## C14 DATES, BANAS CULTURE AND THE ARYANS

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### INTRODUCTION

RESULTS of archæological excavations in India during the past 15 years have come to show that the Dark Ages (the period between the end of the Harappans and the advent of Buddha) are no more that dark. With every new excavation, the data on the material traits of the protohistoric cultures have been accumulating, though without much interpretation. Synthesis of this data was impeded mainly due to lack of written records and absence of absolute chronologies.

With the operation of the C<sup>14</sup> laboratory at the Tata Institute and the interest of a few other laboratories, a large number of C<sup>14</sup> dates are available for the protohistoric period now. An attempt has been made here to synthesise the archæological data pertaining to the first half of the Dark Ages in the light of the available radiocarbon dates.

## CHRONOLOGY OF THE IIND-IST MILLENIA B.C.

Harappa Culture was assigned a maximum time-spread of ca. 2500~1500 B.C. mainly on the basis of archæological contacts discovered in some sort of datable contexts in west Asia. Wheeler (1964) in a recent review has again emphasised that "the Akkadian contacts (ca. 2300 B.C.) are the only well-fixed points". He further says that "now at last C14 dates are beginning to come in, and suggest that the ends of my tentative pre-C14 bracket should be retracted". In the absence of datable archæological evidence various conjectural dates were assigned to the Neolithic and Chalcolithic Cultures. The whole protohistoric chronology was very fluid and subject of controversies.

Radiocarbon dates of various archæological samples have been reported by us from time to time in this journal (Kusumgar et al., 1963; Agrawal et al., 1964 a, 1964 b, 1965 a, 1965 b). Harappan time-spread has been pinpointed to ca. 2300-1750 B.C. (Agrawal, 1964); the Chalcolithic Cultures show a post-Harappan spread of ca. 1750-1000 B.C. (Fig. 1); P.G. Ware seems to be covered by ca. 1000-400 B.C. bracket; N.B.P. Ware is confined to ca. 450-50 B.C. These are the outlines of a very consistent chronological framework that are emerging now as a result of an intensive radiocarbon dating of proto-

historic cultures (Fig. 2). Much of it is borne out by relative stratigraphy, wherever available. We will discuss below the bearing of this new knowledge on the Aryan problem.

#### ARYAN PROBLEM

It may be stated at the outset that the problem of Aryans in India is very complex and in the absence of any written records some subjective reasoning has to be resorted to in any attempt to synthesise the data. No final solution is at hand; but the clues towards it are unmistakable and significant.

Piggot has discerned two distinct waves of these folk migrations that came to India. He says, "It is in this context of folk migrations around 2000 B.C. and the subsequent few centuries, that we can set the end of the Baluchi villages and the Harappa cities, but there is evidence that a second wave of conquest or colonisation from the west left traces in Baluchistan nearly a thousand years later" (Piggot, 1961). He identified the first wave with the destroyers of Harappa. The second wave left its traces in the sites of Moghul Ghundai, Zangian-Jiwanri cemeteries. Banerji (1965) has traced the affinity of this wave with Stalk V A (Iran) and in India has connected it with P.G. Ware people of India who were claimed to be Aryans by Lal (1955).

Sharma (1960) has also shown on the basis of Indian linguistic, literary and archæological evidence that Aryans came in India in two major waves. Lallanji Gopal (1962-63) finds that the Aryans in the early Vedic period knew only "ayas" (copper) but not iron.

Malwa and Jorwe Cultures have been suggested to be connected with the Haihayas (Sankalia, 1958); their western affinities also have been indicated by him (Sankalia, 1963 a). These being mainly central Indian cultures, they can represent only subsequent stages of Aryan colonisation.

A recognition of the two waves is essential to interpret the data available about the material cultures of the Dark Ages.

Some scholars had equated (H. Geldern, 1936) the Copper Hoard Culture of India with the Aryans. Recent research has made this equation untenable (Lal, 1951; Sharma, 1965).

### CHALCOLITHIC CULTURES OF INDIA

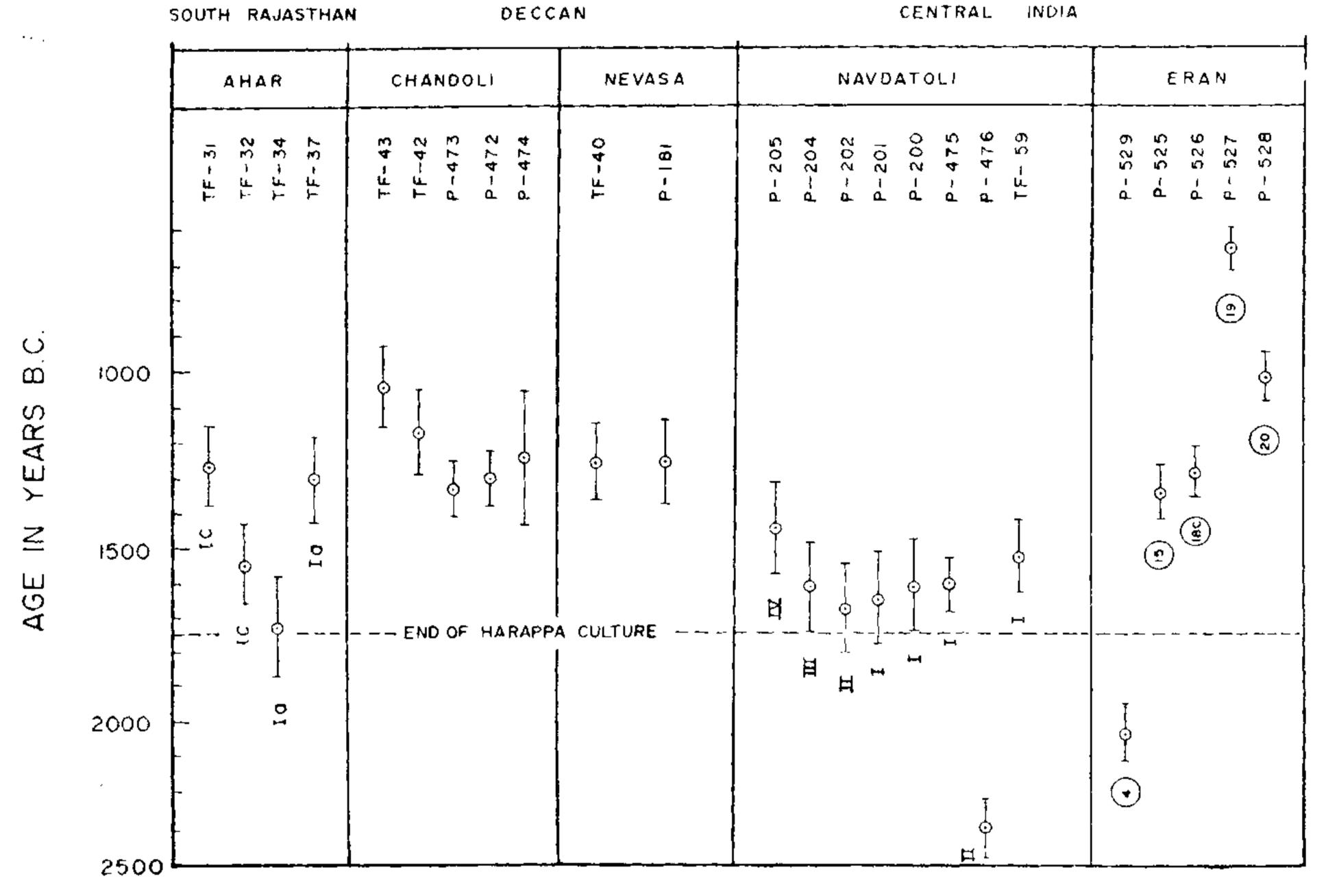


FIG. 1. Radiocarbon dates, based on  $t^{\frac{1}{2}}$  573) yrs., for post-Harappan Chalcolithic cultures.

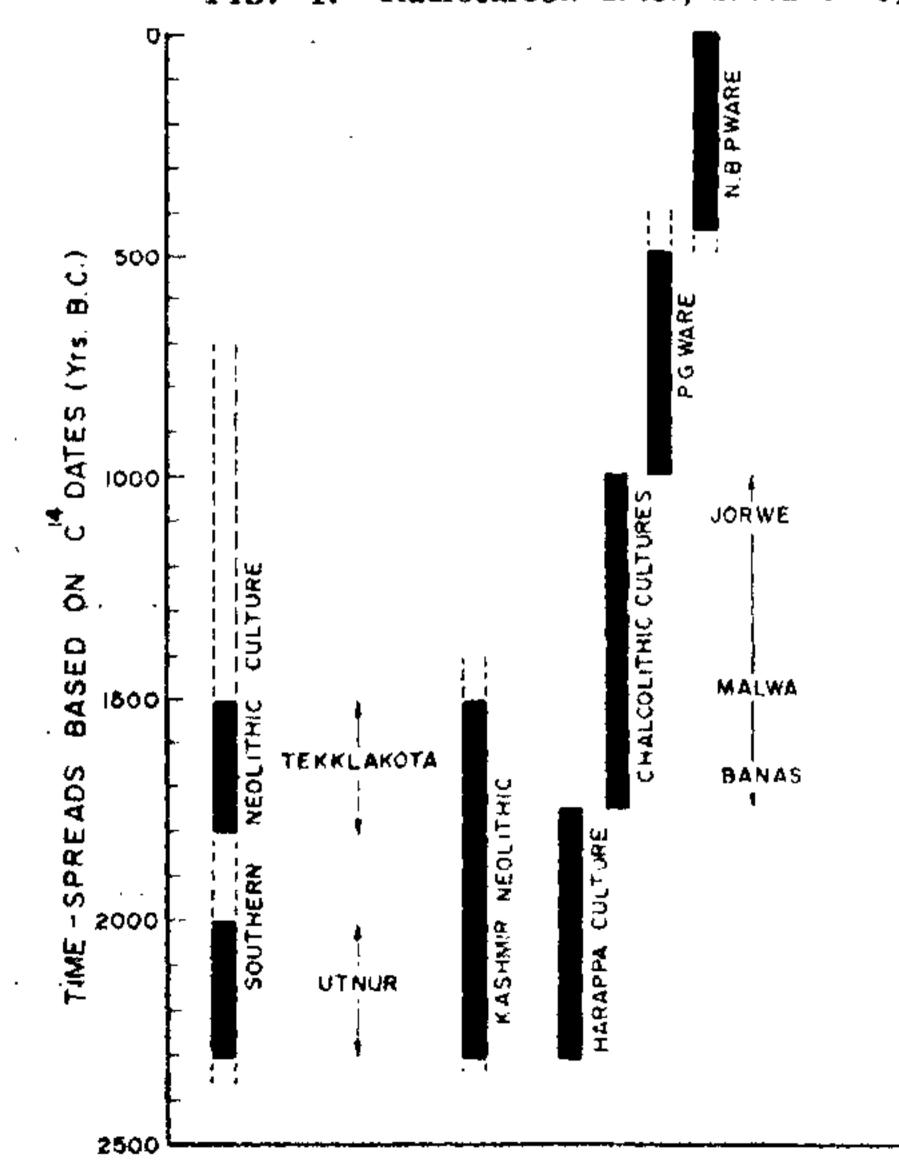


FIG. 2. Relative time-spread of Neolithic, Harappa, Chalcolithic, P. G. Ware and N. B. P. Ware Cultures.

### BANAS CULTURE

Fig. 2 shows that Ahar's Copper Age (Banas) Culture emerges sometime in the XVIIIth century B.C., a time when Harappa Culture came to an end. The closeness of Banas Culture (types sites Gilund and Ahar) both in time and space to Harappans are a significant pointer to the probability of their contact. Now Desalpar excavations (Ghosh, 1963-64) have actually established this contact.

Gilund, which is a more promising site. yielded vast evidence for study of Banas Culture (Sankalia, 1963 b). Renewed excavations at Ahar too have revealed many new facets of this culture. Two strains in this culture are obvious: western Asiatic and Harappan. Cut-spouted vessels, strap handled jars, chandelier, bowl on a broad hollow stem and base have western affinities. Incised decorations on spindle whorls and animal headed handles have close parallels from Troy, Geoy Tepe and Anau. These traits probably point to the western territories true versed by these people. On the other hami at Gilund we get dish-on-stands in black-ou-

red, black-on-red wares, painted black-andred ware ("Nilalohita"—blue and red—of Atharvaveda?) and polychrome ware: pottery traditions known to and practised by Harappans only so far. Moreover, burnt brick structures of huge size, terracotta bulls, gamesmen-all have Harappan affinity. Even the twin mounds of Gilund are reminiscent of Harappan cities. Inverted firing of pottery is a specialised technique and it is only reasonable to believe that Harappan potters were producing it. In all these industries the hand of the Harappan craftsman who was catering to the exotic tastes of the new masters seems to be unmistakable. These are significant pointers to the probability of the contacts of the Harappans and the Banasians. An intensive study of the available material and further excavations will undoubtedly throw more light on this contact.

Recent excavations at Desalpar are very enlightening in this connection. The cultural equipment of Period IB there can only be described as Banasian. In fact the Harappan traditions of Period IA continue to IB, but they are modified to suit some exotic tastes. The grey ware with bluish paintings of Period IA become little coarse and the designs become horizontal. The pottery traditions in Period IB suddenly multiply and we have an odd assortment of novel shapes and creamslipped bichrome, grey painted black-and-red, white painted black-and-red wares. Such a heavy borrowing from the "vanquished" Harappans resulting in an eclectical assemblage is what one would expect of the nomadic Aryans. We know in Mitanni the Aryan chiefs "adopted the old equipment and organisation of Sumero-Akkadian-Babylonian civilisation... Hittites borrowed theology, law, poetry, and science as well as writing materials and characters from Mesopotamia. Still they modified what they borrowed to suit their own traditions and local needs" (Childe, 1954). Desalpar evidence when viewed from this angle establishes the contact between the Banasians and the Harappans. The sudden change in the tastes of people, despite basic continuity in the material culture, in Period IB can only be explained by the arrival of new people who, as they did not have a highly individualised material culture of their own, employed the existing craftsmen.

There is evidence of contact in the material culture, supported by a closeness in time which is unique. Geographical vicinity to the Harappans further fortifies it. If they (Banasians)

came from western Asia, as some of their pottery shows, and if they adopted Harappan traits, the circumstantial evidence becomes very strong that they themselves were responsible for the final collapse of the Harappans, though there may be other inherent reasons for the decline of the latter people (Dales, 1964). Affinities with Troy and Anau strengthen the circumstantial evidence for this Aryan equation. Banas Culture possibly represents the first attempts at settlement by these nomadic people in India.

### P.G. WARE

Lal (1955) proposed that "P.G. Ware may be placed somewhere within the limits of 600 B.C. on the one hand and 1500 B.C. on the other" and equated it with Aryans. Hastinapur P. G. Ware however was dated by him to ca. pre-1100-800 B.C. Now C14 dates (Fig. 2) have firmly established a time gap of about 700 yrs. (ca. 1750-1000 B.C.) between P.G. Ware and the Harappans. This time gap is testified also by the stratigraphical hiatus between the Harappa and P.G. Ware deposits at all the excavated sites. Wheeler's (1959) words in this context seem prophetic: "It is possible to suppose that the P.G. Ware may represent the second phase of their (Aryans') invasion in India". P.G. Ware Culture is fully conversant with the use of iron. In their culture one does not get even the faint echo of Harappan contact.

Chronology, stratigraphy and the character of the P.G. Ware unmistakably prove that this culture is far removed from the Harappans. Summarising the results of the Rajasthan explorations, Ghosh said, about the Harappa and P.G. Ware Cultures, "the settlements of each originated, flourished and died out in its own time, entirely independently of the other" (Ghosh, 1952). Banerji (1965) has also convincingly shown 12th-11th century B.C. migrations to be responsible for the P.G. Ware Culture in India.

The discovery of black-and-red ware tradition in the Doab in pre-P.G. Ware horizon, in Bihar in pre-N.B.P. context and in Malwas and Deccan in the earliest levels, enhances the significance of Banas Culture. In fact, after a joint examination of the black-and-red wares of Gilund and Atranjikhera (from pre-P.G. Ware levels) Lal and Gaur (private communication) feel that there is a genetic relationship between the two. In Kausambi again we get an echo of Harappan craftsmanship in the architecture (Sharma, 1960) of the period

associated with the black-and-red ware. If the spread of this early black-and-red ware represents the early colonisation by Aryans (this reminds one of the spread of Anus to the Eastern India and the Yadus to the Deccan) by this time they have beccome regular dwellers!

#### Conclusions

Aryans did not have a developed uniform culture—they always travelled light and were liberal in borrowing from the other cultures. The variety of cultures that we get in the north-west India in the wake of Harappan collapse is what should be expected of the Aryans in this nomadic invading phase. Individualisation and uniformity in culture is a product of settlement and came to Aryans only when they started colonising.

The following facts raise a strong probability of equating Banasians with the early Aryans:

- 1. The closeness of Banas Culture, in time and space to the Harappans.
- 2. Banas Culture traits showing heavy borrowings from the Harappans.
- 3. A spread of black-and-red ware tradition in the Doab and Bihar in pre-P.G. Ware and pre-N.B.P. Ware contexts respectively.
- 4. P.G. Ware being a late intruder, it cannot be equated with the early Aryans. It is obvious that P.G. Ware covers only the latter part of Dark Ages in the North.
- 5. Folk migrations from western Asia in first centuries of the second millenium and the end of the Harappans by the middle of eighteenth century B.C. and finally the sudden emergence of Banas Culture about that time cannot be explained by any other hypothesis.

Aforementioned considerations make a full excavation of Gilund and other allied sites a

desideratum. The material culture should then be analysed from these new angles. Present paper only aims at emphasising some new angles in the study of the problem. the present stage of our knowledge these conclusions seem inescapable; but only further comprehensive work—in the fields of archæology, linguistics and ancient literature—-will decide the issues finally.

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