

MAHAN-JO-DARO

One of the most ancient sites of the
East which has aroused world-wide
interest.

Sh. Rashid & Sh. Ikram
COLLECTION

BY

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PREFACE.

Sind has the honour to give the name to the Hindu community and to the whole *Sub-Continent*, Hindustan, of which it formed an important part even in RgVedic times. Incidental references about the political and social conditions in Sind, found scattered in the ancient Indian literature, and the works of Greek and Chinese writers and travellers, make us believe that Sind has had her past—a splendid and glorious past of which one may well be proud—; but there being no history of ancient Sind in the form of a connected narrative our knowledge in this respect was, therefore, very imperfect. Only recently Sindh's wonderful history has emerged, as it were by magic, out of darkness into light. The chance stroke of the archæologist's spade at Mahan-jo-Daro has revealed to us the truthful account of its hoary past; and today "a marvellous culture, surpassing in many respects the splendour of Egypt and Mesopotamia", has been unveiled, and has aroused world-wide interest. Here for the first time the archæological excavations have unearthed and laid bare before the world the most ancient civilization, culture, wealth, learning and religion of ancient India; not a few centuries old, but 7,000 or at least 5,000 years' old,

even on the computation of hostile critics. There is no other country in the world which possesses such convincing and incontrovertible proof of its ancient glory and general greatness. Hundreds of people come from thousands of miles to visit the place and are lost in amazement and wonder. These discoveries mark an epoch in the history of archæological research, and necessitate a complete re-adjustment of previous views on the so called "Aryan" civilization in India. Long cherished beliefs are, indeed, being shattered, and old theories revolutionized; and we begin to realize that archæological exploration in India is still more or less in its infancy. This class of work has but begun in the Indus Valley region. There are still many promising sites in Sind and the Panjab awaiting the pick and the shovel. There are, no doubt, further surprises in store for us when at length enough money is available for the archæologists to explore these sites. In the meantime we must possess our souls in patience.

The discoveries so far made at Mahan-jo-Daro in Sind and Harappa in the Panjab add to our pride in our country. Pride of country is an essential feature of patriotism. The two go together, and stimulate and stir those who are devoting lives

of sacrifice for the good and the uplift of their country. Every thinking Indian, with any regard for his ancient and glorious past, I hope, will only be too glad to have a detailed account of the archæological finds of Mahan-jo-Daro which have revolutionized our ideas regarding the antiquity of the culture of India and its origins and affiliations. A very detailed official account of Archæological excavations of Mahan-jo-Daro carried out by the Government of India between the years 1922 and 1927 has already appeared in a lavishly illustrated book edited by Sir John Marshall, Late Director General of Archæology in India, entitled *Mohen-jo-Daro and the Indus civilization*. The cost of the book (12 guineas) being, however, prohibitive, I have endeavoured to supply the want of a cheap guide to the results of archæological explorations, giving in brief form an upto-date account of all the important antiquities unearthed at Mahan-jo-Daro, a few of which have been discovered too recently for record in Sir John Marshalls' great book. The whole account is based not merely on Sir John Marshalls' book and his articles in different magazines and news papers, but also on the Annual Reports of the Archæological Survey of India, the Memoirs of the Archæological Survey of India by Rao

Bahadur Rama Parsad Chanda, the articles of Mr. R. D. Banerji and Dr. Sunitikumar Chatterji in different issues of the Modern Review, Professor S. V. Venkateswara's article in the Sind Herald, Karachi, the learned article of Mr. H. N. Brailsford in the Manchester Guardian and all other literature about Mahan-jo-Daro that has been published upto this time and come to my notice. The object of writing this handy volume is to provide a suitable compendium for those who have not read the whole literature about Mahan-jo-Daro, and I hope it will be welcomed by all Indians in general and Sindhis in particular.

BHERUMAL MAHIRCHAND.

Karachi, 15th December 1933.

I

I

The Epoch-Marking Discovery at Mahan-jo-Daro.

Site of the Monumental Discovery.—Mahan-jo-Daro, interpreted by the Archæological staff as the “Mound of the Dead,”* is the present name of a ruined city, or rather series of cities (since there are several of them superimposed one upon the other), about twenty five miles north of Larkana, and only seven miles distant from Dokri, a Station on the Ruk-Kotri Section of the North Western Railway, in the Labdarya Taluka of the Larkana District.

The ruins of this city or cities stand on what is known locally as “The Island”—a long, narrow belt of land between the Western Nara and the Indus which used to flow near these ruins. It seems that originally there were five small islands in this old and forsaken bed of the Indus which were joined together by a process of silting, and the high island

*The word *maho* مہو (Formative singular *mahay* مہی, plural *mahan* مہن or مہن) means “killing”, “slaying”, or “slaughter”, being derived from the Sanskrit root *mush*, (Prakrit *’muh*) “to kill”, or “destroy”. In Sindhi, *Daro* signifies ‘a mound’, and with *jo*, the genitive suffix, the word *Mahan-jo-Daro* means, the “Mound of the Killed.”

thus formed looks like a bunch of grapes. On this island stood the principal shrine of ancient Sindhis and its ruins are marked by the highest mound in the whole area rising to a height of some 70 feet, the others averaging from 20 to 30 feet above the plain.

Causes of destruction of the City.—The Mahan-jo-Daro site, protected under the Ancient Monuments Preservation Act of 1904, is about 240 acres in area and covers numerous mounds with rolling masses of ruins. This site of sandy tree-less desert, which could very well serve as a landing ground for aeroplanes, must have been far more extensive, and the narrowing of the area may be due entirely to erosion caused by hill torrents and the floods of the river and the canal. Mahan-jo-Daro is geographically so situated that it could not have been free from the havoc of floods, and it is probable that it was submerged by the hill torrents, or a change in the course of the river caused by an earth-quake.*

*The whole of Sind is liable to seismic disturbance, and there have been disastrous earth-quakes in our province. The oldest known occurred in 962 A.D., when the Indus changed its course, and several cities including Alore (Rohri)—the old capital town—were destroyed. No severe shock, however, appears to have been recorded since the earthquake of 1819 which is said to have caused extensive changes in the Delta and in the Rann of Cutch.

There is also clear evidence of the destruction of the town by fire in certain stages. The local people, however, have a tradition that this once flourishing city owes its destruction in a single night to divine wrath which its ruler's sins drew upon it.

Local Tradition.—In the days when Raja Dalurai, a descendant of the Hindu king of the same name, ruled over Sind, he exceeded all other kings in wickedness. It was his evil practice to enforce *jus primæ noctis* on every maiden in his dominions. The time came when his own sister's daughter was to be married, and the Raja's sister implored him not to violate the sacred law of man and God by outraging his own niece. But the wicked Raja would not listen to his sister's entreaties and demanded that his niece should be sent to his palace on her wedding night. Before, however, he could carry out his evil purpose, a cyclone, accompanied by a terrible earthquake and a stroke of lightning, destroyed his capital Brahmanabad and many of his other populous cities in a single night and thousands of people were killed. It was at the time of this *maho* (killing) that this once flourishing city became a mass of ruins. The fact that the word *maho* is used in the formative plural (Mahan) in respect of this place indicates that such a disaster occurred here at least twice.

Previous Explorations in Sind.—The existence of these ruins was known to the Indian Archæological Department and the district local officials in Sind ; but it was not until 1922 when Mr. R. D. Banerji started to dig there, that the prehistoric character of its remains was revealed. Previous explorers of ancient ruins in the province excavated for the most part at places like Alor and Brahmanabad, the capital towns of Mediæval Sind, or at Buddhist ruins like those at Tando Mahomed Khan in Lower Sind, or at Kahu-jo-Daro near Mirpurkhas in the Thar and Parkar District. These old sites were sufficiently important, and their excavations yielded finds which were then important, as nothing was known of the ancient history of the province before the Muhammadan conquest.

Banerji's Explorations.—The importance of the site was recognised first of all in 1922 by Mr. Rakhal Das Banerji, M.A., Superintendent, Archæological Survey, Western Circle, Poona, to whom the credit of locating and excavating this site belongs. During the five winters of 1918-22 he was surveying along the old dried up channels of the Beas and the Indus, in South Panjab, Bikaner, Bahawalpur and Sind. His great object was to discover, if possible, the twelve stone altars, with Greek and Indian inscriptions, which were erected by Alexander the Great when he commenced his retreat from the

Beas, in September 326 B. C.* He followed the dried up course of the lost Hakro river in Bahawalpur State upto Reti Station in the Sukkur District.

Old Beds of the Indus and Buddhist Cities.—

During his excursions Mr. Banerji found and surveyed no less than eighteen old beds of the river Indus* between the Khirthar Range in the west, which is the boundary between British India and Baluchistan, and the present course of the Indus. He also found the ruins of no fewer than twenty-seven large and fifty-three small towns in Upper Sind Frontier, Sukkur and Larkana districts. The ruin mounds of these sites are known among

*Alexandar came by the Khyber Pass and crossed the Indus at Ohind, 16 miles above Attock, in February 326 B. C. He continued his victorious march eastwards, till he finally came to the Hyphasis (Beas.) The Greek soldiers refused to cross the Hyphasis in spite of exhortations by the king. Accordingly Alexandar, after he had erected twelve huge altars to mark the furthest point of his advance, marched backwards. But no trace of these altars can be found. It is believed that they were set up along the oldest bed of the Beas, near hills in one or other three districts—Gurdaspur, Hoshiarpur or Kangra.

*The Indus in characterised as a changing river, with its changing water courses, changing deltaic distributaries and also its ever "westerning" tendencies. Time after time it has transferred herself from one bed to another, and the whole surface of the country is at present furrowed and cross-furrowed with the beds of ancient channels, and these are being fast levelled up by the shifting sands and dust-storms.

archæologists as "Buddhist Cities".† From the coins that can be picked up from the surface of these ruins, Mr. Banerji came to the conclusion that all these cities and towns were deserted at the end of the second century A. D. during the reign of the great Kushan emperor Vasudeva I (158—177 A. D.).

An Ancient site of the East.—During the course of his quest, Mr. Banerji came upon Mahan-jo-Daro in 1922 which was then no more than a group of mounds, covered with thorny shrubs, upon the highest of which was perched the ruins of a Buddhist stupa of later date. It has lain thus for several centuries unthought of, neglected and undisturbed. And now this devastated region is known to be one of the most ancient sites of the East! This startling fact was announced by Sir John Marshall, in the *Illustrated London News of 20th September 1924*:—"At a single bound we find that five thousand years ago the people of Sind and the Panjab were living in well-built cities, and were in possession of a relatively mature civilization with a high standard of art and craftsmanship, and a developed system of writing." Since then not only we but the whole world have become interested in the place and the invaluable treasure it has already unbosomed.

†Dr. S. K. Chatterji, Khaira Professor of Indian Linguistics, Calcutta University: *Modern Review* for December 1924, page 671.

Story of the first Excavations

Lucrative Site.—In 1922 when Mr. R. D. Banerji visited Mahan-jo-Daro the only structures then visible were the Buddhist Stupa and Monastery at the north-west corner of the site. The importance of the site became evident to him because in the majority of cases he discovered Neolithic or New Stone knives made of flint*, on the surface, along with pottery of a new type, as he turned over the rubbish at his feet. He selected three sites, and in the working season of three to four months in the winter of each year, he examined and explored them during 1922 and 1923. Indeed, when Mr. Banerji set about his excavations here, he had no idea of finding anything prehistoric; but these sands, which have for over five thousand years been hiding in their bosom the secret of a forgotten people, soon began to reveal to him the civilization they once sustained, and from the very beginning the site proved to be a lucrative one.

The Buddhist Stupa and Monastery.—Mr. Banerji first attacked the loftiest of all the mounds at Mahan-jo-Daro which bore on its top the drum of a Buddhist stupa built of sun-dried bricks.

*The people of Sind had no knives, but used sharp flint^t stones to cut with. During the Neolithic or New Stone Age, a flake was struck from a mass of flint when a knife was needed, and the use of stone knives at Mahan-jo-Daro is, no doubt, a survivor of that old custom.

The highest point of the existing portion of the drum is about 70 ft. higher than the present level of the old river bed. Excavations revealed the fact that this Buddhist shrine was built on the top of a high artificial tower of burnt bricks, the side walls of which are still more than 46 ft. higher than the river bed. The tower is rectangular in shape and on the top of it was built a quadrangle open to the sky, consisting of a series of monastic buildings on all four sides enclosing a court-yard with a stupa in its centre. The entrance to this quadrangle lay through a pillared hall in the north-east corner whence a grand stair-case ran along the entire eastern facade of the tower, and reached the ground level at its south-eastern corner. The courtyard inside the quadrangle is paved with bricks and in its middle there is a platform of burnt-bricks, 71 ft. in length and 63 ft. 3 inches in breadth. On this platform the stupa was built, but not exactly in the centre. There is a small porch on the eastern face of this platform, which leads to a small narrow passage, running east to west. In the side walls of this passage there are two narrow stair-cases, one going to the north and the other to the south, for the use of the pilgrims who wanted to go up to the base of the stupa for circumambulation. Abutting on the eastern side of the drum of the stupa and at the west end of

the passage is a narrow chamber which once contained a seated image of Buddha, made of clay,* but with a core of burnt bricks. The sides of the platform of this stupa were stepped, and were covered with ashes, proving that the shrine was destroyed by fire. The stupa of sun-dried bricks was hollow and once contained a deposit of relics which has been ruthlessly destroyed by some Muhammadan residents of the neighbouring villages who used this city as a quarry for bricks, and excavated the interior of the stupa, a few decades ago, with a view to find buried treasure. The relic casket of white marble and its lid of polished conch-shell,* left by the treasure-seekers among

*It is said the image was covered with gold leaf originally.

†Upto this time a very large number of conch-shell objects have been found indicating an extensive use of sea-shell for purposes of inlay as well as for personal ornaments. Doubt had previously been felt as to whether the word *Samudra* (literally "a collection of water") in any of the passages in which it occurs in the Rgveda referred to the ocean. Even as recently as 1922 the view has been expressed (See Cambridge History of India, Vol. I, 79-80) that there seemed no strong reason to believe that it meant more than the stream of the Indus in its lower course. Now as conch-shell objects have been found at both the Harappa and Mahanjo-Daro sites, R. B. R. P. Chanda thinks that there is no longer any room for doubt on the point. See *Memoirs of the Archaeological Survey of India*, No. 31—The Indus Valley in the Vedic Period, p. 2.

the debris were discovered by Mr. Banerji. Under the platform of the existing stupa a thick layer of ashes was discovered proving that the existing shrine was built on the ruins of an earlier one.*

Oldest Frescoes and Kharoshthi Script.—The stupa was once decorated with fresco paintings in the manner of similar stupas discovered by the celebrated Central Asian explorer, Sir Aurel Stein, at many places in Central Asia. Fragments of these fresco paintings show the use of indigenous Indian colour, which in spite of exposure to the sun and rain of nearly seventeen centuries preserved their colours remarkably well. These fragments show the use of deep blue as a back ground and deep indigo instead of real black. Floral decorations in white on a ground of dark chocolate, and Buddhist mythological fragments showing the use of green, blue, yellow, red, white and black have been recovered from the ruins.

The fragments of painted plaster also bear inscriptions in Brahmi (Dev Nagri) and Kharoshthi characters. Kharoshthi is a variety of the Aramaic script, written like modern Persian and Arabic—Sindhi from right to left. It consists of curved letters and hence is known as *Kharoshthi* i. e. ass's lip. This alphabet was introduced in North

*Archæological Survey of India, Annual Report for 1922-23.

Western India (Afghanistan, Sind and the Panjab) by the scribes employed by the emperors of the Achæe Middle Dynasty, (Darius and Xerxes), who had conquered the western side of Sind, and whose empire was destroyed by Alexander the Great at the battle of Arbela in 330 B. C. Therefore they are the oldest frescoes discovered in India.

The Kharoshthi script disappeared from India in the 3rd century A. D. but it remained in use for some time longer in the western region of Chinese Turkestan, which had formed a part of the Indian Empire of Kanishka in the first century A. D.*

Traces of Cities.—In his report to Government, Mr. Banerji says:—"Buildings of four different periods were found during the excavation of the rooms of the quadrangle. The topmost walls are associated with the Shiva and Bull type of thick copper coins of the Kushan Emperor Vasudeva I.* They belong to the same period as the present stupa, and the characters found on the fragments of frescoes

* Prof Rapson: Ancient India, p. 18.

* These coins bear the standing figure of the King on one side and that of Shiva on the other side. There is, however, a square coin which has an impression of a bull's hoof ("*Nandi Pada*") on both its faces, and is die-struck. Such coins have been found in large numbers in the Panjab and the United Provinces but this is the first discovery of such coins in Sind.

agree in date with these coins. The walls of the third period are associated with a new type of thin, round but unscribed coins. Below them were found walls of the second period, with which thousands of thick oblong copper coins were discovered. These coins resembled the indigenous issues of the ancient city of *Taxila* and do not bear any punch marks like ordinary *Karshapanas*. They bear only one device on either side, e. g. the fire-altar, a seated nimbate deity, a dwarf or human figures. The walls of the earliest period and a pavement were found below the level of the ashes over which the platform of the stupa was built. Four thick oblong coins† inscribed with pictograms were discovered at this level". Further deep were obtained finds going back to the Neolithic period.

Other Antiquities.—In the stupa area Mr. Banerji found flint scrapers, cores, bouchers, dice of polished marble and terra cotta, umbrellas of white marble, oblation vessels of conch-shells, bangles and ornaments of conch, beads of various stones, pipes of cornelian, and pottery of various shapes. Numerous fragments of images of stucco, turned into porcelain by the action of the intense heat, were

† These are oblong strips of copper of two different sizes, $1\frac{1}{2}$ and 2 inches in length. These coins or tokens are probably the oldest coins of the world.

discovered at the level of the walls of the third period. Among them was found a painted figure of a bearded head wearing a pointed cap, similar to the figure discovered in one of the monuments at Taxila.

Peculiar Burials.—Of engrossing interest were the peculiar burials discovered by Mr. Banerji. The entire area was covered with funeral urns of various sizes and shapes. The majority of them are painted at the bottom, and some of the larger jars are round. These contained smaller but painted funeral urns and miniature necro-politan pottery. Burial was probably the first form of funeral ceremony among ancient Hindus; but this was soon followed by cremation. The different systems of burial have been discussed by Sir John Marshall under the heads:—

[1] Complete burials.

[2] Fractional burials.

[3] Post cremation burials.

In 1924, however, it was announced by Dr. S. K. Chatterji, that in the various strata were found four systems of burial:—*

[1] Burials in the brick-chamber or Kennel—like tombs. In one such chamber the skeleton was complete, and the skin and the muscles were found in a dry condition. The body was placed in the grave in a crouching position and in this respect this

*These are included under Sir Marshall's heads.

burial chamber shows affinity with the pre-historic burials of Mesopotamia and the pre-dynastic tombs of Egypt.*

[2] Burial in terra-cotta coffins or chests, oblong in shape, with covers of the same material. These oblong coffins are of great antiquity and provide us with an unbroken chain of similar burial customs from the Arcot and Salem Districts of the Madras Presidency, through Sind and Baluchistan, to Mesopotamia. Similar chests have been discovered in the Chingleput, Arcot, Coimbatore, Salem and Malbar Districts of the Madras Presidency, at Mahan-jo-Daro and Brahmanabad in Sind, and at Gehareh in Babylon.

[3] What has been called "Jar burial". In many cases large round jars which are used in India at the present day for the storage of grain were used as a sort of family vault.* Small jars with pointed ends were placed in one of these round jars. Each of these small jars contained one unburnt bone.

*The same method of complete burial is also well illustrated at two sites in Baluchistan, namely at Nal in the Jhalwan District to the east, and at Shrahi-tump near Turbat to the S. W." Mohen Jo Daro, Vol. I, Page 81.

♣Some of these jars are large enough to accommodate Ali Baba and his Forty Thieves.

[4] "Urn burial" with ashes and burnt bones together with stone implements within urns. "The last is the latest method of disposal of the dead in this site—it was found in the upper-most stratum, when the people apparently had learnt to burn their dead, but kept up the old tradition of burying the burnt bones, placing within them the traditional stone implements long fallen in disuse through the general use of metal. The other kind of burial, without burning the body at all, is found in the other strata—dating from the sub-Neolithic stage to historical of post-Buddhic times."*

All the methods of disposal of the dead found in the relics, with one or two others are found described in the vedic texts. The *Ashavalayan Grih Sutrās* prescribe the burial of the charred bones in a cinerary urn. In the *Kausika-Sutrās* of the *Atharva Veda* and in the ritual books of the White *Yajur Veda* the urn is dispensed with, and the bone relics are placed directly on the earth at the bottom of the grave. In the *Pitrimedha Sutrās* of Gautama connected with the *Sama Veda*, the burial of the jar containing the bone relics at the root of a tree is prescribed (I. 5,34) as the final act in the actual disposal of the dead body. Gautama says (I.5,31), "As long as there remain traces of the

*Dr. S. K. Chatterji: The Modern Review, December 1924

bone-relics in the jar the deceased enjoys heaven." R. B. R. P. Chanda after quoting these and some other Vedic texts remarks:

"The different modes of disposal of the charred bone relics of the dead that obtained among the Vedic Aryans probably originally pertained to different strands of culture, and one is tempted to attribute the urn-burial to the influence of the burial customs of the Copper Age people of the lower Indus Valley."*

Offerings to the Dead.—Of these four systems of burials two are of very great interest on account of offerings to the dead. The Egyptians believe that the soul of a dead person passes to a land where it would need all the things that had been necessary in life. For this reason they often placed in their tombs not only food but clothing, boats, carriages, chairs, beds, weapons and a complete out-fit of house-hold utensils. The terra-cotta chests discovered at Mahan-Jo-Daro also contain beautiful little vases holding offering for the dead—wheat and barley, a thick paste which was most probably molasses, and the impressions of a fine linen on the alluvium with which they were filled. Around these vases were found weapons of the New Stone Age, consisting of scrapers. Similar

*Memoirs of the Arch: Survey of India, No. 31, pp. 13-14.

scrapers have been discovered in the pre-historic burials of Egypt and Crete. Among some tombs were found bouchers or axe—heads made of volcanic rock, and mace-heads made of marble. In some of the tombs personal ornaments of the deceased, some of which still encircled the bones, made of copper, and arrow—heads of the same metal, and darts of bronze, were also discovered. The tombs therefore belonged to a period of human history when the knowledge of metals was extensive. It cannot therefore be doubted that the stone scrapers and axe-heads were a survival of very ancient burial customs.

In the case of "Jar burial", the unburnt bone placed inside a small jar was surrounded by a number of toy-jars and vases, and then filled with fine sand. The toy-vessels resemble modern Indian pots for cooking and storage of food and water. Many of them are replicas of vessels used in ordinary life, such as platters, cups, tumblers, sieves and ovens. The contents of this miniature pottery were in most cases grains and cereals. Among them was placed a small scraper, which was a miniature replica of the larger scrapers, found in the second class of burials.

Pictographic Seals.—But the most important and valuable among the relics—the cream of smaller objects—are a number of seals of ivory, stone and paste, bearing the most realistic and elaborately

carved representation of various animals, and inscriptions in a pictographic script which bear no resemblance to any script known in India. So far, none has been able to decipher this inscription which generally appears on the right hand top corner.

Similar Seals at Harappa —It was only by chance that Mr. Banerji first found a pictographic seal of soap-stone bearing in the centre the figure of a one-horned quadruped (identified by Dr. D. B. Spooner as the "Unicorn") on the stair-case on the river side, at the bottom of the eastern retaining wall of the tower. The fragment of a similar seal was discovered at the same place, and a third specimen was discovered on a small shrine to the north-east of the first site. He recognized them at-once as belonging to the same class as the remarkable seals discovered in the year previous, by Rao Bahadur Dayaram Sahni M.A., Superintendent of Archæology, Northern Circle, from the ruins of Harappa (*Hara-Pada*, "the foot of Shiva") in Montgomery District in South Panjab by the side of an old bed of Ravi*, about half way between Multan and Lahore. The attention was first drawn to this site by Mr. Masson in 1826, and five years later by Mr. Burnes. Sir A. Cunningham

*"Iravati," "the refreshing," whence its present name 'Ravi'. Under the name "Parushni" it plays prominent part in the history of the Rgvedic Period.

examined the site in 1853, 1856 and 1872-73 and it was in his report for the latter year that the famous "Harappa seal"—the first of the Indus culture seals to be found—was described and illustrated. The script on the Harappa seals already discovered was at first considered local. Their discovery in 1922 at Mahan-jo-Daro, a place over 400 miles to the south-west of Harappa, proved at once that the culture to which the pictographic alphabet belongs extended all along the right bank of the Indus from Southern Panjab to Sind. "Enough had already been brought to light to demonstrate conclusively that its remains, including the inscribed seals, were referable to the Chalcolithic Age. Thus, Mr. Banerji's find came at a singularly opportune moment, when archæologists were specially eager to locate other sites of the same early age as Harappa. Mr. Banerji himself was quick to appreciate the value of his discovery, and lost no time in following it up. In the first place, he deepened his digging on the east side of the Buddhist monastery, as well as two or three other points in the same precincts, so as to get at whatever stratigraphical evidence might be obtainable, and he then proceeded to attack two other mounds in the near vicinity."*

*Sir John Marshall: Mohen-Jo-Daro and the I. C. Vol I, p. 11.

Excavations of the Second Shrine.—The excavations of the second shrine on the larger island, revealed the ruins of another stupa and its attached monastery. These two buildings were also built on the top of a high artificial tower, the retaining walls of which are still 44 feet in height. One room of this monastery contains a beautiful low altar made of small glazed bricks with very fine joints. A similar feature was observed in a shrine attached to the south side of the stupa. More than 300 large and small round relic caskets of white marble were discovered in a tunnel bored by the treasure-seekers under this stupa. Coins of Vasudeva I were also discovered on this site, proving that the site must have been abandoned after the second century A. D. No Muhammadan coins were found on any of these sites which yielded numerous fragments of painted pottery. Numerous miniature figures of animals were also discovered along with ink-pots, lids of vessels and urns, potter's knobs and crude dolls. Further deep were obtained finds going back to the Neolithic or New Stone Age, consisting of scrapers which were used in pre-historic times as knives and razors. Such scrapers have been found in hundreds all over the site. With the hot season rapidly approaching, and having no adequate funds at his disposal, Mr. Banerji's digging was necessarily

very restricted and "it is no wonder, therefore," says Sir John Marshall, "that his achievements have been put in the shade by the much bigger operations that have since been carried out. This does not, however, lessen the credit due to him."*

A sufficient number of pictograms or ideograms were discovered both at Harappa and Mahan Jo Daro upto March 1924, for the formation of a general synthesis on the subject. The importance of the finds of Mr. Banerji, especially of these seals, was announced in a very brief form in India in the press.

Sir John Marshall.—When Sir John Marshall, Director General of Archæology in India, sent for the antiquities unearthed at Harappa and Mahan Jo Daro he at-once realized the importance of the finds. As a member of the British School of Archæology in Greece, he was familiar with Cretan and Mycæan antiquities, and easily discovered that the strange pictographs bear no resemblance whatever to any ancient Indian alphabet; but on the other hand they do bear a certain general affinity to pictographs of the Mycæan age in the Mediterranean area, though it was not possible for him to point to any of the symbols as being actually identical. So impressed

* Mohen Jo Daro and the I. C., Vol I. p. 11.

was he by the novel character of the finds that he lost no time in publishing an account of them, illustrated with photographs of important finds and all the seals, in the *Illustrated London News* for September 20, 1924, so that there might be a chance of any expert helping to elucidate the pictographic script. His article atonce attracted attention in proper quarters in England. It was Professor A. H. Sayce, the eminent Assyriologist, who in the following week lent to the discovery a sudden and astounding halo by recognising atonce the close resemblance that existed between newly unearthed objects in the Indus Valley and those that had long been known to archæologists in Southern Mesopotamia. A week later Mr. C. J. Gadd of the British Museum and Mr. Sidney Smith, Inspector of Antiquities in Mesopotamia, compared the Indian finds with similar antiquities from Babylon, and in their exceedingly important article in the same Journal domonstrated, by placing photographs of the Indian things side by side with those of Sumerian* articles, how similar were the two—pottery, seals, figures of the bull design, ornaments and even brick-work of buildings

*One of the names for Mesopotamia is Shumer. Historians had for some time believed that in very ancient times a race of unknown origin had inhabited Mesopotamia. The name given to this race was Sumerian (from *Shumer*).

and general structure of some glazed bricks construction, and what is more important, they sought to establish, by placing both side by side, the identity of most of the Indian characters in the Harappa and Mahan-Jo-Daro seals with Sumerian characters dating from 300 to 2400 B. C. Simultaneously Dr. Ernest Mackay, Director of the American Expedition at Kish, in an unpublished letter to Sir John Marshall pointed out the similarity between the wares found at Mahan-Jo-Daro and at Kish, and also brought to his notice that a seal identified with those found at Harappa and Mahan Jo Daro had been discovered in the debris beneath a temple of Hammurabi's time (*Circa* 2100 B. C.)*

*In April 1932, Dr. H. Frankfort, Field Director in Iraq of the Oriental Institute of Chicago University, announced the discovery, during Mesopotamian excavations of 1931-32, of a third millennium seal of a type similar to that associated with the discoveries at Mahan-Jo-Daro. Another such seal has just come into the possession of the Egyptian and Assyrian Department of the British Museum as a gift from Mr. C. J. Gadd and Mr. R. K. Granville, Assistant Keeper in the Department. This seal, like that described by Dr. Frankfort, bears animal figures (including here a bull with long curved horns) and a number of undeciphered linguistic signs familiar from Mahan-Jo-Daro. Unlike Dr. Frankfort's seal (which is a cylinder seal), but like the majority of the similar seals from Ur, of which the Museum now possesses a dozen, it is circular in shape and at the back bears a rounded projection pierced, as if the seal were to be used as a button or hung by a string.

A very strong flood of light was thus suddenly focussed on India's pre-historic past by the discoveries of Mr. Banerji at Mahan-jo-Daro, when European scholars recognised the similarity between the new class of Indian antiquities and Babylonian antiquities of the third millennium B.C. These discoveries naturally created a great sensation as hitherto no monuments of the past had been known of an earlier date than the reign of the famous Emperor Asoka, who flourished and left indelible marks upon the history and the rocks of India between 273 B.C. and 232 B.C. Thus by one single stroke, the monumental history of India was abruptly pushed back from the 3rd century B. C. to at-least the beginning of the third millennium B.C.

Owing to its close connection with the Sumerian civilization of Mesopotamia, the prehistoric civilization revealed at Mahan-jo-Daro and Harappa was at first designated by the name "Indo-Sumerian," but this term was subsequently discarded and "Indus" adopted in its place, as "it became evident that the connection with Mesopotamia was due not to actual identity of culture, but to intimate commercial or other intercourse between the two countries." It is highly probable that the people of Sind and the Panjab were in close touch with the people of Mesopotamia and traded with them both by sea and the old land route running through the Bolan Pass.

Systematic Excavations.

Further Explorations—Here, indeed, was a find of prime importance. There was no doubt that further explorations would result in welcome light being thrown on this very obscure period of Indian history. Excavations have been carried on each season since, by a succession of different officers, as Mr. R. D. Banerji had completely broken down in health before his labours were finished. Sir John Marshall had been interesting himself in the excavations directly, and was for some time on the spot at the head of an adequate staff and technical assistants, employing as many as 1000 to 1200 workmen. Sir John's enthusiasm to resume the excavations was shared even by these diggers—or rather discoverers of history—though doubtless from a different motive. They had, however, acquired a very good idea of how to proceed with excavation, and were so keen that they even found the minutest of antiquities, such as a few grains of wheat and barley.

Construction of Road and Quarters.—Besides carrying out these extensive operations between 1925 and 1927, Sir John Marshall was also able, thanks largely to the sympathetic interest of the Government of India and of Sir Leslie Wilson—then Governor of Bombay—and the general support of

the Legislative Assembly,* to get a serviceable road made to Mahan-jo-Daro from the Dokri Station, and to erect adequate offices, work-rooms, comfortable quarters for the staff, and a small museum for the housing of antiquities. Brick-shelters were also built for Brahui diggers. Often over 1,000 were employed and they could not all be housed. Large numbers built themselves bee-hive huts of tamarisk and dry grass from the jungle. Some Sindhi diggers mostly came each day from their homes in the neighbouring villages. Or else they, too, lived in leafy booths, going home each week end from Saturday to Sunday evening. Accurate plans of the site were also prepared and undivided attention was concentrated on this noble task.

Fascinating Finds.—The site proved very rich in finds. Fascinating additions were soon made to the discoveries of the remains of an ancient civilization in Sind, and thus the labours of Sir John

*A proposal was presented to the Legislative Assembly at its budget meeting that an archaeological fund be created by the Government of India, setting apart fifty lakhs of rupees as a nucleus for that fund. The Secretary in presenting the proposal pointed out the importance of the excavations carried out in the Panjab and Sind so far, and asked for the sanction of this grant on the ground that the results of the excavations were of far-reaching importance and would ultimately turn out to be matter for pride for the whole of India. Although the Assembly declined to accord their approval to the proposal, it is creditable to them, however, that they agreed to sanction the annual allotment of two and a half lakhs of rupees a year for the purpose.

Marshall and his assistants were amply rewarded. Fine large statues, the disclosure of a complete system of houses and street drainage, and of well-built and well-planned houses, specimens of gold ornaments of the best workmanship, ring-stones of various sizes, copper and bronze objects, and a number of skeletons of ancient Sindhis, were all included in the excavator's "bag", and will greatly help in the re-construction of the history of the period to which they relate.

World-Wide Interest.—A great deal appeared in the press on the likely consequences of these momentous discoveries which aroused world-wide interest; and there was reason for it. A century ago most people in Europe believed that the creation took place in 6000 B. C. and that serious history began with Herodotus. Now they realized that centuries before the date at which their ancestors imagined that the world sprang into existence, a mighty empire flourished on the banks of the Indus, with architecture, art, laws and commerce, all elaborately organised.

It had long been suspected that in India history did not begin with the Aryans, but that a more ancient civilization closely in touch with the great kingdoms of Mesopotamia already existed in the Indus Valley. The existence of words of Sumerian origin in Vedic Sanskrit strengthened these surmises,

but nothing was definitely known till 1922 when Mr. R. D. Banerji, who was excavating a Buddhist Stupa at Mahan-jo-Daro lighted upon a vast elaborately built city with broad roads, an elaborate system of drainage and sanitation and other signs of a highly developed and luxurious civilization, and this naturally aroused world-wide interest.

Sir John Marshall's Great Book—Scholars became impatient for a comprehensive and upto date report on these discoveries which have revealed a hitherto unknown civilization of ancient India with most important bearings on the history of human culture in Asia. In response to enquiries which reached him both from Europe and America, Sir John Marshall contributed a series of articles to the press in 1928, and in 1931 he edited *Mohen-jo-Daro and the Indus Civilization* in three sumptuous and magnificently illustrated volumes. Sir John Marshall has not merely edited the work of his collaborators, but has himself written nine out of thirty-two chapters, and has summed up the results and the probabilities with admirable clearness. Though the report has taken about four years' time, the five years' excavations preceding it did exhibit much that required very careful study and analysis before the results could be indicated even in tentative inferences. The report is therefore quite worthy of the great labour that it has involved. The discoverer Mr. Banerji as well as some other Indian and European Scholars also have written a good deal about this hitherto unknown culture, and a brief summary of all those writings will form the subject of the next chapter.

II

THE PRE-HISTORIC CIVILIZATION OF THE INDUS VALLEY.

"A New Historical Vista."

Superimposed Cities.—The remains now (1933) laid bare at Mahan-jo-Daro cover an area of more than thirteen acres. Excavations have been carried down to a depth of more than thirty feet below the level of the mounds at a few places, which distinctly speak of a town having been deserted and re-occupied several times. The most plausible theory advanced by such a tremendous rise in the town level is that the inundations and floods from the Indus must have been very frequent during those ancient days, and at each time the people returned after the floods, they must have built houses over the previous one, making the original one the foundation of a new house. Presumably Mahan-Jo-Daro was several times abandoned in this way and rebuilt. And, indeed, investigations showed the existence of no less than seven cities, one below the other, going deeper and deeper until sub-soil water made further exploration impossible. These seven strata fall into three classes, the first three belonging to the Late Period, the next three belonging to the Middle, and the last to the Early Period, so far on the basis of the buildings rather than by the other finds. By the way the very fact that the people

rapidly returned after the floods to occupy the deserted buildings, involving the huge task of raising the level of the streets, lanes and houses, speaks of the importance of the city. "The fact that the city was built of burnt brick, an expensive commodity, argues that those who lived within it were a prosperous people."* The same people might have lived here through all the period, as the antiquities found from different levels are very nearly of the same type, in spite of many archæological ages.

The Age of the Culture—The first question is to assign a date to the buildings excavated and their contents. An approximate time can be fixed from the discovery of seals of the Indus description in Mesopotamia, and there is no reason to doubt the correctness of Sir John Marshall's estimates that the Mahan-jo-Daro buildings of the Late Period date from 3250 to 2750 B. C., and belong to a Chalcolithic Culture i. e. in which both stone and copper were in use. It is, however, obvious that these remains point, not to a primitive civilization, but to an advanced culture which must have taken centuries to reach this degree of development; and some students, taking into their calculations this period of antecedent growth, regard this culture as over 7,000 years old.

*Mr. Ernest Mackay: Mohen-Jo-Daro and the I. C.

First Town-Planning.—Even in one's first stroll through the remains of this city (or cities), one has an over-whelming impression of order, wealth and methodical work. These were among the earliest collections of human dwellings which deserve the name of city, but they had anticipated the modern world in town-planning. They are as rectangular in design as New York, says Mr. H. N. Brailsford. The broad, straight, main streets run exactly north and south (all parallel) and the side streets branch off from them at right angles so that the houses were built in blocks. All Indian towns of today are characterised by house-grouping and *Mahlas* or quarters; and this arrangement evidently dates back to early ages. "As you inspect each *Mahla*, you see that everything is there for human habitation, minus the roofs of houses and people to live in them and children to play about in the streets. Otherwise each *Mahla* is a perfect model of a 'modern' town." The bricks are still fresh to look at, and "the effects of the atmospheric conditions on these buildings of five thousand years ago are not at all apparent. In fact to a lay observer, with no archaeological sense, the whole area of unroofed houses appears to have been built only recently." These well chiselled bricks, however, "differ conspicuously from any used during the historic period in India."

BUILDINGS.

Dwelling Houses.—The dwelling houses are for the most part divided into good-sized rooms, furnished with their own wells and bath-rooms floored over with brick and provided with covered drains connecting with larger drains in the side-streets. The interior walls, in some cases, were plastered over with mud about three inches thick, consisting of earthen plaster mixed with straw, cut small. Built round a small court-yard paved with bricks, the ordinary dwelling houses are well-planned, and the external stair-cases suggest that each family inhabited a flat which was reached from the court-yard by way of the stair-case. The general plan seems to be that the houses open out into the streets with a single entrance generally, but there are those with three entrances so far known. The skilled use of burnt-brick, usually laid in mud, but occasionally in gypsum* (plaster of Paris) mortar, and the attention given to the drainage are the most striking features of the buildings. Gypsum alone as a joining agent is used in parts where

*“In the Gaj beds of the Khirthar Range, near the top of the group, gypsum of tolerable purity is abundant and is not unfrequently found in beds three to four feet thick”.

Mr. W. T. Blanford: Geology of Western Sind, p. 195.

particular strength was required, such as for the hearting of the walls or the pointing of joints to keep out moisture. The buildings so far unearthed are bare of architectural decoration, but remarkable for the excellence of their construction. "The construction of these buildings", says Sir John Marshall, "is far superior to anything of the kind in later India".*

Assembly Halls.—A few pillared halls have also been unearthed which were probably assembly halls for the meeting of people for common purposes. One of these halls is as large as about 80 feet square. "The hall seems to be, as in the Kanheri Darbar hall, divided into long corridors interspersed with low benches with even seats. In Buddhist structures, they were halls for assembly, and the raised seats were for the monks to sit on, the corridors between being more or less passages for ingress and egress. The arrangements in these Mahan-jo-Daro buildings seem to have been somewhat similar. One noticeable feature here is that the chief seat is at right angles to these corridors, and the platforms between corridors provide only two rows of seats. The corridors were apparently paved substantially, the seats being formed by mud-plaster prepared in the same way as the wall plaster. They might even

**The Illustrated London News*: February 27, 1926.

have been finished with wood. This would account for the complete disappearance of these seats while the corridors remain intact in many cases.”*

Temples.—Some of the buildings, with small sanctuary like chambers, were probably temples or religious buildings of some sort or other, but no trace of any image or image-base has so far been discovered. They, however, stand on elevated ground and are distinguished by the relative smallness of their chambers and the exceptional thickness of their walls, many of which run to ten feet in thickness, a feature which according to Sir John Marshall suggests that they were several storeys in height.

Shops—Some of the houses were obviously shops; one looks uncommonly like a tavern, and another was a dyer's work-room, for his clayvat is still in place, stained with the colour of his trade.

The Great Tank.—The most noticeable feature in an imposing edifice is a well-built large tank or bath—with walls seven or eight feet thick—, furnished with a broad flight of steps on two sides, and at the foot of the steps is a low platform for the convenience of bathers. This tank—the glory of Mahan-Jo-Daro, which after 5,000 years is still

**Journal of Indian History for December 1932, p. 377.*

astonishingly well-preserved, is 39 feet in length by 23 feet in breadth, and is sunk 8 feet below the floor level; but whether it was used for domestic, public, or religious purposes there is so far nothing to indicate. Of the chambers ranged along each side, the middle one is occupied by a large deep well with fresh water from which the tank could be fed. The floor of the tank, which is closely and carefully laid with brick, slopes gradually to the south-west corner, where a small aperture leads into a very large well-engineered drain by which the water was conducted outside the city. This magnificent passage or drainage chamber, in which a man of over six feet in height can stand upright, has a corbel-vaulted roof. At the further end of this drainage chamber, a man-hole in the roof gave access to it for periodical cleaning. The tank is also remarkable for the solidity of its construction. The polished bricks are laid with gypsum cement, and one notes with surprise the damp-proof course of bitumen* or asphalt of which traces can still be seen in the eastern wall. The new discovery of the use of

*The bitumen is obtainable in the Sulleman Range as well as further west in Baluchistan or might have come by water from Mesopotamia.

bitumen as damp-proofing course shows that the Indus Valley people of 5,000 years ago could build not merely on a big scale, but also as scientifically as an up-to-date architect of today.

Bath-Rooms.—The bath-rooms of the buildings at Mahan-Jo-Daro, though small, are very nicely paved. Sometimes the pavements are found to be coated with lime mixed with brick-dust to prevent them from absorbing an undue amount of water. Care was always taken to slope these floors towards one corner where the drain carried off the water. This is generally a rectangular hole in the wall, through which the water ran out to a drain in the street.*

Wells.—Most buildings of any size had wells of their own, ordinarily built of burnt-brick and usually circular in plan, but in one or two instances oval. Each road and alley was also provided with a common well, and on their brick-pavements one still can see the depressions in which the water-pots rested, and the grooves worn by the rope. There are so many private and public wells that there could have been no dearth of drinking water. In two instances brick-benches were built near wells for the use of people awaiting their turn to draw water.

* Mohen-Jo-Daro and the I. C. Vol. I, p. 273.

Drainage System.—A remarkable feature of the city is the very elaborate drainage system “better than anything that was usual in Europe till the nineteenth century”*. Sir John Marshall says:—“The drainage system in particular is extra-ordinarily well developed. Every street and alley-way and passage seems to have had its own covered conduit of finely chiselled brick laid with a precision which could hardly be improved upon.”* Mr. A. S. Iyengar says:—“Sewage and arrangement of drains are complicated and yet so perfect that any modern town will really be proud of having.”†

Conservancy:—This must have been a well governed city with an enlightened Municipality which understood town-planning and knew more about sanitation than our own fore-fathers did four or five generations back. The houses are well separated from each other so as to receive full advantage of light and sanitation. The people also knew sufficient engineering to drain off strong currents of river from their buildings, and to construct private and public drains for the carriage of sewage and rain water from thickly populated

*Mr. Brailsford: *The Manchester Guardian*, January 1932.

* *The Illustrated London News*, February 27, 1926.

† *The Hindustan Times* : 21st February 1932.

areas to bigger drains. "The drains have at intervals soap-aways and manholes for cleaning." Flanged drain-pipes of pottery descending from the upper storeys were also constructed in the thickness of the walls, and lead down to the public conduits, or bins, in the streets which could be cleared as often as necessary by the scavengers. All these arrangements would indicate high class civic organisation, five thousand years ago when many nations were "wrapt up in winter sleep."

OTHER ARTS, RELIGION AND COMMERCE.

Agriculture.—We do not know so far much about the agriculture of the Indus people, but wheat and barley have been unearthed. Although it is too much to expect archæologists to discover such a tiny grain as sesamum, it is probable that it was also used, for from Rgveda we learn that *Yava* (Sindhi, *Java*, 'barley') and *til* (Sindhi *Tir*, 'sesamum') throve well in *Sapta-Sindhu** when the land was moistened by a shower of rain (*e. g.* Rv.

*From Rgveda we find that the early Aryans settled down in the districts surrounding the Indus, the five rivers of the Panjab and the sacred Saraswati, these seven rivers being called *Sapta-Sindhu*. Early Muhammadan travellers have translated the term as "Sabaa Sin" سبع انهار, "seven rivers."

5, 6; V 85, 3). In fact in Rgvedic times the fertile valley of the Indus produced such abundant crops so as to justify the vedic bard in calling it a grainary of the river. Barley and sesamum were primarily the grains that were offered to the gods in ancient times; and even to this day no worship of the gods can be performed without *java* and *tir*. Mr. Mackay says: "Judging from the very large number of saddle querns, the only form of quern apparently used at Mahan-jo-Daro,* agriculture must have been in a flourishing state at that place"

Touching this question of agriculture, we may remind our readers of the following three facts:—

(1) That the rainfall in Sind and the Western Panjab was, in olden times, substantially heavier than it is now. One of our Vedic Scholars Dr. A. C. Das says:—"We find evidence in the Rgveda of heavy showers of rain falling in *Sapta Sindhu* during the rainy season which lasted for three or four months, covering the sky with a thick pall of sombre clouds, behind which the Sun and the Dawn remained hidden, making the days look like nights. The rivers were in high flood and the spill water covered an extensive area. All these characteristics

*The circular revolving quern is known in India from about the second century B. C.

have now disappeared from the *Sapta Sindhu* where the rainfall is scanty and the climate dry.”*

The editor of the *Journal of Indian History* in reviewing Sir John Marshall's book remarks :—

“There is more or less clear evidence that the rain-fall in the fourth millennium and the third must have been far larger, though far from being abundant, than it happens to be at present. This is made clear to us by the fact that the builders of the cities, the older cities of Mahan-jo-Daro, have used burnt-brick for all the exposed parts, though they have used sun-dried bricks largely in work which was hidden from the surface, such as the parts that required filling, and the foundations, etc. that could be kept free from surface action. The very animals which come before us on the coins and the seals excavated, seem to be animals that flourish in damp jungle country. The number and disposition of the drains within the houses and in the streets would perhaps indicate more ample rain. These features of the locality may be capable of other interpretations, but a comparison with similar changes that are more clearly visible in old sites in the neighbouring areas of Baluchistan, in a large number of cases, would support this inference, as the alternative explanations will not hold in respect of that locality.”

*Rgvedic India, Page 14.

(2) Sind has been compared to Egypt, in as much as it is a dry and almost rainless country, the length of which is traversed by a single great river. If one depends for fertility on the Nile, so does the other on the Indus—the life and soul of Sind. But this was not so always. We have the evidence of Muhammadan historians that twelve centuries ago when the Arabs first came to Sind (in 711 A. D.) our province was watered by two great rivers—the Indus in the West, and the great Mihran, also known as Hakro or Wahinda,* in the east of it. The Mihran was formerly a part of the course of an independent stream fed by the Sutlej (possibly at one time by other Panjab rivers) and in its lower course (as the Mihran of Sind) by the Indus, consequently Sind was better watered and more wooded than now. The ancient forests of the Indus banks which were vast, according to tradition, have also now become a thing of the past. The towering elephant and the ponderous rhinoceros,

*It used to flow through the Bahawalpur State, and passed close by the city of Alor near Rohri, then flowed south for some 90 miles to Jakrao and swept east-ward in a curve which carried it west of Amarkot, near which it turned to the south-west by Wanga Bazar and Rahmuki Bazar and so to the Rann of Cutch, and by the Kori creek to the Arabian Sea. This river is now represented by the Eastern Nara Canal, the Puran (ancient channel) and the Kori creek.

of which we find faithful rendering on some of the Mahan-jo Daro seals, no longer find a home in the Indus Valley as it no longer affords shade or swamp enough for these lords of brute creation.

(3) The whole country from Upper Sind to Sehwan is an uninterrupted level through which in serpentine course flows the river Indus. Its physical aspect has been completely changed, during recent years, by the construction of Kashmore *band* and other protective *bands* or embankments in order to keep out the river floods or "*let.*" Before this was done, the Kashmore floods from Upper Sind, the Muhro Mari floods from Shikarpur Taluka and the Jali floods from Garhi Yasin Taluka, were liable every year to inundate the country and to destroy everything in their path. The Kashmore floods were known to have reached as far as the Manchhur and Aral lakes near Sehwan,* and Mahan-jo-Daro could never have been free from the havoc of floods. But if the Indus became the author of desolation and ruin it was equally a source of fertility and wealth; on its annual inundation depended in a great measure the crops; on it also the commerce and life of the city. And, indeed, the country round

**Cf. Gazetteer of the Province of Sind, Vol. A., p. 5.*

Larkana is known in history as the "Garden of Sind."*

Food.—Sir John Marshall tells us that besides wheat and barley, another food article found is the date, stones of which were found in both Mahan-jo Daro and Harappa. In regard to animal food, beef, mutton, pork and poultry seem to have been largely used. The flesh of the ghariyal, turtles and tortoises, river fish and dried fish of certain varieties from the sea, along with shell-fish formed part of the animal food. The bones of all these have been found, often in a half-burnt state, and have been identified by Major R. S. Sewell, I. M. S., and his Assistants of the Zoological Department. One should not be surprised at this, as we know for

*Since the above was written, a report from London has appeared in the *Sind Observer*, Karachi, of 29 August 1933 (page 9) which is reproduced here verbatim:—

"An ear of wheat that may have been placed with the buried dead 5,000 years ago in the ancient city on the banks of the Indus, which stood on the site of Mahan-jo-Daro, has yielded to the process of agriculture of wheat of quite surpassing quality. The ear, which according to reports published in London papers, was obtained by the S. P. G. School of Umedpur from the excavations at Mahan-jo-Daro, was successfully reproduced by them. Evidently they have now a whole plot of the Mahan-jo-Daro wheat at the school. As many as nine branches spring from the plant that rises from the Mahan-jo-Daro wheat and the output of the crop is quite prolific, judging from the weight of the wheat harvested from the plot."

certain that India was not yet vegetarian and both animal and vegetable food were taken even by the Vedic Aryans. Not only fishes and birds, goats and rams, but horses, buffaloes and even bulls were slaughtered for their food. This was still the case at the beginning of the Epic Period when cows, bulls and buffaloes' meat was used as food by respectable people and meat-stalls were crowded with customers. (*Mahabharata, Vana Parva Chapter 206, verses 10 and 12*). But though the custom of slaughtering cows and bulls continued down the beginning of the Epic Period, even in Rgvedic times the cow was gradually acquiring a special sanctity, as is shown by the name *aghanya* (not to be slain) applied to it in several passages. It will thus appear that there was a school of thinkers among the Rshis who set their face against the barbarous custom of killing such useful animals as the cow and the bull. The protest they raised greatly increased in volume, and gradually the eating of meat, save at the time of sacrifice was discouraged, especially among Brahmans. Later on, there seems to have grown up a revulsion of feeling against mutton-eating even at the time of sacrifice, and the custom was totally abolished by the end of the Epic Period. (*Santi Parva, Moksha Dharma, Chapter 255*).

Spinning and Textiles.—Another discovery of some interest that has been made is that spinning was common in the houses of Mahan-jo-Daro, as is evident from the finding of numerous spindle-whorls in the debris of the houses. These are made of pottery, shell, as well as the more expensive faience, indicating that weaving was practised by the rich and the poor alike. The scientific value of this discovery is, however, further enhanced by the remnants of a fine woven cloth with which a large silver vase, filled with jewellery, was wrapped, for they establish the use of cotton textiles at Mahan-jo-Daro as far back as 3,000 B. C. Needless to say, these fragments were in a very fragile condition after their 5,000 years in the soil. But an exhaustive examination of them, which has been made by Mr. M. A. J. Turner, Director of the Technological Research Laboratory, Indian Central Cotton Committee at Bombay, leaves no room for doubt that they are true cotton with the typical convoluted structure which is the peculiar characteristic of that fibre.

The cotton trade of the Panjab and Sind is, indeed, of a very great antiquity, and this discovery at Mahan-jo-Daro establishes the fact that the practice of spinning and weaving obtained in Sind long before the advent of the Aryans. From Rg Veda we learn

that the Sindhu country was called *Suvasa*, the producer of beautiful cloths, and *Urnavati*, the producer of wool. A Vedic Rishi sings the praise of Sindhu in the following inspired strains :—

“The Sindhu is rich in horses, rich in chariots, rich in clothes, rich in gold ornaments—well made, rich in food, rich in wool, ever fresh, abounding in Silama plants, and the auspicious river wears honey-growing flowers”.*

We thus see that cotton was woven into cloth by the people of Sind before the dawn of history. The old Babylonian name for muslin was *Sindhu*, and was known to the Hebrews, and through them to the Greeks, as *Sindon* or the produce of Sind. In other words the stuff was called after the name of the country which exported it. The word *Sendal* also naturally points to Sind as the home of fine yarn or textile fabric. Professor A. H. Sayce shows ground for the belief that it was exported by sea to the head of the Persian Gulf in the 4th millennium B. C ; and it found its way very early to Egypt. Lassen asserts that the ancient Egyptians dyed their cloth with

* Rg Veda X. 75, 8. Wilson's Translation.

“The words *Silmavati* and *Urnavati* in the text are epithets of Sindhu according to Sayana Acharya, and mean respectively abounding in Silama plants, said to be used for cordage and rich in wool”, Griffith.

indigo (an Indian dye, as the name suggests), and wrapped their mummies in Sind muslin. The manufacture of cotton cloth was at its best in Sind and other parts of Northern India even in the 2nd century A. D., and the fine Indian muslins were in great demand, and commanded high prices, both in the Roman Empire and in the Mediæval Europe. The industry was one of the main factors in the wealth of ancient India.

Features.—Some portrait busts have been found which are interesting because they show us the features of early Sindhis. They were short and stout, with full, fleshy lips and narrow oblique eyes; but whether these features were generally characteristic of the citizens of Mahan-jo-Daro, sufficient materials are not yet available for us to determine. A noticeable feature in all the statuary, however, is the thick short sturdy neck. Another very noticeable point is that the cheek bones are markedly flattened. In reviewing Sir John Marshall's book, *Mohen jo Daro and the Indus Civilization*, the *Times of India* remarks:—"Some of Sir John Marshall's workers evidently tried to trace likeness to the Mahan-jo-Daro lineaments in the faces of their Sindhi labourers. It is perhaps a pity that they did not examine the *Muhanas* or river

boat-men, who are generally regarded as the most aboriginal among the inhabitants of Sind. Their likeness to the boatmen of Euphrates has often been remarked, and they have relatives in the hills, equally distinct from the neighbouring tribes. An anthropological survey of Sind and Baluchistan is clearly necessary."

Coiffure.—Human figures also show that men wore short beards and whiskers with the upper lip sometimes shaven, sometimes not. Long hair was worn, at least by some of the male inhabitants of Mahan-jo-Daro, as in India today. The hair on the head was taken back from the fore-head, either cut short behind, or coiled in a knot and tied up at the back of the head, with a fillet to support it. In regard to women, the only specimen of a statue so far available shows the hair falling loose behind; but this could not have been the prevailing fashion as the bronze dancing girl has it coiled pot-like, while the statue of the Mother-Goddess has it pointed. Probably the ladies dressed their hair in three different ways mentioned in the Atharva Veda viz, *Spasa* (horn-like), *Kurira* (net-like.) and *Kumbha* (pot-like. AV. VI, 238) and decorated with flowers. (AV. IV.513). It is perhaps possible to find analogous types among the South Indian folk even now.

Dress.—The alabaster statues discovered show that the male attire consisted of two garments, a dhoti, and a chadar or a long shawl like cloth drawn over the left shoulder and running under the right armpit, leaving the right arm free, the most usual style found today alike among the fashionable as well as among the ruder folk. The lower garment may possibly have been a kilt similar to the one fastened round the waist by *langhas*, a caste who are drummers, while moving in a circle at the time of festivals*. Numbers of figures and figurines have been discovered which are completely nude, and some wear nothing more in the way of apparel than a narrow loin cloth. So far, therefore, as dress is concerned, the evidence is very meagre. Even in the Rgveda there is nothing to show exactly what differences there were between male and female costumes, nor what was exactly the nature of the clothes in either case, and various scholars have variously speculated on the subject. The usual dress of the Epic Period was the ordinary *dhoti* and *chadar* and it is probable that the practice of wearing these two garments dates back to early ages.

*Compare this with the Highland bag-pipers and their Kilts.

Personal ornaments.—Ornaments were freely worn by men and women as in Rgvedic times; necklaces, fillets, armlets and finger-rings by both men and women; ear-rings, bangles, girdles* and anklets by the latter only. Some female figures have their upper arms covered with bangles or armlets right upto the shoulder, as is even now the fashion with several newly wedded Bania women. Bangles of true glass are not found so the conclusion is inevitable that *Banhi* (a set of ivory bangles for the arms), which has only recently been given up by all the Amil and many Bhaiband women, was in use 5,000 years ago, and we had a class of workers in ivory known as *churigar* or makers of *churas*. At this amazingly early period we had also skilful goldsmiths and jewellers. Buried beneath the floors of houses, Mr. Dikshit of the Archæological Department found a number of copper vessels and utensils, including a curved saw, and in one of the large vessels he recovered a valuable collection of jewellery, the workmanship of which would not shame the finest craftsman of today or of any age. They comprise gold and silver bangles, ear-ornaments

*“Some of these would answer to the description that we find in early literature, particularly Tamil literature, of various girdles worn about two thousand years ago.” *Journal of Indian History* for April 1933, p 119.

gold netting needles, charms and two particularly handsome necklaces or girdles made of tubular beads of cornelian with terminals and smaller beads of copper gilt. Referring to this jewellery Sir John Marshall says:—

“The gold ornaments are so well finished and so highly polished that they might have come out of a Bond Street jeweller rather than from a pre-historic house of 5,000 years ago.”*

Semi-Precious Stones.—The jewellery discovered at Mahan-jo-Daro shows that our people used several semi-precious stones for their beads and ornaments, such as agate, cornelian, jasper, blood-stone and a number of others which are obtainable from Rajputana, the Panjab, Kathiawar and Central India, but some, such as lapis-lazuli (sapphire, called *nilam* in Sindhi), turquoise and jadeite are not obtainable in India at all. We can therefore at once see that the growing luxury of the people led to the import of these semi-precious stones from distant countries with which they evidently traded at the time. The lapis-lazuli probably came from the Badakhshan District of Afghanistan, and turquoise from the mines near Maaden, about 48 miles north of Nishapur in the Khorasan province. A natural

*The Illustrated London News, Feb. 27, 1926.

trade route from this locality would have been down the Kabul river, thence by the Indus to its mouths, where the author of the *Periplus* found turquoise offered for sale even in the first century A. D. Jaedite, a hard form of Jade, of which almost all the Mahan-jo-Daro beads consist, is believed to have come from either the Pamirs, Eastern Turkestan, or Tibet. The beautiful green amazon stone, says Sir John Marshall, almost certainly came from the Nilgri Hills, thus showing that there must have been commercial intercourse at this time between Sind and the south of the Peninsula.*

Lapidary's Art.—Mr. R. D. Banerji says:—

“The advance in the lapidary's art was considerable, and jewellery discovered in recent years shows that the people of the Indus Valley were far in advance in civilization of the people called Aryans as described in the *Samhita* of the Rg Veda.....At times fairly long beads of plain or banded agate or cornelian were made and strung together in the form of necklaces, a beautiful specimen of which was discovered in 1924-25”†. Referring to the same necklace Sir John Marshall says:—

“A singularly beautiful necklace is made of sof

*Mohen-jo-Daro and the I. C., Vol. I, p. 30.

† The Modern Review for November 1927, p. 559.

green jadeite beads with disc of gold between, producing the effect of a bead and reel moulding, with pendant drops in front of agate-jasper. In this case fortunately, the jadeite and gold have lost little of their original beauty, and they afford a striking example of the fine sense for colour possessed by the Indus jewellers".†

Art of Glazing.—No true glass has yet been found either at Harappa or Mahan-jo-Daro, but that the art of glazing flourished in Sind is proved by the number of pieces that have been found. The people used vitrified paste which resembles glass in some respects. They also used a glass-paste, which is familiar to Archæologists as "Faience". This paste, which resembled the faience of Mesopotamia, Greece and Egypt, played an important part in the making of beads, ornaments, amulets and miniature vases, some of which are smoothly coated with a glaze of a light apple green colour, but some have lost both colour and glaze, presumably owing to the action of salt or damp. The finer and harder variety of the paste was used for finishing of the surface of seals.

Sir John Marshall says: "The wide-spread manufacture of faience, which is not likely to have been invented independently in different countries, is

† Mohen-jo-Daro and the I. C. Vol. I, p, 34.

one of the many striking illustrations of the homogeneity of culture in Chalcolithic times".*

Metals.—"Stone† was still the common utensil of daily life; flint knives abound, and stones were roughly shaped to serve as plough-shares and hoes. But the basis of this culture was copper and latterly bronze, gold and silver were worked, but not iron."‡ Lead, too, was used, and discovery of some specimens of cinnabar suggests that the Indus Valley people knew how to extract mercury from this mineral.

The copper was the earliest and most useful metal and had already, to a large extent, taken the place of stone for the making of weapons, implements, domestic vessels and for cheaper kinds of ornaments. The copper ore, however, is unknown in Sind, but was obtainable in the immediate neighbourhood, on one side Baluchistan and on the other Rajputana. It could also have come from further afield, such as Southern Afghanistan, Persia, Kashmere, or Madras.

The people of Sind had not found out how to

* Mohen-jo-Daro Vol. I. p. 22, Footnote 4.

† The stone available from the immediate neighbourhood is white or pale-coloured nummulitic lime-stone which could be quarried in the Khirthar Range.

‡ Mr. H. N. Brailsford: The Manchester Guardian.

make tools of iron ; but instead they melted tin and copper over a fire so as to make a brown metal called bronze which was used for making virtually all the same objects as copper, including weapons, implements and other such articles in which a specially fine finish was desired. Mr. Muhammad Sana Ullah, Archæological Chemist to the Government of India, assumes that bronze was known to the Indus Valley even earlier than 3,000 B. C. Tin has not been found as a separate metal evidently because tin ore is scarce in India.

In his *History of Sanskrit Literature* Dr. A. A. Macdonnell says that "gold is frequently mentioned in the RgVeda and was probably for the most part obtained from the rivers of the North-West which even at the present day are said to yield considerable quantities of the precious metal. Thus the Indus is spoken of by the Vedic poets as "golden" or "having a golden bed (p. 51)." The sands of the Indus and many other rivers of India have, indeed, yielded gold when washed. "Gold-washing has, in fact, been practiced in the past in every province of India."* Even today we have a class of people called *dhoor dhua* ذوڑ ڈھو literally, "washers of dust," but now they generally wash the dust of a

*Mohen jo Daro and the I. C. Vol II, p. 674.

goldsmith's work-shop in search of particles of gold. In ancient times the port of Ophir which was probably at the mouth of the Persian Gulf, on the coast of Oman, was very famous for its gold, so much so, indeed, that the expression "gold of Ophir" became proverbial in Hebrew.† At the time of Persian Invasion of the Panjab and Sind (c. 510 B. C) the alluvial gold-fields of Dardistan produced an immense quantity of gold, and these provinces paid to King Darius the enormous tribute of 360 talents (nearly 260 maunds) of gold dust. From Strabo* we learn that when Alexander the Great was in Sind (c. 325 B. C), there were mines of gold and silver in the Kingdom of Mousikanos (Alor near Rohri in the Sukkur district). In Afghanistan gold occurs three miles north of Kandhar, and several localities in Persia are regarded as rich gold producers. Thus there are many possible sources for the gold of Mahan-jo Daro. But the gold in Sind, according to Sir Edwin Pascoe, Director of the Geological Survey,‡ is likely to have come from the south of India rather than from other quarters, since from

†i. e. Job XXII, 24; XXVIII, 16 Psalm XLV, 9. Isaiah.

*Dr. J. W. M'Crindle: *Ancient India*, p. 41.

‡Mohen jo Daro and the I. C. Chapter XXXII, where Sir Edwin discusses the metals and minerals in detail.

early historic times it has always been the south of the Peninsula (Hyderabad, Mysore and Madras Presidency) that has supplied the bulk of India's gold, and in some of the mines there workings of ancient date are still to be seen, and even today over 90 per cent of India's production comes from the Kolar Gold Fields of Mysore. Intercourse between South India and Sind is established by the fact that the beautiful green amazon stone found in the Indus Valley almost certainly came from the Nilgri Hills, although in the History of Ancient India, recently constructed mostly by European Scholars, and based principally on the ancient Indian literature, Agastya Muni* is said to have taken a principal part in the colonization of the South where he is usually regarded as the first teacher of science and literature to the principal Dravidian tribes, and

*In the Hindu scriptures Agastya is represented to have humbled the Vindhya mountains by making them prostrate themselves before him when they tried to rise higher and higher till they well nigh occupied the Sun's disc and obstructed his path. This fable is supposed by some scholars to typify the progress of the Aryas towards the South in their conquest and civilization of India, the humbling of the mountain standing metaphorically for the removal of physical obstacles in their way.

his era is placed by Dr. Caldwell in the 7th or 6th century B. C.

Weapons.—There are few indications of war-fare. Mr. H. N. Brailsford says:—"No city wall has been found, and this, with the absence of defensive armour, suggests a pacific community—though one must not argue too boldly from negatives, for much has been destroyed." The weapons of offence consist of a few maces of both stone and copper, spears, daggers, bows and arrows. The sword, one of the characteristic weapon of the later period, had not yet made its appearance, and is entirely absent.

Weights and Measures.—The weights and measures are mostly delicate and run down to very small units. All of the weights are cubes of cherts, chipped and ground down to the correct weight, chert providing the fine grained hard material. A few large stone weights are conical in form and are pierced with a hole through which a rope could be passed for their easier handling. The small weights of dark grey slate resemble the barrel-shaped weights of Elam and Mesopotamia. According to Mr. A. S. Hammy "these Indian weights are made with greater accuracy and consistency than those of Elam and Mesopotamia."*

*Mohen-jo-Daro and the I. C. Vol. I. pp. 36—37.

Ceramic Art.—The people of Mahan-jo-Daro had silver and copper vessels and ornamental vases of faience, but their ordinary house-hold utensils were mostly earthen-ware. Ceramic art was evidently known in Sind from time immemorial, and when Mahan-jo-Daro was a flourishing city, our people had become great experts in the use of potter's wheel and made beautiful pots, urns, flasks, goblets, and dishes of plain, red, or grey-glazed ware. "The people were very fond of painted pottery, and some of their painted vases rank very high in the history of world's civilization"*.

The pottery finds fall in three classes:—

- (1) Painted pottery,
- (2) Red wares,
- (3) Thin or egg-shell pottery.

The painted designs are usually in black on a dark-red slip and consist of advanced geometrical patterns and figures of animals. These are the earliest examples of glazed pottery that have been found. Mr. Ernest Mackay says that "in Egypt it appears to be unknown before Roman times."† The red ware comes next in point of importance, as this is the first recorded instance of such finds in

*Mr. R. D. Banerji: *Modern Review* for November 1927.

†Mohen-jo-Daro and the I. C. Vol. II, p. 581.

India",* The finds of egg-shell pottery, locally known as *Kagzi i. e.* paper-like, prove that the potters were capable of turning out pottery of exquisitely delicate workmanship.

Prof: S. V. Venkateswara says;—"The ceramic wares of the culture may be classified in three main stages. The rough hand-shaped pots, associated with urn-burial, belong to the earliest stage. The second stage appears marked by the wheel turned red-coloured unpainted pottery of medium—textured clay. At Mahan-jo-Daro are tall jugs and large ring-stones. The latter are probably the receptacles of large jars which had painted bottoms. This explanation is suggested to me by the pits on the pavement near the walls on the D. K. site.† The spherical bowl with wide-lipped mouth persists in the *gangalam* of South India, and the horizontal jar with the mouth to one side was probably the forerunner of the *Kamandalu* and the *Kendi* of the West Coast. The painted pots of Nal appear to denote the third and latest of these stages. They are made of finely textured clay and are of a light

*Sjt R. D. Banerji: The Modern Review for Nov: 1927

†The site excavated to the east of the north-south road marked the D. K. site, and the one to the south of the east-west road is called Hr area, which is the largest excavated site.

red colour and bear various designs. I find that some of these designs are connected with the pictographs on the seals. Some pots clearly bear fish-marks, and some the sun and the crescent moon, while there are chess designs on other pots. The humped bull appears too, on the bowl. The beak-spouted jugs of the Anatolian type found here persist in the horned coins of the Gungerian hoard and the *gosinga* vessel of South India, which is mentioned in a seventh century work."

"It will be clear that the antiquities of Baluchistan are part and parcel of the Indus Valley culture and do not represent a half-way house between Sumeria and India, as some scholars have supposed. It is possible that this painted pottery culture was connected with that of the people at Ur, who also used painted pottery and were displaced by the first Sumerian dynasty."*

Sculptures and Carvings.—Sculptures in alabaster and marble include a painted figure of a man, and a much finer bearded head wearing what looks like a wrought metal skull cap decorated in imitation of hair (its eyes inlaid with shell and the patterning on its robe picked out in red ochre†); in bronze human

* The Sind Herald, Karachi, 24 Nov: 1930

† Red ochre is available in Lakhpat and Central India and also comes in ships from Persian Gulf.

figures, one of which represents a young aboriginal dancing girl; in terra-cotta figures of a nude goddess with a curious fan-shaped head-dress, girdle and the body ornament (*channavira*) characteristic of later Indian art; in faience and terracotta, admirable figures of animals, including the bull, rhinoceros, dog and cock. All these are sculptures in the round. The treatment of the animals is beyond all praise, and far surpasses anything of the period hitherto found elsewhere. The small carvings too are most charming—little squirrels, not a couple of inches high, sitting up with tails erect and munching something from between their fore-paws; little monkeys with that identical worried expression which is so noticeable on the faces of their descendants today; and perhaps most delightful of all, a bead carved with three tiny monkeys sitting round in a circle, clasping one another's waists with their arms, and the whole so small that it could easily be shut inside a walnut shell. Mr. H. N. Brailsford says:—"The little animals and the more archaic of the two dancing girls rank this Indian art, to my thinking, above that of its sister and contemporary city Ur of the Chaldees"

One small tablet of blue faience depicts a figure—probably a deity—seated cross-legged on a throne,

and to the right and left of him a kneeling devotee with a snake (*Naga*) behind; while on the back of the tablet is an inscription in pictographs. "This tablet serves well to illustrate how instructive and illuminating a back-ground this new-found pre-historic art of Indus is likely to supply to the later art of historic India, and particularly to the Buddhist art of Barhut, Bodh Gaya and Sanchi."*

Seals.—But the most abundant and not the least remarkable works of art are the engraved seals, with pictographic legends, such as could only have been turned out by people possessed of marked artistic ability as well as great technical skill. These seals, of which 558 specimens have been recovered, are of different shapes and sizes and were once apparently glazed. There are cylinder seals, square, cube, round or rectangular seals, and also button seals with linear designs. Some are tiny and brittle, some large and clear. Almost all the cylinder seals are made of ivory,—a commodity of which there has always been an abundant supply in India—,while the remainder are elaborately carved in stealite or soap-stone. A few are of copper. Three cylinder seals of pottery are of particular interest in as much as pottery seals of any type are comparatively rare

* Sir John Marshall: *The Illustrated London News*,
March 6, 1926.

at Mahan-jo-Daro. It is important to note that one of the silver coins in the Museum of Mahan-jo-Daro exactly resembles a seal in size and shape, and has marks which resemble some of those on the punch-marked coins of India. Some of the seals are engraved with pictographic legends only, but most of them bear in addition the representation of animals some of which are of mythical nature, such as unicorn. The bull, the rhinoceros, buffalo, crocodile, elephant, antelope, ram, pig, bear, hare, squirrel and the monkey are other animals which figure on the seals and we have a very faithful rendering of them all. Each animal may have been sacred to a god.

Some of the seals have a perforated boss at the back through which a tasseled cord might pass. It is not improbable that they were worn by a cord round the neck or wrist and may have served as amulets. The boss at the back apparently indicates that they may have been also used for sealing, as in the case of Sumerian seals. Seals played an important part in the evolution of private property. If one wanted to render a bit of property secure the best way was to put it under the protection of a god.

Art of Writing.—The majority of the seals bear one and sometimes two lines of pictographs in

addition to the representation of an animal. Some marks, apparently vowel signs, indicate relatively high stage of development. The presence of these pictographic seals indicates that our people were familiar with the art of writing, and had evolved a special system of expressing thought in the form of picture-writing. Almost all alphabets of the world have been evolved from such picture-writing. The oldest method of writing was to express an idea by painting the idea or the act involved in it. The script which is found inscribed on most of the Mahan-jo-Daro seals is to be read, apparently from right to left, but in certain cases it starts from right to left in the first line and continues left to right in the second; and it is probable from the seals found at Susa and Kish, and from the analogy of a seal found at Ur, that it was in use in the first half of the third millennium B. C. The picture-writing has obvious resemblance with the Sumerian cuniform script, but the two are none the less distinct. As yet the attempts to decipher it have failed. It cannot therefore be said at present whether the pictographic signs had the same phonetic value in India and Sumer. Professor Langdon was perhaps the earliest to make a careful study of these, and makes out a strong case for deriving the early Indian Brahmi (Sanskrit)

alphabet from this Indus script, but whether his hypothesis will be acceptable to Indian epigraphists remains to be seen.

Toys.—The inhabitants of Mahan-jo-Daro took a really intelligent interest in the play of their children who evidently had a good time, as is evidenced by a number of toys, such as clay models of men and women; animals such as bulls, rams, rhinoceroses, horses fully caprisoned and over-ornamented, dogs—one seated on his legs; and birds, with holes in them, serve as whistles and run on wheels. Then, there is a bull that wags its head when his tail is pulled; and there is an elephant that is a rattle. No doubt many other childrens' toys were made of less durable materials than terra-cotta, and have perished in the course of the ages. "The little toy-carts," says Sir John Marshall, "are particularly interesting as being among the earliest representatives of wheeled vehicles known to us, approximately contemporary, that is to say, with the chariot depicted on a stone slab at Ur (c.3200 B.C, according to Mr. Woolley), and a model of waggon from Anau."* All the specimens of carts are of terra-cotta, somewhat resembling the modern farm-carts of Sind. A specimen from

* Mohen-jo-Daro and the I. C. Vol. I, p. 39.

Harappa, however, happens to be of copper, and is rather like the Ekka of the present day.

Games.—For games our people had marbles of agate, slate and other hard stones, sometimes very beautifully made; and the dice which are usually cubes, not oblong like the modern Indian ones; and some carefully finished pieces resembling chess—pawns, evidently used in some board game. There were also accessories of *Chaupar*, a game still largely and zealously played all over Sind, with three cubical ivory *dharas* or dice which have small circles from one to six carved in relief.

Medical Art.—Western nations were yet primitive when the marvellous rejuvenating powers of certain herbs were first discovered in the Indus Valley, as is indicated by the small quantity of *silajit* (storax) discovered at Mahan-jo-Daro. The name *silajit* is given to two substances. One is white in colour and is a more or less pure native aluminium sulphate. The second is called black *silajit*. It is this latter substance that has been found at Mahan-jo-Daro. It is brought down from the Himalya ranges by various hill tribes, and the best quality can be had from the Pathans in the Karachi, Hyderabad and Sukkur markets. It is said to be a specific for dyspepsia, diabetes,

diseases of the liver and spleen, to regulate the action of the heart, and as a good respiratory stimulant and expectorant. Stag horns also seem to have been used for medical purposes. It is probable that the medical art of the people of Mahan-jo-Daro distinguished quite a number of diseases; but almost the sole curatives and preventives known were charms and the use of amulets and healing herbs, whose power was brought forth and made effective only by the sacred formula. The Atharva Veda incorporates a good deal of Dravidian belief and ritual, and in it we find a number of hymns addressed to illnesses and healing herbs.

Social Condition.—A good deal of light is thus thrown upon the domestic life of the people of Mahan-jo-Daro by what has been found in their houses. Their social condition, however, can hardly be described better than in the words of Sir John Marshall, who wrote in 1926 as under:—

“The existence of these roomy and well-built houses, and the relatively high degree of luxury, denoted by their elaborate system of drainage, as well as by the character of many of the smaller antiquities found within, seem to betoken a social condition of the people, much in advance of what was then prevailing in Mesopotamia and Egypt.

So far as the writer is aware, neither Egypt nor Sumer of the third millennium B. C. has yielded anything at all comparable to the average type of citizen's house now being unearthed in Sind.*

Two years later he wrote:—

".....the remains brought to light at Mahan-jo-Daro are for the most part private dwelling—houses or shops, which tend to confirm more and more our earlier impression that the amenities of life enjoyed by the average citizen at Mahan-jo-Daro were far in advance of anything to be found at that time in Babylonia or on the banks of the Nile. At Ur, in Sumer, it is true, Mr. Woolley has recently unearthed a group of houses which afford a most interesting parallel with those of Mahan-jo-Daro, and supply still another proof of a close cultural connection between Southern Mesopotamia and Sind. But even at Ur the houses are by no means equal in point of construction to those of Mahan-jo-Daro, nor are they provided with a system of drainage at all comparable with that found at the latter site—a system by which the sewage was carried by drains into street tanks and thence removed by scavengers."†

*The Illustrated London News, Feb: 27, 1926.

†The Illustrated London News, January 7, 1928.

In his book *Mohen-jo-Daro and the Indus Civilization*, published in 1931, Sir John Marshall, while reiterating the close connection between the civilization of Sind and Mesopotamia adds:

"We are justified in seeing in the Great Bath of Mahan-jo-Daro and its roomy and serviceable houses, with their ubiquitous wells and bath rooms and elaborate system of drainage, evidence that the ordinary towns-people enjoyed here a degree of comfort and luxury unexampled in other parts of the then civilized world." (Preface, p. vi).

PRE-ARYAN RELIGION

Mother-Worship.—The most enlightening relics, though very few in number, are, however, those of religion. They constitute the only authenticate and contemporary evidence of pre-Aryan religion and show how firmly established was the cult of the Mother Goddess or the Goddess of Earth, the most catholic of all goddesses, be her name *Amba*, *Durga*, or *Devi Mata* in India, and *Ishtar*, *Isis* or *Aphrodite* in Asia Minor. She is proto-type of the power *Prakriti*, Nature, or the original source of the material world, as distinguished from *Prusha*, supreme being or soul, which developed into that of *Sakti*, the personification of divine energy, and was transformed into a personification of female energy or *Yoni* (womb)—the counterpart of the *Linga* or Phallus of Siva,

worshipped by a sect of people called *Saktas*.^{*} These relics show the ancient dominion of *Sakti-ism* and of the idea of sexual dualism. They prove, in fact the prevalence of religious beliefs which are characteristically Indian, and are the best evidences that the Indus culture extended, either then or at a later date, far beyond the valley of the River.

R. B. S. Krishnaswami Iyer M.A., PH. D. says:—

“The Mother—Worship was wide-spread in all the countries between Persia and the Aegean. While

The *linga* or phallus—worship was widely prevalent in the ancient world at one time, and is “far more ancient than any other religion known.” The Egyptians, Greeks and Romans worshipped Priapus; and the Canaanites and idolatrous Jews worshipped Baal—Peer. These gods represented the *linga* cult. The worship of Bacchus was another form of it. We find the *Sisnas* (Rgveda X. 27, 19) or *Sisnadevas* “those who have a phallus for their deity” are twice referred to in the Rgveda (VII. 21, 5). A reference to this worship in the Rgveda, which is recognised as the oldest literature of mankind, points to the existence of the tribes in the Indus Valley when the RgVedic hymns were composed, and whom the Vedic Aryans hated for this mode of worship. The Sibis or Sivils or Shivas, who gave their name to Sibistan, and Sibi and Sehwan (which is a contraction of Sivistan or Shiva-astan corresponding to “*Sindiman*” of Greeks) were probably Aryans of non-Vedic cult, for they worshipped *linga* like old Dravidians.

there may be minor differences in type, the similarity is close enough, if not to justify a common origin, atleast to justify our believing that they were the product of a community of religious ideas shared by the various countries of this vast region. The mother-cult or the worship of Nature-Goddess had its origin in Anatolia in Asia Minor, spread thence throughout most of South-Western Asia. The correspondence between the Indus figurines and those in the other countries is so close that perhaps the Indus images as well were objects connected with the worship of the Mother-Goddess. The worship of the Mother-Goddess survives even in modern times, and is so wide-spread among the inhabitants of India that it may be regarded as of a pre-Aryan character, although somewhat Aryanised by absorption in certain aspects. There is one remarkable instance of a faience seal, oblong in shape, in which an image of a woman or female figure is depicted upside down with out-spread legs. A plant is seen to issue from the womb. A similar figure belonging to the Gupta Age has recently been discovered in the United Provinces in the same posture, a lotus taking the place of the plant. Perhaps this feature is what gave the name *Sakambari* to Goddess *Durga* in one of her

innumerable aspects in Hinduism”*

Siva Cult.—Side by side with the Mother Goddess, the *Mahadevi* or consort of Siva, there appears at Mahan-jo-Daro a male-god whom Sir John Marshall identifies with the historic Siva, and establishes Saivism, as still found throughout India, as the oldest world religion. One meets this male-god on a seal, seated and receiving worship in the posture of a *Yogi*. One might, indeed, almost mistake him for a Buddha. But this, together with the frequent occurrence of the bull, and numerous stone figures of *Yoni* and *lingam* lead to the conclusion that the people of Mahan-jo-Daro worshipped the god now known as Siva or Mahadeva, who was by tradition the patron of ascetics. “One of the busts, presumably that of a priest, or a priestly king, since his robe has the terfoil which was a sacred design both in Sumeria and Egypt, depicts a man with his eyes intent on the point of his nose, which is today the most usual of the yogi’s methods for attaining ecstasy and union with the infinite. The basis for inference, until the script yields its secret, is slender, but already it carries us back to the inner core of Hindu tradition.” (*Mr. H. N. Brailsford*).

**Mother-Worship in Mahan-jo-Daro: The Hindu Illustrated Weekly, October 15, 1933.*

Tree-Worship.—The seals also show abundant evidence of the cult of a Tree-Goddess, the patron of vegetation. She stands receiving sacrifice, in the branches of a *pīpal* tree, the tree of life or of knowledge, which is still sacred and still entitled to offerings of flowers, etc. A seal shows the sacrifice of a goat to this Tree of Life; it is the custom to this day in some villages of Sind to make offering to it. Another seal (not mentioned in Sir John's work) shows a marriage of two trees, a rite still performed in Southern India. Mr. K. N. Dikshit of the Archaeological Department points out that a terra-cotta tablet from Mahan-Jo-Daro bears clear evidence of tree worship. On either side of the tablet is impressed "a scene consisting of six or seven human figures standing above and a goat—drawn vehicle driven by a man below. These persons are probably approaching a tree in the right hand corner, in the bifurcated branches of which is to be seen a human figure, probably the presiding deity of the tree". Thus we have two forms of tree-worship represented; one in which the tree itself is worshipped in its natural form, the other in which the tree spirit is personified and endowed with human shape and human attributes.

Animal-Worship.—Animals, in the beliefs and social institutions of the people of Mahan-jo-Daro,

were evidently of immense importance; and the figures on the seals, and the terra-cotta, faience, and stone figurines form an interesting study. Representations, probably symbolic, on these seals have to be carefully considered. The animal almost commonly depicted is a strange one-horned beast like an antelope or zebra except for the horn. He is apparently the mythical unicorn, and he is invariably depicted as standing before a mysterious object which appears to be a manger or incense-burner of some kind. The frequency with which this animal occurs suggests that he may be the tutelary deity of the city or the royal house. From one seal it seems that this figure was carried in procession as was done in Egypt. In the ancient world the unicorn was traditionally believed to be an Indian animal and "Vishnu's title as *Eksringa* (having only one horn) may conceivably embody some memory of this prehistoric beast".* The humped bull also often appears and it is zoologically Indian. The bull, both humped and humpless, is closely associated with Siva, and daily worshipped by his followers. We have also a figure of the goddess which was discovered in November 1929. It is a goddess in *padamasana* posture (Buddha—like) with horns,

*Sir John Marshall.

pictographs above figures, on a square seal. To the upper left is an elephant, and lower a lion or tiger, to the upper right is a crocodile and lower is a buffalo. The symbolism of four animals round a central divine figure is expressed verbographically in the *Yajur-veda*. We have the goat, sheep, tiger and lion round the central figure of *Purusha**. Some seals bear in relief figures of other major animals, namely buffalo, crocodile, etc. The buffalo is *vahana* or vehicle of *Yama*, the God of death, and is also a dark demon of the water; and under the name of *Bhainsasura* is deified as a corn-spirit, to be propitiated when the corn is coming into ear.

Water-Worship.—The dwelling houses at Mahanjo-Daro are furnished with their own wells and bath-rooms and in addition there are public wells and the Great Tank. Evidently the people had a mania for cleanliness and it is a probable guess that water was held in great reverence and bathing was part of their religion. Even today every pious Hindu starts the day with bathing, and there is no reason to doubt that such was the case even in prehistoric times, and that the cult of *Darya-panthis* (river-worshippers) dates back to early ages.

* Prof. S. V. Venkateswara. The Sind Herald, 24.11.1930.

Extent of the Culture.—The results of the latest archæological explorations in Sind show that besides Mahan-Jo-Daro, and *Jhukar-Jo-Daro* outside the town of Larkana which also has very recently been excavated, there are a number of other sites in the Upper and Lower Sind which belong to the same Chalcolithic Age. The discovery of painted pottery, shell-bangles and the like, from the ruins of several cities situated in different districts of the province, reveal the fact that the whole province* from north to south was occupied during the same period and shared in the same culture as Mahan-Jo-Daro.

*It is important to note that in olden times our province was not as we see it today. A major portion of the Thar and Parkar District was certainly at one time flooded by the sea, and "intercourse between Sind and Cutch was free and frequent, obstructed by no desert barrier" (Sind Gazetteer, Vol. I, p. 5.). The whole area was probably raised by some great earthquake. Similarly the lowest part of the Delta, that is the region contiguous to the sea-coast, has also undergone great changes, during the last few centuries, owing to river deposits and earth-quakes. Major Raverty says:—"It is supposed, and with very good reason, that the great part of the Delta between Tatta and Karachi south, has been formed since the *Ab-i-Sind* or Indus deserted the channel and took a most westerly course. There is little doubt, indeed, but the great part of the Shah Bandar district as at present constituted, and southern part of Jerruck like-wise, are of comparatively recent formation." (The Mihran of Sind; pp. 468-69 footnote.)

But Sind was not the only province of this type. The discovery of pottery and similar remains, reveal the presence of a few other sites between the right bank of the Indus and the Baluchistan border, and of some scattered settlements stretching far north to Harappa in the South Panjab, along the Sutlej. Sir John Marshall points out that "there is some slight evidence in the shape of stone flakes and cores, shell, earthen-ware, and other objects which have been picked up on the surface of various mounds in Kathiawar suggest that this civilization extended in a south-easterly direction at-least as far as the Gulf of Cambay". The results achieved by Rai Bahadur Sarat Chandra Roy in Chota Nagpur provide another link in this chain of evidence. "The same culture, perhaps in more provincial forms, may have extended to other parts of Northern India, over an area reaching from Baluchistan to Kathiawar, and through Rajputana to the Ganges Valley, as indicated by the Gungeria* hoard and other finds of copper and neolithic implements."†

Relationship with other known Culture.—The Indus Valley civilization and culture show close resemblance on the one hand with those of

*A village in the Balaghat district of the Central Provinces.

†Encyl: Britt: 14th Ed, Vol: 12, p. 211.

early Sumer and Babylonia, especially with the proto-or pre-Sumerian of Kish, and on the other with that of historic India. Mr. H. N. Brailsford says:—"Scholars will argue for years to come over the exact relationship of this Indus civilization to the cultures of its neighbours. Less splendid cities, partly excavated, which manifestly belonged to it, have been found in Baluchistan, which was not then an arid desert. Pottery supplied close links with Elam and doubtless a land route existed, which the air-mail now traverses. But Mahan-jo-Daro knew ships, could engrave them, and may have been a great port, carrying on a sea trade with Ur and Kish. Unmistakable Indian seals have been dug up in Kish, suggesting that Indian merchants had their agents there.* But the links between the two civilizations are too close for commerce to furnish a sufficient explanation. The costumes are similar, the old way of waving the hair in a bun, the craftsmanship of the seals came surely from the same school; the two scripts have at least family likeness, both peoples had the same fancies in the shape of composite mythological animals. The peculiar mythology of

*Writing to *The Times* from Bagdad, Dr. H. Fankfort discusses discoveries which reveal intercourse four to six thousand years ago between Babylonia and the Indus civilization of India. See page 23 (footnote.)

the Sumerians reappears on the man, half bison, who struggles with a tiger is precisely the hero Eabani, companion of Gilgamesh, who struggled with a lion." He further adds:—"Directly or indirectly one suspects a connection with the earliest Egypt also. The sacred unicorn of Mahan-jo-Daro, the most prominent of its divine beasts, is carried in procession on a standard, precisely as were the totems of the Egyptian Nomes, as one may see on a palette which dates back to king Narmer's time."

The *Times of India* remarks:—"The civilization that existed in the Indus Valley, however akin it may have been to Sumerian origins, had a distinctive culture of its own, in some respects superior to anything yet found in Mesopotamia. At the same time, a word of caution must be entered against exaggeration. There is no evidence yet to prove that the civilization extended beyond the Indus Valley, that it may be unlikely that it was confined to it, nor is there any proof that it continued until the time of the Aryan invasion. Yet the discoveries may raise legitimate pride and interest in every Indian breast."*

Cradle of Civilization.—"According to one not unreasonable conjecture, the original focus of this

* Reproduced in the *Sind Observer*, Karachi, 22-2-1932.

culture may have been in Armenia, a country rich in metals and possibly the starting point of early race movements across the highlands of Persia, in one direction towards Elam and southern Mesopotamia, in the other towards Asia and India."* The Indus Valley region may not claim to be regarded as the cradle of civilization, but it must certainly be recognized along with Egypt and Mesopotamia as one of the most important areas where the civilizing process of society were initiated and developed. The North-West of India with its vast, well-watered plains, with its warm and variable climate, and with its net-work of rivers, affording ready means for communication and intercourse, must have afforded a specially favourable field for the advancement of early society, and mankind will ever look back with interest on the misty dawn of civilization which the archæologists may reveal on different sites in Sind and the Panjab where the spade has not yet penetrated.

Authors of the Culture.

Human Remains.—Of what race or races the authors of this culture were, there is so far nothing to indicate. Owing partly to the ravages of the river Indus, and partly to the custom of cremation,

*Encycl: Britt: 14th Ed. Vol. 12, p. 212.

the human remains comprised in all twenty-four skeletons. In the museum of Mahan-jo-Daro the skeletons are dolicocephalic or long-headed, but the skull from the fractional burial and the marble and alabaster statues show a pronounced brachycephalic. The head forms give evidence, therefore, of more than one race; and, indeed, Col. R. B. Sewell, Director of the Zoological Survey of India, and his colleague Dr. B. S. Guha, who have made an exhaustive examination of the skeletal remains identify four distinct ethnic types, viz. the Proto-Australoid,* the Mediterranean, the Mongolian branch of the Alpine stock and the Alpine. As far back as its history can be traced, the population of Sind has been a blend of many diverse elements, and it is quite probable that over five thousand years ago the population of Mahan-jo-Daro included at least these four racial types; but which, if any, of these four was the prime author of the Indus civilization is still an open question. One school of thought

*In India, the New Stone Age is associated with the immigration of the Proto-Australoids who seem to have come from Indio-China, through Assam and Bengal, and settled in different parts of India, at a time when land, now submerged beneath the sea, is supposed to have stretched from India in the direction of Australia. Collectively the Australoids, who settled down in India, are known as the Kolarian race.

has suggested that the relics are those of an exotic culture, "of the Indus Valley" rather than Indian, as pre-Indian and probably Sumerian in character. Another school would consider them Indian and entirely pre-Aryan, and a third as Indian and altogether Aryan. The opinion is lately gaining ground that the civilization now revealed to us for the first time is altogether pre-Aryan, and Sir John Marshall shows strong reasons for believing that there are no grounds for identifying the authors of this civilization with the Indo-Aryans of the Vedic literature.*

Rao Bahadur Rama Parsad Chand, Superintendent, Archæological Section Indian Museum, Calcutta, also says:—"Nothing as yet discovered affords any indication that the builders of the pre-historic cities at Harappa and Mahan-jo-Daro were akin to the RgVedic Aryans. On the other hand the civilization of those builders appears to be of a non-Vedic type."

Panis.—R. B. Rama Parsad Chand, proposes to identify the authors of this civilization with the *Panis* described by Yaska Muni in one place as "merchants" and in another place as "demons". In Rg Veda (I. 124, 12) the poet addressing Dawn says:—

*For the comparison of the Indus and Vedic cultures See Mohen-jo-Daro and the I. C. Vol. I, pp. 110-111.

“Let the Panis who do not perform sacrifice, and do not give gifts sleep unawakened (for ever).” Another poet sings:—“Ye mighty ones (Asvins) what do you do there; why do you stay there among people who are held in high esteem though not offering sacrifice; ignore them, destroy the life of the Panis (Rv. I. 83, 3).” The word *Pani* is evidently derived from *Pan*, “price” and conveys the idea of bartering, dealing or trading. “The Vedic Arya,” says R. B. Ramaparsad Chand, “had no place in his social system for trade and traders, so the conclusion is not difficult that the much maligned Panis were the representatives of an earlier commercial civilization.” He further adds:—“Among the antiquities unearthed at Mahan-jo-Daro are coins with pictographic legends that indicate the very early development of commercial life in the Indus Valley. The Panis probably represented this pre-historic civilization of the Indus Valley in its last phase when it came into contact with the invading Arya civilization. The Aryan conquerors who were inferior in material culture either destroyed the cities or allowed them to fall into ruin. Their great god Indra is called *Puroha* or *Purandara*, “Sacker of cities.” Like the pre-historic civilization of the Aegean, the prehistoric civilization of the Indus Valley also

failed to survive the shock of the Aryan invasion.”*

Nagas.—The dawn of history in the Indus Valley region is heralded by the hymns of the RgVeda which towers up as the great literary monument of the early Aryan settlers. Enough is known from this sacred book of the Hindus to justify the assumption that the Vedic Aryans found the Valley of the Indus peopled by the aborigines whom they have frequently designated in the hymns as *Dasas* and *Dasyus* (slaves and outlaws) and who were, on the Aryans’ own evidence, strong and civilized enough to merit the new comers’ lasting hostility. It is also evident from the RgVeda that the Aryans had not only to fight with Panis but also with Nagas or Sarpas, who appear to be war-like leading people among the Dasas; and that the natural feeling of hostility between the Aryans and aborigines was further embittered by difference in religion and religious rites. The *Dasas* and *Dasyus* were opposed to Agni cult and Vedic sacrificial rites and are therefore called *anagnitra*, “fireless” (RV. V. 189, 3), *ayaju*, “non-sacrificers” (RV. V. 1, 131) and *anyurata*, “of different rites” (RV. VIII. 59, 11; X, 22, 8). The Nagas, however, became less hostile and Aryans often married Naga

*Memoir of the Archæological Survey of India, No. 31, p. 5.

wives. We thus find that the Nagas were admitted to the Vedic pantheon.

Race of the Aborigines.—Who, then, the question arises, were the Nagas and Panis—Dasas and *Dasyus*—despised by the agricultural Aryans—, by race? They were probably Dravidians, the serpent (*Naga*) being the Dravidian symbol of Earth.* Sir John Marshall, Mr. Banerji and some other scholars are inclined to connect the Mahan-jo-Daro and Harappa people with the Dravidians who are certainly the older inhabitants of India.

Dr. S. K. Chatterji says:—

“The Mahan-jo-Daro and Harappa culture does not seem to be Aryan. The burial customs are distinctly non-Aryan; they show a deep rooted difference in racial and cultural origins.....It is very likely that it was a strong and well organised non-Aryan people in the South, such as the Mahan-jo-Daro and Harappa people would seem to have been. And they could have been Dravidians only.” *The Times of India* remarks.—“The Mediterranean race is generally assumed to be that to which the Dravidians belonged, and a likeness between Dravidians and Sumerians was long since believed by Dr. H. R. Hall and others to exist,

* Zenaide, A. Ragozin, Vedic India, p. 308.

though Sir John Marshall evidently doubts whether it has been established. The fact, however, that the remnant of a Dravidian language (Baruhi) persists in Baluchistan makes it practically certain that the Dravidians, whoever they exactly were, entered India though Sind and the Lower Panjab, and renders it probable that they were the principal enjoyers of the Indus culture, though they may, of course, have existed alongside of a Proto-Australoid or Kolarian race." The Aryans probably brought with them a knowledge of iron, and a superior breed of horse, and it may have been these advantages that enabled them to subjugate the existing peoples who already possessed cities and forts, and a more developed material civilization.

Mixed Culture.—After a period of conflict, the immigrants and the natives were reconciled and assimilated as inhabitants of a common motherland. In course of time, Northern India, including Sind, became the seat of a mixed culture. Through centuries the older culture gradually asserted itself and modern popular Hinduism probably owes more to it than to Aryan thought. The historian of *Indian and Indonesian Art*, A. Koomarswamy says—"Indian art and culture, in any case, are a joint creation of the Dravidian and Aryan genius,

a welding together of symbolic and representative, abstract and explicit, language and thought." (p 8). The conquerors had been conquered by the conquered.

Importance of the Discovery.—The two great facts achieved by the excavations are, first, the carrying back of concrete evidence of Indian history from 300 B. C. to at least 3,250 B. C., and, second, the establishment of the pre-Aryan inhabitants of at least a portion of India as the possessors of an advanced civilization. Before these discoveries, antiquarians had generally taken it for granted that there was no Bronze Age in India, that the Copper Age was followed by the Iron Age, and that the Indians were little better than savages in the Age of Copper when the great civilization of Egypt and Sumer, of Crete and Asia Minor, were already well advanced. The conclusions gathered from the Vedic writings were that when the fair Aryans, the gallant soldiers and chivalrous princes, entered India about 1500 B. C., they found there only lowly aboriginal stocks, black-skinned and flat nosed—the contemptible *Dasas* and *Dasyus* (slaves and outlaws), with a culture no higher than the Bhils and other hill-tribes possess today. Hindu civilization and religion were supposed, therefore, to be products of Aryan genius. "Never for a moment was it imagined that five

thousand years ago, before ever the Aryans were heard of, the Panjab and Sind, if no other parts of India as well, were enjoying an advanced and singularly uniform civilization of their own, closely akin but in some respects even superior to that of contemporary Mesopotamia and Egypt. Yet this is what the discoveries at Harappa and Mahan-jo-Daro have now placed beyond question.”* Thus these discoveries now upset all the received opinions about Indian history as still inculcated in our text books. Bronze implements discovered dismiss the illusion of India having only a Copper and not a Bronze Age. The conclusions to be gathered from the Vedic writings that the Aryans found India inhabited by uncouth savages have also for the first time been definitely proved to be unfounded. The whole purview of Indian archæology and the conception of Indian civilization as derived almost solely from the Aryans calls for revision.

Summary.—To sum up, we infer from the evidence that roughly between 3250 and 2750 B. C., there dwelt in the Indus Valley region, an opulent and highly cultured race, living peacefully in large well-planned cities with high walls, spacious buildings

*Sir John Marshall: *Mohen-jo-Daro and the Indus Civilization*, Vol I, Preface, p. V.

built of brick furnished with their own wells, bath rooms and court yards floored over with country tiles, stair-cases and upper storeys; broad roads at right angles to one another, an elaborate system of drainage and sanitation far in advance of anything in India for centuries later; public baths, and other signs of marvellous culture, surpassing in many respects the splendour of Egypt and Mesopotamia, in which no vestige of Indo-Aryan influence is to be found. The city of Mahan-jo-Daro must have contained a population composed of different races. The skeletal remains point to the presence of four different races and their method of dress must have been as varied as their personal appearance. They were generally short and stout, with full, fleshy lips and narrow eyes; the men wore beards, and sometimes shaved the upper lip. These people were still in the transition stage between the Stone and Copper Ages. For every day they were using stone-knives or scrapers, hundreds of which have been found in their houses. But they were familiar, nevertheless, with working of gold, silver and copper. Lead, too, and tin were in use, but the latter only as an alloy in the making of bronze. They used implements of stone, copper and bronze, but were unacquainted with iron. They knew how to make the bow and arrow, spear,

axe and mace. They had not yet evolved the sword, nor probably did they know the use of defensive armour. With spinning and weaving they were thoroughly conversant. Their clothes were of cotton (and probably of wool also); and they were fond of jewellery, rings, bangles and other personal ornaments. They were manufacturing jewellery and other articles in highly polished gold, fine paste, and glazed blue and white faience, and were engraving seals in a style worthy of the best Mycenæan art. The boring of a hard substance like cornelian also shows a considerable amount of skill. They lived on wheat, barley, date, beef, pork and poultry, mutton and fish. Their domestic vessels were commonly earthenware; more rarely they were of copper, bronze or silver. They had pottery ranging from rough-vessels rounded by hand through pots turned on the wheel and painted black or red, up to delicate polychromæ ware. Their weights and measures are delicate, and run down to very small units. Among their domestic animals were the bull, the horse,* the sheep, the goat, the pig and two kinds

*At page 111 of his book Sir John Marshall says that "to the people of Mahan-Jo-Daro and Harappa the horse seems to have been unknown", but the author saw a clay model of a horse discovered too recently for record in Sir John's book.

of dogs. The elephant was well-known and may have been tamed. Among the wild animals in the surrounding marshes and jungles were the crocodile, the rhinoceros, the elephant and the tiger, but not the lion which prefers arid and sparsely covered country. The animals depicted show how great the climate must have changed, as they are largely the denizens of forest area with a heavy rainfall, and Sir John Marshall is doubtless correct in attributing this to the gradual withdrawal of the South-West monsoon. It also seems probable that the animals depicted were selected as the favourites of particular deities. Their art and religion have a peculiar character impressed upon them. The engravings of humped and short horned bulls on their seals are not only vigorous, but show a continuity with that aspect of Hinduism which is bound up with animism and the cult of Siva. Stone representations of the phallus have been found; and they are held to prove conclusively that phallism in India was of pre-Aryan origin. Tree worship and water-worship also seem to have prevailed; and evidences are available for proving the existence of the Naga cult. Many of these ideas and cults later found their way into the fabric of modern Hinduism as the result of the Vedic Aryans' fusion with pre-Aryans. The people were able to

write, but seem to have used the art of writing mainly for religious and commercial purposes. Their literature, if they had any, has perished entirely. It may have been committed to fragile materials, or handed down orally. They cremated their dead, and buried the ashes in urns. They derived their wealth mainly from agriculture and trade which appears to have extended far and wide in all directions. Wheeled carts were evidently common, as many toy models of them have been found exactly like those used in Sind to this day. Ships were known, though again the evidence recently discovered will not be found in Sir John Marshall's book. The people of Mahan-jo-Daro were almost certainly in close touch with the people of Mesopotamia and traded with them both by sea and old land route running through the Bolan Pass. The Indus culture might be said to correspond in its general features with the Chalcolithic civilization of Egypt, Sumer and other countries of Western Asia. It, however, presents features peculiar to the Indus Valley which is its basis. India ranks today with Mesopotamia and Egypt among the pioneers of civilization, and our province can, indeed, boast of an ancient lineage.

