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Historical geography of Sindh.

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HISTORICAL GEOGRAPHY
OF SIND:
PART II

BY

PROF. M. B. PITHAWALA, F.G.S., M.R.A.S.

Research Certificate, University of London-

Reprinted from

THE JOURNAL OF SIND HISTORICAL SOCIETY.

KARACHI

1936

NOTICE

Historical Geography of Sind Part I, dealing with the Outstanding Geographical Features, has been reprinted and republished, with the permission of the Sind Historical Society, as an Introduction to the reprints of the chapters on the Physiography of the province from the "Proceedings of the Indian Academy of Sciences," Indian Institute of Science, Bangalore (*vide* B Vol. IV No. 4, October 1936)

The publication is entitled :

A GEOGRAPHICAL ANALYSIS OF THE LOWER INDUS BASIN : Part I (Price Rs. 5 only). Copies of this monumental work on Sind can be had at Victoria Road, Karachi

Prof. D. N. Wadia, M.A., B. SC, F.G.S., F.R.G.S., Superintendent, Geological Survey of India, says:

" Let me congratulate you on your having undertaken so difficult a piece of scientific work and, on the whole, carried it out so successfully. You have collated a vast amount of data and useful facts, which would be valuable information to the public of Sind at this juncture of its impending political autonomy. I consider your work to be of sufficiently high merit."

M. B. P.

Karachi,

20-11-1936.



HISTORICAL GEOGRAPHY OF SIKD.

Part II —Prehistoric and Early Historic Periods.

BY

PROF. M. B. PITHAWALLA, F.G.S., M.R.A.S.

(Read on 26th July, 1936).

PREHISTORIC PERIOD I. (The Aborigines).

The story of the aborigines of Sind is lost in the mists of antiquity. No information regarding them can be produced from any literature. But in all probability and relying upon indirect sources, we may say that they were nomadic hunters of the Stone Age, and that both in Paleolithic and in the early Neolithic periods agriculture was part of the life of the people and fish one of their important foods. They were very probably driven away from the region at the end of the Stone Age by the Indus Culture people and thereafter lived in neighbouring hills and forests, and became ancestors to the jungle tribes of modern India, *viz.* Bhils, Veddas, etc. Thus they led the earliest exodus of the human race from Sind. They have left a few interesting archaeological relics in Sind [1]. A few prehistoric stone monuments, such as dolmens, cairns, stone circles, etc. (as mentioned by Sir B. Frere in *J. B. B. R. A. S.*, Vol. V, 1851) have been found near Sukkur and Rohri. Other relics are a few cairns, cromlechs, etc. near Karachi and the Hubb Valley (as described by Col. M. Taylor in his "Tales of Jasthan"), caves in the Kehru Valley, burials of a Scythic-Druidical race near Waghodar, stone enclosures called "Kaffir Kote" on the right bank of the Gugger river, and neolithic altars etc. in the Mol Valley as far as Unarpur and also at Tharro Gujo (between Gharo and Thatta) [2].

Mr. G. E. L. Carter has made an excellent collection of stone implements, including small end scrapers, blades, small composite tools of flint, ground axes, chisels etc., (now preserved in the Prince of Wales Museum, Bombay), from the following localities:—

(1) Tando Ghulam Husain near Hyderabad, (2) Ganja Takar, Hyderabad District, (3) Guja Takar, near Kali Temple Hyderabad District (4) Karri Plateau near Unarpur Railway Station, Sehvan; (5) Veji Bathi near Unarpur, (6) Kam Pattam,

1. Cousens H. "Antiquities of Sind," 1929 P. 41.
2. *Ibid* Pp. 43, 45, 59.

Karachi District, (7) Jangshahi Hill-top, (8) Jhangri Makar, near Kotri, (9) Tharro Hill near Gujo, Karachi District, (10) Budhka Takkar, near Jhermuk, Hyderabad District, (11) Kotri Settlement No. 1, (12) Kotri Settlement No. 2, (13) Bado Pauri Factory, Karachi District, (14) Chota Pauri near Kotri, (15) Bolari Hill-top Karachi District. Mr. Carter considers some of these relics as belonging to the Microlithic age and others to the Neolithic age, ranging from 6000 B.C., to 8000 B.C. These relics show that they were manufactured at certain central prehistoric factories, such as the Rohri flint factory etc.

The earliest recollections of Arab geographers about this period are also very vague. The author of *Beg-Lar Nameh* [3] says: "Sind derives its name from Sind, the son of Ham, the son of Nuh (God's peace be with him) and the province remained in possession of his descendants ; but their names cannot be found in any books of history, nor have I heard them in legendary stories and I am therefore compelled to omit them. That which I have heard from common report is this that in olden time the Province of Sind was held by the tribes of Bina, Tak and Nabumiya ; but the period of their government is not known/'

Recent Research.

Stone implements of the neolithic age are now dug out in certain parts of Sind (*e.g.*) those of Kot Diji, Narojo Daro, Tharoo, Aror, etc. flint and other suitable stones of the limestone class are available plentifully in the neighbouring hills and it is also probable that the Indus flowed beside these sites.

Revision of the Term "Aborigines."

Indian archaeology is as yet in its infancy. In view of the fact that there are chances of discovering relics of the prehistoric strata of human civilization going up to the earliest Stone Age in the Indus Valley, and that immigrations have taken place here from the most ancient human period, it is but fair that we drop the term "aborigines" and use the phrase "early settlers" of the land, upon whom the science of archaeology has just begun to throw some light. Finds are yet to be made and missing links supplied before we are able to say that a particular race was the aborigines.

PREHISTORIC PERIOD II. (Indus Culture People).

The discoveries of Mohenjo Daro have proved very valuable in this respect. Its relics of rare archeological value and interest have thrown all ancient historical records of India into

the background by a single stroke. They have pushed the boundaries of Indian civilisation further back and "put India on a par with Egypt and Mesopotamia" [4]. Its culture has been proved to be of the early Copper and late Stone Age, which was evidently a very glorious age for our region. They resemble "the early proto-historic culture of Sumer and the second pre-diluvian culture of Elam and Mesopotamia" to a certain extent. Its date is, approximately so far, 2700 B.C., to 2500 B.C., but it is certain that older layers can be discovered, if excavations are resumed in this locality [5]. There are chances also for later layers to be found, connecting this civilisation with the historic period in the valley of Sind.

Geographical Environments.

The geographical situation of Mohenjo Daro is unique in the valley of Sind and the physical conditions are favourable. This locality is considered to be the best and most fertile part of the province. Originally called Chandookah, the whole of this district is known as the "Garden of Upper Sind", and the scene of many a blood conflict, even at the time of the British conquest [6].

This area forms part of the Western Valley Section, which is, in many respects, superior to the land in the Eastern Section. It is covered over with old alluvium and silt deposits of the Indus and also derives the benefit of hill torrents or Nais every monsoon season. Though nearly flat, it has a kind of a gently rolling character on account of the Bhangar mounds or the aggraded parts of the river, which are usually safe from floods. Mohenjo Daro itself was located on one of these mounds in the Doab between the Western Nara on the west and the Indus on the east. The former is a depression between the Western Highlands and the raised bed of the Indus river and forms an intrinsic part of the Manchar-Aral drainage system, which is the most peculiar in the region, inasmuch as the Aral, at one time, admits the Indus waters into the Manchar lake when its level is lower and, at another, it drains the lake itself *e.g.* in the monsoon season, when the area gets flooded.

The physical conditions and environments of the Indus Valley civilisation were very favourable. Mohenjo Daro was

4. Kohli Sita Ram—"Indus Valley Civilisation," 1934, P. 1.
5. Marshall, Sir John—"Mohenjo Daro and the Indus Civilisation"/ Vol. I London 1931, P. Ki2.
6. Mafckay E.—"The Indus Civilisation," 1935 P. 11.
6. James Lt. Hugh—Report on the Purgana of Chandookah in Upper Sind—Sel, Rec. Bom. Govt- No. XV11 Pt. 2 P 711—712,

like an island between the main Indus river and the Western Nara. The arrangement of mountain and plain, of land and water, of cultivated lands and river communications, of tropical heat and periodic summer water supply—all this formed a typical topography for this city. It was the case of a more or less enclosed flood plain, promising continuous prosperity and prolonged peace. Its alluvial soil was rich, and the process of sowing seeds in the ground, which is considered to be a critical step in human civilisation in any part of the world, was evidently practised by these people.

Man had, then, also learnt the lesson of growing cotton and manufacturing cloth. This use of cotton for textiles seems to have been traced to this period in India and was extended to other parts of the country later on.

The river Indus must have flowed close by the City, as the people were mainly dependent on the river waters, though the sea was far away extending perhaps as far as Tatta and about 60 miles less than the present coast. They also lived on fish and were traders by river or sea and by land.

The real geographical value of the Doab lies in the fact that it is surrounded by dry and barren lands *e.g.* the Iran plateau and barren Khirthar mountains on one side, and parts of the Thar desert on another.

Spending some time in the midst of these great ruins of Mohenjo Daro, the present writer thought what a large and flourishing emporium it must have been in those days. What rich fields with plentiful water supply must have belonged to it and what a hive of activities, private and public, it must have looked at so early a period, what good animal friends must have then helped humanity both, as domestic animals and beasts of burden across foreign countries, and, above all, what an organised human life it must have been! To-day Mohenjo Daro lies largely buried under dust and sand with its life extinguished, its beauties lost and its glories eclipsed, but its ruins still reminiscent of them amidst the smiling agricultural fields, with which it is now surrounded. The only relieving feature here is the Indus river itself, eternally flowing past the ruins, although even it has moved away from it by a few miles.

The ruins of the City, already excavated, are found in several mounds, about 70 feet high above the surrounding area, covering about 240 acres. But surely there must be large parts of the

metropolis still unearthed! Below 44 feet due to subsoil water these excavations had to be stopped, but there is no doubt that relics of earlier periods can be met with deeper still.

Climatic Conditions.

There are some indications in the excavations of Mohenjo Paro, which point to Sindh having experienced wetter days in that age than at present. That there was a more favourable climate or at least better water supply in the whole of Central Asia, including the Iran plateau, has been proved by Sir A. Stein's researches in Gedrosia, having impenetrable forests. Ellsworth Huntington has also related the history of these parts particularly experiencing pulsatory climatic changes in the past. No doubt there were many flourishing towns, perhaps due to greater rainfall and less aridity or more plentiful streams in the region, which is now largely overstrewn with blown sand. There may have been an annual rainfall of 15 to 20 inches (that is, more than double the present precipitation) in these areas, as is surmised by Sir John Marshall and other archaeologists. This can only be possible, if the northern storm belt was deflected by arctic pressure, further south. At the same time, a deflection of the S. W. Monsoon towards Sind was also possible. Dr. C. W. Normand, Director of Meteorology, has opined that more rain in the summer months was possible in Sindh and Baluchistan at the time of the Indus Valley civilisation, as otherwise " a very much greater change in the meteorological condition is required to explain more copious rainfall in winter, unless a change in the orography of Sind's surroundings is simultaneously postulated." [7]

The presence of an elaborate drainage system with large drains and pipes, comparatively shallow wells dug not very far from one another, burnt bricks and figures cut on the seals and painted on pottery of denizens of forests and moist lands such as elephants, tigers, rhinoceros, buffaloes and of luxuriant vegetation,—these show that there must have been better rainfall in this locality in prehistoric times. The absence of animals, like lions, indicates that the country was not quite dry and open. There was, however, enough water for forests to grow and to harbour other wild animals. Burnt bricks suggest much fuel and water used.

The temperature of the air, however, seems to have been the same, if not higher than at present, because cotton was

7. Marshall Sir John, "Mohenjo Daro and the Indus Civilisation" Vol. I London 1931 Pp. 2—5.
Abo refer Pr. Sven Hedin, *Jour. K, R. Came Orien. Inst No. 25 Pp. 156-158*

grown and cotton clothes were worn. The great bath is also a proof that summer days were hot and the growth of wheat a sign of winter cold sufficient for the corn to thrive. Lastly, the rhinoceros existed always in an almost steamy heat, actually more often under the equator than anywhere else.

But apart from rainfall, one probable source of a more plentiful supply of water not only in the Western Highlands of the Kirthars and Baluchistan, but also in the whole of the Iran plateau was the gradually receding glaciers of the last Ice age in the northern ranges of the Quinlun, the Pamirs, etc. They are now gradually disappearing and great desiccation has already been caused in Central Asia, as can be seen from the depth of the Caspian Sea, which has diminished much during historic times. Such is also the case with the glaciers of the Himalayas, to which attention has already been drawn by Sir Francis Younghusband and other geographers.

Thus, a diminished water supply does not necessarily mean a deficiency of rainfall; for, it has been noticed by travellers in Gedrosia and other neighbouring lands, that even torrential rains do not leave much water behind, as the water rushes down the barren mountains and gets no chance of being collected in the dry areas without any dams and reservoirs on the hill sides, as was the case in ancient times. Remains of such water works can even now, be found along the trade routes.

No doubt the Indus played a most prominent part in harbouring this great civilisation, for Mohenjo Daro was a port on the river. But what the nature of its flow, affluents, inundations etc. was cannot easily be ascertained beyond the fact that it was remarkable for its floods, which were very destructive at times.

Human Geography.

The greatness of the Mohenjo Daro civilisation can be gauged from the remains which have already been excavated. The burnt bricks, the drains for rain water, the great water-tight baths, solid basements and buildings of excellent design and symmetry, wells, fireplaces, roads, roofs,—these are only a few of the evidences of Sind's great prehistoric culture. Among the products of the land may be mentioned wheat and barley, charred specimens of which have been unearthed. This shows that the climate and soil both were favourable to the **grains in those days, as they are even to-day. But the best and**

indigenous product of Mohenjo Daro was cotton. In fact, it was the original home of cotton (*Gossypium*), which was freely exported to Greece and Babylonia and transplanted there, the Babylonian word for cotton being *Sindhu*, while the Greek *Sindon* after *Sind*. Although they also used meat diet, such as mutton and fish, cereals and dates were on the list of their diet.

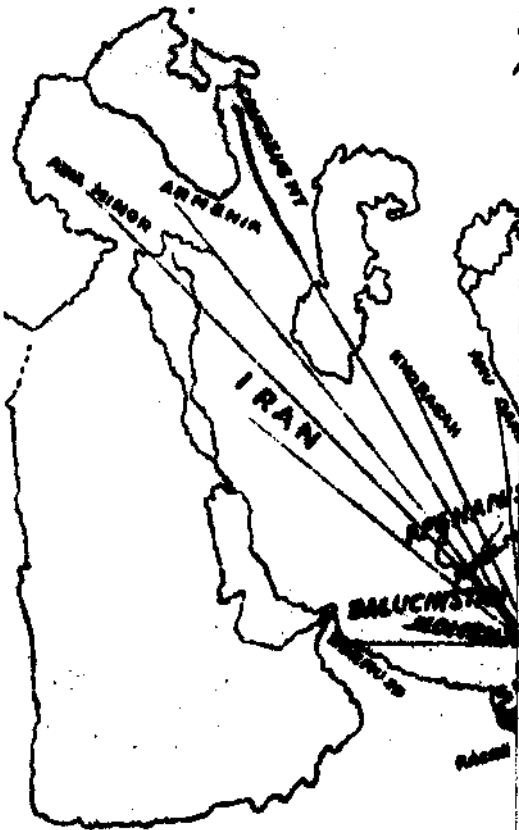
Thus the products of both dry and wet lands were secured, a rare circumstance possible only in lands with good communications. There were arable lands attached to the city according to a most ancient Indian custom. Agriculture at home was also flourishing, as is shown by the number of large grain jars discovered. The ploughshare had very heavy blades of flint and sickles of copper were made. The bullock carts of to-day even resemble those found in toys at Mohenjo Daro.

Evidently it was an intensive city life. Plentiful crops gave the people not only prosperity and peace but also leisure.

"The organisation of society in cities; the continued use of stone side by side with copper or bronze for the manufacture of weapons, tools and vessels; the invention of the potter's wheel and the production, with its help, of improved kinds of pottery; the invention of wheeled vehicles to take the place of the older sleds; the construction of buildings with kiln-burnt and sunburnt bricks and their elevation on platforms in order to place them beyond the reach of floods; the use of picture signs for writing; the use of maces of stone or metal along with spears, daggers, bows and arrows as weapons of offence, the fashioning of ornaments out of faience and shell and various kinds of stone including amazonite; the development of a high pitch of the minor arts and crafts particularly those of the goldsmith and silversmith/[8]—these are, indeed, the enviable assets of Mohenjo Daro civilisation. Nothing in the history of India's past can compare to this unique culture. It was a democratic civilisation distinctly favourable to the large majority of human beings. No palaces belonging to any kings or royalty have yet been found. Rather the comforts of the common people were primarily taught, e.g. the great central baths, a revelation of the earliest political institution so far discovered in India.

It was, in fact, a civilisation both of opportunity and of necessity. For, the excellent geographical situation and environments, as well as the rich fertile soil gave the occupants of





CONTACT OF FOREIGN
LANDS WITH
MOHENJO DARO
 2500 B.C. — 2000 B.C.
 SCALE 1 : 500 MILES.



Lapis Lazuli—Afghanistan.
 Turquoise—Persia (Khorasan).
 Amazon Stone—Kashmir, Nilgiri hills, Ural mountains.
 Rock crystal—Kathiawar S. India.
 Stealite—Rajputana.
 Alabaster—Sind Kachhi (Baluchistan), Kathiawar.
 Haematite—Hormuzd Island, Persian Coast.
 Amethyst—Deccan (Trap area).
 Slate—Rajputana, Afghanistan, Persia.
 Agate, Carnelian, Onyx, Chalcedony—Rajputana, Kathiawar, Kashmir, Deccan (Trap area).
 Jasper, Agate, Bloodstone—Rajpipla, Rajputana.
 Plasma (Chalcedony)—Rajputana, the Kishna, Godavery, and Bhima rivers.
 Tin—Burma, Malay Peninsula, Dharwar.
 Bitumen (Asphalt)—Isa Khel (N. W. F. Province), Marri hills (Baluchistan), Sauni (Sibi), Mesopotamia?
 Red Ochre—Hormuzd Island, Bu Musa, Halvi, Lakhpat, Padvania.
 Basalt—W. Sind, (Ranikot to Jakhmari), Kathiawar.
 Tachylite—Deccan trap (Kathiawar).
 Nepheline Sodalite—Kishangarh (Rajputana).
 Jadeite—Nuji kyina (N. Burma), Pamirs, and E. Turkistan, Tibet.
 Lollingite (FeAs_2)—Persia, Herat, Kashmir, Chitral, Punjab, Asia Minor, Caucasus.
 Green Earth (Glauconite)—N. E. & E. Baluchistan, Deccan.

It may be noted herein that marble is very rare among the relics of Mohenp Daro, indicating at least the great difficulty of communication between the Aravallis and Sind with the intervening Thar desert. (See Sketch Map)

Definitely a Commercial People.

The pictographic legends depicted on the coins, the business communications, bills of lading, etc., discovered at Mohenjo Daro definitely show that the people inhabiting the valley were a commercial people, living in large houses, well constructed and furnished with the necessities of life. The list of foreign countries, with which it came in contact, indicates that this city was a great centre of international trade.

The people were not content with the pastoral life of the Aryans and lived on agriculture alone, and did **not give**

precious gifts to gods and to the priests. They were essentially traders and their trade was extended to distant lands, like Eastern Islands in the Pacific Ocean.

Recent Explorations,

But the civilisation of the lower Indus valley was not restricted to Mohenjo Daro only. It did decidedly extend northwards and along and up the same Indus river as far as Harappa, on the old river Ravi. The neolithic artifacts were first evolved from the palaeolithic in the Indus basin in relation to that great combination of circumstances we have already noticed, *viz.* vast fertile plains, abundance of game, variable seasons and the Indus. Such a culture could not be, therefore, restricted to a single locality. A considerable number of prehistoric sites have been discovered in Sind itself:—

Vijnot (5 miles E. of Reti).
 Alor.—(3 miles S. E. of Rohri.)
 Budhke Takar (opp. Jerruck).
 Lim6 Junejo (40 miles W. of Shikarpur).
 Badah (5 miles W. of Mohenjo Daro).
 Lohumjo-daro (15 miles west of Tharushah).
 Karri—(2 miles N. E. of Kotri.)
 Bhambor—(20 miles W. of Tatta.t
 Gujo—(10 miles W. of Tatta.)

Besides, these, Mr. Hargreaves and Sir Aurel Stein [10] have also discovered a number of sites in N. and S. Baluchistan, suggesting a westward diffusion of the Indus valley culture. *e.g.*, Nal (Kalat State), Mehi, Kulli etc

In later years, other archaeologists have endeavoured to search for more such sites in Sind itself. One prominent among them is Mr. N. G. Majumdar, who actually toured Sind for about 2000 miles during the years 1927-1931 and visited no less than 70 places in various districts. (See Map). His colleague, Dr. Mackay writes: " This latter work proved most successful, for settlements of the Indus valley civilisation were discovered in many places in that province from the modern city of Hyderabad in the south nearly to Jacobabad in the north ; they form a long chain of mounds between the present course of the Indus and the foothills of the Khirthar Range in Baluchistan and include a very large city built of unburnt bricks close to the

10. Stein Sir A.: "Alexander's Track to the Indus," "Explorations in Waxiristan and N. Baluchistan," " Indo-Iranian Borderland," (Jour. Roy. Arch. Soc. Vol. LXIX 1934.)

eastern bank of the river. Only a brief examination of those mounds has yielded evidence of a yet earlier culture in some of them, lying beneath the remains left by the Indus valley people. When they deserted these sites, which it should be mentioned, were not occupied again in later times." [11]

Among the most prominent prehistoric sites discovered by Majumdar are the following :—

(1) Tharro near Gujo in the deltaic region, already marked by Cousens as a wonderful neolithic city from the number of symbols on rocksides.

(2) Chanhu-Daro, where the ibex seal was found.

(3) Jhukar, 6 miles W. of Larkana, where two mounds were opened out, in one of which were noticed sunburnt bricks, pottery of Indo-Sassanian period, while, in the other, burnt bricks (10/11" long) with pictographic characters and pottery were found.

(4) Lohumjo-daro, Ghazi Shah, Ali Murad, Jhangar, Pokhran Arabjo-Thana and Orangi.

(5) But the best of all was Amri on the Manchar lake, 18 miles south of Sehwan. It appeared to be a most flourishing city at first but was destroyed by the river floods. Chipped flakes of flint and bichrome ware were found in some mounds. The trenches in them showed two distinct levels (*i*) 1' to 4' deep and (*it*) 6' to 7' deep.

From most of these ruins the following were discovered:—

Pots painted black and red with thick walls similar to those from Mohenjo Daro, Jhukar and Harappa motifs showing fish, flowers, biconical leaves, birds, etc.; also potsherds, coins, beads, vases, toys, pottery with their walls and plain reddish brown band in the neck, chocolate band on the lips and geometrical patterns on the body in black, chocolate, pink and cream colour. They appeared to be at least as old as Mohenjo Daro.

Geographical Value of these Finds.

Majumdar's discoveries are of far reaching consequences in the domain of pre-historical geography of Sind :

11. Mackay E. "The Indus Civilisation," 1935 Pp. 3—4.
Majumdar N. G.—" Explorations in Sind " Mem. Arch. Star. Ind. No, 48,1954, Pp. 145—154.

(1) There was a possibility of linking tip thiszorieof Chalcolithic civilisation of Sind with the chain surveyed by A. Stein in S. Baluchistan.

(2) There were three distinct kinds of settlements in the region *viz.* (a) those established near hill torrents, springs and their channels in the mountainous area, with houses partly made of stone and rubble and perched on eminences and therefore better protected, but for want of sufficient food harbouring a poorer class of people ; (b) those in the neighbourhood of the Manchar Lake with their pile dwellings and harbouring a fishing folk; and (c) those established along the banks of the Indus as it flowed in those days and hence richer and more prosperous. The houses in this group Were built of burnt bricks all throughout.

(3) There was greater rainfall and better agriculture in the Indus Culture age than in subsequent times, in this valley, as is ind cated by the numerous street drains and rain water pipes, burnt bricks, and vegetation motifs and animal figures such as tigers, rhinoceros, elephants etc., on painted pottery found in these sites.

(4) The chain of prehistoric sites within a narrow compass was found parallel to the Kirthar mountain and hence the sites were thought to have been deserted after the drier climate had set in and the people moved on towards the second and third groups of sites in the fertile plain and valley of the Indus. This theory is supported by A. Stein by a similar chain of prehistoric ruins found in the Jhalawan and Makran districts of Baluchistan.

(5) Lastly, there was an actual cultural and racial intercourse established between Sind and Western Asia through Iran, Makran and the Las Bela State across the Habb river , through the Mula Pass to the Manchar Lake ; and also **through** other minor passes, such as Lak Phusi and Lak Rofael, down the Baran and Mol valleys to Karachi.

Chanhu-Daro Excavations.

Under the auspices of the American School of Indie and Iranian Studies (Boston Museum of Fine Arts), Dr. E. J. H. Mackay* has made very successful excavations this year at Chanhu-Daro, near the village of Jamal Kirior, **about 1½ mile** from Sukhpur on the Feeder Line in the **Nawabshah district.**

* *Vide, Illustrated Loudon News, Nov, 14, 1936 1 p- 380—864.*

There are two large Daroes, about 50 feet high and occupying some 29 acres of land. This is another good locality of analogical value in Sindh, and Dr. Mackay considers that the history of this site "runs through a longer period of time than did that of Mohenjo Daro." This civilisation seems also to have ended later, and is styled Harappa culture by the archaeologist.

Excavations have been carried to a depth of about 17 feet in one place and 26 feet in another, even down to the subsoil water level. There is evidence in the walls of these human settlements that they were destroyed by floods again and again and were renewed at higher levels.

Among the important relics discovered are : (1) elaborate methods of town drainage as at Mohenjo Daro, (2) wells constructed on similar lines, (3) plenty of bead-making apparatus, indicating that it must have been an important export centre for beads, (4) painted pottery similar to that discovered at other sites in Sind and Baluchistan and (5) seals of great archaeological interest and value, (6) copper and bronze models, *e.g.* bullock cart, (7) Pottery and other prehistoric toys.

That there was a strong influence of the Minoan Culture of Crete in this Indus valley side is also shown by Dr. Mackay from the finds at Chanhu Daro—the mother goddess, the bull sports, the cults of dove and serpent and the double axe and the other Cretan devices. This influence is possible through trade connections between the two regions by sea, and the Indus valley might be the pioneer of the two. This discovery has also been simultaneously made and corroborated by Dr. Fabri, the Hungarian scholar and archaeologist.

Several interesting prehistoric relics such as glazed vases, dishes, terra cotta cakes and seals, have been dug up in Kathiawar, *e.g.* Rampur in the Limbdi State and are considered to be fugitive traces of the Indus Valley culture.

Similar pottery of "hybrid wares" was discovered by Sir A. Stein in S. fealuchistan.

In Sind itself, there are chains of such mounds parallel to the Kirthar and the Indus in its recent course and also in the earlier course of the river on the east beside the Khairpur State and the Nawabshah district, now lying buried under the alluvium. They need intensive excavation. How far the Manchar lake was serviceable to this great civilisation also remains to be seen,

Destruction of the Sites.

It may be asked: how were these prehistoric sites destroyed? The excellent state of their preservation denotes that the city of Mohenjo Daro was not destroyed by an earthquake. But it is possible that the Indus changed its course and threw this emporium of trade quite out of its influence. Politically, there seems to be no destruction by enemy hands. Dr. Mackay has surmised that it was the floods of the Indus that from time to time inundated the low levels and when the floods subsided, the people again endeavoured to rebuild their cities. Three such floods at least have been noticed in the case of Mohenjo Daro[12]. Desiccation or climatic change may be another cause. At any rate, it seems that the sites were slowly vacated and were not re-occupied after the Metal Age, till the 1st or 2nd century B. C, when Buddhism spread in this region.

Defects of Indian Archaeology.

Among the earliest Indian archaeologists to throw light on the Indus Valley culture should be mentioned Dr. R. D. Bannerji, the discoverer of Mohenjo Daro and Mr. K. N. Dikshit, who found Limo Lunejo (Upper Sind Frontier). Had it not been for these Indian Archaeologists, the world would not have known much of it.

A defect of Indian archaeology, however, was that excavations were all done vertically in a restricted area and not spread over a reasonably wide area, to enable students of history to correlate or compare relics and to draw some definite conclusions. The intensive, albeit interesting excavations at Mohenjo Daro could throw little light on the prehistoric culture of the *whole* valley. The conclusions drawn by Sir John Marshall and his colleagues are but premature, and under the present financial condition of the Government it is not likely that sufficient and satisfactory materials will, in the near future, be dug out in all the suspected sites, buried long under sand and silt. Even the only native state of Khairpur in Sind is not in a position to establish a survey at present, though valuable relics have also been discovered near Kot Diji. We must, however, give due credit to all the pioneers.

Extent of this Civilisation.

It is not possible to ascertain exactly the whole extent of this civilisation. **But** there is no **doubt** that **there were**

connections, commercial and social, between Egypt, Greece, Crete, Sumer, Elam, Iran, Makran and Baluchistan in the west (the Ibex on the pottery came from the western dry plateau) and parts of India, upto Harappa in the north and even the Ganges Valley in the east. [13]

The Makran trade route (afterwards known as the Arab Trade route) was used by the people in all probability and the usual beasts of burden *viz.*, the bullock and the camel, helped humanity even in those early times.

The Originators.

Who, then, were the originators of such a culture, whence they really came and what ultimately became of it, are problems, which await strenuous research and decision. That there is a marked resemblance between this and the Sumerian culture of Mesopotamia cannot be denied. But that the original inhabitants were the Dravidians, who were driven away towards Southern India and the Sumerian immigrants, occupying the valley, transplanted their eastern civilisation in it, and, again, the Indo-Aryan culture never preceded anything like it in Northern India and had nothing to do with this Indus Valley culture, are open questions presenting doubts and difficulties to Indian scholars in the absence of sufficient data. The researches of Sir A. Stein and Sir Leonard Woolley have something in common with those of Sir John Marshall but this is not enough. To assign definite dates to the two rival civilisations, so far as the Indus Valley is concerned, *viz.* 2700 B.C. to Mohenjo Daro and 1800 B.C. to Vedic India, is mere rash scholarship in the eyes of the natives, who on the other hand boast of the Aryan civilisation to be thousands, not centuries, older than any other civilisation in the east of the west. [14] Fr. H. Heras considers the Mohenjo Daro civilisation to be proto-Indian or proto-Dravidian, and contends, on the interpretation of the seal inscriptions, that the migration must have taken place from S. India into Sind. His theory thus upsets the old belief that the earliest centre of Asiatic culture was Central Asia and the culture stage was Aryan. (15) Taking a concensus of opinions expressed by scholars both of the west and of the east, we can throw herein a suggestion that there can be no water-tight compartment of cultures in different parts of the world—geographical circumstances never could allow such a thing as this,—

13. *Ibid.* Pp. 191—202.

14. Das A. C "Rig Vedic India", Calcutta 1927 Pp. 590—591.

15. Fr. Heras: Lecture delivered at Bombay, March 1936,

that the numerous migrations of races have ultimately resulted in mixtures of their cultures, modified to a certain extent by local conditions. Earlier or later, one section of the civilised and yet civilising races came in contact with another and established their control and authority in various parts of the globe. This was the parent community, out of which sprang the so-called Sumerians, Aryans, Semites, Asuras, Daevas, and a horde of others as time went on. The Indus Valley harboured these peoples and helped them to mingle together and then their influence passed further inland.

Such a reconciliation was already suggested by L. A. Waddell, [16], though not with sufficient evidence, even before the discovery of Mohenjo Daro. He studied the Sumerian seals, compared them with those lately discovered in the Indus Valley, compared also the lists of kings of the early Aryan period, with those of Sumer, Babylonia and Hittite lands and discovered a substantial identity between them. Waddell's method of arbitrarily deciding details of dates and comparing proper names is of no scientific value but the general conclusion of showing a real contact between Mesopotamia and the Valley of Sind cannot easily be refuted. His is a most daring hypothesis, but if further reliable data could be secured in support of it, it would solve the problem of Aryan and Sumerian antiquity or superiority once for all.

So also V. Gordon Childe [17] considered the Sumerian culture, in which industry and trade were highly developed to be " in direct touch with the Indus Valley " and " the transition from paleolithic to neolithic industry to have taken place in India." [18] Trade between Sind and Mesopotamia in those days was firmly established and profited both of them, and in this connection Childe remarks:

" Surely that world is romantic and exciting enough. Here reaching back into the fourth millenium before our era we find on the now impoverished banks of the distant Indus, a brilliant civilisation in touch at once with the prediluvian villages of the Iranian plateau and the nascent states of Babylonia. That discovery completes the graphic picture of the ancient Oriental world that the treasures of Ur disclosed. Already the laden caravans were crossing the wilderness of Iran that the merchandise of the Mysterious East might be bartered for the raw

16. Waddell L. A., "Makers of Civilisation in Race and History," London 1929 P. 27 ff.

17. Gortton Childe V. "The Most Ancient East," London, 1929, Pp. 173 f,

18. *Ibid.* pp.210ff,

products of the young barbaric west in the marts of Kish. Already the Arabian Sea was ploughed by dhows, freighted with the stuffs of Sind consigned to Babylonian river towns. "[19]

Conflict of Upper and Lower Indus Valley Cultures.

Rao Bahadur R. Chanda in a most thoughtful dissertation, on the "Survival of the Prehistoric Civilisation of the Indus Valley" [20] suggests a similar solution. Did the Aryan invaders of the upper Indus valley sweep away the chalcolithic civilisation of Mohenjo Daro and Harappa or did they produce, with congenial and intimate contact, a mixed Hindu population in the entire valley? In all probability the latter and not the former was the case. The Dasas (non-Aryan) were the early settlers of the region, who were already reconciled to the Aryan immigrants from the north. Sind was known to the poets of Ramayana as a land of "Horses of noblest breed like Indra's for their form and speed," and also where the Sindhu mingles with the deep." [21]

Whatever wars were waged in the past were those between "the ambitious Indra-worshipping kings themselves and the rival Rishi clans." The greatest war known to the Rishis of the Rig Veda is "the Dasarajna or King Sudas" battle with the ten kings against the warrior tribes, who held sway in the upper Indus valley and the kings of the tribes were defeated on the Parushi (Ravi) by Sudas. "[22]

Knowledge of the Aryans about the Sindhu (Indus).

That the Rig Vedic Aryans were well acquainted with the Indus and its valley can be gathered from the following passage in the Rig Veda (X : 75).

"The Sindhu is the best of all rivers. O Sindhu, when thou first didst rush towards the region that supplies food, Varuna cut various paths for thee. Thou flowest through elevated regions and holdest the highest place over all running streams.

"Theroar of the Sindhu rises up from the earth and fills the heaven. She is flowing with great speed and her appearance is refulgent.

19. *Ibid.* P. 211.

20. Mem. Arch. Sur. Ind. No. 41, 1929.

21. Griffith's Ramayana, Bk. I, Ch. 6, Bk. IV, Ch. 42.

22. Chanda R. "Survival of the Pre-Historic Civilisation of the Indus Mem. Arch. Sur, Ind, No. 41. P.

"The sound of her waters gives one the impression of rain falling in thundering torrents. Here comes the Sindhu like a bellowing bull.

"O Sindhu, as milch cows run to their calves with udders full of milk, so the other rivers are coming to thee with loving sounds, carrying waters from all sides. As a king starts on a military expedition followed by his army so thou art advancing accompanied by two different sets of streams. Thou art wending thy way with these rivers riding in the same chariot.

"The unconquerable Sindhu is running straight. Her colour is white and bright and she is great. Her waters are flowing with great velocity and flooding all the four directions. Of all moving objects, none possesses such speed as she. She is an object of admiration like a mare and her shape is symmetrical like that of a robust woman.

"The Sindhu has perpetual youth and is beautiful. She has horses of the very best breed, excellent chariots and excellent cloths. She has been nicely decorated and has vast stores of food and very large quantities of wool. Her banks are covered with Silama grass and sweet smelling flowers, full of honey."

Portions of this description are suitable to the passage of the Indus through Sind.

The Vedic Aryans are supposed to have settled in the region, through which the Ambala streams even now flow and lose themselves in the desert sands. The sacred Sarasvati, now almost lost, harboured the race. This Sarasvati once joined the (Saggar and the Hakra and flowed through the desert into the Eastern Nara. A large number of buried towns has been recently discovered in the path of this once prosperous river system. As ultimately all Punjab rivers joined the Indus (or Sindhu) and there is no physical barrier between the upper Indus and the lower Indus basins, it is probable that there was intercourse between the settlers in the whole valley. That intercourse might be political, social or commercial, for there is no doubt that the river proved immensely profitable to both the classes of people.

The people living in the lower reaches and the delta were not akin to the Aryans, as the ruins have shown. But they had a contact with the Aryans, living further up the stream even in the days of the Mahabharata, which says that Jayadatha, the Aryan king of Sind, fought against Krishna on the side of the

Kauravas. But afterwards he turned against the Pandavas and even attempted to take away Draupadi by force, but failed in the end. The fame of Sind for its horses has been recorded also in the Upanishads.[23].

While the Aryans were a sort of nomadic race, living a kind of adventurous life, the Indus Valley people were settled in crowded cities, with well-marked occupations, such as trade involving communication and contact with foreigners. While abundant archaeological relics have been hitherto discovered in the lower Indus valley and at Harappa, few authentic remains of the Aryan civilisation have been dug out in the Valley of the Sarasvati, their very home.

Mingling of Religions.

In Chanda's opinion[24] the Indo-Aryan, Iranian and Mitanian cultures had a common home, from which they migrated to India, Persia and Syria respectively. This is also the accepted opinion of other scholars. This common Aryan home was outside India and somewhere towards the north-west. The mutual relations of the different sections of the peoples of the upper Indus valley were likewise good, and the descendants of both were thoroughly reconciled. The wars and feuds, referred to in the Rig Veda, were only internal and not foreign. From a number of stone statuettes in a mutilated condition and belonging to the Jats who grew to be outcaste during the Vedic regime, and also seals depicting tree worship and pillars crowned by animal standards, this Hindu scholar came to the conclusion that, "If the hymns of the Rig Veda enable us to reconstruct the protohistoric civilisation unearthed at Harappa on the Ravi and Mohenjo Daro in Sind they warrant us in taking a further step and recognising in the warrior clans—the Bharatas, PuruS, Yadus, Turvasas, Anus, Druhyns and others celebrated in the Rig Veda the representatives of the ruling class of the indigenous Chalcolithic population." [25] Again, "Diversity of Indian castes, based to some extent on the diversity of cultures, render it probable, almost certain on *a priori* grounds, that the Indus religion of the Chalcolithic period *survived* the Aryan invasion and was merged in Buddhism and Hinduism that include so many non-Vedic elements." [26]

One of the greatest difficulties of Oriental scholars is in connection with the *age* of the Avesta (Ancient Persian lore)

23. Jethuiul P. Gulraj—"Sind and Its Sufis," Pp. 6—7.

24. Mem. Arch. Sur. Ind. No. 41. P. 8.

25. *Ibid.* P. 35.

26. *Ibid.* P. 36.

and the Vedas (sacred Hindu scriptures). Chanda has, therefore utilised these archaeological discoveries for ascertaining these dates. The Vedic people were aware of the sea (*samudra*) pearls, and other ocean treasures and also conversant With marine navigation. This Would not possibly be the case, unless the people of Rig Vedic India, *i.e.* the territory once occupied by the Sarasvati, popularly understood to be in the Ludhiana district now, had a close intercourse with the deltaic lands of the Indus and the Arabian Sea. Before the discoveries, 'samudra' meant merely territorial waters. [27]

The Panis—Prabable Inhabitants of Sind.

But even if the Rig Vedic Rishis did not know the sea themselves, they must have secured all information regarding it from their pre-Vedic predecessors. A question is asked : Did the Rig Vedic Indra-worshipping Aryans come in contact with an older civilisation of a non-Aryan character? There are clear references to immigration by sea in the Rig Veda Samhita (6, 20, 12 = 1, 174, 9). The Jadus, Turvasas, descendants of sea immigrants lived in the south of the Punjab and had a recognised home of civilisation of their own. Only they did not worship Indra like the northern provincial Aryans and were not settled tillers of the soil, but "wealthy merchants who did not offer Soma and other sacrifices and did not give gifts to priests", and who lived in Puras or fortified towns. Chanda has conjectured that these merchants must be the Panis ('pana'—price), from the Mohenjo Daro coins with pictographical legends on them. During the second millenium B.C., there were many Aryan invasions from the north against these early people of "material" culture and their cities and civilisation were destroyed. So strong was the hatred against "the sinful inhabitants of Sind who were of mixed origin "[28] that even visitors to that province had to perform the cleansing ceremony before mixing with the population again.[29] If now the age of the Mohenjo Daro civilisation and therefore of the Panis can be fixed at 3000 B.C.—2500 B.C., the age of the Rig Veda and of the Indo-Aryan settlement in the Punjab cannot be much earlier. According to the views of Dr. Fabri, it is certain that the Indus Culture continued to the time the Aryans arrived in the valley, *i.e.*, about 800 years longer than Mohenjo Daro. The destruction of a previous civilisation does not take long and so the probable date of the Rig Veda comes to be 1800 B.C.

27, Macdonald & Keith, "Vedic Index", London 1912 P. 432,

28, Bandhayana Dharmasutra (1, 1, 32—33).

29, Mafcabharata Bk. B; 40—46.

In the later Vedic period when the Yajur Vedas were composed and when the Sarasvati disappeared in the desert sands, the earlier tribes migrated eastwards towards the Jumna and the Ganges and other Aryan invasions from the north followed.

"As the Aryans destroyed," says Chanda, "the great fabric of the prehistoric civilisation of Panis of the Indus Valley, later immigrants all but overthrew the Aryan Culture in turn in the same region and the modern Hinduism of the Punjab and Sind still bears a *deep heterodox stamp*, as compared to the Hinduism of the Punjab and the modern representatives of the ancient Kwa-Panchalas in the Delhi and Agra province?."^M[30]

Thus there was a certain amount of mingling of northern and southern races in the Indus Valley in this prehistoric period, even though we cannot actually prove that one or the other race was destroyed in the contest for power and supremacy. "The most reasonable view," says another Indian scholar, "seems to be that they (the people of Mohenjo Daro), were the pre-Aryan (probably Dravidian) people of India known in the Vedas as the Dasyus or Asiiras, whose culture was largely destroyed in the second or third millennium B.C. by the invading Aryans from the north, just as the older Aegean culture of the Mediterranean, (which in some respects bears a striking resemblance to this culture of the Indus), was largely overwhelmed by the invading Achaeans."^M[31]

A Mixed Population.

This view is also endorsed by another Indian writer:—

"The only conclusion one is, perhaps, justified to draw is that the population of Mohenjo Daro was a mixed population. Considering the geographical position of Sind with easy access by sea and land to the southern coasts of Western India, it might have served, like Mesopotamia itself, as the meeting ground of the people of various races, though we should expect the indigenous type to predominate."^M[32]

A prehistoric town is yet to be discovered within the territories of Sind, in which some Aryan skulls lie on top layers and relics of people are buried in the Indus Valley layers underneath. That would easily give a clue to the territorial limits reached by the Aryans in Sind.

30. Mem. Arch. Sur. India. No. 31.P. 8.

31. Mitra P. "Prehistoric India," Calcutta 1927 P. 272,

Migration of Races and the Indus Valley.

The question of migration of tribes and races cannot be easily solved. From a comparative study of the Mohenjo Daro script with those of other sixteen ancient scripts, Fr. Heras imagines that " the Mohenjo Daro civilisation is not only non-Aryan but pre-Aryan and that, as S. India is mentioned in the geographical inscription twice, the Sumerian tradition points to the south as the place from where their civilisation came. Buddhist tradition recorded in the *Jatakas* shows the Indian arriving at Mesopotamia for the first time and the seals with inscription similar to those of Mohenjo Daro discovered in Ur, Kish, Susa and other ancient cities of those countries confirm the truthfulness of these traditions. The Indian script is the parent of the Sumerian script and therefore the Cuneiform script that succeeded the Sumerian. With this script the so-called Dravidian civilisation was propagated through Sumer, Babylon, and Assyria, as the Zodiac proves."

The animals depicted on the seals show totemic signs of ancient Indian tribes, whose names are recorded in the Sanskrit literature, such as Mahishis, Nagas, Garudas, Vanars, Matsyas, etc. The seals refer to the deities like Siva and Parvati (Minaks), also typical of S. India.

On the other hand, from the occurrence of the ibex, an inhabitant of the northern regions in some of the pottery designs, Mr. Majumdar contends that the migration occurred into Sind from beyond the western borderland and thus supports the Central Asian Culture theory.

The researches of Sir A. Stein point to the same theory of the Asian culture travelling from Asia Minor, through the Central Asian deserts to Baluchistan, Gedrosia and to the Helmund and the Indus basins. He is definitely of opinion that the long lines of ruins discovered along the Sind-Baluchistan frontier coincides with a great cultural frontier, the old caravan route across the continent crossing Baluchistan to Elam and extending far northwards and westwards into Iran and Iraq. Thus his discoveries "point to a vast orbit of cultural unity realised in the affinities of a common Chalcolithic civilisation."

Dr. Hunter's contribution to Indology is also helpful to us in this connection. He has suggested that the sailors of Mohenjo Daro had their meeting ground in the Isthmus of Suez; and **in the mines of Sinai**

So, on the whole, the migration from the Indus Valley seems to have taken place not in one direction but in several directions and not at one time in the history of human civilisation but several times. There is not one single stratum of culture or human settlement in the Indus valley. Successive waves of human civilisation seem to have moved perhaps from the Central Asian tableland, at first as the pre-Aryan and then as Aryan and passed through the Indus valley downwards by land or by river route to the open sea both to the east and to the west. There is not the least doubt that Sind has been, to all the races, Sumerian or pre-Aryan and Aryan, a kind of meeting place for a time.

How the Valley of Sind has Functioned.

As hinted above, the valley has functioned as an antechamber for the various races affording opportunities for a mingling of their cultures. To-day there are few vestiges left in Sind itself of the ancient Indus Valley or Aryan civilisation. Of the latter no archaeological but literary traces are found in sacred books and of the former we have only (1) the script surviving in the Brahui alphabet, (2) a few religious symbols and (3) some pottery designs. Neither the non-Aryans nor the Aryans have left here their own exclusive marks on the religious, social or even political life of the people of Sind. In Stein's words; "The Sanskrit literature of the post-Veda age, the development of the Indo-Aryan culture and of the religious cult are sufficient to show that the Aryan victors, by forcing their language and rule on the indigenous population, had taken Over from this more civilised people many of their religious and cultural institutions. Hinduism provides many ancient illustrations of this phenomena. Even to-day it merges the foreign conqueror in itself. It digests its conquerors, so to say." [38]

Mohenjo Daro has revealed another great archaeological truth, viz., the history of human art and achievement is *cyclical*, i.e., it shows a series of curves, of excellence and decadence alternating, an excellent urban civilisation, as at Mohenjo Daro, showing an art full of vigour, virility, symbolism and originality, followed by an age of decay, weakness and sentimentality, fundamentally different from the former after its contact with Aryan invaders from the north. This young human race brought into the Indus valley a new civilisation, a nomadic, warlike and to a great extent religious type, with no artistic or solid monuments as those of Mohenjo Daro in any part of the valley.

Even at Mohenjo Daro itself, the civilization had a *double phase*, with the top of the crest moving in one direction of highly symbolic art and the bottom of it in another direction, pointing out the great social differences between the civilised rulers and the barbaric subjects, between the art of the upper strata of a metal age and that of the lower strata of society with stone implements persisting still.

PREHISTORIC PERIOD HI.—(A Dark Age).

Centuries passed after the conflict of the old Indus Valley culture with the Aryan civilisation. But the influx of peoples continued from the Iran plateau into the Indus valley, so that when Darius the Great of Persia entered this land, he actually found it to be in the possession of a tribe of Sakas (Scythians)—Para-Sugdian, distinguishable from the pre-historic peoples, who occupied the valley before.

The period between the Mohenjo Daro civilisation and the first historical contact of Persia with the Indus Valley falls into the sea of obscurity, there being no monuments or other archaeological and literary evidence, to rely upon. The Iran plateau was also getting drier and drier.

As hinted above, tradition [34] believes the race called "Tak" (*Variants* "Bina," "Mina" or "Baniya") to have migrated into Sind at a very early period. They seem to have emigrated from Scythia. "Tod exalts the Taks to a high and important rank among the tribes which emigrated from Scythia to India making them the same as the Takshak, Nagabansi or Serpent race, who acted a conspicuous part in the legendary annals of ancient India." [35] Mr. E. Pococke admires them still more: "The 'Tag' is a renowned Rajput race." [36] Later on, this tribe appears to have lost its individuality but "there are Taks among the Bhangis, who, though of spurious descent, have evidently preserved the name."

The Jats and the Mods.

Among other tribes, which have left their mark in Sind may be mentioned the Jats and the Meds, the two rival tribes as "the oldest occupants of that province." [37] The *MujmaPut-Tawarikh* says, "The Jats and the Meds are reputed to be

34. Elliot and Dawson "History of India" London 1867 P. 503.

35. Tod "Annals of Rajasthan," I, Pp. 53 ff.

36. Pococke E. "India in Greece," P. 172.

37. Elliot & Dawson "History of India," 1867 Pp. 519—520.

descendants of Ham the son of Noah, and they occupied the banks of the Indus, in the province of Sind. The Meds, who devoted themselves to a pastoral life, used to invade the territories of the Jats, putting them to great distress, and compelling them to take up their abode on the opposite side of the river; but subsequently, the Jats being accustomed to the use of boats, crossed over and defeated the Meds, taking several prisoners and plundering their country.

"At last these two tribes, seeing the inutility of protracting their contacts any longer, agreed to send a deputation to Duryodhana, the King of Hastinapur, begging him to nominate a King to rule over them. Duryodhana, accordingly nominated his sister Dassal (Duhsala), the wife of Jaradratha, who exercised the functions of government with great wisdom and moderation. The families and adherents of 30,000 Brahmans, who were collected from all parts of Industan, were sent by Duryodhana to her court, and from that time Sind became flourishing and populous and many cities were formed. The Jats and the Meds had separate tracts of land assigned to them and were governed by chiefs of their own election.

"The queen and Jayadratha made [38] the city of 'Askaland their capital, the same place apparently, which is called in a subsequent passage Askaland-usa, perhaps the Uchh of later times.

"Jayadratha was killed in the fatal field of Thanesar, and his faithful wife ascended the funeral pile, after their reign had continued for more than twenty years. On the same field was extinguished the dynasty called after the name of Bharata, he being the most celebrated ancestor of Dhritarashtra, the father of Duryodhana and Kurus. On the transfer of the empire to the Pandavas, Yudhishtira conferred Sind upon Sanjwara, the son of Jayadratha and Dassal (Duhsala) and from him Hal was descended. As the Great War, in which these heroes enacted a conspicuous part, has been supposed, on astronomical grounds, to have taken place during the twelfth century B.C., we must assign an equal antiquity to their contemporaries, the Meds of Sind."

Their Original Home.

—What the original homes of the Jats and the Meds were it is difficult to ascertain. Many are the speculations advanced

by students of history regarding both the tribes. It is, however, certain that the Meds followed the Jats in their occupation of the valley. Here is one from Elliot and Dawson, again, regarding the Meds: " They may either have been transplanted to the banks of the Indus, when the Medo-Persian empire extended so far to the eastward; or they may have immigrated thither at some indefinitely early period ; or they may have sought an asylum there upon the occupation of their country by the Scythians; or during the persecution of the Magi, who constituted one of the six tribes of Medas, just as the Parsis did in Guzerat, at a later period and on similar occasion." [39]

HISTORIC PERIOD B.C. I. -(Persian Conquest 515 B.C.—

330 B.C.)

Early Persian Contact.

As we approach the historic period of Sind before the Christian era, and consider the contact and influences of ancient Iran on the province, we gradually come upon solid ground. Even so, nothing can be said with certainty about the state of things before the conquest of the Punjab and Sind by Darius the Great in the 6th century B.C. The oldest source of information regarding this pre-Achaemenian age is the Zend-Avesta, the sacred books of the Parsees. Beyond this literary evidence, there is little help from archaeology, etc. to prove our statements. Prof. A. V. W. Jackson [40] of the Columbia University, has tried to show in the "*Cambridge History of India*" how old Iran influenced Hindustan. Just as Kabul, Kurran, Gomal (Pomati) are referred to in the Rig Veda, Sarasvati (Av. & O. P. Harahvaiti), Sindhu (Av. Hindu, A. P. Hi(n)du), and Sapta Sindhu (Av. Hapta Hindu) are mentioned in Parsee scriptures. The very names of the river "Indus" and the province of "Sind" have been derived from Avesta. One of the 16 regions and world geographical units, referred to in the *Vendidad*, is this Hapta Hindu, created by the Zoroastrian deity Ahura Mazda (Vendidad Ch. I). In the same book there are shown the extreme ends of the Iranian world thus : "From the eastern Indus (India) to the Western Indus (India)" [41] or "An India in the west and an India in the east, " as translated by Spiegel (Ref. Vend. 1.18. Meher Yasht X, 104 Yasna L VII, 29

39. *Ibid.* Pp. 525—526.

40. *Cambridge History of India* Bk. I, Pp. 321 ff.

41. Macdonell & Keith "*Vedic India*;" I I, P. 424.

(Sarosh Yasht). Hindu Kush* (Av. Us Hindava) is also remembered (Yt. VIII, 32, Bund. XII 6, XIII 5, Zatsparam XXII 3); and a whole hymn is devoted to the breaking of the monsoon or its failure in the locality (Ref. Tishtar Yasht. Yasht VIII) Another Avestic reference to India and neighbouring countries is found in the Yasht XIX, wherein Bayana (Mt. Range) Seistan (Av. Zrayah Kasaoya) and the Helmund(Av. Haetumant) are given. All these show the close intimacy of the Avestan people with the Indus valley and its neighbourhood.

Imbued with the pure Zoroastrian principles of life, the Iranian nation had already become the most dominant Asiatic race. They were a plateau people—struggling for food and water to be secured in fresh fields and for new pasture for their growing race. They were an intensely practical and truthful people. In search for wealth and power they sought the Indus valley no doubt.

As time passed and the plateau of Iran came into greater prominence after the fall of Assyria, Babylonia and Chaldea, the limits of the great Persian empire of uplands were extended further towards the east, covering the lower riverain tracts. Cyrus the Great (558 B.C. to 530 B.C.) and after him Cambysia are said to have held "dominions between the Jaxartes and the Indus." (Ref. Commentary on Herodotus Vol. I. 1912 by How and Wells). But the credit of conquering and annexing the valley goes to Darius the Great, who also organised expeditions to investigate the navigability of the river and feasibility of connecting India with Iran by sea. To Darius also the world owes the first-hand knowledge of the geographical, ethnological and political conditions of Hindustan, available through Herodotus. His own words recorded on the rock of Behistan are (*Herodotus*, Translated by A. D. Godley Vol. II, Bk. 4, pg. 44.):

Exploration of the Indus.

" But as to Asia, most of it was discovered by Darius. There is a river Indus, in which so many crocodiles are found that only one river in the world has more. Darius, desiring to know where this Indus issues into the sea, sent ships manned by Scylax, a man of Caryanda, and others in whose word he trusted in 512 B.C.; these set out from the City Caspatyrus(Gandhara ?) and the Pactyic country, and sailed down the river towards the

* If Hindu Kush is identified as Us Hindavo, then there is in this Yaah, a pointed deference to the pre-Tertiary Tethys Sea or at least a portion of it covering this land (*vide*) the *Author's Geological References in Oriental Literature Journal Kama Oriental Institute No. 23 P. 11*.

east and the sunrise till they came to the sea; and voyaging over the sea westwards, they came in the *thirtieth* month to that place whence the Egyptian King sent the Phoenicians, afore mentioned, to send round Libya. After this circumnavigation Darius subdued the Indians and *made use of this sea*. Thus was it discovered that Asia, saving the parts towards the rising sun was in other respects like Libya." The great King thus secured the control of the whole river from the upper reaches to the sea.

Condition in the East.

"As far as India, Asia is an uninhabited land ; but thereafter all the east is desert, nor can any man say what kind of land is there." [42] There is also a mention made of the Indians themselves : " The Indians wore garments of Tree-wool (cotton) and carried bows of reed and iron tipped arrows of the same. Such was their equipment : they were appointed to march under the command of Pharnazathres, son of Art abates." [43]

Oriental Wealth and Splendour.

These were very great indeed.—"The Indians made up the twentieth province. These are more in number than any nation known to me, and they paid a greater tribute than any other province, namely three hundred and sixty talents of gold dust." [44]

" Now if these Babylonian talents be reckoned in Euboic money, the sum is seen to be nine thousand eight hundred and eighty Euboic talents; and the gold coin being counted as thirteen times the value of the silver, the gold dust is found to be of the worth of four thousand six hundred and eighty Euboic talents. Therefore it is seen by adding together that Darius collected a yearly tribute of fourteen thousand five hundred and sixty talents. I take no account of figures less than ten [45]. This was Darius' revenue from Asia and a few parts of Libya. But as time went on we drew tribute also from the islands and the dwellers in Europe as far as Thessaly. The tribute is stored by the King in this fashion : he melts it down and pours it into earthen vessels ; when the vessel is full, he breaks the earthenware away, and when he needs money, cuts off as much as will serve his purpose. [46]

42 Herodotus (Translated by A. D. Godley), Vol. I I . Bk. I V , §40.

43. *Ibid.* Bk. V I I §65.

44. *Ibid.* Bk. I I I §95 (Ref. Raverty "Mifaran of Sind," P- 311)

45. *Ibid.* Bk. I I I §04. Also

46. *Ibid.* Bk, I I I §95,

HISTORICAL GEOGRAPHY OF SIND, PART II.

"All this abundance of alluvial gold, whence the Indians send the aforesaid gold-dust to the King they win in such manner as I will show. All to the east of the Indian country is sand ; among all men of whom hearsay gives us any clear knowledge the Indians dwell farthest to the east and the sunrise of all the nations of Asia; for on the eastern side of India all is desert by reason of the sand. There are many Indian nations none speaking the same language ; some of them are nomads, some not, some dwell in the river marshes and live on raw fish, which they catch from reed boats. Each boat is made of one single length between the joints of a reed. These Indians wear clothes of rushes; they mow and cut these from the river, then plait them crosswise like a mat, and put it on like a brassplate." [47]

Life of other Indians.

"Other Indians, to the east of these, are nomads and eat raw flesh, they are called Padooī. It is said to be their custom that when any of their countryfolk, male or female, are sick, the man's closest friends kill him, saying that they tore his flesh by the wasting of the disease: though he denies that he is sick, yet they will not believe him, but kill and eat him. When a woman is sick she is put to death like the men by the women who most consort with her. As for one that has come to old age, they sacrifice him and feast as his flesh ; but there are not many who come thereto, for all who fall sick are killed ere that." [48]

¹ There are other Indians ; again, who kill no living creature, nor sow, nor are wont to have houses ; they eat grass and they have a grain growing naturally from the earth in its clay about the size of a miller-seed, which they gather with the clay and roast and eat. When any one of them falls sick he goes into the desert and lies there, none regarding whether he be sick or die." [49]

"These Indians of whom I speak have intercourse openly like cattle ; they are all black skinned like the Ethiopians. Their genital seed too is not white like other men's, but like the Ethiopians black. These Indians dwell far away from the Persians sothwards and were no subject of King Darius." [50]

- 47. *Ibid.* Bk. III § 98.
- 48. *Ibid.* Bk. III § 99.
- 49. *Ibid.* Bk. III § 100.
- 50. *Ibid.* Bk. III § 101.

Alluvial Gold.

" Other Indians dwell near the town of Caspatyrus **and** northward of the rest of India; these live like Bactriaris; they are of all Indians the most warlike, and it is they who are charged with the getting of the gold; for in these parts all is desert by reason of the sand. There are found in this sandy deserts, ants not so big as dogs but bigger than foxes; the Persian king has some of these, which have been caught there. These ants make their dwellings underground, digging out the sand in the same manner as do the ants in Greece, to which they are very like in shape, and the sand which they carry forth from the holes is full of gold. It is for this sand that the Indians set forth into the desert. They harness three camels apiece, a male led camel on either side to help in draught, and a female in the middle of the man himself rides on the female, careful that when harnessed she has been taken away from as young an offspring as may be. Their camels are as swift as horses, as much better able to bear burdens besides." [51]

" Thus and with teams so harnessed the Indians ride after the gold using all diligence that they shall be about the business of taking it when the heat is greatest, for the ants are then out of sight underground.

*' Now in these parts the sun is hottest in the morning, not as midday as elsewhere, but from sunrise to the hour of market closing. Through these hours it is hotter by much than in Hellas at noon. So that men are said to sprinkle themselves with water at this time. At midday the sun's heat is well nigh the same in India and elsewhere, As it grows to afternoon, the sun of India has the power of the morning sun in other lands ; with its sinking the day becomes ever cooler, till at sunset, it is exceednigly cold." [52]

" So when the Indians came to the place with their sacks, they fill these with the sand and ride away back with all the speed; for, as the Persians say, the ants forthwith scent them out and give chase, being it would seem, so much swifter than all other creatures that if the Indians made not haste on their way while the ants are mustering, not one of them would escape. So they loose the male trace-camels that they lead, one at a time (these being slower than the females) the males never tire, **for** they remember the young that they have left, such is the 51. *Ibid.* Bk. III §102

52. *Ibid.* Bk. I11 §104.

tale. Most of the gold (say the Persians) is got in this way by the Indians ; there is some besides that they dig from mines in their country, but it is less abundant." [53]

Much of the description given above suits the Lower Indus valley, its surroundings, its climate, peoples etc.

Conquest of Sind by Darius.

Prof. E. Herzfeld's discovery in 1928 of a "New Inscription from Hamadan " gives solid support to this literary evidence we have brought forth. He found a gold and a silver tablet (both identical) of Darius the Great, inscribed in his usual trilingual style—the old Persian, Elam and Babylonian and dated 520 B.C.,—515 B.C. The words as translated are: [54]

" Darius the great King, the king of kings, the king of countries, the son of Vishtaspa the King : Thus saith Darius the King : This is the empire that I possess from the Saka, who are beyond Sugd as far as the *Kush*, *from the Hindu* as far as Sparda, which Ahura Mazda has granted unto me, who is the greatest of Gods. May Ahura Mazda protect me and my house" ! The utmost limits of the Empire are herein recorded by Darius in this one of his latest inscriptions : " From the N. E. the Saka (Scythia) to S. W. the Kush or Ethiopia and from S. E. the Hindu or Sind to N. W. Sparda, the satrapy of Sardis." In the Behistan inscription referred to above and dated 519 B.C. there were only two Indian nations mentioned *viz.*, Gandara and Thatagush, but the Hindu (Sindhi) was missing. The foundation inscription of the terrace of Persepolis also gives "Hindu" but not yet the European Scyths, and so, if the conquest of Sind and the expedition of Egypt are linked together, it could only be possible *after* the exploration of the Indus by Skylax and the opening of the Suez canal by Darius that this Hamadan inscription was recorded between 518 B.C. to 515 B.C. The sculptures of Indians on the rocks show that " they are naked, but for a loin cloth and a sort of turban on their heads and their weapon is a long, broad sword hanging by a strap from the shoulder,"—quite a suitable picture of natives of tropical lowlands of India and not of the Punjab or the Iran plateau.*

After Darius the Great, Xerxes his son (486 B.C.—465 B.C.) continued his interest in this Sind satrapy. Xerxes is said to

53. *Ibid.* Bk. I 11 §105.

54. Mem. Arch. Soc. Ind. No. 34 P. 1—3. (Translated by Dr. J. M. Unwala).

* Ref. Dr. J. M. Unwala's paper in the *Journal of the K. R. Kama Institute 1926* •

have sent an Indian contingent, consisting of infantry and cavalry for the invasion of Greece, under the leadership of Pharnazathres, son of Art abates. " The Indians wore garments of three wool (cotton) and carried bows of reed and iron tipped arrows of the same." [55].

They "were armed in like manner as their foot: they rode swift horses and they drove chariots drawn by horses and wild asses." [56]

There is mention made of this satrapy in the new stone tablets, discovered early this year in a room of Xerxes' army garrison east of the Great Palace Terrace of Persepolis, by Dr. Erich Schmidt, Field Director of the Oriental Institute, University of Chicago. The inscription says [57] that Xerxes' empire, the greatest the world had then seen, extended north-east to the region north east of modern Afghanistan, south-west through ancient Kush to the borders of modern Ethiopia; south-east to the River Indus in North-Western India, and north-west through most of Asia Minor. The probable period of the inscription is, therefore, 485 B.C. to 480 B.C.

The Iranian power in Sind lasted for over a hundred years. Indian troops consisting of elephants were called for at Arbela by Darius III. That was the last the historians have heard about the great Achaemenian Kings of Ancient Persia so far as the Indus valley is concerned. It was the time when Asia dominated Europe.

HISTORIC PERIOD B.C. II. (The Greeks. 325 B.C. to 130 B.C.)

The Greeks soon followed in the footsteps of the Persians. As it was for the first time that an organised European attack was made on the valley of Sind, it would be well to digress a little and ascertain the geographical factors, which made such an invasion a success, which it was.

During the previous century great struggle was going on for supremacy in the east and the west between the Greeks and the Persians. A vast empire extending from the Ægian sea, including Egypt, to the Indus river as a natural boundary, had been steadily bairt up by Darius and his successors. By land as well as by sea—thanks to the exploration of Darius's geograph-

55. Herodotus (Translated by Godby) Vol. II, Bk. V II §65.

56. *Ibid.* §86. §187.

57. *Illustrate4 London News*, 22-2-1036 P, 323,

ers,—their power had grown, they had amassed untold wealth from abroad, called for tributes from no less than 25 satrapies, both in gold and grain, and above all, organised a system of government, which won the praise of even their enemies in Greece. Peace and prosperity led them to do constructive works of art, architecture, etc. Even the gold coin—Daric—was first struck by the Great King. That was the *time element* in the development of history before Alexander. But what were the geographical circumstances which gave victory and control of territories at one time to the Persians and at another to the Greeks? In other words what were the specific Persian and Greek circumstances for their rise and fall?

So far as the Persians were concerned, they were a race of the uplands of the Iran plateau, a large part of which was a semi-desert grassland. Although all the people of the Persian empire were not of one class, they had all a superior and single Iranian culture, under which they came ever since the birth of the Prophet Zoroaster. To them all, his religion was a religion of righteousness and hope, of good thought, Word and deed; work was its own reward in this world and the next, and *cultivoh Hon* was only next to godliness. Such a religion could but produce a virile race, and as the food resources of their land were limited, they always were in search of lowlands for grain. Hence the conquest by Persia of the Indus valley on the one side and Iraq and Asia Minor on the other. The desert land of the Thar in the east and of the Sahara in the west only put a stop to Persia's progress, but the genius of Cyrus and his son, Darius the Great, sought other means. The Persians excelled in horsemanship and herds of horses of good breed descended the plateau from time to time in search of new territories, fresh resources and opportunities and alien battlefields.

The Greeks, on the other hand, were a maritime race. Masters of the many mining territories in their own hilly country, of the large number of city states, of the islands of the Asiatic fringe inhabited as colonies, and of the Mediterranean waters, the Greeks came into direct conflict with the Persians. As the Persians were once aggressive and sought the mastery of the Nile Valley as well as the Ionian islands, an opportunity presented itself to Alexander to follow in the footsteps of the Persians and conquer the whole empire which they once possessed. They had gained much geographical knowledge from the Persian pioneers. They were a sturdy race of culture and **good** physique, exhibiting loyalty to their Head and possessing a fighting spirit all their own. When the Empire of **Persia** be-

came unwieldy and difficult to rule from the central place owing to various geographical obstacles, the control passed on to their Greek rivals. They pushed the Greek frontiers forward into Asia Minor, Egypt, Mesopotamia and Iran and were ready to pass through the Khaibar Pass into the valley of the Indus, even as far as Darius had penetrated. Alexander's course lay along the Indus and the Punjab rivers and he established new military stations at convenient points, such as the confluences of the rivers. His plan was "to take the most easterly waters of the Indus as far as the ocean and return by sea to Babylon." Alexander always kept separate contingents, which were occasionally reunited. This time he organised a fleet of a thousand ships with a mixture of people, Greeks, Phoenicians, Cypriots, Egyptians, Macedonians, Persians and lastly Indians and placed it in charge of Nearchus. He himself took command of the second division, having a flanking movement. But in the navigation of the Indus river he took a personal interest and obtained much geographical knowledge.

Geographical Information from the Voyage of Nearchus.

From a study of the geographical information given in the *Voyage of Nearchus*, it is easy to understand that the geographical conditions of Sind were different from those existing today. A map has been prepared to show the probable routes taken by Alexander, the course of the Indus and its side branches, the probable position of Patala and the coast line. The chief cities appear to have been established on stable ground by the natives. Alexander's own city of Patala and his two ports have disappeared owing to the hydrographical changes, which have taken place in the region.

On entering the present limits of Sind, Alexander found the province in possession of three or four independent tribal rulers: "The Sogdi were at Behkar (Bukkur), Musikanus at Sewee Oxykanus on the west of Sewee at the foot of the Mountains and Sambus on that range of mountains called Lukhy, which extends from the great western range and approaches the Indus at Sewee." [58]

These principalities nearly corresponded to the natural regions. It has been well remarked that a classical river such as the Indus has no ancient sites in existence on its banks today, except "Bekkar in Moultan* and Sewee in Tatta." The

*The boundaries of Sind were not limited to those existing at present. They were **evidently** extended as far as Moultan at the time of the Greek invasion.

58. Vincent William D. "Voyage of Nearchus, From the Indus to the Euphrates," London 1797. Pp.122—123.

appearance of the parts intervening between these two chief places was thought to be monotonous." The Indus roll? down from the confluence of the Chen-ab or Akesines to Tatta four hundred miles^f in one channel with hardly a single point to characterise one part of its course from another, except the island of Bekkar." [59]

The author considers the Binagara of Ptolemy to be the same as Behkar on account of its central position and this also to be a most populous city in Sind in those days. As no great ports on the sea coast have been mentioned, it seems the people were not keen on sea navigation. Parts of Sind were desert land : " The country between the Sogdi and the territory of the Musikanus resembled a desert. The maps give us upwards of 80 miles—a desert subject in summer to the Simoon or suffocating wind." [60]. The term desert, however is qualified, because it has been stated that " the Indus changes its course, inclining some yards to the east and in others to the west and that it is not so absolutely desert but that there are villages of herdsmen who change their habitation with the stream." [61]

Alexander found the land near Behkar to be the "richest in this part of India and the city so commodiously situated that he determined to erect a citadel here and leave a sufficient garrison for its support." [62]

In regard to the hilly tracts (of Oxykanus and Sambus) it is stated that "These were inhabited by mountain tribes in the neighbourhood of Musikanus and in hostility with that prince, as all the inhabitants of mountains constantly are with their neighbours in the plains/" These mountains "afford security to tribes of plunderers," [63] the reason being that their country was covered with hard rock, black and barren except the few fertile valleys where domestic animals, such as the horse, are bred and supplied to Sind. For food they usually plundered the fields and farms of the Indus valley.

Patala represented the delta all the time. It meant " a region below or hell " in a bad sense, but "a country watered by the Indus in the lower part of its course " in a good sense. "Heat, burning sand and want of rain," characterised this region.[64] Accord'ng to Ptolemy's map, there were seven

†Three hundred miles (De La Rocheile).

59. *Ibid.* Pp. 120—122.

60. *Ibid.* P. 129.

61. *Ibid.* P. 130.

62. *Ibid.* P. 131.

63. *Ibid.* P. 122.

64. *IBID.* p. 142.

mouths of the river and the extent between the two outer branches Was 1800 stadia (Arrian), which are equivalent to **113** English miles (d'Auville). No definite measurements of the other two sides of the delta are known. But according to W. Vincent, the Westernmost branch was considered to be **144** miles, while the easternmost to be 170 miles. [65] With these measurements of the two sides of the delta, it is not possible to construct a map of Sind and to fit Patala at the head of the delta. They would carry it to a much higher latitude than We would naturally expect. But if the statement made by Onesikritus *viz* " the delta formed an equilateral triangle " with the base equal to the distance between the two extreme mouths of the river, the situation of Patala would be about 25 miles E. of modern Hyderabad and on one of the old branches of the Indus coincident with the Phuleli. The Sea then lay about 30 miles within the present coast line. The eastern branch Was found better than the former branch for the purposes of navigation, perhaps due to the absence of rapids or giratory motions in it. At the end of this eastern branch there was a " lake or bay, which was of great extent and received its supplies from other waters in the adjacent tract. But as we know that the Indus receives no tributary of streams after it passes Behkar, we must conclude that these waters in the neighbourhood can be no other than the different channels, which branch from the main river and intersect the Delta in different directions. This lake is evidently no more than a bay into which the eastern branch falls and must be searched for in vain, at the distance of twenty centuries, considering the nature of the river and the accumulations of its mouth. It is described by Arrian as very extensive and abounding in all the species of fish, which are common to the neighbouring sea." [66]

At first Alexander navigated the western branch of the Indus and came to the sea near the western mouth of the river. Here he found the tide as well as the sea very rough due to the monsoon winds perhaps, unlike the Mediterranean sea, which is comparatively calm. Returning to Patala, he explored the eastern branch and found the lake, on whose shore he constructed more docks and quays. Proceeding from there, he reached the extremity of the eastern branch of the Indus. At both the extremities the Greek General established ports.

65. *Ibid.* P, 144.

68. *Ibid.* Pp.154—155

Major General Haig[67], who has made a special study of the Delta, considers the western branch to be the Kalri. Gharo stream which silted up long ago, Patala to be situated about 35 miles south-east of present Hyderabad, the eastern branch to be some channel running into the Puran and the Rann of Cutch itself to be a portion of the lake, which Alexander came across before reaching the eastern mouth, the Kori. These seem to be probabilities, but the question of hydrographic changes, which have taken place in Sind, will be dealt with in a separate chapter. Suffice it to say, that vast geographical changes have taken place and are still taking place in the deltaic region and, therefore, it is extremely difficult to locate everything on a modern map.

According to other Greek writers, Alexander and his men were also greatly struck with the large river, the monsoons, the fertility of the land, its fauna and flora, which included huge animals such as elephants, pythons, tigers, etc., and curious plants and trees, such as the banyan, the vegetable wool, *i.e.* cotton, etc.[68]

The tract between the two extreme branches of the Indus was not quite barren and uninhabitable. "The lower part of the Delta is intersected by a variety of channels, which, it is impossible to specify; it is without wood and abounds in camels the upper part near Tatta was fertile in the best rice and other produce of importance, while the country has any commerce and cultivation being probably in a higher state at the time the Macedonians visited the country, the support of three garrisons for its protection was neither superfluous or oppressive." [69]

Alexander's Commercial Plans.

That the objects of Alexander in conquering Sind were not only political but also commercial can be seen from the facts that, considering the Indus to be "the eastern frontier of his empire," he built the city of Patala at the head of the delta (probable situation shown on the map) and planned two new ports with naval yards and docks, at the east and at the west mouths (The English charts show Lari Bandar as the extreme point in the west and Bandar Lari for that in the east, Cutch West and Cutch east) [70] He himself navigated the two main

67. **Haig Major** Gen. M. R. "The Indus Delta Country," London 1894 Pp. 6—23.

68. Pawlinson H. G. "Intercourse between India and the Western World," 1916 P. 44.

69. *Ibid.* P. 157.

70. *Ibid.* P. 144—145.

branches of the river successfully and even "explored the *desert on both sides* to find Water and sink wells." [71] Before he entered the lower Indus basin, he had also established other ports at critical points in the upper Basin with the same object of commerce to pass up and down the river, *e.g.* Oxy-drakoe (Uchh) at the confluence of the Indus and the Akesines. Thus, "everywhere his quick eye seized the points subservient to the realisation of that image which fired his imagination—the Indus a great highway of the world's traffic with a chain of flourishing semi-Greek mercantile cities." [72] The whole expedition of Alexander was a success. He and his men were greatly struck with the sight of the magnificent river, lake, sea, crops, animals and plants, never to be found in Greece.

Return Journey.

At length leaving the navy in charge of Nearchus at Patala with instructions for him to explore the possibilities of a sea route from the Indus to the Persian Gulf, Alexander left his Indian possessions for his return journey through the western highlands, Gedrosia, and the Iran plateau *via* Makran.

Nearchus was to sail down the western branch of the Indus, as the eastern one was in dangerous hold of pirates. On reaching the coast, he found the current of the monsoon very strong. This natural obstacle, as also a mutiny among his men caused detention on the Sind coast and Nearchus was driven to Krokala (or Alexander's Haven), where the monsoon current detained the navy for three Weeks more. At last, progress was resumed and Nearchus anchored off Ahwaz on the Karun river, after some 30 months' journey, in 325 B.C.

A section of the army was ordered by Alexander to march through the Bolan Pass to Susa *via* Kandahar. For some distance, Alexander himself marched along the Makran coast, a course parallel to that of the navy ; but later on he was driven inland along a longitudinal valley, in which his troops suffered terribly through heat and thirst.

Alexander's Achievements.

Thus he achieved :—

(1) Occupation of the entire Indus valley

71. *Ibid.* P. 146.

72. *Cambridge History of India* Bk. I, P. 379.

(2) Establishment of three new cities in the upper valley and one new city (Patala) at the head of the delta and fortifying old ones

(3) Planning two new ports at the eastern and western mouths.

(4) Unification of upper and lower Basins politically for a time.

(5) Increasing commercial activities between the east and the west *via* the Persian Gulf.

(6) Hellenisation of conquered lands with art, sculpture, coinage, etc.

(7) Establishment of the Satrapy of Sind under Pithon.

The results of the geographical survey included the re-discovery of three routes round the countries conquered *viz.* (1) the first entry route *via* the Khaiber Pass, (2) Sind—Seistan (Persia) *via* the Mula-Bolan Passes, (3) Sea route (Makran—Persian Coast). The hardships of the journey were the least in territories already surveyed by the Persian forerunners and the greatest in those of which the geographical knowledge was insufficient, as in Gedrosia. Scarcity of food and water in some places, opposition of savage folk, extremes of heat and cold etc. were some of them.

"The exploration of the Indus Valley was the beginning of a new era in the history of Greek geography, and we cannot help wondering what might have been the result, had Alexander lived to carry out his far-reaching schemes. Would the Indus valley have become the centre of Hellenistic culture as Egypt and Syria became, where the civilisation of East and West blended to form new products? The question was destined never to be solved." [73]

Social and commercial intercourse between Sind and the Western world continued during the days of the Roman Empire. The Greek establishments and settlements remained intact or were improved upon, and served the world as long as possible. "The first of these is the harbour, called by the Greeks Barbarikon, whatever the Indian name may have been. It was on the middle mouth of the Indus and the cargoes were disembarked here and sent in boats to Minnagara, the Capital of Sind. This was probably Patala. It was called Min-Nagara (City of the Min or Saka), as Sind was then in the possession of Parthian Princes, who were always driving one another out. These

73. Rawlinson H. G. "Intercourse between India and the Western World," 1016 P. 36.

Were, no doubt, the Indo-Persians, who had been turned out of the Punjab by the Kushans. When our author found them, the dynasty had evidently already relapsed into anarchy. The Writer correctly notes that the natives called the Indus Sindhus (Sindhu). The exports of Sind (which had not been eclipsed by the southern ports) were costus (Sk. Kushta, *Sanssurea lappa*) an aromatic plant from Kashmir, used for perfumes, lycium or berberry, a cosmetic fashionable in Rome; nard (citronella), gems, indigo skins, and costly silk from China. Silk was destined to become an immensely important article of commerce. "[74] Cotton was also one of the exported articles.

Greco-Roman influences passed on in later centuries to other parts of India as Well. In coinage, sculpture, architecture, drama, etc., no doubt these Were felt. At the same time Oriental literature, philosophy and even astronomy affected the western world. [75].

HISTORIC PERIOD B.C. III. (Post-Alexandrian Period.)

After the death of Alexander, Greek influence in the east continued for well-nigh two centuries. Not strong was the hold of the Greek Empire on the conquered territories. The Persian system of Government by Satraps was followed and the territories Were partitioned. Silencus Kicater—320 B.C. who governed the Indian satrapies made them over to Chandragupta (Sandacottus?), who ruled from Pataliputra through the illustrious Asoka, but the influence of these distant Buddhist rulers could not be felt to a great extent and for long in Sind. On the close of the Mauryan dynasty in 231 B.C., a sort of semi-Greek rule, the Bactrian, set in; until at last the Sakas (Indo Scythians) broke down their power once for all in 130 B.C. Once again the country came into the hands of the early native settlers, among whom the Jats and the Meds occupied a prominent place. They have been already referred to above.

For a time again the history of Sind runs parallel to that of Persia. " The movements of the Sakas and allied nomad tribes were closely connected with the development of the Parthian or Persian power under the Arsakidan (Ashkonian ?) kings. Mithradates I, a very able monarch (C. 171 to 136 B.C.) Who was for many years the contemporary of Eukratides, King of Bactria, succeeded in extending his dominions so widely that his power was felt as far as the Indus, and probably even to the

74. *ibid.* Pp. 114—115.

7f *Ibid.* Pp. 153—180.

east of that river. I see no reason for donating the birth of the explicit statement of Orosius that, subsequent to the defeat of the General of Demetrios and the occupation of Babylon, Mithradates I annexed to his dominions the territory of all the nations between the Indus and the Hydaspes or Jhelam river. The chiefs of Taxila and Mathura would not have assumed the purely Persian title of Satrap. If they had not regarded themselves as subordinates of the Persiaja or Parthian sovereign and the close relations between the Parthian monarchy and the Indian borderland at his period are demonstrated by the appearance for a long time to princes of Parthian origin, who now enter on the scene." [76] Under these conditions, a great movement of population was bound to take place between Iran and the Indus valley. Kanishka, the last Indo-Parthian ruler of Sind, had a prolonged association with our province, as a large number of his coins are found in it.

" His dominions included Upper Sind, and his high reputation as a conqueror suggests the probability that he extended his power to the mouths of the Indus, and swept away, if they still existed, the pretty Parthian princes who still ruled that region in the first century after Christ, but are heard of no more afterwards." [77]

GEOGRAPHICAL VALUE OF SIND—Conclusion.

Thus it can be seen how the Indus valley had a great geographical value throughout all these periods of time, how through the few but free mountain passes came periodic, though long—delayed attacks of conquerors,—the Indus Valley people! Indian Aryans, Iranian Aryans, Greeks, Scythians and others,—how the frontier lay undefended by any civilised or organised force from the natives, who did not trouble about it, and how the upper Indus valley affected the lower and deltaic region politically, socially and economically to some extent.

Life in the lower Indus valley Was, to a certain extent unsafe, unstable and unsteady—the physical environments helped to make it so. It had a centrifugal population, settlers Were not settled, when either the changing river or a foreign aggressor upset them. There was a re-sorting of tribes and races, escaping from aggressions or political crises, religious bigotry or even unfavourable climatic conditions. Therefore, Sind's political frontiers oscillated, rulers changed hands and capital towns shifted,

76. Smith Vincent "Early History of India," 1914 Pp. 227—228,

77. *Ibid.* P. 259.

as the Indus waters or the desert sands do shift from place to place. Even at the time of the Persian invasion the desert approached the Indus valley on its eastern side and desiccation had already begun even on the borders of Sind.

However, the valley itself, owing to its fertile soil and plenty of river water in a comparatively dry region all round, no doubt harboured settlements. But except the two ancient towns of Behkar and Sehvan, there are few natural strongholds and vestiges left of the previous conquests in Sind. While people from the dry and hot Iran plateau could sustain themselves well in the burning land, conquerors from cooler regions such as the Greeks, could have no foothold in it and they either left it or moved on to cooler and more habitable parts of the Indo-Gangetic plain and the Deccan.

The open character of the valley allowed free movements, though, on account of some scattered desert tracts amidst fertile fields, they were restricted here and there. Thus, while the colonisation of foreigners was easy and they could take native wives, there being no religious restriction thereto, the bulk of the people lived a quiet, peaceful life in their fields. There were no castes and few creeds, thus allowing facilities for the unification of peoples who happened to live in Sind. There were, likewise, risks of evils from foreigners as well. Though communication was defective and journeys were slow and tedious, nevertheless as a habitable area, it had a close relation between its physical regions and cultural regions. It gave facilities for internationalism and inter-communication. Much of its history is conjectural but the salient events, related above, support our statement that Sind has played its part worthily in the ultimate unification of human races. How far this is true with regard to the later historical periods remains **bow to be seen,**

