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**ARCHEOLOGICAL AND LANGUAGE-HISTORICAL EVIDENCE  
FOR THE MOVEMENT OF INDO-ARYAN SPEAKING  
PEOPLES INTO SOUTH ASIA**

The present Symposium serves a useful purpose in focusing our attention upon the difficulties encountered in recognising the movements of peoples from archeological evidence. One of the reassuring aspects of the broad international approach which is experienced in such a gathering is that it serves to show the common nature of the problems that confront us in trying to reconstruct the movements of the Indo-Aryans and Iranians, whether in the South-Russian steppes or the steppes of Kazakhstan; the Caucasus or the southern parts of Middle Asia properly speaking; or in Iran, Afghanistan, Pakistan or India. Perhaps this is why there were recurrent themes in several papers, and why echoes of what I was trying to express appeared also in the papers of others, notably in those of B. A. Litvinsky and Y. Y. Kuzmina.

In particular, there seems to be a need for a general hypothesis or model for these movements. Such a model must be inter-disciplinary, combining the more limited models derivable from archeological, historical, linguistic, anthropological and other categories of data. Strictly speaking, the several hypotheses derived from each of these categories should first be formulated independently, and then as a second stage they should be systematically compared to one another. Only when there do not appear to be serious contradictions between them should they be regarded as ready for incorporation into the general model. We agree with many of the methodological considerations made by S. Parpola [15], and we share with him an expectation that in course of time the various categories, and particularly the archeological and linguistic, will be amenable to systematic correlation. It was after all this expectation which led us to make a tentative approach to the matter in *The Birth of Indian Civilisation* [4], and the access of new data since then suggests that the aim was not altogether misguided.

We are concerned to answer the questions: how did the Indo-Aryan languages first take root in India and how did they spread to occupy so large an area and to find so many speakers at the present time? In answering these questions let us first state our belief that languages do not spread, and certainly in the ancient world did not spread, except through the agency of people who already speak or spoke them, as the case may be. Thus, if we accept as probable that there was once a time when the Indo-Aryan languages were not spoken in India, and that thereafter they began to be spoken there (and I believe that most scholars would agree on this), then it follows that their arrival and subsequent spread in India must have been related to the arrival and subsequent spread of people speaking them.

Who and how many these people were, has to be established. We may attempt to formulate some general principles, using the evidence of geography, history and anthropology as they have operated in more recent times, in order to try to define the parameters within which the problem should be discussed. It must have been a dynamic process of culture contact, which probably lasted over several centuries. Was it a single movement, or more probably a series of related movements? If the latter, then some waves may have consisted of small, comparatively isolated groups, while others may have involved whole tribes or even groups of tribes. There is no reason why only one route should have been used; probability suggests that all the routes into India known to have been open in ancient times from the north and west should be regarded as potentially important, at least until evidence allows us to rule any of them out. We cannot be certain that all those who entered India during this period were speakers of one Indo-Aryan language or dialect, some may even have been Iranian speakers, or speakers of other languages.

The movements would have produced culture contacts which differed depending upon various geographical, social and economic factors, and upon the relative size of the groups involved. We may legitimately assume that the immigrants would still have been at least semi-nomadic, and had certainly abandoned any settlements they may have had elsewhere before embarking on their long journey into India. This must have influenced their choice of items of material culture to carry with them, much as it does nomadic and semi-nomadic peoples throughout the area at the present time. And this would have had a definite effect upon the outcome of their contacts with different communities. Thus, in the remote and isolated valleys of the Himalayas and Hindu Kush the immigrants would probably have encountered small, isolated communities, living a relatively poor life, with few specialised crafts or luxury items. In such

situations we may expect that the immigrants would have retained or reestablished many of their own craft traditions. A somewhat similar situation might have prevailed among the low-density populations of hunters, collectors or stock-raisers of the Thar Desert or of the great expanses of forests in Central and Southern India. Very different situations must be envisaged on the more densely populated plains, where communities of agriculturalists were settled, with a more complex social structure and greater craft specialisation, if not with the remnants of an urban way of life. Here we may expect that the indigenous crafts would have continued more or less unchanged, and would at most be likely to show influences from the demands and tastes of the arrivals. There may have been important exceptions to this: for instance, we are inclined to believe that the immigrants were proud of their own traditions of metallurgy, and probably maintained their own craft, in time absorbing also indigenous craftsmen. Thus, we may expect to find local imitations of foreign tool types, as well as new technological features brought in by the immigrants. We must also expect to find evidence of a wide variety of culture contacts. At one extreme there may have been total destruction of settlements, and even massacres of population; in other cases, a more peaceful symbiosis of the two communities in existing settlements; in others, a less intimate peaceful coexistence, where separate settlements of local people and immigrants would have continued to survive for long periods in contact with each other.

We should certainly be aware of the possibility of finding in the archeological record special indications of presence of immigrants from the steppes. For instance, the Aryans are among those who are believed in the 4th or 3rd millennium to have first exploited and domesticated the horse, turning it to use for traction, including war chariots, and for riding. There is very little evidence of the presence of horses in India or Pakistan before the end of the 3rd millennium, and finds from the 2nd millennium, whether of horse bones, horse furniture, or horse burials, or representations in terra-cotta or on rock paintings are likely to be highly significant. Another potentially significant indicator is to be found in burial customs. We believe that the Aryans brought with them new and distinctive burial rites, linked with some sort of barrow or kurgan, and these we may be able to recognise, at least in their first appearance, in any area. We should also be prepared to discover distinctive traits of ideology, which knowledge of the Indo-European peoples or their branches might lead us to associate particularly with them. Such in our context might be evidence of fire altars and fire rites, etc.

In sum, we may expect that, as an outcome of the sort of culture contacts we have been postulating, two parallel processes would have been set in train. There would have been a progressive Aryanisation of the existing communi-

ties; and a progressive Indianisation of the immigrants. The results of either case would be the production of a series of related, but no doubt individual, syntheses, which we may expect to be culturally speaking Indo-Aryan, and which must have laid the foundations for the continuing cultural trends of succeeding centuries, or millennia.

We are aware that the significance of this Aryan episode has often been exaggerated, not least in India, and we should therefore try to view it in a right perspective. By speaking of it we do not mean to imply that all, or even a major part, of subsequent Indian culture derived from it, still less that the folk movements had any profound effect upon the racial make-up of the people of India. In both cases the reverse is probably nearer the truth. If, as we believe, language is to be regarded as a part of human culture, then it is a very special part, since it is through language that a major part of culture is transmitted. Languages behave in many ways like other culture traits: they may be acquired by peoples of diverse races, and acquired other than by the accident of birth; they may both give and receive loans. The importance of the arrival and spread of the Indo-Aryans' languages in India is that it coincided with the beginning of a cultural development, which included a general belief in the supremacy of the Vedas as the fountain-head of Indian tradition and which leads directly into the urban society which spread throughout India during the 1st millennium B.C. This leads us to believe that the cultural developments which accompanied the event were also rather special. Because of the close links of language and culture, we may expect that some observable culture changes took place alongside the event. However, we must here enter a stern warning against a facile identification of language speakers with the objects of material culture, of the kind that is implicit in such phrases as "painted grey ware people", "O.C.P. people", etc. The use of these terms is probably no more meaningful than it would be for the archeologists of a future century to conclude from a study of mid-20th-century remains that large parts of the world were occupied at that time by "plastic people". We can only reiterate that the arrival of the Indo-Aryans was a dynamic cultural process and that this process is what we are interested in reconstructing. In the sort of contact situations we have been postulating many different syntheses of peoples and of their material and spiritual culture must have taken place. Once we leave the relative clarity of the distinctive traits which are likely to have been carried on by the immigrants, we enter an imponderable and dark area of uncertainties, where simple one-to-one correspondences, such as that implicit in a statement "the appearance of painted grey ware in layer *x* and subsequent layers, at such and such a site, indicates the presence of Vedic Aryans", have little scientific validity, even when restricted to single sites, let alone when used for whole regions, or groups of regions<sup>1</sup>.

## II

We began by remarking upon the difficulties inherent in recognising the movements of peoples in the archeological record. The implications of this should not be exaggerated. The methodological difficulties should not lead us to conclude (as is sometimes the case) that such movements did not occur, nor that they are not part of the subject-matter of archeological research. Rather they should stimulate our greater concern for discovering scientifically acceptable methods of studying the evidence and interpreting it. In any case in the present paper we have set ourselves the task of enquiring into the circumstances of the arrival and spread of the Indo-Aryan languages in South Asia, and therefore, since the events were first and foremost the postulates of language history, we should accept linguistic models as the basis of our enquiry, and use archeology for comparative purposes.

Having regard to our limited objectives, we have selected four linguistic models for consideration, those of Hoernle [12], Grierson [10], Burrow [6] and Parpola [15]. We are well aware that this leaves out of consideration numerous other linguistic models. We have chosen Grierson's because it still appears to be among the most authoritative, and incidentally because it became, erroneously, identified with Hoernle's. Therefore, we must also consider the latter. Burrow's is important because it builds extensions of the earlier models to accommodate the newly discovered linguistic materials from archeological excavations, and Parpola's – because it proposes certain new ideas which call for consideration.

Hoernle's theory arose from his study of Modern Indo-Aryan languages. He proposed to divide these into two groups, an inner group which included Hindi, Panjabi and Rajasthani; and an outer group which included Bengali, Oriya, Bihari, Marathi, Sindhi, Lahnda, Kashmiri and Sinhalese. Having recognised features which distinguished the two groups, he interpreted them historically in terms of a wave model: the languages of the outer band were descended from an earlier wave of Aryan movement, and those of the inner group from a later wave, which had thrust like a wedge into the heart of the outer band, thereby serving to disperse its speakers still more widely towards the north, south, east and west.

Grierson appears to have accepted the descriptive part of the thesis, but qualified his acceptance of the historical interpretation [11, pp. 116-117]. He disclaimed its attribution to himself and Hoernle jointly and wrote: "I have always been of the opinion that it is not necessary to postulate two distinct invasions". Hoernle found support in Ram Prasad Chanda [7], who proposed to back up the linguistic argument by ethnic correlations. However, these appear

to us to be quite unacceptable on methodological grounds. Bloch [5] added weight to the criticism of Hoernle's linguistic argument, suggesting that the distinctive features belonged only to a later stage of Indo-Aryan, and need not necessarily apply to any events of a much earlier time. S. K. Chatterji also criticised the theory on linguistic grounds [8, pp. 30-33]; while Turner [22] accepted at least its descriptive validity [23, p. 28]. It is clearly of importance to determine the validity of Hoernle's model, and in the event of its being found to be acceptable, of its historical interpretation, since this would provide strong support for an earlier "pre-Vedic" movement and a later "Vedic" movement of Indo-Aryans. For this reason it seems to us to merit further study.

Grierson's model was developed in his "Notes on the Languages of India" prepared for the Census of India, 1901, and published under the title *The Languages of India* two years later [10, pp. 48-53]. He states that the Iranian and Indo-Aryan languages had already divided into separate branches while still north of the Hindu Kush. After their separation the former wandered eastwards and westwards, while the latter migrated southwards. Most of the Indo-Aryans went by the western passes of the Hindu Kush, settling first in Eastern Afghanistan and spreading as far south as Kandaghar. Thence they advanced through the Kabul Valley and into the Panjab. Their language was the parent of all the modern Indo-Aryan languages of India. Probably a minority of the Indo-Aryans moved southwards farther east into the mountains of the Pamirs and thence passed into Kafiristan, Chitral, Gilgit and Kashmir. These formed a separate wave, which Grierson calls "non-Sanskritic", but which may also be referred to as Dardic. Of the main "Sanskritic" wave, he writes, "we are not to suppose that it took place all at once. Every probability leads us to imagine it as a gradual affair extending over many hundred years". He then mentions Hoernle's theory of the two waves and concludes that "it is immaterial whether we are to look upon the affair as two invasions, or as the earlier and later invasions of a series extending over a long period of time. The result is the same in both cases." At this date he does not seem to have felt any serious objections to Hoernle's theory, since he writes that his idea of the dispersal of the outer band languages as a result of the later thrust is "strongly confirmed by subsequent investigations." He discussed the route followed by the later wave and concluded (in our view, most improbably) that it, too, came through the mountains from the north. Grierson does not give a clear indication of the relative chronologies of the non-Sanskritic and Sanskritic waves, nor of the duration in absolute terms of the series of movements within the latter.

Burrow's model [6] includes the new data derived from archeology, particularly the Mittanian documents which he accepts as being a stage of "Proto-Indo-Aryan". He suggests that the Proto-Aryans had already divided into two

branches, the Proto-Indo-Aryan and the Proto-Iranian, before 2000 B.C., and probably while they were still located on the steppes. Soon after that date the Proto-Indo-Aryans moved southwards into Iran, probably mainly moving to the east of the Caspian, and spread out to occupy large areas of West and East Iran. Others moved eastwards into Afghanistan and thence into North-West Pakistan and India. Burrow believes that a population base would have been established in Iran before the main movement into India. He writes: “The colonisation of North-West India by the Indo-Aryans was an extensive operation, lasting over generations, which could only have been carried out on the strength of an extensive population base immediately outside the Subcontinent. That is to say that before these migrations Proto-Indo-Aryans must have been in occupation of large tracts of Eastern Iran and Western Afghanistan..., which only at a later period came into the possession of the Iranians. One would certainly not expect that the migrations into India left these countries empty of Proto-Indo-Aryans, but rather that this was a movement of surplus population, so that when the Iranians took control they would find the Proto-Indo-Aryans settled there, and that in due course of time the latter would be absorbed into and merged with the later-coming Iranians.”

This theory, Burrow points out, had already been suggested by Gray [9], mainly from a study of religious materials in the earliest texts. During the period of these movements the Iranians remained in Sogdiana, Khorezm and Bactria, and only continued their southern movement several centuries later, between circa 1400 and 1100 B.C., to occupy Iran. Probably this later movement would have brought about further movements of Indo-Aryans already settled in Eastern Iran. On this Burrow writes: “The third point is the idea that the Indo-Aryans migrated to India because they were driven out of their former habitat by the Iranians. That migration, which is associated with the destruction of the Indus civilisation, is far too early for such a theory to be plausible. ... This means that the Iranian occupation of Eastern Iran is to be ascribed to a period after those extensive migrations had been completed, and the ‘s-Aryans’ whom the Iranians came across were those who had remained in the territories from which the migrations took place.”

Parpola [15, 16] has attempted a far more comprehensive synthesis of linguistic, archeological and textual evidence, and it is not easy to extract the linguistic model which we believe should underlie the synthesis. He postulates a Proto-Aryan stage from which first a “Proto-South-Aryan” group separated themselves to occupy Northern Iran and Northern India soon after 2000 B.C. The Kafirs are to be included in this group, which Parpola names “pre-Vedic”. Later a second group of “Proto-North-Aryans” moved from the Caucasus region into Northern Iran and Northern India, including several branches, one of

which was “Proto-Rigvedic”, while another moved through Baluchistan into peninsular India. This later movement may be dated to the end of the 2nd millennium.

The three latter models have many common elements, as well as important differences. All presuppose that the Indo-Aryan movements into India extended over a considerable time, perhaps centuries. Grierson suggests that the Dardic or non-Sanskritic movement was separated from the main body and arrived in their present homelands via the high passes of the Pamirs and Western Himalayas, but suggests no relative chronology for the two. Parpola extends the scope of the pre-Vedic movements, which are clearly relatable to Grierson’s, to cover also movements of people into India itself, and he gives definite indications that he associates the elements which might have been named by Hoernle “Outer Band” with the pre-Vedic movement. Burrow does not specifically deal with the non-Sanskritic group, but we may be certain that if he did it would be to see it as before or at the beginning of the main movements. Grierson rightly concluded that the “two wave” issue was really not of great significance, as even if only one major movement were postulated, the centuries which elapsed between its beginning and its end might be called into account for cultural or linguistic differences between earlier or later arrivals.

### III

In the light of our preliminary consideration of the methods for studying the problem, and of the linguistic models advanced by several scholars, we now wish to review the archeological evidence, not so much trying to discover archeological cultures which can be identified with Indo-Aryans, since that we believe to be a misplaced attempt, as to consider where and when there may be archeological evidence of culture contacts between existing populations, as exemplified by settled communities with recognisable archeological cultures, and freshly arriving groups of unsettled people. At present a considerable question mark hangs over a large part of Indian protohistory and prehistory because of uncertainty in the interpretation of our prime source of chronology, radiocarbon datings. The question is whether or not we should employ straight dates, according to the half-life of 5730 years, or whether we should recalibrate these dates, according to the MASCA or other system, in an attempt to arrive at absolute dates. We cannot begin to deal with this problem in this paper, and we therefore frankly admit the uncertainty which it produces, and the consequent lack of clarity. The situation is not helped by the small number of samples dated, and the unsatisfactory nature of current evidence for several key ques-

tions, for example of dates relating to the end of the mature urban phase of the Indus civilisation, and to the subsequent Late Harappan phase.

*Evidence of Pre-Vedic Indo-Aryan Movements.* We saw that Grierson had advanced a theory of a non-Sanskritic Indo-Aryan movement into the north-western mountains, and that this had been amplified into a wider theory of a pre-Vedic movement by Parpola. The extent of this hypothetical early wave is not altogether clear, and we can consider the possibility of using archeological evidence to evaluate it. Formerly there was good reason to doubt the early knowledge of a northern approach route, from Central Asia through the high passes of the Pamirs and Himalayas, but recent archeological discoveries at Burzahom in Kashmir, and at Loebanr in Swat have demonstrated that certain distinctly Chinese tool types, notably stone harvest knives, with pierced holes, and objects of jade, were already present in the 3rd millennium, or at least at the opening of the 2nd, before the earliest Indo-Aryan movements into the area.

The evidence from the north-western valleys seems to be the least open to doubt as supporting a “pre-Vedic” movement, and it is clearly associated with the “Gandhara grave culture”. Although this complex has been extensively studied, and several excavations by the Italian Mission and by Peshawar University have provided much material for study, there is still some lack of clarity about the sequence and chronology of the developments, and their significance. The early sequence in Swat revealed by the lowest three periods at Ghaligai (I–III) suggests that there was already a population in occupation, using crude hand-made burnished grey pottery, showing clear relationship with the “Neolithic” pottery of Sarai Khola I, etc. In the second period there is a suggestion of a typical early Harappan or “Kot Dijian” intrusion, but in the third one returns to something more like the first period of local culture. In the fourth period of Ghaligai, which we believe represents the first arrival of Indo-Aryans, and the earliest of the “Gandharan” graves, a whole set of new culture traits appears, with new pottery forms, often showing significant links to North Iranian, Caucasian or Central Asian pottery of the early to middle 2nd millennium, a marked increase in the use of metal, copper or bronze, and from an early stage (probably from the outset at Loebanr III), horse bones, horse furniture and even horse burials, along with the new and distinctive burial rites. The date of the beginning of this phase is not clear to us, but we believe that it may be around 1750 B.C. Further radiocarbon dates and further synthetic study of archeological evidence is called for. This pattern, once established, lasts well into the 1st millennium, although there are important changes in the later periods, including a tendency away from earlier cremation to inhumation burials, the appearance of iron, etc. It is possible that some of these changes may have coincided with further movements of Indo-Aryans, perhaps even Vedic Aryans, several centu-

ries later. We agree with Parpola's confident belief that the early arrivals were pre-Vedic, and we can only conclude that these isolated valleys and small communities give a typical picture of the sort of culture contacts which took place in such situations, when much of the indigenous culture was lost and much of the immigrants' culture survived with little change.

We must now enquire whether there is any evidence of an early or pre-Vedic movement into the north Indo-Pakistani plains, either from the north or from the west, via Afghanistan and the western passes of the Hindu Kush. Such a movement is certainly not precluded by either Grierson's or Burrow's model, but neither is it clearly demonstrated. Are there any archeological indications which might support it? It is here that we encounter the problems of chronology. B. Allchin recently drew attention to the role of pastoral nomads in acting as communicators between the main Harappan settlements, and serving to bond together the whole Harappan culture region [1]. She poses the question, whether these people may not themselves have been earlier immigrants from the north and as such possibly already speaking an Indo-European or Indo-Aryan language, and whether they may not in their turn have been dislodged or at least their equilibrium disturbed by the arrival of an early Indo-Aryan wave. Present radiocarbon dating evidence, if calibrated according to the MASCA formula, suggests that the mature urban phase in the Indus Valley came to an end before 2000 B.C.; but we may expect, that the later stages of the culture, which deserve to be called Late Harappan, in the north of the Indus system, and particularly in the Panjab and eastwards to the Doab, may have persisted for several centuries more. Unhappily this stage is not as yet well documented, and there are very few, if any, relevant C-14 determinations.

Admitting this uncertainty and the vagueness of our hypothesis when it comes to dating the earliest movement of Indo-Aryans into India, on present showing it is unlikely that even the earliest of the Indo-Aryan waves (and we must remember that there may well have been earlier, as yet undocumented waves) would have coincided with the full urban stage at Harappa. In the light of this conclusion one is perplexed by the evidence at Kalibangan, which suggests that there were domestic fire altars in fire-rooms (*agni sala*), and similar fire altars associated with animal sacrifices in both civic and popular cult places [21, pp. 24-28]. If this is correct, and the evidence is not yet fully published, it must raise the question of their relation with the fire altars of Vedic literature. We have always believed the fire cult to be an inseparable part of Vedic, and indeed already of Indo-Iranian, religion; and this leads us to enquire whether in the final stages of the Harappan occupation at Kalibangan there may not have already been an Indo-Aryan presence in the city. To have achieved a position on the citadel and in the common homes implies culture contact of a fairly ex-

PLICIT kind, and suggests that the Aryans were already masters of Kalibangan and had in all probability already intermarried with the local population. Such a presence might indicate a differentiation between the final urban and Late Harappan stages in the Panjab, and to the south in Sind or Saurashtra, since one of the excavators of Kalibangan has expressly noticed the absence of fire altars in the excavation of Surkotada, the only other Harappan site to be recently excavated, and there is no mention of such altars in any of the earlier excavations, as far as we are aware [13, p. 138]. By and large, nothing else in the Indus civilisation as yet seems to indicate an Aryan presence; the stray metal finds from Mohenjo-daro, etc., unless supported by other more conclusive categories of evidence are scarcely sufficient basis for postulating such a thing. The Kalibangan evidence is therefore tantalising and unique, and highlights the need for further investigation.

Before we conclude this section we must ask a number of questions. If we accept the Kalibangan evidence as indicating the presence of Indo-Aryans, then were these people of the pre-Vedic or already of an early Vedic wave? If the former, were there other groups of pre-Vedic immigrants who entered at the same time as those of the northern valleys and passed even deeper into the interior? If so, then should we expect to find their traces in the form of evidence of culture contacts with such archeological cultures as the O.C.P. in the Panjab and Doab, the Jhukar in Sind, the Ahar and the Malwa culture? If, as we would believe, the number of immigrants at this time was relatively small and the groups were also not large, then they may have made relatively little impact upon all these settled agricultural communities and their ethnic character. Nonetheless, we would expect that the process of cultural synthesis would have continued to operate, though perhaps more slowly than in other situations. In the present state of our knowledge we are reluctant to say more, believing that this topic requires full and careful evaluation. But there are enough indications for us to conclude that to reject the possibility out of hand would be as unwise as to give it downright acceptance.

*Evidence of the Rigvedic Indo-Aryan Movement.* It follows from what we have just said, that if the first movements of pre-Vedic Aryans were already at the end of the urban phase of the Indus civilisation, then the somewhat later main movement of the Rigvedic Aryans must certainly have coincided with the Late Harappan period in the north, or even its successor. It is suggested that during this main period of Aryan movement there was a much greater number of immigrants, arriving perhaps as whole tribes or groups of tribes. In 1968 we were inclined to agree with Vats in seeing in Cemetery H at Harappa one such group, around 1600-1500 B.C. We further expressed the belief that this group was probably pre-Vedic (although we did not use this term) [4, pp. 314, 324].

We are now inclined to modify this view and regard the burials of Cemetery H as evidence of the first arrivals of the main Vedic wave. In spite of the reservations of Sankalia [19, pp. 392-397], we still believe that the paintings on the urns, particularly of stratum I, include Rigvedic symbols or ideas. For instance, the bird depicted several times among sun- or star-like objects, and sometimes with a little man in its womb, we believe may be the One Bird (*suparna eka*) who is variously identified in the Rigveda with the Sun, with Agni, as one who bears soma in his womb, etc. (RV X.114, 4-5; 1.164, 46, 52; IV.27, 1, etc.). Once again we must regret the lack of more concrete archeological information about this period. For instance, quite apart from the uncertainty regarding its dating, one would like to know whether there is anything comparable to the fire altars at Kalibangan. If similar evidence were forthcoming in the top stratum of the citadel at Harappa, as Vats gives us some reason to believe it may be, or at other sites of the Cemetery H culture, it would obviously be of the greatest significance for the understanding of the early stage of Indo-Aryan settlement. We must once more recall our model of the dynamic process of culture contact. Our expectation is that the already existing population of Harappa, probably the direct descendants of the urban Harappans, continued to occupy the city, even after the urban structure had broken down. As settled agriculturalists, with a wide range of continuing indigenous craft skills, they would have been obvious targets for an invading tribal group of Indo-Aryans. The Aryans would have taken over and exploited their craft skills, at the same time forming at least a military aristocracy. It is probable that there would have been some intermarriage between indigenous ruling and priestly classes and invaders, and this would provide the grounds for our belief that certain of the immigrants' ideological traits might appear on their cemetery pottery. Thus, the second stage of the process was already in operation, that of culture synthesis.

We would expect to find evidence of the early Rigvedic contact in other settlements of the Panjab and Doab during the Late Harappan-O.C.P. period. Dr. Suraj Bhan has already shown exciting evidence of culture contacts between the existing population and the expanding Harappan culture in this region, in an earlier period, and we may expect a similar process to have continued with the arriving Aryans [20, pp. 81-86, 111-119]. The early Rigvedic settlement may not have left any traces in the material culture of many of the smaller existing settlements, but may for centuries have been limited to certain major settlements, acting as a germinating seed within the soil of India.

If we were to attempt a chronology for the stages of the Aryan settlement, as they relate to the Rigveda, then we would say that probably the first settlers arrived in the region around 1750-1600 B.C., and that their number grew steadily during the following centuries. This period probably witnessed the compo-

sition of a considerable part of the Vedic hymns, alongside the cultural synthesis with existing population. We would expect this early Vedic period to come to an end around 1500 B.C., and the first compilation of the Rigveda Samhita, i.e. Mandalas II-VII, to be made during the next two or three centuries. From this time forward we would postulate a growing change in Vedic society, which probably merits the use of the term Late Vedic, and which must have involved the new culturally Indo-Aryan life-style which produced, for example, the settlements of the painted grey ware phase. Thus, the pre-Samhita and post-Samhita stages reflect the early Vedic and late Vedic periods, respectively, and witness successive stages in the process of Indo-Aryanisation. There was probably also a continuing eastwards tendency as further Indo-Aryan groups arrived from the west. Thus, the Madhya-desa of the Late Vedic period is already in the Doab. That these developments coincided broadly with the region in which the Indus civilisation survived in its fullest form cannot be mere accident, and leads us to believe that it was this that produced the fusion of so many Aryan and Indian cultural traits, and indeed the elevation of the Vedas to their role as the supreme source for Indian religious tradition.

*Further Extensions of the Indo-Aryans in India.* Whether we accept the pre-Vedic hypothesis for regions beyond the north-western valleys or not, and whether we accept the validity of the Hoernle “two wave” hypothesis or not, it must be admitted that if the movements of the Indo-Aryans continued over several centuries, as all our linguistic models seem to agree, then the later arrivals in the Madhya-desa would have been likely to have put pressure upon some at least of the earlier to move on into the rich and pleasant lands that still lay before them. Recalling that the evidence is at present scarcely enough to prove, or to disprove, the pre-Vedic hypothesis, we must accept that there will be more than one interpretation at some point. For example, does the spread of Indo-Aryan languages down the Ganges Valley towards the delta represent a post-Vedic development, or does it represent a pre-Vedic group who were pushed on ahead of the advancing Rigvedic Aryans? If the latter, then we may perhaps agree with Parpola [15, p. 98] in suggesting that the Vratyas were representatives of the earlier wave, who continued their own traditions, and whose culture is represented by the Atharvaveda, even if this work was only compiled into its Samhita form later than that of the Rigveda. We incline to this view, and believe that similar movements may have taken place in other regions of India, particularly in Central India and the Deccan, so that culturally, if not strictly chronologically, “pre-Vedic” groups may have found their way into most of the areas in which later Aryan Mahajanapadas were established, and may be regarded as the first bearers of Indo-Aryan speech into these regions. The groups were probably often quite small, often making little impact on the settled popu-

lations they encountered, and as they were already distant cousins of the Rigvedic Aryans, in course of time ties may have been established and the distinctions between the two blurred, if not removed altogether.

A similar doubt must attend the interpretation of the marked culture changes noticed in Maharashtra during the "Jorwe" period. We have long thought that these indicated the arrival and settlement of an Indo-Aryan group among the existing population, who may themselves have included relics of a yet earlier Aryan movement. We would expect the later group to have entered India from Southern Afghanistan, and have moved across Sind and Gujarat, rather than via the Panjab. We do not for a moment deny that both the earlier and later Chalcolithic phases in this area, that is to say, those associated with the names Malwa and Jorwe, were basically of local genesis, but following our model of the process of culture contact we may ask whether such stray exotic traits as those noted by Sankalia [17, pp. 312-332, and 18, pp. 59-80] may not indeed be the traces we are looking for. We have similarly long believed that the rapid spread of black-and-red pottery, and coincidentally of iron working, may also have in part coincided with the spread of Indo-Aryan speaking immigrants. For example, if part of Saurashtra and Rajasthan had at one time received Aryan immigrants who had temporarily settled among the stable agricultural population of that region before, for whatever reason, again moving forward, then it is quite probable that they would have taken with them into the largely unpopulated forests of Central India and the south, crafts which had been acquired or developed during their temporary stay as syntheses with local culture. We have long been aware of an analogy between the *thali-vati* forms in painted grey ware and those of the southern black-and-red ware. But, it may be objected, even if there were archeological grounds for sustaining the argument, what reason can there be for associating it, even indirectly, with the spread of Indo-Aryan languages, particularly into areas where even today Dravidian languages are spoken? Our answer would be in terms of the appearance of distinctive traits, of the kind we have postulated for other phases of the Indo-Aryan language spread.

The appearance of the horse for the first time in the Deccan might be one such trait, occurring first around the middle of the millennium. The horses and riders on many rock paintings widely dispersed through Central and South India, some of the riders with metal weapons, and the chariots on rock paintings at, for instance, Morhana Pahar, are other traits. So, too, are the horse burials in the megalithic graves around Nagpur, and the iron horse furniture found both in those graves and elsewhere. We are inclined to view the horse cult still in vogue among so many tribal people of Central India, and the horse cult associated with Aiyandar in South India as survivals of the local reaction to the first ap-

pearance of horses in these areas, and we cannot disregard the suggestive names of both Aiyandar and Ayyappan as indicating the association of Aryans with the same cult. We have elsewhere dissussed the indications that the graves of the high Palni and Cardamom hills, in the extreme south, may have been linked with the same movement. We remarked that several distinctive pot forms had their nearest analogues in the Gandhara graves, and in Northern Iran or Central Asia [2]. The antennae-hilted sword from Vandiperiyar, and the other antennae-hilted swords and dirks from Kallur, Mehsana, and even the Doab copper hoards, suggest the same thing. This idea is strikingly supported by Sarianidi's recent find in North-West Afghanistan of what is so far the nearest analogy to one of the most common Indian types of antennae sword of copper or bronze [3]. Our thesis would be that these traits were carried and spread by small, highly mobile groups, probably rapidly losing their Aryan speech and adopting the local languages. There are after all plentiful analogies for such movements from modern times. We have ourselves spoken to a nomadic group of Baluchis in the extreme south-east of Andhra Pradesh, as the crow flies some 1500 miles from Baluchistan, and two decades after Partition had closed the frontiers of India and Pakistan to such nomadic groups. We have also observed the way in which modern Banjaras in Karnataka can still, presumably after four or five centuries, in some cases speak their original North Indian dialects, while in others they have already totally forgotten them. These people provide a clear analogy for the sort of cultural dispersal we are postulating.

Thus, we may summarise our views on the further spread of Indo-Aryan languages and culture traits as follows: the initial period of Indo-Aryan movements into the Indian Subcontinent extended over several, perhaps even many, centuries, but they seem to have been at their height during the second half of the 2nd millennium B.C. The initial arrival was augmented by a secondary process of spread which continued well into the early historical period. This has always been thought of as contributing to the Aryanisation of the regions which lay outside Aryavarta, and our view is that it may have been a prolonged and steady process, with some groups reaching the extreme south as early as circa 1000 B.C., and others settling in other more northerly areas only centuries later.

*Conclusions.* At the end of this, often confused, paper we feel that we have learned certain things and can reach certain conclusions:

1. The Indo-Aryan languages came into India as a result of the movement of people who already spoke them (the "Indo-Aryans").
2. Indo-Aryans moved into different regions encountering peoples at different economic levels. This produced different culture contacts.
3. The phenomenon is best thought of as a dynamic process of culture contact. It is unlikely to have involved the wholesale abandonment or acqui-

sition of existing languages or cultures; but rather a progressive acculturation. Certain distinctive culture traits are likely to have been maintained by Indo-Aryan groups: these include the horse and its furniture; certain distinctive religious cults, including a fire cult and horse cults; distinctive burial rites; and perhaps certain special crafts, such as metallurgy and the manufacture of important metal tools or weapons.

4. The process produced a wide variety of culture syntheses, which may best be described as culturally Indo-Aryan.

5. There is not as yet sufficient archeological evidence to determine whether the Indo-Aryan movements should best be regarded as one main movement or, as the linguistic models suggest, as a series of related movements extending over centuries. In any event the movements followed patterns which were geographically constant, and therefore we must be prepared for earlier movements, perhaps of “pre-Indo-Aryans”, and later movements, sometimes of “non-Indo-Aryans”.

6. There is not as yet sufficient archeological evidence to determine when the Indo-Aryan movements began, although it was probably early in the 2nd millennium; nor when they were complete, although it was probably by the end of the 2nd millennium.

7. The initial arrival of Indo-Aryans, their resulting culture contacts and culture syntheses led to a secondary spread into other regions. This process seems to have continued for many centuries after the initial movements were complete.

8. The arrival of the Rigvedic Aryans in the Panjab and Madhya-desa must have been in some ways different from the arrival of other groups elsewhere. For one thing, it involved culture contacts with the region in which the Indus urban tradition was best preserved, and therefore in which the germs of a new Indo-Aryan urban synthesis were most likely to arise. For another, it produced as a first fruit of that synthesis the Samhita of the Rigveda. We would expect the initial composition of the early hymns to date from circa 1800-1500 B.C. The compilation of the Samhita, at least in its early form (i.e. excluding Mandalas I, VIII, IX and X), was probably made about that time, or within the next two or three centuries, and the final additions were probably complete by 1000 B.C. Thus, we may regard the period from circa 1750-1500 B.C. as Early Vedic, the period from circa 1500-1300 B.C. as Vedic, and the succeeding centuries as the Late Vedic period.

9. We are left with a feeling that the linguistic models must be used with great caution, and that there is a need for great flexibility in their chronology. For instance, is it not possible that the “non-Sanskritic” movement may have

taken place several, even many, centuries earlier than the main Vedic movement?

10. A number of archeological problems call for further research and fresh collection of data. We list a few:

(a) The dating and periodisation of the Gandhara grave culture, and particularly the obtaining of more radiocarbon dates;

(b) The dating of the end of the Indus civilisation, and the definition of the Late Harappan phase in the Panjab and Doab;

(c) The postulated fire cult at Kalibangan, and whether it occurs at other Harappan or Late Harappan sites;

(d) The character of the Cemetery H culture at Harappa and elsewhere, and its radiocarbon dating;

(e) The postulation of Indo-Aryan contacts with the Jhukar, Ahar, Malwa and Middle Gangetic regions or cultures;

(f) The postulation of Indo-Aryan contacts with the Jorwe culture;

(g) The postulation of the continuing Indo-Aryan spread being in evidence in certain megalithic or early South Indian Iron Age contexts, such as the Palni-Cardamom hill graves, the Nagpur graves, etc.

#### NOTE

<sup>1</sup> In this context we would do well to remember the wise remarks of D. D. Kosambi [14, p. 76]: “The ‘Aryans’ do not form a single ‘culture’ in the archeologist's sense of the word. There is no characteristically Aryan pottery, tool, weapon, as such. The Aryans regularly adopted whatever suited them from the people with whom they came in contact. They were not genetically or physically homogeneous.”

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## РЕЗЮМЕ

Появление в Индии индоарийских языков явилось результатом проникновения сюда носителей этих языков. Индоарии попадали в разные области и вступали в контакт с обществами, находившимися на разных уровнях развития. Этот фактор определял характер контактов между коренным населением и пришельцами, а также те последствия, к которым эти контакты приводили. Но в любом случае процесс этот был сложным и двусторонним (арианизация местного и индианизация пришлого населения). Процесс культурного синтеза в разных районах порождал в чем-то родственные, но, без сомнения, и обладающие индивидуальными отличиями культуры. Связывать носителей языка непосредственно с объектами материальной культуры, как, например, с серой расписной керамикой, методически неверно, хотя можно выделить отдельные элементы культуры,

имеющие, видимо, индоарийское происхождение (использование лошади, некоторые религиозные культы, в том числе связанные с огнем и конем, погребальные обряды, отдельные предметы, главным образом западного происхождения).

Можно предположить, опираясь на выводы лингвистов, что имела место не одна, а несколько волн индоарийской миграции в Индию. Первый этап этого проникновения относится, по-видимому, к началу, а завершение – к концу II тыс. до н. э. Можно различать миграцию доведических ариев, ариев Ригvedы и последующее распространение индоариев по территории Индостанского субконтинента. С археологической точки зрения важное значение для определения начала этой миграции имеют материалы культуры гандхарских могильников. Появление ведических ариев в Пенджабе и в Мадхьядеша имеет специфический характер, так как здесь они столкнулись с высокоразвитой цивилизацией. Именно в этом районе в 1800–1500 гг. до н. э. были созданы первые гимны Ригvedы; к 1000 г. до н. э. их создание было, видимо, закончено. Это позволяет трактовать период примерно 1750–1500 гг. как ранневедический, период примерно 1500–1300 гг. – как ведический, а последующие столетия – как поздневедический.

Непосредственно связаны с вопросом о расселении индоариев проблемы хронологии и периодизации культуры гандхарских могильников, определение даты конца индской цивилизации, изучение следов культа огня, обнаруженных в Калибангане, исследование харапского могильника «Н», а также определение характера контактов индоарийской культуры с другими культурами Индостанского субконтинента.