

## THE INDUS CIVILIZATION

In volume I of the *Cambridge History of India*, published in 1922, Sir John Marshall introduced his chapter on the monuments of ancient India with the observation that 'before the rise of the Maurya Empire a well-developed and flourishing civilization had existed in India for at least a thousand years; yet, of the structural monuments erected during those ages not one example has survived save the Cyclopean walls of Rajagriha' (of the sixth century B.C.). Too late to modify this established view, in the previous year a member of Sir John's own Indian staff, Rai Bahadur Daya Ram Sahni, had already in fact nullified it. Sealstones bearing animal-designs in intaglio and inscribed in an undeciphered pictographic script had long been known from ancient city-mounds at Harappā, a small town in the Montgomery district of the Punjab, and a trial excavation in 1921 had quickly established their chalcolithic context. What that implied in terms of absolute chronology was still undetermined, but it was clear enough that an urban culture appreciably earlier than the Maurya Empire, or indeed than Rajagriha, had now been identified. And in 1922 another member of Sir John's staff, Mr R. D. Banerji, was already finding similar remains beneath a Buddhist stūpa which crowned the highest of a large group of mounds known as *Mohenjo-daro* (possibly = 'the hill of the dead') nearly 400 miles away in the Lārkanā district of Sind. Within a few weeks of publication, it was abundantly clear that a new chapter would have to be added to the pre-history of India and to the record of civilization.

Now, more than a generation later, the time has come to attempt the missing chapter. Much that is essential to an understanding of this ancient Indian civilization, both in detail and in general context, still eludes us. We know little of the processes of its early growth and but vaguely understand its evolution and its sequel. In Western India, however, new possibilities as to the circumstances of its end are beginning to emerge from recent work, and the moment is appropriate for a résumé of the present evidence as a preface to continuing exploration and discovery. The new material has already, in important respects, modified our appreciation of the relationship of the civilization alike with preceding and succeeding cultures.

## TERMINOLOGY

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First, the question of terminology. Archaeologists are wont to label a culture—i.e. an organic association of specific types of craftsmanship—from the site of its first discovery. In this sense, we are now dealing with the *Harappā culture*, whether at the type-site itself or at Mohenjo-daro or elsewhere. At the same time, as we now know, this culture was itself an expression of a highly evolved urban discipline and economy, in other words of a *civilization*; and elements of this civilization have, during the past thirty years, been recognized widely between the Himālayas and the sea, in the Indus system and the former parallel system of the Ghaggar, and now across the divide in the Jumna–Ganges<sup>1</sup> country. It is legitimate therefore to use the phrase *Indus civilization* as an inclusive term; and in fact both terms, Harappā culture and Indus or (better) Harappā civilization, will be used in the following pages.

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Secondly, as to distribution. Over seventy sites<sup>2</sup> have produced significant elements of the Harappā culture along the Indus axis between Rūpar, at the foot of the Simla hills, and Sutkāgen-dor, near the coast of the Arabian Sea 300 miles west of Karachi (fig. 1). With rare exceptions they are towns or villages of the plain: most of them line present or former courses of the Indus and its tributaries, or of those other rivers which flow south-westwards from the sub-montane region about Ambāla and, as the Sarasvatī or Ghaggar, Hakra or Wāhindat, formerly watered the deserts of Rajasthan and Bahāwalpur and may even have struggled through as a rival Indus to the Arabian Sea.<sup>3</sup> To the west, the hills include innumerable cognate village-cultures (earlier, contemporary and later) which on occasion descend also to the plains: but the Harappans were, first and last, lowlanders, as befits a civilized folk. The diversity of the hill-divided village groups is in standing contrast to the widespread uniformity of the riverine civilization.

But this is not all. Recent search has extended the Indus civilization far down the west coast, giving the Indus people in the aggregate no less than 800 miles of seaboard, with what bearing upon their maritime

<sup>1</sup> I have here retained the traditional Anglicized spelling of these rivers, now better known as the Yamunā and the Gungā.

<sup>2</sup> List on pp. 138 ff.

<sup>3</sup> R. B. Whitehead, 'The River Courses of the Panjab and Sind', *The Indian Antiquary*, LXI (Bombay, 1932), pp. 163–9.

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activities remains to be explored. In Saurashtra (Kāthiāwāḍ), extending to the eastern side of the Gulf of Cambay, something like forty Harappan sites have been claimed and, though some of them may perhaps be more properly described as variant or marginal, there is now no doubt that at least a late phase of the civilization is widely represented there. The southernmost Indus site at present (1966) known is Bhagatray on the Kim estuary nearly 500 miles south-east of Mohenjo-daro; others occur only a little further north at Mehgam and Telod on the estuary of the Narbadā. Here we have a wide province—let us call it the Saurashtrian province—of the civilization in a region remote from primary contact with those invading Aryans whose hand is liable to lie a trifle heavily upon archaeological fact or fancy in the Punjab and the Indus valley: a province, too, within effective range of the flourishing chalcolithic cultures of central India, and likely therefore in the foreseeable future to tie up several of the loose ends of Indian pre-history by providing the Indus civilization with a rational and related sequel.

At the same time in another direction recent discovery has likewise been little short of revolutionary. Until 1958 it was assumed that the Indus civilization had failed to cross the divide between the Indus and the Jumna systems. In that year cursory digging at the village of Alamgirpur (at first announced as Ukhliṇa), in the Jumna basin 19 miles west of Meerut, 30 miles from Delhi and some 600 miles eastwards from Mohenjo-daro, revealed unmistakable Indus material. It cannot have stood alone, though a parallel report of the finding of Indus sherds much further down the Jumna at Kaushāmbī is unconfirmed and probably needs reconsideration. Further exploration of the Jumna-Ganges *doāb* may well indeed provide before long a much-needed nexus between the civilization of the Indus and that—hitherto less studied—of the great northern plains. It begins to appear that, by a sort of pincer-movement, the Indus civilization circumvented the Thar or Indian Desert (then doubtless appreciably smaller than today) on both sides and so reached the formative regions of the classical civilizations of Hindustan in the north and centre of the subcontinent. To the south-west, this movement may have been partly coastwise and partly overland, southwards through Patan on the eastern side of the Rann of Cutch. To the north-east the link was doubtless through northern Rajasthan, where many Indus sites have been identified. More than that it would at present be premature to guess. Something will be said later (p. 63) about the cultural aspects of the newly discovered sites.

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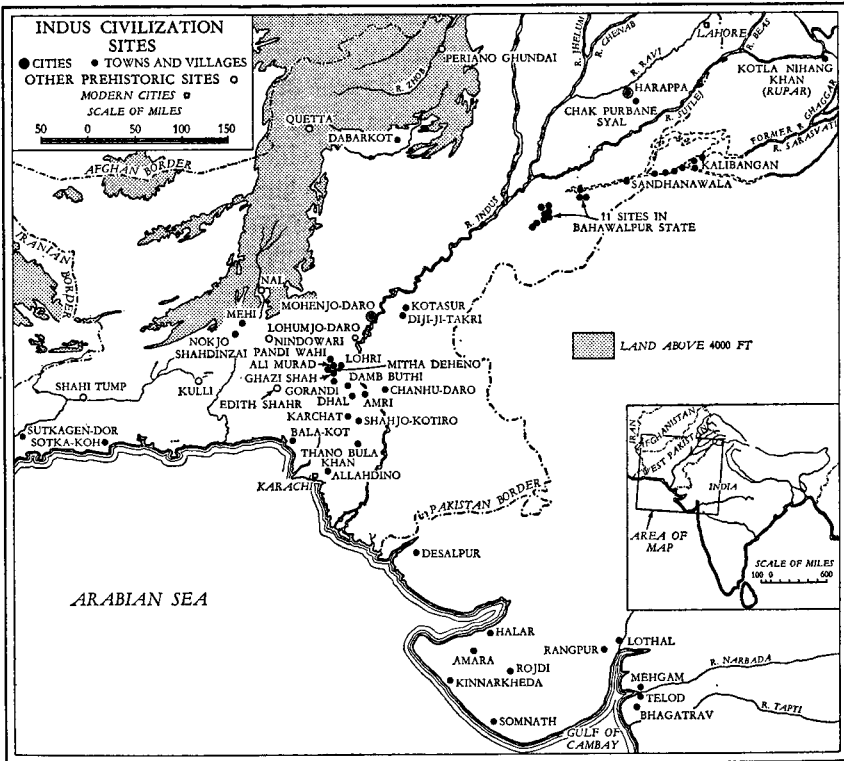


Fig. 1. Distribution of the Indus civilization.  
 (Omitted: Alamgirpur, 600 miles east of Mohenjo-daro.)

For what such claims are worth, the Indus civilization can thus claim a larger area than any other of the known Bronze Age civilizations. From Rūpar to Sutkāgen-dor is 1,000 miles. The axis of the two Egypts is only some 600 miles, and lowland Mesopotamia is of a similar length. But the significance of these figures extends beyond mere mileage. Behind so vast a uniformity must lie an administration and economic discipline, however exercised, of an impressive kind. For, as has been indicated above, the Harappans were not an oasis in a desert; the adjacent hills were teeming with a variegated life which must, we may suppose, have encroached readily upon the riverine civilization had this lacked effective integration. Of the precise nature of that integration we have no knowledge, and there is little hope that information of any great value awaits us in the interpretation of the Harappan script. It is just possible that the map of the Indus system may contain a hint of the

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matter. Of the seventy or more Harappan sites there, two—Harappā and Mohenjo-daro—are so immensely larger than the others as to suggest to Professor Stuart Piggott a duality of control. ‘We are entitled to regard the Harappā kingdom as governed from two capital cities 350 miles apart, but linked by a continuous river thoroughfare.’<sup>1</sup> A historic verisimilitude might be given to this picture by invoking the duality of the Arab régime in that same valley in the ninth century A.D., when a northern Arab principality was ruled from Multān (near enough to Harappā) and a southern from Mansūrah (near enough to Mohenjo-daro).<sup>2</sup> And Professor Piggott has himself cited as a possible analogy the duality of the Kushān Empire in the second century A.D., with its complementary capitals at Peshāwar and Mathurā.<sup>3</sup> The conjecture is a plausible one and is slightly supported geographically by the constriction of the valley opposite the Sulaiman Range and the Bugti Country, so that each city may be said to dominate a partially defined and unitary province. How the southerly extension of the civilization in Saurashtra (Kāthiāwāḍ) fitted into the dual scheme is less apparent. There is, moreover, an alternative possibility to which current research lends a little colour. It is increasingly apparent that Mohenjo-daro suffered intermittently from abnormal and disastrous floods induced (it is suggested) by a succession of tectonic uplifts in the lower Indus valley and by the consequent ponding back of the waters of the river system. These slow-moving floods, represented by deep silt-clay deposits, were a recurring hazard to the Mohenjo-daro citizens, and it may be that Harappā, nearly 400 miles further inland, developed in some measure as a metropolitan replacement. One guess is as good as another. (See pp. 128 and 129.)

## GENERAL CHRONOLOGY

The problem of chronology is an involved one and must be reserved for a later page (p. 110). Meanwhile it will suffice to premise that the Indus civilization was in full flower in the time of Sargon of Agade (in Mesopotamia) whose date is now placed about 2350 B.C.; and that the period 2500–1700 B.C. is here estimated as likely to have comprised the material available, without prejudice to such further evidence as may eventually be forthcoming from the unplumbed depths of Mohenjo-daro or Chanhudaro or, at the other end of the scale, from some of the sites now recognized in Saurashtra.

<sup>1</sup> *Prehistoric India* (Pelican Books, 1950), p. 150.

<sup>2</sup> Wheeler, *Five Thousand Years of Pakistan* (1950), p. 30.

<sup>3</sup> *Prehistoric India*, p. 136.

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Before we approach the general structure of the Indus civilization, something must be said of its natural and cultural environment. And first the natural environment, which helped to shape, and was doubtless shaped by, the development of that far-reaching enterprise.

Today, much of the Indus valley and its environs presents a mixed scene of hard-won agriculture and wide expanses of desert or semi-desert scrub, with sparse bushy trees, predominantly the tamarisk and babul. The river is controlled and selectively extended by costly barrages, canals and dykes, and those areas which are not so mechanized yield at the best poor returns in the form of second-rate pasturage and firewood. At first sight it is difficult to visualize the former presence of large Bronze Age cities hereabouts, up to three miles in circumference, without the postulate of a more congenial climate than that which today offers the dusty mounds of Mohenjo-daro a niggardly rainfall of some 75 mm. a year.

Accordingly, like others before me, I have been inclined to assume that postulate. In an earlier edition of this book I summarized the position as follows:

The mere existence of the cities is indeed conditional upon a local fertility out of all relation to the present landscape and not wholly explicable by the possibility of elaborate former irrigation systems of which not a trace can be expected to survive on the present aggraded surface. A certain degree of climatic change is beyond dispute; but how far that change is due to 'natural causes' and how far to sheer human improvidence (if that be other than a 'natural cause') is less easy to say.

There remains an element of truth in that statement, but the adduction of 'climatic change' as an operative cause demands review in the light of more recent research.

Before the newer interpretation be considered, however, the premisses upon which the older view was based may be briefly amplified. The almost universal use of expensive baked bricks in preference to cheap mud-bricks at riverine sites such as Mohenjo-daro, Chanhu-daro and Harappā (but not in the hills) was held to imply a climate in the valley wet enough to necessitate the more durable material. At the same time the millions of bricks thus baked suggested former vast reserves of local fuel, even if supplemented by river-borne timber from higher reaches. By the same ilk, the incessant baking of bricks through the

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centuries may be thought to have induced local deforestation on a large scale, with deleterious consequences of familiar kinds. And again, the unparalleled abundance of carefully built brick drains in the Indus towns has been ascribed in part to the need to canalize and disperse frequent and heavy rainfall. Then, too, there are the famous Indus seals with their vivid and naturalistic representations of tiger, buffalo, rhinoceros and elephant, which were obviously familiar to the artists and are regarded as marsh- or jungle-animals. Alternatively, the absence or extreme scarcity of camels was thought to be consistent with non-desert conditions. There was much to be said for the 'change-of-climate' theory.

But now the hydrologists, and in particular Mr R. L. Raikes,<sup>1</sup> have taken over. Those drains were not designed to carry away rain-floods; they are quite inadequate in scale for such a purpose, and their more homely function was clearly that of the disposal of domestic waste. This diagnosis is acceptable. The silt or silty-clay of the Indus flood-plain retains moisture, and the annually inundated areas could have supported, as here and there they do today, flanking woodlands interspersed with tall grasses, providing a suitable habitat for elephant, tiger, rhinoceros and other inhabitants of typical jungle.<sup>2</sup> Alternatively, before the river-system was closely disciplined by the massive *bunds* whereby it is controlled and directed today, clearings reinforced by the inevitably shallow water-table would have carried crops widely if intermittently across the flood-plain, almost regardless of local rainfall. There is no reason to suppose that the removal of modern controls would not recreate most of the environment of the chalcolithic period. This all fits in with the current tenet that, on a world-basis, climatic changes, though not absent, have been relatively negligible within the past 9,000 years or so; roughly since man first began to dominate environment. Often enough, he has been unskilled or improvident in the course of his advancement, and his mistakes have from time to time produced a simulation of deteriorating climate. Excessive tree-felling has been mentioned in this context. Unrestrained grazing by goats and sheep

<sup>1</sup> Robert L. Raikes and Robert H. Dyson, Jr., 'The prehistoric climate of Baluchistan and the Indus valley', *American Anthropologist*, LXIII (1961), no. 2, part 1; and R. L. Raikes, *Water, Climate and Archaeology* (London, 1967).

<sup>2</sup> Raikes visualizes the scene as follows: 'Before the barrages and canals were built, from the nature of the soils one can guess that the ancient river meandered through a vast, almost bare, alluvial plain carrying only a sparse vegetation of typical desert plants such as camel-thorn and possibly bunch-grasses and occasional stunted acacia. On both sides of the river there must have been a strip of gallery forest whose width, density and composition would vary according to the distance from the river, shading more or less rapidly through savanna-like conditions to desert vegetation.'

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is another cause of impoverishment. Both of these processes are recognized desert-producing agents,<sup>1</sup> and, on a slope, deforestation encourages soil-erosion, thus preventing any extensive return to fertile conditions. Widespread interferences of this kind, by reducing the transpiration of moisture through plant-life, may incidentally have had some slight effect upon local rainfall, but it can have involved no appreciable change of climate.

Let it be reiterated—the plea that, at Mohenjo-daro and Harappā, the normal use of baked bricks rather than mud-bricks implies a wet climate cannot stand upon its own feet. The early history of brick-baking is not very clear. The process was presumably not an Indus-valley innovation; baked bricks were certainly used, though not abundantly, in Sumer in the Early Dynastic period and probably as early as that of Jamdat Nasr.<sup>2</sup> It might be regarded as tendentious to suggest that beside the Indus they are a reflection of bourgeois well-being, of which there are other symptoms in the cities of the valley. Certainly elsewhere, as amongst the small Harappan towns of Saurashtra, baked bricks are used far more sparingly; possibly because of limited sources of fuel. In the non-Harappan villages of the Baluch highlands and the Indus valley they do not occur at all. But at Mohenjo-daro there was perhaps a special and formidable inducement to employ the more resistant material.

References will be made elsewhere to this factor (pp. 38 and 127). Briefly, the inducement may have been that of recurrent floods of an abnormal severity due, not merely or mainly to the annual swelling of the river-system by Himālayan snow-melt and Punjab monsoon, but (it is now thought) to the ponding back of the whole riverine output for considerable periods by tectonic uplift or uplifts between Mohenjo-daro and the present coast. Not a little of the lifetime of the city was occupied by attempts to raise its buildings artificially above these devastating and lingering floods; and it must be supposed that the surrounding landscape was similarly drowned and desolated, this time not by human but by natural agency.

But here again let it be stressed that the causative factor in deterioration has little or nothing to do with climate. This easy let-out for

<sup>1</sup> Cf. R. B. Whitehead in *The Indian Antiquary*, LXI, p. 163: 'The Ambāla Siwaliks, when they came under British administration, were thrown open to unrestrained wood-cutting and grazing, and the imprudent activities of the peasant proprietors have turned the range into a desert.'

<sup>2</sup> E.g. at Khafaje (H. Frankfort, *Or. Inst. Discoveries in Iraq*, 1933-4, p. 34); at Ur in Royal Tomb PG 789 (Woolley); and in Nineveh 4 (*Liverpool Annals*, xx, 1933, p. 134).



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problems of environmental change has long been under suspicion; today it survives, if at all, only as a last and insecure refuge for those concerned with post-glacial habitats.

## TOWNS AND VILLAGES OF HILL AND PLAIN

Turning from natural to cultural environment, we find ourselves in two essentially disparate regions: the Baluch hills and the adjacent Indus plain. In the present context the ill-sorted industries and cultures of the hills are of no immediate concern save as a back-curtain to the main scene. To analyse them afresh would here involve disproportionate illustration and discussion. An increasing number of them have been described and named, and their potential regional interest is sufficiently evident. But whether they will ever throw any very revealing light upon the origins of the great valley civilization is increasingly doubtful. None of them shows any clear primary and organic relationship with the Indus-valley culture, which remains obstinately a creation of its own lowland environment.

Hitherto three brave attempts have been made to marshal this heterogeneous material into some sort of rational shape: by Stuart Piggott (1950), D. H. Gordon (1958), and George F. Dales (1965).<sup>1</sup> Of these the last, founded partially on newer evidence than the earlier two, is somewhat less dependent on typology and for the time-being holds the field as a summary survey.

Here it will suffice to indicate something of the general picture which these cultures present on the flank of the great civilization, and for this limited purpose the maps in figs. 2 and 3 show the approximate extent of half-a-dozen outstanding examples. Brief notes are added upon each of them; and these notes will be followed by a somewhat more detailed examination of four sites where a stratified or cultural relationship between Harappan and non-Harappan industries has been determined.

First, a word once more about climate. The uplands of Baluchistan are today a bare and cheerless region with rare oases in the valleys, where a scanty, hard-bitten population supports itself by scraps of agriculture, little herds of sheep and goats, and an element of semi-nomadism or transhumance. Year by year in the cold weather—and cold it is—groups

<sup>1</sup> Piggott, *Prehistoric India*, chap. iv; D. H. Gordon, *The Prehistoric Background of Indian Culture* (Bhulabhai Memorial Institute, Bombay, 1958), chaps. iii–iv; and George F. Dales in *Chronologies in Old World Archaeology*, ed. Robert W. Ehrich (University of Chicago Press, 1965), pp. 257–84.

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of Baluch and Afghan tribesmen move down with their families to the Indus plain in Sind and the southern Punjab; there they sell their labour to the less vigorous lowlanders, whom they overawe with their wild and formidable aspect and their innumerable and voracious dogs. In the spring they climb back into their hills in picturesque little groups, with their pots and blankets, fowls, young camels and tiny babies piled high upon the backs of camels and other cattle.

Again, the question arises, has the climate of these uplands changed for the worse since the Bronze Age? The answer is not far to seek. The general mode of life can have altered little in kind through the centuries, and no doubt reflects an essentially unchanging environment. But how is this general axiom to be squared with the undoubted fact that in the discrete upland valleys the relatively infrequent modern villages are largely outnumbered by the mounds or *tells* which represent their pre-historic or anhistoric precursors? How did all those ancient villagers subsist on this dusty landscape?

The first answer is that the tell-settlements are small (rarely more than two acres) and were not all in use simultaneously. They must in the mind's eye be spread across the centuries, some doubtless at least as early as the fourth millennium, others as late as the first millennium B.C. or even the middle ages. A few of them are still in occupation. Secondly, supposing that the ancient population was on the whole somewhat more numerous than the environment could readily support today, we must equally suppose that, as in the lowland, not a little of today's inadequacy is the product of man's own secular improvidence: the accumulative result of over-grazing, soil-exhaustion, deforestation and consequent soil-erosion. Thirdly, there is the more positive evidence of the *gabarbands*.

These are occasionally massive rough-stone walls, sometimes 10–15 feet high, built across the course of seasonal streams, apparently as crude and ineffective dams intended to conserve an intermittently abundant flood-water. The period of these rare dams is unknown but may be quite late. On the other hand, most of the *gabarbands* are walls running parallel with, and close to one side of, the channels and are certainly terrace-walls to the back of which silt-laden water was led by ducts from the seasonal spate. Thus in due course the wall sustained an accumulation of damp and fertile deposit; in fact, a small levelled field. In a few instances these terraced plots are still in use for cultivation; the location of others is consistent with their former use by the villages now