quadrangle in Site No. I. C.181 is the
 fragment of a lid of a box made of rock crystal or gypsum.
 C.172 is a portion of a oblong tablet with rounded ends most
 probably intended for writing. Among stone objects must
 be mentioned a number of beads for the most part from site
 No. I. which were collected and photographed together.

The curious marble specimens described above, with
 square and round holes, as well as small round mortise
 holes for the reception of tenons, evidently formed part

1. Pl. LIII. 11. 2. Pl. LIV. 6 3. Pl. LIII. 6 4. Pl. LIV. 1
 5. Pl. LIV. 2. 6. Pl. LIV. 3. 7. Pl. LIV. 8-9. 8. Pl. LIV. 10.
 9. Pl. LIII. 7 10. Pl. LIII. 5. 11. Pl. LIII. 12. 12. Pl. LIV. 7
 13. Pl. LIV. 13 14. Pl. LIV. 15. 15. Pl. LIV. 14. 16. Pl. LIV. 16
 17. Pl. LV. 7 18. Pl. LV. 8.

of a single structure in the interior of the main shrine in site No. II. That this structure contained many small drains or conduits for the passage of liquids is obvious. The use of a number of small and large marble rings with flat tops shows that the structure contained a number of hollow pillars composed of these rings through which the liquid was carried from the top to the bottom. At the top there were numerous large and small funnels or receptacles, used for the reception of oblations to different deities or gods, which mingled together in different groups before passing down through the main arteries, in the interior of the round columns. These indicate that simultaneous oblations were offered to different deities at one and the same time. It appears to me that the structure of which these hundreds of fragments of marbles once formed part was to some extent similar to oblation table discovered ¹ Psychro. The discovery of double spouted oblation vessels in the ² same area at Mohenjo-Daro proves like Egyptian and Cretan ³ worship of the third millennium B.C. ancient Indian worship also consisted of simultaneous oblations, an idea absolutely foreign to the Vedic ritual. The discovery of a double-spouted vessel among the pottery fragments from the pre-historic cemetery at Perambair and now preserved in the Madras Central Museum tends to prove beyond doubt that this cult of simultaneous oblations was inseparably connected with the ancient and pre-Vedic Dravidian worship and an undeniable connection is thus established between the pre-Aryan cult and ritual of western and southern India with certain ancient Cretan and Egyptian cults of Crete and Egypt.

1. Evans- The Palace of Minos at Knossos, Vol. I. London 1921, p. 6-7, fig. 465.

XVII. OBJECTS OF FAIENCE AND BONE.

A. OBJECTS OF FAIENCE.

The discovery of faience is one of the most important items of the first excavations at Mohenj-Daro in 1922-23. Faience objects were discovered previously by Major Mackler at Baluchistan and by Rai Bahadur Pandit Daya Ram Sahni at Harappa, but up to this time they were simply regarded as objects made of glass. Sir John Evans's definition of Faience proves conclusively that the objects discovered at Harappa and in the dams of Baluchistan are really faience. The objects discovered at Mohenjo-Daro belong to different varieties. Hundreds of fragments or bangles both of white and blue faience were discovered in all three sites, No. I and II but very common in the deeper strata as well as in Site No. III. Some of these bangles had an inward angle ² like the beautiful pair of bangles with serrated edge discovered at Harappa in 1920-21. In the majority of cases they bear incised ornamentations like the Mughal Khajura of modern Indian architecture. ³ In all cases the interior of these bangles is preferably plain. ⁴ A.470 is a fragment of a large round hollow armet or anklet of blue faience of a type ⁵ hitherto unknown. It appears that in ancient Sindh large

1. "The very careful examination and analyses of various specimens of these glazed ware by Professor A.H. Church and Mr. Noel Heaton show that they represent a true faience technique. The material is almost pure sand and clay and was moulded into shape. The true character of the manufacture appears from the fact that at times not only surface but the whole composition of the objects consisted of vitreous paste". The Palace of Minoe at Knossos, Vol. I, pp. 489-90. 2. Pl. LV. 11. 3. Pl. LV. 1 and 11 4. Pl. LV. 14. 5. Pl. LV. 4.

and small vessels were also made of faience as in Crete and Greece. A.537 is a fragment of the lower part of jar and vessel made of greenish faience. C.219 is a writing tablet of finely glazed white faience which has been mistaken by certain Geologists in India to be an object of 'fine textured' cream coloured lime stone. Some of these miniature faience vessels are exquisitely beautiful in shape. Such is the little vase with pointed bottom discovered in Site No. II. In this case the object is slightly yellowish in colour (A.501). Among the objects of faience discovered in 1922-23 is a curious hollow object hyperbolic in shape which resembles stone object No. C.240. A collyrium stick of white faience was discovered in site No. II (C.239). It is a thin rod with a tapering end. A large collection of beads made of faience of all shapes and sizes were collected in all three sites. Some of them are either thin or thick discs of white faience while the majority are large or small perfect cylinders. Many of the cylindrical beads are tapering at the ends while many are perfectly round or parabolical. These beads are of three colours white, blue and greenish. The difference between the stone beads and those of faience could be distinguished easily by scratching the latter with the nail. Stone beads present very little resistance but cannot be scratched, while faience beads present a gritty feel to the nail and can be easily scratched.

B. OBJECTS OF BONE AND SHELL.

It is evident from the finds that the ancient city of Mohenjo-Daro was a great centre of shell industry like many of the ancient cities of Mesopotamia. The discoveries at Lagash prove that the shell objects discovered at Mohenjo-Daro in 1922-23 are exactly similar and used for the same purpose. Mr. L.W. King said of the shell objects from Lagash:-

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1. Pl. LV. 3. 2. Pl. LV. 2; 3. Sir John Evans says of Cretan faience "The prevailing ground colour of this fabric as produced in the flourishing days of its manufacture at Knossos is pale green or bluish white, at times giving ~~place~~ place to a pure white, or to a yellowish lilac tinge." The palace of Minos at Knossos, p. 490.
4. Pl. LV. 5. 5. Pl. LV. 10 6. Pl. L. 18. 7. Pl. LV. 13. 8. See Palace of Minos at Knossos, p. 490, fig. 351. a 9. Ibid. fig. 351. b.
10. Pl. LV. 6.

"From the earliest period at Lagash fragments of shell were employed in place of ivory, and the effect produced by it is nearly the same. Certain species of great antivalves or conch-shells, which are found in the Indian Ocean, have a thick core or centre, and these furnished the material for a large number of the earliest cylinder-seals. Small plaques or lozenges could also be obtained from the core by sectional cutting, while the curved part of the shell was some-times employed for objects to which its convex form could be adapted. The numerous flat lozenges that have been found are shaped for inlaying furniture, caskets, and the like, and curved pieces were probably fitted to others of a like shape in order to form small cups and vases."

1. L. W. King - History of Sumer and Akkad, Chats and Windus, London, 1816, p. 78.

Many of the heads of the thin button shaped variety appear to be made of common shell or mother of pearl but at all steps we found numerous fragments of the sea shell commonly known as the Indian chank or the sacred sankha. That many of the objects were manufactured on the spot became evident from the rejected cuttings of the conch shell which were discovered on the spot; such as C.209 and C.206. That they were used for making vessels of oblations is apparent from many specimens. Such is the cup with a round hole at the bottom (C.574), but the majority of them were used to make a peculiar oblation vessel with an elongated spout. In order to manufacture vessels of this shape the end of the spiral of the Azygebranchia shell was cut into the shape of a long spout. Numerous fragments of such vessels were discovered over the entire area, the first of which was discovered by Mr. Doulat Ram Bell Ram Rajput to the north of Site No. IV. Altogether eight specimens were discovered in 1922-23 but none of them were complete (C.223, C.232, C.227, C.301, C.229, C.231 and C.579). Out of these eight C.227 and C.231 have retained portions of the round bowls attached to the spout. A complete specimen has been discovered by

2. LVI, 10

3. Pl. LVI. II.

4. Pl. LVI. 9

5. Pl. LVI. 1-8.

6. Pl. LVI. 3.

P. K.N.Dikehit in 1924-25. The remaining objects of shell fall into two broad classes:-

- (1) Objects of human use and
- (2) Objects for ornamentation.

In the first class are to be placed a number of lids of relic caskets. C.221 is a round lid with a hole in the centre through which is passed a copper handle. C.223 is a solid lid with a concave bottom. C.222 is another round lid with a neat round hole in its centre to cover the cavity of the crude relic casket discovered in room No.22 in Site No.I, C.220 is another lid with a hole in its centre in which a ring of copper has been passed. This was discovered in room No.39 in Site No.I, C.234 and C.225 are bases of small pyxes. C.233 is a fine lotus petal made of thick shell ivory or bone with a thin cut in its centre. C.235 and C.208 are fragments of ivory or shell, most probably used for making vases or pazes, with curved sides. C.237 is another oblong object most probably used for some purpose. Along with objects of ivory and shell, horn was also used for inlay. C. is a specimen of one of these horn objects, numerous fragments of smaller objects of inlay were discovered in Site No.III. Some of them are shaped as stepped pyramids or crescents of little lotus buds, many of which were lost in transit in 1924.

1. Pl.LVI.12.

2. Pl.LVI.13.

3. Pl.LVI.15.

4. Pl.LVI.16.

5. Pl.LVI.19

6. Pl.LVI.20

7. Pl.LVI.14.

8. Pl.LV.17

9. Pl.LV.22.

10. Pl.LV.21

XVIII. OBJECTS OF METAL.

A. GENERAL ANTIQUITIES.

The total number of metal objects discovered in 1922-23 which are not coins were comparatively small. In the entire area surveyed and in the three sites excavated not a single object of iron was discovered. The majority of coins were discovered in Site No. I and a few only in Site No. II. Among these must be mentioned three thick plates of copper with a round ring in them, through which passed a thick long bolt of copper. After discovery many of the fragments of two of these plates flaked away and after cleaning only one plate and the bolt remain (E.70)¹. Numerous fragments of a large copper vessel or cauldron were discovered along with the marbles in the main shrine of Site No. II. The fragments are too small to admit of the restoration of the entire specimen. Some fragments from the shoulder of this specimen show that this cauldron had a wide neck. Several minute fragments of a thin well-made vessel of copper were also discovered in Site No. I. Another bolt and two fragments of a thick plate were also recovered from the tunnel under the main shrine in Site No. II. These two fragments show the existence of a round hole intended for the passing of a bolt of the same size as that discovered above. A bolt of the same size as that attached to E.70 but perfectly straight was also discovered with them.² Among larger specimens of copper must be mentioned the fragment of a small copper bowl discovered with the post cremation tumbler burial discovered in Site No. III. This specimen is ³ inches in height. (E.76)

The hoard of square copper coins discovered in room No. 34 contained among the fragments of a perforated vessel of copper which was no doubt used for the same purpose for which perforated vessels of earthenware were used. These fragments (E.71) were re-⁴covered by Muhammad Sanullah, the Archaeological Officer, while cleaning the No. 34 of Site

1. Pl. LVII. 13.

2. Pl. LVII. 22

1. LVII. 14.

.LVII. 15.

LVII. 1-2.

A number of small antiquities discovered in site No. III during the last days of March 1923 are of very great interest. They prove beyond doubt that the use of the shrine in Site No. III had been discontinued long before the building of the stupa in Site No. I. These antiquities are of pure copper. One of them is a small tower bolt of the same type as that used in modern times. Its length is ¹ and it is coated with some sort of paint or varnish. (E.77). Two broken copper nails with round tops show that the use of iron was still unknown when the shrine in Site No. III took its final shape. (E.81-82). A large copper bolt of the same size as E.70 and E.75, but broken at the top was found on the top of the marble pavement in this area. Of much greater interest are two pieces of a large and small copper tube discovered at the same place. The larger specimen is full of some bluish material (E.78).³ But the smaller is hollow or empty. (E.80).⁴ Along with these tubes two minute conical objects were discovered at the same place and at the same level. They are too small and too sharp to be used as nails or rivets and it is quite possible that they were used as darts and one of the copper tubes was the blow-pipe from which they were thrown. (E.83-84)⁵

Among ornaments must be mentioned the copper ring discovered in the child's tomb or cist. in the eastern wall of room No. 27. The specimen was broken in transit and was restored before being photographed. (E.72).⁶ From the main shrine in Site No. II three bent bars of copper, which may have been bangles, were found. All three specimens recovered belong to different specimens and cannot be joined together (E.59-61).⁷

Only two specimens of silver were recovered from the three sites excavated in 1922-23. A fine vessel of silver was unearthed in the deeper level of Site No. III close to the very early pavement in the north western corner of the shrine. These specimens were broken into minute fragments in transit (E.90). One specimen of silver is a little jingling

1. Pl. LVII. 7.

2. Pl. LVII. 3-4.

3. Pl. LVII. 8

4. Pl. LVII. 10.

5. Pl. LVII. 5-6.

6. Pl. LVII, 11-12

7. Pl. LVII, 23-25.

1. Pl. LVII. 16.

bead. (E. 85)¹. Of far greater interest is another jingling bead the upper part of which was made of copper and the lower of faience. The upper part was lost in transit but

2. Pl. LVII. 18.

the lower part fortunately for us still remains. (E. 87)². This specimen was discovered in Site No. III along with two others

3. Pl. LVII. 19

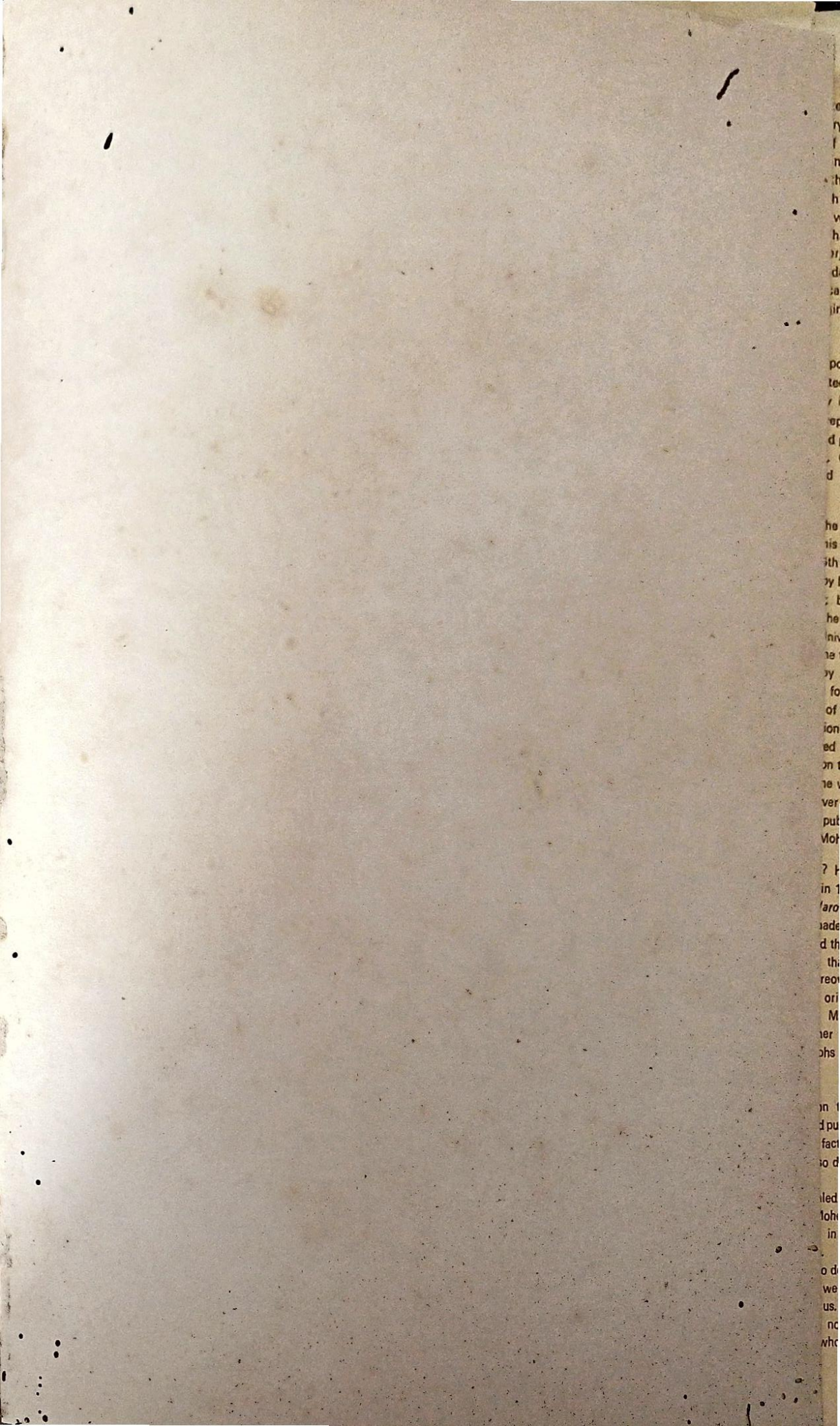
described below. The first of these is another jingling bead the upper part of which is made of copper but the lower of blue glass. This specimen is very well preserved and was recovered by Mr. Dharmajaya Sarma in March 1933 (E. 88)³. The

4. Pl. LVII. 20.

second specimen is a very minute ring of copper. The diameter of which is less than one fourth of an inch. (E. 89)⁴. The last

5. Pl. LVII. 26.

specimen is a fragment of an ornament the nature of which cannot be determined but which is interesting on account of a small circular disc of glass inlaid in it. (E. 90)⁵.



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When Sir John Marshall wrote on the Monuments of India in Cambridge History of India (1922) considering the cyclopean walls of Rajagriha to be the ancient most monumental remains of India, expressed his ignorance about the great monuments of Mohenjodaro underneath the *stupa* site. However, in 1921 itself Harappa was established as a chalcolithic site by Rai Bahadur Daya Ram Sahni. In 1922 Prof. R. D. Banerji found similar chalcolithic remains at Mohenjodaro beneath a *Buddhist stupa*. He conducted excavations at three sites and submitted a report, bringing thus, entirely a new civilisation to light.

But what happened to his report? It was forgotten for long, though submitted to the then Director General of Archaeology in about 1926. R. D. Banerji submitted it as first report on Mohenjodaro for immediate attention and publications by the Department of Archaeology, Government of India along with illustrations and photographs in profusion.

Sir John Marshall concealed the report for four years and when he prepared his own report on Mohenjodaro he returned it on 16th January, 1930. He did not return the original copy by R. D. Banerji which he retained with himself; but a type-copy was sent to R. D. Banerji, when he left the department and joined Banaras Hindu University as Manindra Chandra Nandi Professor. The typed copy was returned not by Marshall but by H. Hargreaves. As the letter shows, the basis for returning the type-script was disagreement of Marshall and R. D. Banerji on the interpretation of antiquities. He abused the report as diffused and irrelevant. Even then he showed his intention that if he takes some material from this report, he would acknowledge (which of course he never did). He also insisted that Prof. Banerji should publish this report prior to his own publication on Mohenjodaro.

But where was the time left? He returned the duplicate typescript in 1930 and in 1931, he brought his own volumes *Mohenjodaro and the Indus civilization*. Considering the inadequate printing facilities during those days and the fact that the returned report was incomplete, that span of time of one year was too short. Moreover, the photographs submitted along with the original report by R. D. Banerji were retained by Marshall himself. Despite several requests, neither the full and original report, nor the photographs were returned to Banerji.

So mere courtesy suggestion that in order to avoid misunderstanding he should publish his report prior to Marshall, as a matter of fact was not only ridiculous and impractical, but also disgusting.

Now, when it is not a concealed fact that R. D. Banerji was first to identify Mohenjodaro, as a chalcolithic city, scholars were in hunt for the original report of Mohenjodaro. We somehow procured the report and in order to demonstrate its authenticity in more faithful way, we are publishing the report as it was available to us. Scholars are invited to give their judgement not only on the factual matter, but also on the whole approach of Marshall towards Banerji.



MOHENJODARO A FORGOTTEN REPORT

by

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