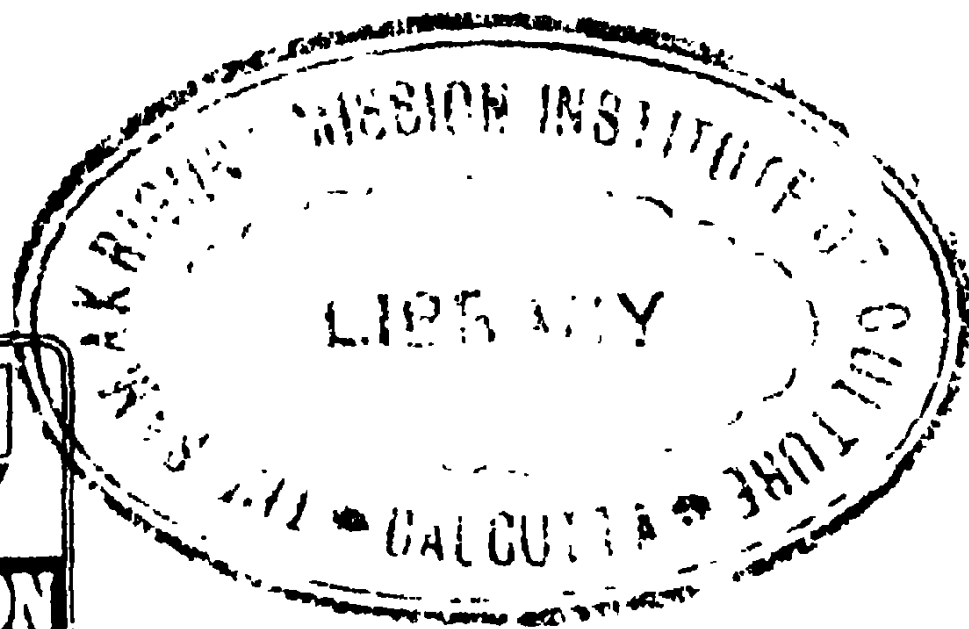


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Mohenjo-daro and the Indus Valley Civilization

The scholars interested in the history of Indian civilization were eagerly awaiting for some time past the publication of the account of excavations at Mohenjo-daro carried out by the Government of India from 1922 to 1927. The three sumptuous volumes, of which two contain the account in 32 chapters covering 693 pp. (with a coloured map and a site plan, and some plates and illustrations), and one exclusively the plates (total 164), would be welcome to every Indologist, furnishing as they do remarkable archæological evidences that will cause a revolution in many of the current views and theories about the origin, development, and antiquity of many of the branches of arts and sciences that lay at the root of the ancient Indian civilization, and of the many articles of comfort or luxury that were used by the Indus Valley people at the remote period to which they belonged. The discoveries have given rise to many difficult problems, the solution of which will require of course a long time, but the experts who have applied their minds to them have already reached some conclusions that will constitute much food for thought for scholars in the various fields of investigation. The following extracts from the Preface, where Sir John has put together the most salient features of the Indus Valley civilization, will give the reader an idea about some of these conclusions:—

The following is in brief the scheme of distribution of the 32 chapters among the various writers :

Sir John Marshall, the Editor, has contributed 9 chapters; the country, climate, and rivers—site and its excavation—buildings—other antiquities and art—religion—disposal of the dead—extent of the Indus civilization—age and authors of the Indus civilization—the stūpa area.

Mr. Ernest Mackay, noted for his excavations at Kish and other places, has written 13 chapters: SD, L, and DK areas at Mohenjo-daro—architecture and masonry—plain and painted pottery—figurines and model animals—statuary—faience and stone vessels—seals, seal impressions, and copper tablets—household objects, tools, and implements—personal ornaments—games and toys—ivory, shell, faience, and other objects of technical interest—(the second part of a chapter on) technique and description of metal vessels, tools, implements, and other objects.

Mr. Hargreaves, Offg. D. G. A. in India: H R. Area.

(1) "In the religion of the Indus peoples there is much, of course, that might be paralleled in other countries. This is true of every pre-historic and of most historic religions as well. But, taken as a whole, their religion is so characteristically Indian as hardly to be distinguishable from still living Hinduism or at least from that aspect of it which is bound up with animism and the cults of Śiva and the Mother Goddess—still the two most potent forces in popular worship. Among the many revelations that Mohenjo-daro and Harappā have had in store for us, none perhaps is more remarkable than this discovery that Saivism has a history going back to the Chalcolithic Age or perhaps even further still, and that it thus takes its place as the most ancient living faith in the world".

(2) "India must henceforth be recognized, along with Persia, Mesopotamia, and Egypt, as one of the most important areas where the civilizing processes of society were initiated and developed. I do not mean to imply by this that India can claim to be regarded as the cradle of civilization; nor do I think on the evidence at present available that that claim can be made on behalf of any one country in particular.

Rai Bahadur Daya Ram Sahni: HR Area, section B—VS Area.

Mr. C. J. Gadd (of the British Museum) and Mr. Sidney Smith (Inspector of Antiquities in Mesopotamia): some external features and the mechanical nature of the early Indus script (in two parts).

Prof. S. Langdon (Assyriologist, Oxford University): the Indus script.

Mr. M. Sana Ullah (Archaeological Chemist): copper and bronze utensils and other objects.

Mr. A. S. Hemmy (lately Principal, Govt. College, Lahore): the system of weights and measures.

Col. R. B. Seymour Sewell, Director, Zoological Survey of India, and Dr. B. S. Guha, Anthropologist to the Zoological Survey of India: human remains—zoological remains.

Sir Edwin Pascoe, Director, Geological Survey of India: minerals and metals.

The assistance of a few other specialists has also been utilized. The officers of the Department whose work has been mentioned in the Preface are the late Mr. R. D. Banerji who discovered the high antiquity of Mohenjo-daro, if not Mohenjo-daro itself and his successors Mr. M. S. Vats and Mr. K. N. Dikshit. Mr. Banerji left a report regarding his portion of the work in the stūpa area. This report has been utilized by Sir John Marshall in the 9th chapter, in which there is a note by Mr. N. G. Majumdar on the copper coins found in the area.

In my view, the civilization of the Chalcolithic (i. e. when arms and utensils of stone were used side by side with those of copper or bronze) and succeeding ages resulted from the combined efforts of many countries, each contributing a certain quota towards the common stock of knowledge."

(3) ".....We are justified in seeing, in the great Bath of Mohenjo-daro and in its roomy and serviceable houses with their ubiquitous wells and bathrooms and elaborate systems of drainage, evidence that the ordinary townspeople enjoyed here a degree of comfort and luxury unexampled in other parts of the then civilized world".

(4) "Equally peculiar to the Indus Valley and stamped with an individual character of its own is its art. Nothing that we know of in other countries at this period (third millennium B.C.) bears any resemblance, in point of style, to the miniature faience models of rams, dogs, and other animals or to the intaglio engravings on the seals, the best of which—notably the humped and short horned bulls—are distinguished by a breadth of treatment and a feeling for line and plastic form that has rarely been surpassed in Egyptian art; nor would it be possible, until the classic age of Greece, to match the exquisitely supple modelling of the two human statuettes from Harappa figured in plates X and XI".

Probable causes of ruin of Mohenjo-daro

The work opens with a description of the present physical conditions of Mohenjo-daro and the surrounding places. The scanty rainfall occasionally varied by torrents of rain, the extreme variations of temperature in summer and winter, dust storms, sandflies, and mosquitos have made the present Mohenjo-daro a very unattractive spot for human habitation but the conditions were different five thousand years ago, when it was a flourishing city. From the picture of the region presented by Arrian and other historians of Alexander, it is evident that the general aridity of the country was in evidence some centuries before Alexander's invasion. The probable causes of such a climatic change have been discussed in detail. This change as also those undergone by the courses of the rivers in Sind, for which

evidence has been cited, together with the violent inundations can well account for the ruin of the city.

The various Areas

The site of Mohenjo-daro has been divided into a number of areas for purposes of reference and separate delineation. A reference to the site plan shows at a glance the relative positions of the various areas together with the railway stations, the museum, and the officers' quarters. A portion of the site is called the stūpa area because there a Buddhist monastery has been unearthed, while the other areas are called HR, VS, DK and so forth probably after the names of the officers to whom they were entrusted. The six chapters X-XV contain detailed descriptions of these portions of the site with special references to the remains of buildings found there as also the various articles discovered in the different spots. Each article has been carefully delineated and its location noted down with a precise indication of the spot and the depth at which it has been discovered, enabling one to draw inferences regarding its antiquity. Several views of the areas from the air as well as a profusion of beautiful illustrations of the relics make it easy for the reader to form a general idea of the areas and a detailed idea of the finds.

Stratification. Some of the relics have a history going back to 4000 B.C.

Altogether, seven layers of buildings have been discovered at Mohenjo-daro: three of the Late Period, three of the Intermediate, and one of the Early. Earlier layers lie submerged under the sub-soil water. In normal conditions, a period of one thousand years could have been allowed for the occupation of Mohenjo-daro on the analogy of well-known sites like Troy, Athens or Rome, but as the process of decay and revival was much more rapid here, a provisional period of five hundred years, i.e., about two generations for each of the strata have been allowed. Of course, this period does not include the whole

rise and fall of the Indus civilization because the stage at which it reveals itself is already high as demonstrated by the complexity of city life, the elaborate nature of the buildings and the excellence of the arts and crafts. For this evolution, roughly a period of one thousand years has been allotted. The individual relics that point to an early intercourse between the Indus Valley, Elam, and Mesopotamia must in the case of two seals at least be referred to the pre-Sargonic Period, and not later than the third millennium B.C., and as the antecedent period of evolution has been assumed to cover a thousand years, the relics have a history going back to the fourth millennium B.C. Mr. Gadd and Prof. Langdon infer from the two specimens of seals with 'Indus' pattern found at Ur and Kish that the 'Indus civilization must go back to an age before 2800 B.C. This is 'incontestable'. Among the many objects (other than seals) that demonstrate an intimate relation between the Indus Valley and Early Sumerian cultures, the following seven sets of relics are mentioned as of special interest:—

- (1) Fragments of vases found at Al-Ubaid made of an Indian potstone;
- (2) the trefoil pattern on the robe of the statuette on pl. xcvi identical with that on some Sumerian 'Bulls of Heaven' of early date;
- (3) the horned figures on seals 356 and 357;
- (4) a toilet set found at Harappa identical in pattern with one discovered at Ur;
- (5) the etched heads of Carnelian (pl. cxlvi) resembling those from pre-Sargonic graves at Kish;
- (6) a peculiar type of jar cover resembling those discovered at Jamdet Nasr; and
- (7) the wavy rings of shell inlay (pl. clvi, 4 & 5), a squat carinated vessel (pl. lxxxii, 17), and the stone toilet boxes (pl. cxxxii, 36 & 37).

It has been assumed provisionally that the Ur and Kish seals belong to the Intermediate Period and accordingly the occupation of Mohenjo-daro fell approximately between 3250 and 2750 B.C.

The buildings within the city

The people of the Indus Valley had clear ideas about town-planing. This is indicated by the striking regularity of the divisions of the city of Mohenjo-daro, the successfully aligned streets, the orientation of all the principal streets to the points of the compass, the correspondence of the houses and public buildings with the orientation of the thoroughfares and such other features of the lay-out of the city. The width of the streets ranges from 13 to 30 feet, and the lanes that separate one block from another vary in width from 3 ft. 8 in. to 7 ft. The corners of some of the streets are slightly rounded. In two cases, this rounding appears to be intentional, as there are indications of trimming by an instrument. Thin cross walls bar some of the streets showing an attempt to divide the city into wards for greater public security. The external appearances of the buildings are severely plain. The motive for keeping them unornamented has been guessed to be to avoid additional taxes, which would have been imposed, if any marks of the possession of wealth by the owners distinguished the externals of the buildings. Drains inside the houses were comparatively rare, because the kitchens and bathrooms were usually constructed next to the street wall in order that water might flow out into the drains in the street straightaway. The elaborate system of public drainage has been taken as an evidence of large rainfall in ancient Sind. Pottery, drain-pipes, soak-pits, and sediment-pits were in general use, but no latrines have been found except two well-built ones in House XLIX in the HR area (p.267). The existence of small doorless chambers points to the possibility of their use as cess-pits. The construction of the true arch was not known at Mohenjo-daro because only the corbelled arch is found in use. It was known in very early times in Egypt and Babylon. Burnt and not sun-dried bricks have been found in all the houses within the city. The use of some form of windlasses for the drawing of water from some private wells is inferred from the absence of marks caused by the friction of ropes on the coping. Windows were few in number in the houses. Bath-rooms are found in nearly every house.

The Great Bath

A vast hydropathic establishment includes the great Bath—the most remarkable of all the remains discovered at Mohenjo-daro. The overall dimension of the building is 180 ft. by 108 ft. The swimming bath is in the middle of a quadrangle having verandahs on all the four sides. On three sides, at the back of the verandahs, there are various rooms and galleries. The bath is 39ft. by 23 ft. and sunk about 8 ft. below the pavement of the court with a flight of steps at either end. For the convenience of bathers, a low platform has been constructed at the base of each of the flights of steps. The bath was filled with water from a well, and the waste water was let out through a covered drain, the roof of which is about 6 ft. 6 in. high. The stairway testifies to the existence of at least one upper storey. Every precaution was taken to make the walls of the bath water-tight. The lining of the tank is made of finely dressed brick in gypsum mortar with an inch of damp-proof course of bitumen. Other interesting details regarding the method of construction are found in the description but space does not permit me to mention them here.

Hot-air bath or hypocaust

Another building near the south-west corner of the Great Bath and forming part of the same establishment is a *hammām* or hot-air bath. The portion of the building that has been cleared reveals a number of rectangular platforms of brick, each being of the size of a small room about 5 ft. high with a series of vertical chases sunk in their sides. Cinders and charcoal were found on the narrow passages between the platforms crossing one another at right angles. The heating system may have been used only to keep the house warm in winter, but the inference that the platforms were the solid sub-structures of the heated rooms of a *hammām*, and the chases the beginnings of the flues for distributing the heat through the walls and under the floors of the rooms is more likely to be correct. The existence of a building in the DK area (sec. B, block 2), leaving no doubt about the fact that the Indus people knew the principle of hypocaust, corroborates this inference.

Three more points should be noticed in connection with the remains of buildings:

Pillared hall

(1) The discovery of a pillared hall in the area (block 4, sec. C). It is a spacious hall containing twenty piers arranged in four rows supporting the roof.

Temples not definitely identified

(2) The absence of an unambiguous clue to the identification of some spacious edifices as temples. In Mesopotamia, the temples were, broadly speaking, copies of the royal palaces. Some of the big edifices at Mohenjo-daro may have been temples; or it is also possible that like the Minoans, they had no public shrines at all but had only places for worship in their own houses.

A Buddhist stūpa with a monastery

(3) The discovery of a Buddhist stūpa and a monastery. A conjectural restoration of the stūpa at p. 116 enables the reader to have at a glance an idea of same with as much of approximation to its actual appearance as possible. Plate XVI contains a plan of the stūpa with the surrounding quadrangle and the rows of monastic buildings on the four sides. The body of the original stūpa is still not fully visible, but on the east side the accretions have disappeared and exposed to view a sufficient portion to show that it had a width of over 50 ft. from north to south. Its length from east to west including the steps on the eastern side was about 74 ft. The drum of the stūpa has disappeared but the lower part of the circular drum measuring 8 ft. 4 in. above the plinth still exists. The diameter of the drum was about 33 ft. 6 in., hollow in the middle, and made of sundried bricks (each measuring $11\frac{1}{2}$ in. \times $5\frac{1}{2}$ in. \times $2\frac{3}{4}$ in.) laid in mud mortar. There are cells and other apartments on the four sides of the court-yard. The monastery was entered by a passage on the east side. There was a vestibule 25 ft. 6 in. \times 13 ft. 6 in. To the north of the vestibule is a chapel. Next comes a stairway leading to the upper floor. There is a large assembly

hall (44 ft. × 26 ft.) in the north-east corner. The second large hall is guessed to be the common room in the monastery. The sleeping and living rooms for use by the monks are ranged on three sides of the quadrangle. The number of monks that could be accommodated on the ground and the first floor is estimated at about forty. The additional chambers on the northern side at the back of the monk's quarters are surmised to have been used as kitchens, store rooms, etc. In chamber 27, some relics connected with a post-cremation burial have been discovered, while beneath chamber 39, a pre-historic earthenware vessel has been found. The coin-finds containing many unknown types are very interesting. A collection of 1684 coins deposited in an earthen pot belongs to a date subsequent to the Kushan king Vāsudeva I. It has been inferred from the evidence supplied by the coins and other data that the stupa was probably founded by one of the earlier Kushan kings Kanīṣka or Huviṣka but the monastery buildings were built later, i.e., are not older than the reign of Vāsudeva I (c. 185-220 A.D.).

Seals

The seals discovered in the various strata constitute one of the most interesting of the finds. Up to May, 1927, 558 were collected. Most of them have one or two lines of scripts or pictographs as well as the representation of some animal. Sir Alexander Cunningham secured some specimens like these from the villagers near Harappā and noticed them in the *Archaeological Survey Report*, vol. V (1875), p. 108, pl. xxxiii, fig. 1 (see also *J.R.A.S.*, 1912, pp. 699-701, for a note by Dr. J. F. Fleet—A representation of a seal from Harappā now in the British Museum was published many years ago by Terrien de Lacouperie in the *Proceedings of the Society of Biblical Archaeology*). The seals have been classified into the following ten types:

(a) cylinder seals; (b) square with perforated boss on reverse; (c) square with no boss and in some cases inscribed on both sides; (d) rectangular with no boss; (e) button seals with linear designs; (f) rectangular with perforated convex back; (g) cube; (h) round with perforated boss; (i) rectangular with perforated boss; and (j) round with no boss and inscribed on both sides.

A few features of these seals may be noted:

- Re. (a) The seals are made of ivory and are longer and thinner than the cylinder seals of other countries. Three of the seals end in knobs, perhaps for being tied to a cord.
- „ (b) These are made of steatite and have been found in large number.
- „ (c) The *svastika* mark is found on some of them.
- „ (d) Of the twenty-two specimens, five are of steatite and the rest of faience. The latter may have been used for stamping impressions for some religious purpose. The *svastika* mark appears on many of them. This symbol was found in use in many places of the ancient world, e.g., Crete, Cappadocia, Troy, Susa, Musyan. But it was not known in Babylonia or Egypt. The direction of the arms of the symbol is generally towards the right, as it is held in India in historic times to be unlucky if they be turned towards the left; but such a feeling did not exist at Mohenjo-daro as many examples of the arms turned in one direction or other are available.

The seal 516 with a number of squares one set inside the other is only one of its kind at Mohenjo-daro. It is known at Susa and dated to the proto-Elamite period.

- Re. (e) The pottery seals of the type are rather rare at Mohenjo-daro.
- „ (f) Only five examples are available. They are made of sandy-yellow paste and appear to have been glazed. A series of parallel lines crossing one another at various angles appear on some of the seals. The same motif was known in Mesopotamia and Susa.

Some of the seals exhibit unusual features, e.g., inscribed boss (seal 18); levelled edges (seals 335, 337); possession of two registers—a fabulous animal occupying the upper and an elephant the lower portion (seal 376); triple row of pictographs (seal 389); the inclusion of a fabulous figure like the Sumerian hero Enkidu (seal 356).

The uses to which the seals were put at Mohenjo-daro have been the subject-matter of some conjectures. The opinion has been put forward that some of them at least were used as amulets. The absence of sealings on clay or any other substance attached to a jar or any other article of merchandise as found at other ancient sites is responsible for obscurity on the point while the hollow interior of a seal (pl. cii, q) for the reception of some small sacred object and the representation of some animal believed to possess some special power support the amulet theory. But the dual use of a seal was quite possible. Of the five fragments of pottery bearing seal impressions, three are marked with a rectangular seal, and two with a square one (pl. lxxviii, 1, 3 and pl. cxv, 558-560). In one case a faint impression of the animal appears as if made by mistake (pl. lxxviii, 3). This makes it quite probable that sometimes the whole seal while at other times only its inscribed portion was used.

None of the seals discovered in other ancient sites outside India bear resemblance to these seals in shape, devices or pictographs.

The representations of animals on the seals

On a large number of the seals is represented a *beast with a single horn*. It is a male animal resembling either an antelope of heavy build, or an ox with a tufted tail. It may be a fabulous animal—a composite of the ox and the antelope. For convenience, it has been termed *unicorn* though it does not resemble the unicorn of heraldry. This unicorn is supposed to have originated in India and mentioned by Ctesias and Aristotle as peculiar to India and called the Indian ass. There is a curious standard-like object in front of the unicorns on the seals. The lower portion of the object is a bowl-like receptacle standing on an upright support. The bowl, in some specimens, appears as made of basket work, some of embossed material, or leather. The object above the bowl is equally curious. It looks like a cage resembling the pottery cages on pl. lxxxiv, 1 and 2. In some cases it is closed on the top and so cannot be taken to be a manger. There is a knob or handle on the top in some examples. On two of the impressions of the seals,

an interesting scene shows four men passing in a procession (pl. cxvi, 5 & 8; pl. cxviii, 9) each with a standard in hand. The object on the standard behind is the same as the supposed cult object in front of the unicorn on the seals. The scene represents the leading of sacred animals in a procession. This is reminiscent of the practice of carrying both animal and cult object on standards in procession in ancient Egypt.

The *short-horned bull* is next in order of popularity to the unicorn and is seen on seals 308-26, 487, 536, and 557 b. The animal is always found in an angry mood being the vehicle of some god of war or destruction. On some of the specimens, an ornamental collar appears around the neck of the beast. The wrinkles and the dewlap have usually been faithfully represented. The likeness of the manger found in front has been found also on a cylinder seal of bone at Susa. The seal either came from India or was made by an Elamite artist for an Indian visitor to Susa. A seal bearing the device of a bull with lowered head and containing cuneiform characters was discovered at Ur. It is similar to the seals 308-26 except in regard to the scripts. This can be dated to the pre-Sargonic period.

The Brahmani bull appears on seals 327-40 and probably also 542. The representation of the animal on seal 337 has been marvellously executed; in feeling and in the careful portrayal of the muscles, it will compare favourably with early glyptic art anywhere. This animal is not found on the seals or pottery of Sumer or Elam.

Space does not permit me to reproduce here more details about the large number of portrayals of animals on the many seals found at Mohenjo-daro. Suffice it to say that the seals contain representations of the buffalo, the great Indian rhinoceros, tiger, elephant, the fish-eating crocodile, antelopes, mythological creatures in human or partly human forms, goat (seal 150) and scorpion (seal 262).

On some of the seals (12, 15 etc.) a man appears with a bow and arrow, a bent stick or some other article. On some (37, 42 etc.) he carries a bow on his back.

The portrayal of plant-forms is found only on twelve seals (22, 126, 167 etc.). On two of them (387, 527) a plant-form constitutes the cen-

ral motif on the pipal tree appearing on one of them. The *babul* tree is represented on four seals (252, 353, 355 and 357).

Sealings

The seal-impressions have been divided into four classes, viz., those on

- (a) Rectangular or square tablets,
- (b) Triangular prisms,
- (c) Round tablets, and
- (d) Pottery vessels.

Five seal-impressions have been found on jats, and thirty one tablets of faience and baked clay of various shapes.

Some details regarding a few impressions belonging to the four groups may be interesting:

Re. (a). No. 1 on pl. cxvi, and 7 on pl. cxviii. Six nude human figures appear on the obverse in the upper register, standing in a row. A kneeling figure in the lower register holds a bladed object in one hand. A goat stands in front of the figures and a partly defaced tree in front of the goat. There is a human figure in the centre of the tree. The same scene is found on the reverse. The scene has been interpreted as showing a priest about to sacrifice a goat to a tree-spirit. Composite animals, rhinoceros, unicorn, gharial, a file of animals and a row of eight characters and the figure of a *yogin* seated on a dais with a kneeling worshipper on each side are also found in the various impressions.

Re. (b). No. 5 on pl. cxvi has an interesting scene, in which appears a file of four men carrying standards. The central standard shows the unicorn. The procession is Egyptian in character.

No. 14 on pl. cxvi shows on one face an elephant, a rhinoceros, a tiger or leopard, and a cat-like animal. Above them are a fish and a gharial with a fish in its mouth.

Copper tablets

The copper tablets are of two kinds:

(a) with an animal or human figure on one side and an inscription on the other, and

(b) with an inscription on each side.

The animals on the tablets are elephant, antelope, hare, rhinoceros, buffalo (?), short-horned bull, human figure, goat, *brahmani* bull, tiger, two-headed animal, composite animal, and monkey (?).

On account of the thinness of the tablets, it is difficult to use them as seals. They were probably used as amulets. The possession of an amulet gave the wearer the special protection of the deity whose particular animal was engraved on the tablet. Or it is also probable that the animals were not regarded as sacred but as possessed of a special attribute which would help the wearer.

The early Indus script

An elaborate sign-list (pls. cxix to cxxix) has been made of 396 scripts in spite of the many difficulties of understanding whether any two characters are really different or identical. It is the opinion of both Mr. Gadd and Mr. Smith that the writing is in the hieroglyphic state and has not degenerated or been worn down by use into conventional summaries like the Babylonian cuneiform, the Egyptian hieratic, or the Chinese writing. This is due to the material upon which the characters are usually written, because on soft materials, they are used cursively and hence fail to preserve their lost forms. Though it is concluded that the scripts are representations of the objects for which they stand, few have yet been identified. A list has been given suggesting the possible identifications of some of the characters with the following: Men in various attitudes, man standing, man raising arms, man with bow and arrow, man holding yoke, man carrying two water-skins on a yoke, fish, hand with different numbers of fingers outstretched, birds, animals, plants, heart, spear, chair, table, parasol, road, foot, and insects. Modifications of the signs have been very frequently made by the use of 'additions', i.e. vertical or oblique strokes at the top or by 'enclosures', i.e. signs standing in the midst of usually vertical strokes and occasionally within a sort of parantheses. The direction of writing is usually from right to left but at times it is *boustrophedon*,

i.e., from right to left in the first line, and left to right in the second. It has been inferred that the signs are probably syllabic. The devices on the seals do not appear to have any direct connection with the signs because the same animal is found to be represented with different inscriptions. The inscriptions are probably names of the owners and their qualifications or titles. It is difficult to get at a numerical system from the inscriptions and it is likely that the collections of strokes, though containing a number of units, had a phonetic value. According to Mr. Gadd, there are few resemblances between the Indus and Sumerian signs and the analogies between the Minoan and Indus scripts may only be fortuitous and sometimes far-fetched. There are, however, certain devices and punch-marks on some coins from N.W. India bearing a strong resemblance to the ancient pictographs. The following provisional conclusions regarding the scripts have been suggested:

- (a) The writing is at least in part syllabic;
- (b) The seal-inscriptions are generally names;
- (c) The names belong to an Indo-Aryan language.

A combination of three signs has been tentatively taken to mean son (*putra*) and the values of the three signs have been reached on the basis of that assumption.

Mr. Smith holds that the inscriptions are not mere personal names. They contain symbols standing for ideas that may not form parts of names, e.g., repetitions of the picture of a bird; men may be called by the names of birds but their plural is not suitable for a personal name.

Prof. S. Langdon has made a separate sign-list containing 288 signs. He is definitely of opinion that the Brāhmī script is derived from the Indus pictographic writing. A few of the resemblances between the Brāhmī scripts and the Indus signs have been noted by him along with references to their syllabic values. The concluding lines of the chapter written by him are worth noting:

“If this script was preserved and finally issued into the alphabet of the Buddhist period, it proves that the Aryans must have had intimate contact with these founders of culture in India. In any way we

may look at the problem, the Aryans in India are far more ancient than history admits. Their migration across Anatolia, where traces of them are found in the inscriptions of the Hittite capital, as early as the seventeenth century, is an hypothesis entirely contradictory to the new situation revealed by these discoveries in the Indus Valley. Far more likely is it that the Aryans in India are the oldest representatives of the Indo-Germanic race."

A year after writing the chapter, Prof. Langdon added a Postscript completing in the interval his study of over 200 tablets in the most archaic Sumerian script found at Jemdet Nasr, 17 miles N.E. of Kish, in 1926. The tablets were found with a mass of painted pottery akin to that of the Indus Valley found along with the Indus seals. As the result of this study, he is more emphatic than before on the definite connection between the most archaic Sumerian script and the Indus Valley script. The entire method of writing the Sumerian pictographs in the upright position exists on very few monuments, notably on the earliest of known survivals of writing, viz., the pictographic stone tablet at Kish. The Indus Valley system which still retains many traces of its pictographic origin, is true to its original principle, viz., running from right to left and retaining the upright position.

Religion

It has already been pointed out that no structural monument of any kind of a religious character has been discovered in the remains of buildings of Mohenjo-daro or Harappā. All that we have to rely upon for a clue to the nature of the religion of the people is the testimony of the seals, sealings, and copper-tablets, various figurines of terracotta, faience, or metal, and some stone images in the round. In spite of the meagreness of the materials, the light that is forthcoming is invaluable inasmuch as it will serve to remove, though partially, the haziness that hangs over the question of the religion of the pre-Aryans in India. While scholars like Monier-Williams and Hopkins regard the contribution of the Dravidians or other pre-Aryan races to Hinduism as negligible, or barbaric, comprising only the worse features of Hinduism, Oppert holds a different opinion. According to Oppert,

the non-Aryans believed in the existence of one supreme spirit of Heaven, with whom was associated the goddess of Earth. Both ruled supreme over the entire world. There was also a general belief in the transmigration of souls after death. A number of figurines of terra-cotta, etc. (pls. xii, xciv, xcv) portrays a standing female, wearing only a girdle about her loins with an elaborate head-dress and collar, and sometimes with ornamental cheek cones and a necklace. In many of these specimens, the ear ornaments are like cups suspended on either side of the head (pl. xciv, 1, 5, 12; pl. xcv, 6, 7, 8). These figurines represent the Mother or Nature Goddess. Female statuettes like these have been discovered in many countries in Western Asia between Persia and the Ægean. The cult of Mother Goddess is believed to have originated in Anatolia (probably in Phrygia). The similarity between the figurines found in the Indus Valley and those in the other places is such that the conclusion cannot be resisted that they were used either as votive offerings or less probably as cult images in household shrines. This conclusion is strengthened by the fact that the range of these figurines extends over almost all the regions from the Indus to the Nile, which in the Chalcolithic Age were united by common cultural bonds. Apart from the testimony afforded by the similarity between the Indian examples of the figurines and those of other places, the presumption would be strong that they represent the Mother Goddess because the cult is nowhere in the world so widespread and deep-rooted as in India. She is the prototype of the power (*prakṛti*) which developed into *śakti*. She is represented in every village as the *Grāmadevatā* (village goddess) under various names (e.g., *Mātā*, *Ambā*, *Amma*, *Ambāmāi*, *Jagadmātā Devī*) and believed to be endowed with various attributes. She is dreaded by the people. She wards off evil spirits, imparts fertility, dispenses life, and gives all things. Nowadays, these village-goddesses are generally represented by rough-carved images and sometimes only by mere stones. Occasionally the shrines remain empty. It is reasonable to suppose that the cult originated in a matriarchal state of society like that of the Mother Goddesses of Western Asia, and these goddesses held a pre- eminent position among the deities of the non-Aryan people.

The non-Aryan character of the cult

The non-Aryan character of the cult is indicated by its popularity among the primitive tribes, and also by the fact that in the rituals the leading part is played by the pariahs and not by Brāhmans. The cult is found in existence among some of the pre-Aryan tribes which never came within the ambit of Hinduism. There is no example of the elevation of a female deity to the supreme position of the Mother Goddess by the ancient Aryans in India or elsewhere. In the *Vedas*, the goddesses play a subordinate rôle; and it is only as consorts of the male deities that they acquired influence. The principal deities were also males. The Earth Goddess (*Pṛthivī*) of the Vedic Aryans was quite distinct from the Great Earth or Mother Goddess of the more ancient races. She is no doubt personified as a deity in the *R̥g Veda*, sometimes alone and sometimes in combination with the sky, and was invoked for her benedictions, but it was only later when the amalgamation of the Aryans had taken place that her worship resembled that of the older goddess.

The interesting sealing from Harappā

An interesting sealing from Harappā (pl. xii, 12) shows a nude female figure turned upside down with the legs apart and a plant issuing from the womb. On the reverse side stand the figures of a man and a woman, the former with a sickle-shaped knife in hand and the latter seated on the ground with her hands raised in supplication. The same depicts a human sacrifice to the Earth Goddess on the obverse side appearing with two genii, the ministrants of the deity. The peculiar representation of the Earth Goddess is paralleled by a terra-cotta relief of the early Gupta age from Bhitā in the United Provinces showing the goddess with her legs in the same position and with a lotus issuing out of her neck instead of from her womb (*Arch. Sur. Report*, 1911-12, pl. xxiii, 40).

The prototype of Śiva at Mohenjo-daro

The important seal that contains a portrayal of the prototype of Śiva is No. 17 on pl. xii. The deity is three-faced, seated on a low throne in an attitude of *Yoga* with legs bent double and toes turned

down. He has his arms outstretched and thumbs touching the knees. A pair of horns meets at the bottom of a tall head-dress. There are four animals, viz., an elephant and a tiger on his proper right, and a rhinoceros and a buffalo on his left. Two deer stand under the throne. An inscription of seven letters appears at the top. There is an example of the three-faced Śiva in a ruined temple at Devāngana near Mt. Abu and other examples are illustrated in Gopinath Rao's *Elements of Hindu Iconography*. But as the germ of the conception of trinity can be traced to the *R̥g Veda* though it did not assume a philosophic aspect until the historic period, it is quite possible that the same idea has been expressed. It is however more likely that at the outset, the god had three faces to signify his all-seeing attribute, and such images suggested the trinity of Brahmā, Viṣṇu, and Śiva.

The second feature by which this deity is connected with Śiva is the Yogī-like attitude, Śiva being the prince of Yogins. Like Śaivism itself, *Yoga* had its origin in the pre-Aryan population, and this explains why it was not until the Epic period that it played an important part in Indo-Aryan religion. Śiva being also the lord of beasts, the four animals have been depicted about him. The horns were used to denote a sacred character. In later times, they were replaced by the trident (*triśūla*). The two deer beneath the throne are found also in connection with many mediæval images of Śiva. These features also serve to connect the representation on the seal with Śiva. Another fact is also revealed by the finds at Mohenjo-daro. That the representation was not a mere anthropomorphic form of the god as conceived in the popular imagination but was also a cult idol is indicated by the highly conventionalized type of the image and by the discovery of a similar image on a faience sealing (pl. cxvi, 29 and pl. cxviii, 11) in which the deity is shown as being worshipped by Nāgas. The aniconic form of worship of the deity will be noticed below.

Śaktism

Śakti worship is of great antiquity in India. It developed out of the cult of the Mother Goddess. The underlying idea of Śaktism is the union of the eternal female principle with the eternal male principle. Though many of the rites connected with Śaktism are the additions of

later Hinduism and the product of the Aryan influence, the basic elements are non-Aryan and very old. A close resemblance to the Indian Śakti cult is borne by some pre-Aryan cults of the Nearer East.

At Mohenjo-daro and Harappā some aniconic objects of stone and other materials have been discovered. Two of these (pl. xiv, 2 & 4) are realistically modelled phalli, showing beyond doubt that phallism had a pre-Aryan origin, and doing away with the theory that it was introduced into India by the Greek or other Western invaders. The other objects are more conventionalized in form varying in size from half an inch to about a foot. The miniature specimens were perhaps gamesmen or amulets. The ring-stones (pl. xiii, 9-12, pl. xiv, 6 & 8) range in size from half an inch to nearly four feet in diameter and have been found in large numbers. Those, for which no utilitarian purpose can be suggested are the *yonis* or female symbols of generation used as ex-voto offerings or for cult worship.

Tree-worship

The existence of tree-worship is evidenced by the representations on several seals and sealings. The most interesting of them is the fig. 18 on pl. xii. The tree is represented by two branches issuing out of a circle. The deity is a standing nude figure with long hair and *triśūlahorns* appearing between the branches. A half-kneeling figure appears before the tree. A composite animal is found behind the supplicant and seven standing figures with dresses down to the knees occupy the space below the tree. The leaves of the tree are like those of the pipal (*ficus religiosa*), the tree of knowledge held sacred by the people throughout India and under which Gautama Buddha obtained enlightenment. It is not yet known whether the people of Mohenjo-daro regarded the tree as the tree of knowledge but that it was held sacred may be inferred from the conventional treatment received by it in seal 387 on pl. cxii resembling the treatment of the sacred tree of life in Babylonia. The animal has been taken to be associated with the deity of the pipal tree as *vāhana*. Such association of animal with tree spirits is common in Hindu and Buddhist iconography and was traditional from pre-Aryan times.

Some sacred trees are found on a few sealings from Harappā (pl.

xii, 16, 20, 21, 25, 26). Two at least of these trees are enclosed by a wall or a railing which is usually used as a symbol of sanctity on later reliefs of the historic period.

Animal-worship

The animals represented on the seals and sealings, or by the figurines and stone images are of three kinds: (a) those of a mythical character, (b) those of a doubtful mythical character, and (c) those belonging to natural species. To the first category belong the representations of composite creatures. The stone images of such creatures were cult objects intended for worship. The representation of a semi-human and semi-bovine creature (seal 357) bearing an undeniable resemblance to the Sumerian god Enkidu, and the half-human, half-animal forms of what are regarded as Nāgas fall under this category. The second class of representations comprises figures like the unicorns, while the third the water buffalo, the *gaur* or the Indian bison, the Indian humped bull or *zebu*, the Indian rhinoceros, the short-horned humpless bull, the tiger and the elephant. Of these, three, viz., the bison, the rhinoceros and the tiger have in all cases been represented with troughs in front; the elephant and the buffalo are found with or without such troughs, while the zebu and the short-horned bull without them at all. It is surmised that the troughs symbolized food offerings, and so they indicate that the animals before which they are placed were objects of worship.

The animals that do not appear on the seals but are engraved on copper tablets or are found as figurines in the round are the ram, pig, dog, monkey, bear, hare, squirrel, parrot and some other birds that cannot be identified. Some of these were no doubt toys, but the remainder had a sacred character or was used as amulets or talismans.

The sanctity of water

Though no direct evidence has been found regarding the belief in the sacred character of water yet the important part played by it in the daily life of the people at Mohenjo-daro as indicated by the elaborate arrangements for bathing shows that ablution was regarded as a religious duty. It cannot, however, be said that the rivers were deified

like the Ganges and the Jumna though the worship of rivers is very old in India.

Inferences drawn from the data

Excepting a few elements indicative of religious touch between the Indus Valley and Western Asia, e.g., the bison's horns as a symbol of divinity, all the material of a religious character discovered at Mohenjo-daro and Harappā is characteristically Indian. This material, small as it is, shows clearly that iconic and aniconic cults existed side by side as they do today in India. It brings to our view the worship of the Mother Goddess occupying even now a very high place among the village population and also the worship of the prototype of Śiva. Animals, trees and inanimate objects were worshipped or venerated as at present. The spirits living in the trees are given the human shape. *Liṅga* and *Yoni* have their share of worship as in Śaivism of later times. *Yoga* was in existence as a religious practice. Though these evidences are not so ample as to enable us to visualize the religion of the Indus people with all its principal features, yet they indicate that this religion was the ancestor of Hinduism. We get a glimpse of its popular side but not of its more rational side nor of its esoteric and philosophic aspects. In the absence of documents giving us information on these points, it is not possible to come to any definite conclusions, but it is reasonable to presume that the Vedic literature could not have contained a large mass of beliefs and doctrines originally alien to their thoughts if they had not been borrowed from the pre-Aryans. An error is often committed in the assumption that the modern jungle tribes of India are the descendants of the pre-Aryans carrying on the cultural and religious traditions of the latter. The pre-Aryans had also their cultured classes living in the cities and, therefore, it is not correct to suppose that the beliefs and superstitions of the jungle folk today represent the pre-Aryan religion in its completeness.

Statuary

Of the few stone images in a tolerable state of preservation (pls. xcvi, xcix, 4-6; c, 1-3), the first represents a person engaged in *Yoga* with eyelids almost closed and the eyes turned towards the tip of the

nose. Images such as this are mere repetitions of an ordinary standard type, which should not be taken as the examples by which to form an estimate of the character of Indian sculptures. The head represented on pl. xcix (4-6) with prominent cheek-bones, and wide and thin lips was the likeness of a person's head. In the seated image on pl. c (1-3), much skill has been displayed in the modelling of the bare right arm, etc. and in the imparting of a soft appearance to the texture of the flesh.

The bronze dancing girl (pl. xciv, 6-8) is of a somewhat rough workmanship. It represents a young aboriginal nautch girl with her hand on hip, and legs a little forward, the feet beating time to the music. In spite of defects, the artist has given evidence of his accurate observation. The two statuettes from Harappā (pls. x and xi) are more striking than the engraving of the bull on the seals mentioned before. They revolutionize the current ideas about early Indian art. In both the figures, there are socket holes in the neck and shoulders for the attachment of the head and arms made in separate pieces, and the nipples of breasts have been fixed in with cement. This feature is without a parallel among the sculptures of the historic period of the Indo-Hellenistic or other schools. The beauty of the redstone torso (pl. x) lies in the 'refined and wonderfully truthful modelling of the fleshy parts, the subtle flattening of the buttocks and the clever little dimples of the posterior superior spines of the ilium. This is a work of which a Greek of the fourth century B.C. might well have been proud. And yet the set of the figure, with its rather pronounced abdomen, is characteristically Indian and not Greek, and even if Greek influence could be proved, it would have to be admitted that the execution is Indian'. The other statuette (pl. xi) represents a dancer standing on the right leg with the left leg raised in front, the body from the waist upwards bent round to the left and both arms stretched in the same direction. The pose is full of movement. It is inferred from the abnormal thickness of the neck that the figure was three-headed or three-faced and in that case it represented the youthful Siva Natarāja, or the head might have been that of an animal. Be that as it may, there is no parallel to this figure among the Indian sculptures of the historic period. The anatomical faithfulness in the two

statuettes is startling; 'that makes us wonder whether in this all important matter, Greek artistry could possibly have been anticipated by sculptors of a far off age on the banks of the Indus. We know definitely that the Indus engraver could anticipate the Greek in the delineation of animal forms; and if we compare the statuette of pl. x with, for example, seal 337 we must admit that there is a certain kinship between the two both in the monumental treatment of the figures as a whole and in the perfection of their anatomical details'.

Ornaments

The ornaments were worn by both men and women of all classes. Girdles, ear-rings and anklets were used by women alone, and necklaces, fillets, armlets and finger-rings by men and women alike. The ornaments for the rich were of gold, silver, faience, ivory, and various kinds of semi-precious stones while those for the poor mainly of shell, bone, copper, and terra-cotta. The beads used in many of the ornaments are of various shapes and materials. They are barrel-shaped, globular, segmented and so forth, and made of gold, silver, copper, bronze, faience, glazed steatite, shell, bone, terra-cotta, or coloured stones. The bangles as worn by the figure of the dancing girl mentioned already encase the whole arm up to the arm-pit.

Household articles

Copper and bronze are found to have replaced stone as the material for household implements and vessels of copper and bronze are rather rare; faience was used only for small ornamental vases. Most of the household vessels were earthenware. They were of various shapes. Among them may be mentioned offering stands, beekers, bowls, goblets, dishes, basins, pans, saucers, pipkins, cups, ladles, jar-stands, heaters, and store-jars. Spindle-whorls are made of earthenware as well as of shell and faience, while flesh-rubbers, cake-moulds, dippers, and toys are made of earth. Bone, ivory, and shell were used for making needles, bodkins, combs, etc., and copper and bronze for manufacturing axes, saws, chisels, awls, sickles, razors, ladles, fish-hooks, etc.

Toys

The specimens of toys brought to light are very interesting. They are rattles, whistles, clay models of men and women, animals, birds, carts, and household articles such as the baking pan. The whistles may be in the shape of birds or oxen yoked to the toy carts. These carts form the earliest representation of wheeled vehicles known to us, contemporary with the chariot depicted on a stone slab at Ur (about 3200 B.C.). The animal figurines in the round are mostly toys. Some may have been designed for serving as amulets. They include a bull of terra-cotta, a mastiff-like hound, seated rams, a squirrel, monkeys, etc. Some of the toy animals had detachable heads.

Games

Marbles and dice have been discovered among the relics. The marbles are made of agate, onyx and other stones, some looking very beautiful. The disposition of the numbers on the dice, which are usually cubes, is different from what we find on the modern European ones—1 being opposite to 2, 3 to 4, and 5 to 6 instead of 1 being opposite to 6, 2 to 5, and 3 to 4.

Weights

The Indus Valley weights are of interest, nearly all the small ones being cubes of chert. Some of them are of dark grey slate like the barrel-shaped weights of Elam and Mesopotamia. The large stone weights are conical and have a rim or a hole near their heads for the passage of a rope for easy handling. According to Mr. Hemmy, they are made with greater accuracy than those of Elam and Mesopotamia. The sequence of the ratios is binary at first like the Susa weights but subsequently decimal, viz., 1, 2, 4, 8, 16, 32, 64, 160, 200, 320, 640, 1600.

Weapons

The weapons of the war or the chase are axes, spears, daggers, bows, arrows, maces, slings and perhaps catapults. The means of defence such as shields, helmets, greaves, and armour have not been

found, nor has the sword, which became a characteristic weapon of the later Copper Age in the Jumna-Ganges valley, been discovered. The blade axes are of two types. The spear-heads are thin and broad in the blade without any mid-rib.

No specimen of stone arrow-heads has been found while only one specimen of copper arrow-head has been obtained suggesting that the bow and the arrow were not a favourite weapon. Maces are of stone and copper and of three shapes. The pear-shaped mace appears to have been the commonest. Sling balls are very numerous belonging to two kinds, viz., round and ovoid. Heavy balls which might have been used in catapults have been found, but it is not possible to state with confidence that the catapults were invented.

Cotton-spinning and textiles

It is evident from the discovery of many spindle-whorls in the houses at Mohenjo-daro that spinning was very common. It is also inferable that both the rich and the poor practised spinning because wheels are made of the expensive faience as also of the cheap pottery and shell. Wool was used for the warmer textile and cotton for the lighter one. A few minute pieces of cotton attached to a silver vase have been carefully examined in the Technological Laboratory of the Indian Central Cotton Committee. The specimen resembles the coarser kind of the present-day Indian cotton. Its convoluted structure shows that it could never have come from a wild species, such as *Gossypium stocksii* now found in Sind but without convolutions, nor from the *Bombax* species which has also no convolutions. This finding removes the current idea that the fine Indian cotton known to the Babylonians as *Sindhū* and to the Greeks as *Sirdon* was the yield of the cotton tree and not a true cotton. The purple dye on a piece of the cotton material is thought to be the pigment furnished by the Madder plant.

Agriculture and food

Specimens of wheat and barley found among the ruins indicate that both these grains were cultivated by the people of Mohenjo-daro and Harappā. The kind of wheat that has been discovered is the one grown in the Punjab today while the barley has been identified with the kind

found in pre-dynastic graves in Egypt. It is not known whether the hoe had already been replaced by the plough in the Indus Valley.

The food of the Indus people included besides the above cereals (stones of which have been found at Mohenjo-daro and Harappā), beef, mutton, pork, poultry, flesh of the gharial, turtles and tortoises, fresh fish from the river and dried fish from the sea-coast as also shell-fish. That these were undoubtedly articles of diet is inferred from the fact that their shells and bones have been found in a half-burnt state in the houses of the two towns or among the offerings to the dead.

Disposal of the dead

The evidences available regarding the manner in which the people disposed of the dead may be classed into three heads, viz., (1) complete burials, (2) fractional burials, and (3) post-cremation burials. Examples of these three classes of burial have been found both at Mohenjo-daro and Harappā. The conclusion that has been reached after an examination of all the data is that it is probable that the usual method of disposing of the dead during the flourishing period of the Indus Valley civilization was cremation, the complete and fractional burials being exceptional, found among the foreign elements from the west in the population of the towns. All the skeletons unearthed at Mohenjo-daro belong to the Chalcolithic period and they may be taken as representative of the population of the city. Among them four ethnic types have been noticed, viz., the Proto--Australoid, Mediterranean, Mongolian branch of the Alpine stock, and the Alpine. The cosmopolitan character of the population in a place like Mohenjo-daro with easy land and water communications is quite natural. It was the meeting ground of the Proto-Australoids from the Indian sub-continent, Mediterraneans from the Southern shores of Asia, and Alpines and Mongoloid Alpines from the mountains of Western and Eastern Asia respectively. This craniological inference as to the mingling of diverse races finds some confirmation in the representations of the sculptured heads found at the place. But it will be better not to attach much weight to these evidences because the skulls are too few to support a definite conclusion while the artists were not so attentive to the shapes of the heads portrayed by them. The same remark also applies to the human

remains found at Harappā. It is not yet possible to state which of the four racial types mentioned above was the prime author of the Indus Valley civilization. Various theories have already been hazarded on this point. Some have come to the conclusion that the authors of the civilization were Vedic Aryans and the Indus civilization shows therefore the antiquity of the Aryan domination in India. Others look upon the Indus people as the kith and kin of the Sumerians, or some allied race, which accounts for the common elements in the civilization of the Indus Valley and Sumer. But such conclusions rest on a very shaky basis and cannot be accepted, because the physical type of neither the Sumerians nor the Dravidians of five thousand years ago has been settled beyond doubt.

Cultural evidence as to the authorship of the Indus civilization

Now as to the question whether from cultural evidences, the Vedic Aryans can be said to have been the authors of the Indus civilization. A comparison of the two cultures yields a negative answer:

The Indo-Aryans not yet emerged from the village state

(1) The Indo-Aryan society as depicted in the Vedas is that of a partly pastoral, partly agriculture people, who have not yet emerged from the village state, who have no knowledge of life in cities or of the complex economic organization which such life implies, and whose houses are non-descript affairs constructed largely of bamboo. At Mohenjo-daro and Harappā, however, we have densely populated cities with solid, commodious houses of brick equipped with adequate sanitation, bathrooms, wells, and other amenities (p. 110). The picture of the Dāsas as found in the *R̥gveda* is that of black-skinned, flat-nosed barbarians distinguished from the fair Aryans, though they were rich in cattle, good fighters, and possessed of many forts. These forts have been explained by Vedic scholars as mere earthworks surrounded by palisades or rough stone walls. It was never imagined that five thousand years ago, before the Aryans were heard of, the Punjab and Sind were enjoying a civilization closely akin but in some respects superior to that of Egypt and Mesopotamia at the time. This, however,

has now been proved beyond question by the discoveries at Harappā and Mohenjo-daro (Preface).

Use of metals etc.

(2) The metals used by the Indo-Aryans of the time of the *R̥gveda* are gold and copper or bronze which are supplemented by silver and iron at the time of the *Yajurveda* and *Atharvaveda*. Among the Indus people there is no vestige of iron, silver is more commonly used than gold, and stone is sometimes used (a relic of the Neolithic Age) for the manufacture of utensils as also copper and bronze.

Offensive and defensive weapons

(3) The Vedic Aryans used as offensive weapons the bow and arrow, spear, dagger and axe, and as means of defence the helmet and the coat of mail. The Indus people have all the weapons mentioned above as also the mace of stone or metal while the defensive armour is not known to them—a fact which must have made them weak in their contests with those who wore them.

The eating of meat and fish

(4) The Vedic Aryans were meat-eaters but had aversion to fish as no direct mention of fishing is found in the Vedas. Fish is, however, an ordinary article of food with the Indus people as also molluscs, turtles and other aquatic animals.

The horse

(5) The horse is found to have played an important part in the lives of the Vedic Aryans while to the people of Mohenjo-daro and Harappā, it seems to have been unknown, having no place at least among the many animals figured on the seals, etc.

The cow and other animals

(6) The cow is the object of special veneration in the Vedas but among the Indus people, it is replaced by the bull. There is no mention of tiger in the Vedas while the elephant is little known but they are familiar to the Indus people.

Iconism and other features of the religion of the people

(7) Aniconism is the normal feature of the Vedic religion while iconism is in evidence everywhere at Mohenjo-daro and Harappā. The female principle is almost wholly subordinate to the male in the Vedic religious beliefs and neither the Mother Goddess nor Śiva has any place in the Vedic pantheon but among the people of the Indus Valley, the cults of the Mother Goddess and Śiva are in the forefront and the female principle stands on the same footing as the male, if not higher. Fire (*Agni*) is a very prominent deity in the Vedas and the *agnikuṇḍa* should be found in every house but this is lacking in the houses at Mohenjo-daro. There is ample evidence of phallus worship among the Indus people but it was abhorrent to the Indo-Aryans.

*Was Vedic civilization the progenitor or descendant of the
Indus culture?*

The hypothesis that the Vedic civilization was either the progenitor or the descendant of the Indus civilization and the differences marked above are only those brought about by time is untenable. Assuming that it was the progenitor, the evolution from the village to the city state is a question of time and a long interval has to be allowed for the progress. But this cannot account for the other cultural features. If the Vedic culture preceded the Indus, how is it that iron, the horse and the defensive armour known to the former remained unknown to the latter? How could the bull replace the cow only to be superseded by the latter in the succeeding period? How does the Indus civilization possess so many survivals of the Neolithic Age—stone implements and vessels—if the copper, bronze, and iron culture of the Indo-Aryans intervened?

Now let us suppose the Vedic civilization was evolved out of that of the Indus Valley, or in other words, that the Vedic Aryans were the authors of both the Vedic and the Indus civilization. On this assumption we can account for the introduction of the horse, the defensive armour, and iron at a later stage of the same culture, but we cannot explain the relapse of the people from the city to the village state, or the disappearance of the worship of Śiva, the *linga* and the Mother Goddess

in the Vedic period after their existence in the preceding one, and their emergence again in post-Vedic times. It is also difficult to explain how having occupied Sind, they forgot this country and the Lower Indus. Thus it is not possible to find a common source for the Vedic and the Indus civilizations or explain their differences on any other hypothesis than that the Vedic was later and had an independent development.

*Prof. Langdon's view regarding the antiquity of the Aryans in India
opposed by Sir John Marshall*

Now the question arises as to how long after the disappearance of the Indus civilization at Mohenjo-daro and Harappā followed the Vedic civilization. Prof. Langdon has expressed the opinion that the Indo-Aryan civilization had been established in India long before 1500 B.C. when, according to the majority of Vedic scholars, the Indo-Aryans first came to India. This opinion is based on his inference that the early Brāhmī script is derived from that of the Indus Valley—a fact which shows that the Indo-Aryans were in contact with the authors of the Indus civilization. The Aryans are far more ancient in India than history admits and the theory of their migration across Anatolia founded upon the inscriptions in the Hittite capital *circa* 1700 B.C. is contradicted by the new situations as revealed by the excavations in the Indus Valley. Assuming that the Indo-Aryans derived the Brāhmī script from the Indus signs, there is yet no evidence that this transpired before the latter half of the second millennium B.C. Though the remains at Mohenjo-daro belong to a period earlier than the first quarter of the third millennium B.C. and the city of Harappā fell into ruins a few centuries afterwards, it should not be supposed that the Indus civilization disappeared altogether at that time. The remains at Jhukar about 20 miles from Mohenjo-daro indicate, on the contrary, that the Indus civilization continued to exist long after the ruin of Mohenjo-daro and Harappā. Though the glories of the cities had passed away, the important art of writing could well have continued to be practised. Hence the fact of the derivation of the Brāhmī script from the Indus pictographs cannot be made to support the inference that the Indo-

Aryans were established in India long before 1500 B.C. making it possible for them to have a contact with the authors of the Indus civilization.

I have attempted to touch the most prominent and interesting points in this brief survey of the big treatise. For an acquaintance with the wealth of minor details which may be of interest to the curious reader, a perusal of the work is recommended. Sir John Marshall and his collaborators should be congratulated on the completion of this work which is so large in volume and arduous in its execution. For many years, scholars of Indian history have been trying to push further into the domain of the unknown or conjectural past the boundaries of full-lighted history but with very little tangible results. Without fresh data made available through excavations, which have supplied such rich raw materials for the reconstruction of the history of many other countries but have not been utilized in the fullest degree in India for want of funds, the steel framework of the historical edifice cannot be brought into being. The results of the excavations at Mohenjo-daro and Harappā have roused the hope that the many pre-historic sites that lie to the west of the two cities extending up to the heart of Baluchistan may yield their hidden treasures to the strenuous efforts of the antiquary. It is earnestly expected that the Indian archaeological department should be re-equipped with adequate facilities to direct their labours in this direction as soon as circumstances permit it.

Before bringing this survey to a close, I want to make a few remarks on the conclusions reached by Sir John on the strength of the cultural evidence as to the authorship of the Indus civilization.

Remarks on Sir John's conclusions

He looks upon the middle of the second millennium B.C. as the approximate period when the Indo-Aryans entered the Punjab. Hence, the centuries anterior to it must be regarded as pre-Vedic and the authorship of the civilization existing during these centuries cannot but be attributed to people other than the Indo-Aryans. It is, however, not reasonable to draw the line of demarcation between the Vedic and the pre-Vedic period at about 1500 B.C. making the *Rigveda*, the earliest record of the Indo-Aryans, later than that date.

Prof Max Müller's view as to the upper limit of the age of the R̥gveda.

Re. circa 1500 B.C. as the date of the arrival of Aryans in India

There are however strong reasons for holding that the *R̥gveda* is much earlier, and the picture of the Indo-Aryan civilization as depicted in the treatise can well be contemporaneous with that of the Indus Valley civilization (*circa* 2800 B.C.). It is generally supposed that Prof. Max Müller considered 1200-1000 B.C. as the upper limit of the *R̥gveda* but as a matter of fact "he always considered 1200-1000 B.C. only as a *terminus ad quem*" as in his Gifford lectures on physical religion (1889) he clearly states "that we cannot hope to fix a *terminus a quo*. Whether the Vedic hymns were composed 1000, or 1500, or 2000, or 3000 years B.C., no power on earth will ever determine".¹

Prof. Winternitz's opinion : 2500 B.C. as the upper limit

Prof. Winternitz holds the view that "as all the external evidence fails, we are compelled to rely on the evidence arising out of the history of Indian literature itself for the age of the Veda. We cannot explain the development of the whole of this great literature if we assume as late a date as round about 1200 or 1500 B.C. as its starting point. We shall probably have to date the beginning of this development about 2000 or 2500 B.C. and the end of it between 750 and 500 B.C."² Of the many arguments advanced by Prof. Winternitz in support of this opinion, I shall state here only three :

(a) The development of Vedic literature through oral tradition, through generations of teachers and pupils required longer intervals of time than would have been necessary if the texts had been in writing. Many centuries elapsed, therefore, between the composition of the earliest hymns, and their final compilation into a *Samhitā*. The *R̥gveda* denotes after all only the close of a long period of such handing down of the texts through oral tradition.³

¹ See Winternitz, *History of Indian Literature*, vol. 1 (1927), p. 298. Cf. Zimmermann, *Second Selection of Hymns from the R̥gveda*, appendix V, p. cxxxi.

² See Winternitz, *History of Indian Literature*, vol. 1 (1927), p. 310.

³ *Ibid.*, p. 302.

(b) It has been shown by Prof. Bloomfield that of the lines of the *R̥gveda* numbering about 40,000, as many as 5000 are repetitions. This shows that the old poets had predecessors. Moreover, these predecessors were even then regarded as composers of hymns of a remote antiquity.¹

(c) The strongest argument in support of a later dating of the Veda is its connection with the Avesta in respect of language and religious view. The points of agreement in religion are counteracted by the very great differences found to exist in regard to same; moreover, the points of agreement can be easily explained in view of the facts that the Indians and Iranians constituted one Aryan cultural unit at a pre-Vedic and pre-Avestic period, and they continued as neighbours even after the separation.²

Corollary from the application of Prof. Winternitz's view

Thus, if the development of the *R̥gveda* commenced from about 2500 B.C., the Indo-Aryans must have witnessed the continuance of the Indus Valley civilization at Hārappā, though Mohenjo-daro had fallen into ruin; because Hārappā, according to Sir John, continued to exist for a few centuries after the destruction of Mohenjo-daro about 2750 B.C.

*No importance is attached to Prof. Jacobi's and Prof. Tilak's views
in the present discussion*

I do not wish to attach importance, in the present discussion, to the estimate of the *R̥gveda* made by Prof. Jacobi or Prof. Tilak on the basis of the precession of the equinoxes. The former dates its beginning in about 4500 B.C. while the latter dates some of the hymns as far back as 6000 B.C. The principal reason why these calculations are not regarded as of sufficient weight by many scholars is that the passages on which the calculations are based admit of various interpretations.

*The calculation of the age of the Veda from the reference to the
polar star more convincing*

Prof. Jacobi thought himself confirmed in his estimate of the age

1 Winternitz, *op. cit.*, p. 301.

2 *Ibid.*, p. 308.

of the *R̥gveda* by the passages in the *Gṛhyasūtras* relating to the marriage ceremonial in which the polar star was pointed out to the bride as the symbol of constancy. According to Prof. Zimmermann, this argument is "more convincing than that founded on the *nakṣatras* and the equinoxes".¹ On the strength of this argument the Vedic civilization is to be "put at the period antecedent to the third millennium", because the Alpha Draconis was, about 2780 B.C., the only star bright enough to serve the purpose of the polar star. Dr. Bühler supports in a general way the estimates of the age of the Veda made by Prof. Jacobi and Prof. Tilak: "As thus numerous facts connected with the political, literary and religious history of India force me to declare that the commonly credited estimate of the antiquity of the Indo-Aryan civilization is very much too low, it is natural that I find Prof. Jacobi's and Prof. Tilak's views not *prima facie* incredible, and that I value the indications for the former existence of a *mrgasīras* series of the *nakṣatras* very highly.....It is of great advantage to those who like myself feel compelled by other reasons to place the entrance of the Aryans into India long before the year 2000 B.C."²

*The existence of the Aryans in India about 2500 B.C. or 2780 B.C.
and the resulting inferences*

It is now evident that there are strong grounds for holding that the development of the Vedic literature began at about 2500 B.C. if not earlier. Hence, it is not permissible to attribute the authorship of *all the relics*, brought to light through excavations at Mohenjo-daro and Harappā, to the non-Aryans, simply because the Aryans are supposed not to have been in existence in India before 1500 B.C. If the Aryans be held to have been in India about 2780 B.C. referred to above, then they must have co-existed with the inhabitants of Mohenjo-daro for three decades, as the occupation of Mohenjo-daro lasted up to 2750 B.C. (from 3250 B.C.) while the acceptance of earlier dates for the development of the Vedic literature gives rise to other possibilities as to the connection of the Aryans with the authorship of the Indus Valley civilization.

1 Zimmermann, *op. cit.*, appendix V, p. cxi.

2 *Indian Antiquary*, 1894, p. 248.

But setting aside the earlier dates and taking our stand on 2500 B.C. as the beginning of Vedic literature in India, we find that certain inferences emerge out of the available data.

The transmission of the knowledge of script to the Indo-Aryans

Prof. Langdon's inference of the derivation of the Brāhmī script from the Indus Valley pictographs becomes in that case easily supportable, because it is only natural that there should be borrowings between people living as neighbours or in the same place. Sir John tries to explain Prof. Langdon's inference (assuming it to be true for argument's sake) by stating that though Mohenjo-daro and Harappā were ruined, the Indus civilization continued to exist long after their destruction. The remains at Jhukar about 20 miles from Mohenjo-daro prove this. Hence, the important art of writing could have been borrowed from Jhukar or some such place by the Indo-Aryans after their arrival in India about 1500 B.C. If Sir John concedes this means of derivation of the knowledge of the Brāhmī script from the Indus pictographs, he has to make similar other concessions, e.g., about the knowledge of the construction of buildings.

The knowledge of the construction of buildings

The knowledge of this art is denied by Sir John to the earliest Indo-Aryans because all the references in the *Rgveda* to the *purs* or cities have been taken by him, on the strength of the explanations of several Vedic scholars, to mean nothing but "simple earthworks surrounded, may be, by palisades or rough stone walls" (Preface). The grounds for such explanations as also the reference to the *purs* will be found in the following extracts from the *Vedic Index* (vol. I, p. 538 f. under *Pur*):

"*Pur* is a word of frequent occurrence in the *Rgveda* and later, meaning rampart, fort or stronghold. Such fortifications must have been occasionally of considerable size, as one is called broad and wide. Elsewhere a fort made of stone is mentioned. Sometimes strongholds of iron were referred to but these are probably only metaphorical. (Perhaps sun-dried bricks are alluded to by *ama—Rv.*, ii, 35,0).....Forts with a hundred walls are spoken of.

"It would probably be a mistake to regard these forts as perma-

nently occupied fortified places like the fortresses of the mediaeval barony. They were probably merely places of refuge against attack, ramparts of hardened earth with palisades and a ditch. Pischel and Geldner, however, think that there were towns with wooden walls and ditches like the Indian town of Pāṭaliputra, known to Megasthenes and the Pali texts. This is possible but hardly susceptible of proof and it is not without significance that the word *nagara* is of late occurrence. On the whole, it is hardly likely that in early Vedic times, city-life was much developed.....The siege of forts is mentioned in the *Samhitās* and *Brāhmaṇas*'. Arguments in support of the views embodied in the extract quoted above are found in the following passage (V.L., I, 539 f.n.):

“Neither the Germans nor the Slavs lived in towns. It is true that the Greeks when we first find them evidently knew castles and fortresses of the mediaeval type, but the Greeks were clearly an invading race, superimposed on an older, and in civilization, more advanced people.” On the analogy between the Indo-Aryans, and the Germans and Slavs, the former are believed not to have founded any forts etc., while the supposed differences between the ancient Indo-Aryans and the Greeks were taken to point to the same conclusion. Sir John believes the *Dāsas* in the *R̥gveda* to have possessed forts etc. in view of the newly discovered remains of big buildings on the Indian soil, the construction of which is attributed by him to the non-Aryans because the Aryans were not in India at the time. If the *purs* referred to in the *R̥gveda* be interpreted as castles or forts in the case of the *Dāsas*, it will be inconsistent not to do so in the case of the Indo-Aryans, because such a differentiation will not be reasonable in the interpretations of the same word in the same historical record. Moreover, in view of the chronological data stated already, the possession of forts etc. by the ancient Indo-Aryans of the time of the *R̥gveda* does not appear to be an improbability. The interpreters of the term *pur* in the *R̥gveda* were influenced, I believe, by the consideration that as no remains of buildings of considerable size had been discovered on the Indian soil prior to the first millennium B.C., the *purs* could have been but simple earth-works. Profs. Pischel and Geldner were led by the statements

of Megasthenes regarding Pāṭaliputra to look upon the *purs* as towns with wooden walls and ditches. Had the discoveries of the towns of Harappā and Mohenjo-daro been made at the time when the scholars wrote, their impressions about the *purs* in the *R̥gveda* would I think have been otherwise.

In view of what has been stated above, Sir John's opinion that the ancient Indo-Aryans of the *R̥gveda* had not yet emerged from the village state does not appear to be well-grounded. [Vide *item (i)*].

I shall now examine the other items in Sir John's arguments regarding the authorship of the Indus civilization. But before doing so, an important fact should be borne in mind, viz., that conclusions are being drawn from the analogies and differences between the picture of the civilization as drawn in the *R̥k-* and later Vedas, and the data that have hitherto been available through excavations. These conclusions by their nature can at best be approximations to truth, because the information gathered from the Vedas cannot be regarded as absolutely exhaustive; for it is quite probable that the non-mention of a thing, e.g., in the *R̥gveda* is not actually the negation of its existence in the *R̥gvedic* period. Moreover, when so many prehistoric sites still remain to be excavated, the finds from only one or two places cannot be taken to supply a picture reflecting in every minute detail the civilization of the time to which they relate. The larger the number of finds, and the larger the number and volume of the texts used regarding a period, the greater the approximations to truth, but the limitations of the evidences of this nature are always there.

Metals

Re. item (2). It is stated by him that among the finds at Mohenjo-daro there is no vestige of iron, while in the list of metals in the *R̥gveda*, iron does not find a place. This is rather a similarity between the Indus Valley and the *R̥gvedic* civilization and not a point of difference. Gold, copper and bronze are stated to be in use among the Indus Valley people as also among the *R̥gvedic* Aryans. This is also a similarity. As regards silver, it was in use among the Indus people and also among the people of the time of the *Atharvaveda* and the *Yajurveda* (VI., II, p. 197); hence the absence of the term in

the *Rgveda* cannot be taken to be indicative of the non-existence of the metal among the Indo-Aryans of the R̥gvedic period.

As to the evidences of the stone utensils and implements in the *Rgveda*, we find references to the mortar and pestle made of stone (*upara*, *dr̥ṣad*, and *ulūkhala*). Mention is made of various kinds of receptacles such as *soma* vessel (*amatra*), vessel for liquids (*āsecana*), buckets (*āhāra*), cooking pot (*ukhā*), drinking vessel (*pātra*) and household utensils (*pārīṇahya*). The material of which these vessels were made is not expressly mentioned. They might have been made of stone.

Sling-stones are also mentioned in the *Rgveda* (Zimmer, *Altindisches Leben*, p. 307) and Schrader, *Pre-historic Antiquities*, p. 221).

Weapons

Re. *item* (3). As regards the weapons, the bow and arrow, spear, dagger and axe are common to both the Indus and the *Rgvedic* civilization. The discovery of the mace at Mohenjo-daro (found in the *Atharvaveda* and the *Taittirīya Saṃhitā* but not in the *Rgveda*) does not introduce so much difference as to counteract the effect of the similarity between the two sets of five weapons mentioned above.

The coat of mail was either of leather or of metal among the R̥gvedic Aryans (see *Vedic Index* under *varmān*). If the coats of mail of the Indus people had been of leather, it is nothing strange that they should be destroyed by the action of the salty soil or through other causes. Regarding the helmets, it is quite possible that they may come to hand through further excavations if they were not composed of a perishable material.

Slingstones were used by both the Indus and the R̥gvedic people.

Eating of meat and aversion to fish-eating

Re. *item* (4). Meat-eating was prevalent among the Indus people as also among the Indo-Aryans. The reference to the aversion of the earliest Indo-Aryans to fish-eating has no support in the *Rgvedic* text.

The horse, cow, tiger, and elephant

Re. *items* (5) and (6). The non-discovery of the representations

of the horse and the cow on the seals cannot be made to yield the inferences drawn by Sir John regarding the two animals, viz., that the horse was unknown to the Indus people, and the bull was the object of veneration among them instead of the cow which was prized and venerated so much by the Vedic Aryans. My objection to these two inferences is based upon the following reasons: It must be shown by Sir John (a) that the non-discovery of the representations of the horse and the cow on the seals is not due to accident, and that this discovery will not be made at some future date as the excavations proceed; and (b) that because the representations of some other animals appear on the seals, those of the horse and the cow should also have been among them for the reason that the horse and the cow stood on the same footing as the other animals in regard to their talismanic or other values among the Indus people, which brought about the portrayal of the latter animals on the seals.

So long as these two points are not sufficiently proved, the inferences mentioned above cannot be drawn from the negative evidence of the non-appearance of the two animals on the seals. Moreover, as regards the bull, the question of this animal replacing the cow as an object of veneration among the Vedic Aryans does not arise, because the bull was also much prized by the Vedic Aryans as will be evident from the following extract from Prof. Macdonell's *Vedic Mythology*, p. 150: "Indra is in the *Rc.* constantly designated as a bull, a term applied much less frequently to Agni, and occasionally to other gods, such as Dyaus. In the *Ar.*, a bull is addressed as Indra and in the *Ś.B.*, the bull is stated to be Indra's form..... In one of the sacrifices of the Vedic ritual, a bull represents the god Rudra."

Regarding the representations of the tiger on the seals, Mr. Mackay states (*Mohenjo-daro etc.*, pp. 387, 388) that the identification is inferred from the stripes on the body of the animal, but the figures may well be those of a hyena. An ancient seal depicting a man, or a tree with a hyena at its base has been discovered at Kish. Some of the Indian seals also represent a tree with a man on it and the animal at its base. It cannot be said with certainty that the figure on the Indian seals is not a hyena. If this be the case, there are references in the *Rgveda* to *śālarika* (X, 73, 2; 95, 15) meaning hyena. Assuming however that the

figure on the seal is that of a tiger, the silence of the *R̥gveda* on this point is not of much consequence, because the tiger existed during the continuance of the Mohenjo-daro civilization and is also mentioned in the Vedic literature immediately later than the *R̥gveda* viz. in the *Atharvaveda*, *Taittirīya Saṃhitā*, etc. (see VI., II, p. 337 under *vyāghra*). Hence, if the tiger existed in North-Western India during the period 3250 B.C. to 2750 B.C. and also at the time of composition of the *Taittirīya Saṃhitā* and the *Atharvaveda* in the second millennium B.C., the silence of the *R̥gveda* which, according to Sir John, falls between the two periods cannot but be taken to be a mere absence of the term caused by the want of a necessity in the *R̥gvedic* hymns to refer to the animal.

According to Sir John, the elephant was little known to the Vedic Aryans but was familiar to the Indus people. The *R̥gveda* however mentions *vāraṇa* and *hastin* signifying the elephant (*Vedic Index*). "It was tamed, as the expression *hastipa* (elephant-keeper) [*Taittirīya Saṃhitā* and *Vājasaneyi Saṃhitā*] shows, and tame elephants were used to catch others" (VI., II, p. 501). So it cannot be said that the elephant was little known to the Vedic Aryans. On the other hand, we find Mr. Mackay stating that "possibly the elephant was not so well-known to the inhabitants of Mohenjo-daro as we thought at first. It may never have been wild in Sind and have been used by a few people only for purposes of State" (*Mohenjo-daro* etc., p. 388).

Aniconism

Re. *item* (7). Sir John states that aniconism is the normal feature of the Vedic religion while iconism is in evidence at Mohenjo-daro and Harappā. In spite of the silence of the *R̥gveda* on many of the points on which we require information, we find it mentioning *an image of Indra*, for which ten cows were not an adequate price (*Cambridge Hist. of Ind.*, I, pp. 97, 106). It is also stated by Prof. Keith in the same chapter of the *Cambridge History of India*, p. 103, that the "objects of the devotion of the priests were the great phenomena of nature, conceived as alive, and usually represented in anthropomorphic shape, though not rarely theriomorphism is referred to."

Which of the two principles, male or female, is higher?

Sir John is of opinion that 'the female principle is almost wholly subordinate to the male in the Vedic religious beliefs, while among the people of the Indus Valley, the female principle stands on the same footing as the male, if not higher. From the data discovered at Mohenjo-daro, it is not possible to estimate the degree of reverence with which the people used to look upon the female deities as compared with the male. The larger number of images representing female figures as compared with those representing male may be conceded in this discussion to be an index to the popularity of the female representation, but yet it cannot be a proof of the higher position occupied by it in the religious beliefs of the people as compared with the male deities. For, the popularity of a deity does not necessarily indicate a higher position. The god *Kārtikeya*, for instance, is very popular in Bengal, considering the number of his images worshipped every year in the various households, but yet he does not occupy a position in the highest rank of the Hindu pantheon. Moreover, the theory that the female principle is almost subordinate to the male in the *R̥gveda* should be taken with a great limitation because of the henotheistic tendency.

It is stated that the Mother Goddess and Śiva have no place in the Vedic pantheon while they are in the forefront among the Indus people. Regarding the Mother Goddess, Sir John says "*Pṛthivī*, the Earth Goddess of the Vedic Aryans, was a figure quite distinct from the great Earth or Mother Goddess of the older peoples." He relies on this passage in Dr. Oppert's *Original Inhabitants of India* (p. 402): "No doubt *Dyaus* and *Pṛthivī* appear in the *R̥gveda* respectively as God of Heaven and Goddess of Earth, and are called father and mother, but the latter expression admits of a totally different explanation, and does not indicate a worship of Mother Earth such as we find among the Gauda-Dravidian Hindus, a worship which in this form is also now here found among the other Aryan nations." It is clear however that the idea of the creative female principle was inherent in the conception of the Goddess Earth among the early Indo-Aryans. In later times, the worship of the creative female energy personified as a separate deity was the natural

result of the separation of the ideas imbedded in the conception of the Goddess Earth.

Siva-worship

The statement that *Siva* had no place among the gods of the *Rgvedic* pantheon, while it was worshipped by the Indus people, and therefore the god was borrowed by the Indo-Aryans from the non-Aryan Indus people requires a close examination. It is admitted by the scholars generally that Rudra found in the *Rgveda* is the predecessor of *Siva*. In the *Rgveda*, he is destructive (II, 33, 11) as well as beneficent. For the term beneficent, the word *siva* has been used (*Rv.*, X, 92, 9). He has matted locks (*kapardin*—*Rv.* I, 114, 1 & 4)—the characteristic of an ascetic. *Yoga* is not unknown in the *Rgveda* as can be inferred from the hymn X 136. Here the ecstasy and other characteristics of a *Yogin* are found in a *muni*. In the *Atharvaveda* (II, 34, 1; XI, 2; etc.) he is *paśupati* (lord of beasts) and also thousand-eyed (*Av.* XI, 2, 2 & 7). The latter epithet indicates that the god looks in all directions. The three or four faces of the god depicted on the seal (pl. XII, 17) point to the same conception (*Mohenjo-daro etc.*, 53 f., n. 1). For these reasons, the figure may well be taken as a form of Rudra of the Vedic Aryans. Moreover, there is no reason to infer that a deity who is pre-eminently a *Yogin* should be borrowed from the non-Aryans of the Indus Valley. The practice of *Yoga* was a speciality of the Indo-Aryans as evidenced by their extensive literature on the subject; and therefore it is reasonable to think that the figure of Rudra seated in the attitude of a *Yogin* should be a representation of a deity of the Indo-Aryans rather than of the Indus Valley non-Aryans, among whom the prevalence of the practice of *Yoga* and belief in its virtues are yet to be proved.

The grounds for inferring that the phallus worship was borrowed from the non-Aryans are, I think, two viz.

(a) The Indo-Aryans did not exist in India before 1500 B.C., an inference that has served as the background of all the conclusions noted previously, and

(b) the passages in the *Rgveda* (VII, 21, 5; X, 99, 3) which have been interpreted to refer to the phallus worship as abhorrent to the Vedic Aryans.



The first ground has already been dealt with. As regards the second, the expression *śiśnadeva* in the passages in the *Rgveda* refers to the enemies overthrown by India. That these enemies were non-Aryans cannot be inferred with certainty. It is probable that among the Aryans themselves, there were hostile sections, looking down upon one another on religious grounds. In the passages, the section worshipping Indra is making a contemptuous reference to the one worshipping *Śiśna*. Prof. Keith could not ignore this probability. In his *Religion and Philosophy of the Veda* (vol. I, p. 129), he says "or again they (phallus worshippers) may simply be mentioned as defeated by Indra, as princes whom we have no reason to doubt as Aryan are represented as being defeated for another prince by the aid of the god, as when for Tūrvayāna, Āyu, Atithigva, and Kutsa are overthrown".

Worship of Agni

It is stated by Sir John that fire (*agni*) is a very prominent deity in the Vedas and the *agnikuṇḍa* should be found in every house, but this is lacking in the houses at Mohenjo-daro. There is no evidence however in the *Rgveda* that there was an *agnikuṇḍa* in every house. This may have been a later development.

Conclusion

Sir John points out that if we assume the Vedic Aryans to be either the progenitors or the descendants of the Indus people, we are reduced to absurd positions. The dilemma presented by him loses its strength in view of the arguments already adduced by me, showing that the conclusions, with which the results of the assumptions come into conflict, are not tenable. Therefore, the position that appears reasonable is that until further definite clues are forthcoming, the attribution of the authorship of the Indus Valley civilization to the non-Aryans is not justified.

NARENDRA NATH LAW