CHAPTER - II

THE INDUS SCRIPT

AND ITS MAIN FEATURES

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A seal is a stamp bearing a device or letter or both pertaining to its owner, while its impression on any material is called sealing.

The stamp seals of Harappa, Mohenjo-daro[1], Lothal[2], Chanhu-daro[3], Kalibangan[4] and other sites covered in intaglio with beautiful animal figures are masterpieces of art noted for their realism. The calligraphy of the short inscriptions on the seals is known for the symmetry of the signs engraved. The average size of the seals is 3x2 cms and the average size of signs is 0.5x1 cm. Some of the Indus inscriptions on the seals contain a single sign while in many others the average number is five. The Harappans maintained their individuality both in the shape of the seals and in the script adopted for communicating their ideas. More than 3000 Indus seals and sealings have been found throughout the Indus empire. But their concentration and use was mostly in industrial and commercial centres like Mohenjo-daro, Harappa, Lothal, Chanhu-daro, Kalibangan and Dholavira. The major contribution is from Mohenjo-daro and Harappa accounting for more than 2000 seals and sealings. Next in order comes Lothal which has contributed 213 seals and sealings. Being the major port of the Indus Empire, Lothal sealed the outgoing Cargo in the warehouse. Chanhu-daro and Kalibangan have yielded a much smaller number of seals. Only four or five seals are found at other Harappan sites.

The seals are generally made of steatite, a soft stone of blue to greyish tinge. Sometimes copper, ivory, agate, chert, faience and clay were also used. Three categories of steatite seals can be made out. One group consists of soapstone with a white coating on the same material producing a greasy lustre. Steatite of light grey colour or light bluish tinge was used for making such seals. The softness of the material rendered itself easy for carving. The second group consists of seals made from a steatite paste pressed into a mould, dried, engraved and heated. In the third group soapstone seals without any coating are included.

Mr. Sana Ullah has made an exhaustive analysis of the surface coating on one of the seals (DK 4479)[5] and his results are given below:

Compound	Percent
Silica	61.2
Oxides of Aluminium & Iron ..	2.4
Lime	nil
Magnesia	34.6
Water	1.8
Total	100.00

In another seal (DK 3557)[5], the amount of water was found to be 2.17 percent[5]. Therefore, it seems to be clear that the coating upon these seals is made of the same material.

The stone seals were first cut into shape by means of a

saw, the marks of which are clearly seen on unfinished seals. The average thickness of the saw blade used in this process was 0.025 inch. The whole process of sawing blocks of steatite to required size, cutting a button on the back, engraving the motif and script is fairly clear. A copper wire seems to have been used for cutting steatite. The groove in the button or boss was cut in V shape. Specimens of this have been found in Lothal and Indus Valley sites. The seal was held by means of a copper ring which passed through the hole in the button at the back to enable the owner to press it on soft material. Engravers of Conch shell, bone and chert used for engraving the device and inscription on seals are found at Mohenjo-daro, Lothal and Chanhu-daro.

Distribution of seals and sealings in Indo-Pakistan subcontinent[6] :

1.	Mohenjo-daro	- 1540
2.	Harappa	- 985
3.	Lothal	- 215
4.	Kalibangan	- 99
5.	Chanhu-daro	- 66
6.	Banawali	- 7
7.	Kotada (Dholavira)	- 28
8.	Chandigarh	- 4
9.	Surkotada	- 3
10.	Alamgirpur	- 3
11.	Nindowari	- 3
12.	Amri	- 2
13.	Balakot	- 2
14.	Desalpur	- 2
15.	Others	- 67
Total		- 3026

Indus seals and sealings found outside Indian subcontinent

1.	Mugaiyar (Ur)	-	10
2.	Uhaimir (Kish)	-	2
3.	Djoka (Umma)	-	1
4.	Tello (Girsu)	-	3
5.	Tell Asmer	-	2
6.	Tepe Gawra	-	1
7.	Susa	-	2
8.	Bahrain	-	2
9.	Failaka	-	1
10.	Hama	-	1
	Total	-	25

It is because Marshall published the seals of Mohenjo-daro for the first time in the Illustrated London News (1924)[7] that the Western Scholars soon realised the importance of Mohenjo-daro and Harappa as Bronze Age sites. Five thousand years ago, the Punjab and Sind, were enjoying an advanced and singularly uniform civilization of their own, but in some respects superior to that of contemporary Mesopotamia and Egypt, even though they continued to use stone blades alongside copper, celts, arrowheads, spears and bronze vessels.

The discovery of a few Indus seals at Mesopotamian sites provided the Indus Civilization with a relative chronology. Gadd[8] has listed as many as eighteen seals of the so called

Indus type found at Ur. Some more were subsequently found in Kish, Brak and other places.

The evidence from the Late Harappan levels at Lothal corroborates the evolution of the Harappa culture noticed for the first time at Rangpur[9]. This cultural evolution is of tremendous significance because the Indus Script also underwent transformation during the Late phase of **Mature Harappa Culture (Lothal A)** and in the devolutionary stage (Lothal B). Stratigraphically the simplification of the writing could be proved here and further substantiated by the seals of Late levels in recent excavations of Harappa and Mohenjo-daro.

As many as 71 terracotta sealings recovered from the warehouse at Lothal bear positive impressions of Indus seals on one side. Some seal impressions of the type found at Harappa and Mohenjo-daro are also noticed at Lothal. At Kalibangan steatite seals and a few potsherds with inscription have been discovered[10]. A broken steatite seal and potsherds with incised pictographic signs have been recovered from Kot-diji[11]. An inscribed bowl from Rojdi bears three Indus signs[12]. Though no seal has been found at Rojdi, its importance lies in adducing evidence in the graffiti inscription for a simplified purely cursive writing omitting pictures in the Late Harappan period. A copper seal has been found in Surkotada[13]. Recently Dholavira and Pabumath in Kutch and Shikarpur in Saurastra have yielded a few seals[14]. Among them Dholavira is important because of

its large urban settlement and cursive writing on most seals and sealings. One terracotta seal and ten steatite seals bearing Indus Script mostly in cursive form have been recovered from Banawali[15]. Two terracotta circular seals bearing an Indus character has been discovered from Daimabad[16], where pottery is painted as in Surkotada with Indus signs. In Mohenjo-daro also some copper tablets legends were written in paint or colour indicating that writing on a perishable material was known to Harappans.

It was generally believed that the seals were used as amulets or charms meant for protecting the wearer from evil forces. But now the real purpose can be ascertained from the 71 terracotta sealings found in the warehouse at Lothal and a few from Kalibangan. The purpose of producing sealings was mainly commercial. They bear an impression of the seal on the face and that of the packing material such as cloth, reeds, and cords on the back. Obviously seals must have been used for sealing cargo wrapped in cloth or bamboo mats. After wrapping the packages with vegetable mats, reeds or textiles they were secured by tying cords around them. Lebels of wetclay covering the knots were impressed with seals in order to authenticate the contents and secure them against pilfering. Thereafter wet clay on the margin of seal impression was pressed with fingers. Perhaps the finger impression was a further authentication of the genuineness of the contents and the source which could be verified by the recipient.

Although the purpose of seal was mainly commercial, there are also the motifs of short horned and long horned bulls, elephant, rhinoceros, goat, unicorn etc. below the inscription. On the surface of Lothal seal-impression and on a few others animal figures and inscription occur. Such sealings seem to have served as tokens or prayer tablets or identity cards of the persons, carrying them as there is no mark of their use on packages. A similar use can be attributed to the tiny seals of Harappa and Mohenjo-daro and a few faience and terracotta seals of Lothal without any button at the back.

The reason for the non-survival of rawclay sealings in Harappa and Mohenjo-daro may be that they melted away in water as they were not cooked. The Lothal sealings from the warehouse are better preserved by fire in an accident which destroyed the warehouse and the sealed cargo. A rare sealing of bitumen with a motif of the cross enclosed in a border is found at Lothal. A few sealings of bitumen have been recovered in Harappa and Mohenjo-daro also. Faience sealings are very few in number.

The sudden disappearance of seals except for the few in the late levels of Mohenjo-daro, Harappa and Lothal period B may be attributed not only to the stoppage of long-distance trade but also to the decline in the general prosperity of Harappan population. This does not imply that the Late Harappans became suddenly illiterate. Surviving of writing is attested to by a few Late Harappan seals and pottery. All the

writing on perishable material such as palm leaf or papyrus must have been totally destroyed in the tropical weather.

The occurrence of inscriptions on commonplace items such as pottery would indicate that a fairly sizeable section of the population was literate. Out of the total number of 246 sealings there are several repetitions; 210 seals do not bear any inscriptions and many seals are found to be fragmentary and illegible. After deducting these seals the rest of the seals are to be read and interpreted.

NATURE OF THE SCRIPT

Writing is the most important source of communication of human thoughts and feelings. There are five different ways of writing such as **pictography, logography, rebus writing, syllabary and alphabetic writing.**

1. **Pictures** : The forerunner of the full system of writing consisted of simple pictures of objects or action. They are termed as pictograms[17].

2. **Logography** : It is a device in which individual signs can express individual words and should naturally lead toward a development of a complete system of word signs, that is a word writing or logography. For example to write the word 'chairman' the sign of 'chair' and 'man' may be written.

3. **Rebus writing** : A primitive logographic writing can be developed into a full system only if it succeeds in

attaching to a sign a phonetic value independent of the meaning which this sign stands as a word. This is phonetization, the most important single step in the history of writing. In modern usage this device is called rebus writing exemplified in the drawing of an eye and of a saw to express the phrase 'I saw'. With the introduction of phonetization and its subsequent systematization a complete system of writing was developed to make it possible to express any linguistic form by means of symbols with conventional syllabic values. This system was prevalent in Egyptian hieroglyphic writing.

4. Syllabic system : Phonetization of signs led to the syllabic system in which conventional signs were standardized. The Sumerians were the first to develop a syllabary consisting of signs representing monosyllables ending in a vowel or consonant. Mesopotamian, Babylonians and Assyrians accepted the Sumerian system of writing.

5. Alphabetic : The word 'Alphabet' means a writing which expresses the single sound of a language. The first complete alphabetic system was formed by the Greeks. The writing began with the Semitic consonantal Scripts[18] (ca., 1500 B.C.). But the vowels were added by the Greeks (ca., 800 B.C.) to complete the developement of alphabetic writing. It will be presently shown that Semitic writing was evolved from the Late Harappan alphabetic writing.

Historically the ancient Oriental Scripts were evolved from logographic to syllabic and finally to the alphabetic

stages. However, the scripts were conservative and retained some ideographic elements till the end even while increasingly employing phonetic syllabic signs. An important result of the transition was a sharp reduction in the total number of signs in a script. Early pictographic Sumerian had about 2000 signs. This was reduced to about 900 in Sumerian Cuneiform and further to about 600 in Akkadian and 450 in Hittite Cuneiform. The Elamite Cuneiform Syllabary used 163 signs while in the old Persian Cuneiform Syllabary the number was further reduced to 41. Finally the Ugaritic Cuneiform alphabet used only 30 signs.

The Indus Script is one of the seven ancient oriental systems of writing developed in the ancient orient during the Bronze Age (ca. 3000-1500 B.C).

Seven ancient Oriental Scripts

No.	Script	Area	Earliest Occurrence
1.	Sumerian	Mesopotamia	3100 B.C.
2.	Egyptian	Egypt	3000 B.C.
3.	Proto-Elamite	Elam	3000 B.C.
4.	Indus	Indus Valley	2500 B.C.
5.	Cretan	Crete	2000 B.C.
6.	Hittite	Anatolia	1500 B.C.
7.	Chinese	China	1500 B.C.

The Harappans had cultural and trading contacts with contemporary west Asians cultures[19]. Seals with Harappan motifs and writing have been found in Babylonian, Elamite, Persian Gulf and Central Asian sites[20]. Some scholars have tried to connect the Indus Script with the scripts of the ancient Sumerians[21], Proto- Elamites[22], Egyptians, Hittite and Chinese and even with Etruscan pot-marks and with script like carvings on wooden tablets found in the Eastern Island in the middle of the Pacific Ocean. The language underlying the Indus Script has been supposed to be Summerian, Proto-Dravidian, Proto-Indo-European, Proto-Indo-Iranian, Sanskrit, Prakrit[23] and even Santal language.[24] There is also an attempt to read only number and no words or sounds in every Indus sign[25].

PROBLEMS FACED IN DECIPHERING THE INDUS SCRIPT

Many attempts at deciphering this unknown writing system have been made ever since the first specimen was published in 1875 and all sorts of 'solutions' have been proposed.

There are a large number of signs in the Indus Script. They are mostly non-pictorial cursive signs with or without certain strokes attached to them although there are several pseudo pictures formed by the combination of cursive signs in addition to pictures drawn in outlines.

MIXED WRITING

Owing to the transitional character of Indus Script pictures of 'bird', 'fence', 'hill', 'hand', 'pipal leaf' etc. occur side by side with simple non-pictorial cursive and linear signs in one and the same inscription[26]. It is necessary to determine whether the cursive and linear signs are syllabic signs or alphabets or whether all the signs are word-syllables and whether the pictures served as ideographs.

A decipherer has to proceed cautiously from the simple to the complex; the simple in the Indus writing is the evolved non-pictorial cursive writing of the late phases of Harappa, Mohenjo-daro, Lothal etc. After cataloging all cursive signs, the compound signs should be analysed to find out basic signs and their number. This is what S. R. Rao[9]

did as early as 1963; later on many scholars including Fairservis followed his method only partially. They did analyse the compound signs formed by joining some signs but left out those formed with 'man' sign etc. in order to treat them as pictures to be given word on syllabic value in the language of their choice.

The inscriptions are very short with an average of five signs on a seal. But there is not a single bilingual or biscriptal seal which could provide a key to decipherement of the script. As both the language and script of Indus seals are unknown, it is extremely difficult to decipher such a writing with two unknowns. Besides, there are a number of puzzling features of the Indus writing. An attempt has been made in the following paragraphs to highlight some of the problems posed by the Indus writing.

DIRECTION OF WRITING

G. R. Hunter[27] was the first scholar to point out that the Indus writing is from right to left. B. B. Lal[28] also supported it. When we speak of the direction of writing on the seals it must be remembered that they are in the negetive; it is the positive impression on a sealing or the mirror impression of the seal-inscription which is to be read from right to left. If one is going to read the negetive seal inscription, it shall be from left to right but this is not what was intended by the seal cutter. Fairservis[29] and Verma[24] were trying to read the positive impression from

left to right which is not correct according to almost all scholars.

Total number of basic signs:

There is a misconception about the number of basic signs employed in the Indus writing. Different scholars have tried to identify the basic signs from different angles Gadd and Smith[8] thought that the number of basic signs is 400 while Hunter[27] said that they are 150. On the other hand, Meriggi[30] identified 270 signs as basic. Thus the generally accepted number of basic signs ranges from 300 to 400. This is considered too small for a pictographic or ideographic writing and too large for a syllabic or an alphabetic system. But it is very necessary to determine the stage of development of the script which will be known if the number of basic signs is known. In order to determine the exact number of basic signs of the Indus Script the pseudo pictures formed by joining basic signs should not be counted among the basic signs. The stages of combining basic signs or attaching short strokes to the basic signs if followed carefully in the seal inscriptions, the pseudo pictures can be separated from basic signs which occur independently in many inscriptions. If the pseudo pictures are not analysed any compound sign can be considered to be a picture and a phonetic value can be assigned to it to suit one's preconceived idea of the language being Aryan[27], Dravidian[31, 32], Sumerian[21], Santal[24] etc. Such an approach vitiates objectivity.

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