

THE EMERGENCE OF THE INDO-IRANIANS: THE INDO-IRANIAN LANGUAGES

J. Harmatta

Contents

The original homeland of the Indo-Iranians	347
Spread of the Indo-Iranians	358
Movements of Proto-Indians and Proto-Iranians and their migration routes	361

AMONG the numerous idioms of present-day India and Pakistan there exists a series of important tongues (as Hindī, Urdu, Hindustānī, Bengālī, Panjābī, Sindhī, Gujarātī, Marāthī, Kaśmīrī, Naipālī, Bihārī, Uriyā, Āsāmī) which belong to the Indo-European family of languages and are called (Modern) ‘Indian’ in a specific sense of this term. Modern Indian languages are the descendants of the Prakrit (from Old Indian *prākṛta*- ‘natural, popular’) idioms of medieval India which are partly known by inscriptions and literary texts (Pālī, Māgadhī, Śaurasenī, Gāndhārī, Paisācī, Mahārāṣṭrī, etc.). The rise of the Prakrit languages dates back to the middle of the second millennium B.C. when they existed as spoken idioms beside Vedic Sanskrit (from Old Indian *saṃskṛta* – ‘artistically composed, prepared’) and later, parallel with Epic and Classical Sanskrit, both highly developed literary languages. Besides the ‘Indian’ languages in a specific sense, there exist also a group of Dardic and another of Kāfīrī, also called Nūristānī, languages genetically related to the ‘Indian’ tongues but separated from them at an early epoch. The Dardic idioms (such as Shina, Indus Kohistānī, Khowar, Kalasha, Pashai, Tirahī) became isolated from the ‘Indian’ ones before the rise of prakritisms and the Kāfīrī languages (Kati, Waigali, Ashkun, Prasu) still earlier. Thus, on the territory of the Indian subcontinent, from the second half of the second millennium B.C., there existed groups of respectively ‘Indian’, Dardic and Kāfīrī dialects all belonging to the Indo-European family of languages.

On the territory of Iran, Afghanistan, the Soviet Union and Pakistan again another group of languages (Persian, Tājik, Pashtō, Ossetic, Baluchī, Shugnāni, Yidgha-Munjī, Wakhī, Yaghnōbī, etc.) is known, belonging also to the same family of languages but termed (Modern) ‘Iranian’ in a specific sense of the word. Modern Iranian languages also have their medieval antecedents called ‘Middle Iranian’ languages (Middle Persian, Parthian, Sogdian, Bactrian, Khorezmian, Saka, Alan, etc.) as well as their forerunners in Antiquity termed ‘Old Iranian’ (Old Persian, Avestan, etc.).

With the help of an abundance of linguistic and literary monuments it was easy to prove genetic relationship between the Indo-Dardic, Kāfirī and Iranian languages. In fact, the farther we go back in time in studying the monuments of these languages, the closer they come to one another. In Antiquity, for example, Avesta stood so near to Vedic Sanskrit that by making use of the phonetic correspondences between the two we can transpose whole Avestan sentences word by word, sound by sound, into Vedic Sanskrit. Genetic relationship between the Indo-Dardic, Kāfirī and Iranian languages. In fact, the farther we go back in time in studying the monuments of these languages, the closer they come to one another. In Antiquity, for example, Avesta stood so near to Vedic Sanskrit that by making use of the phonetic correspondences between the two we can transpose whole Avestan sentences word by word, sound by sound, into Vedic Sanskrit. Genetic relationship between the Indo-Dardic, Kāfirī and Iranian languages means that they formed a common system of communication (a linguistic unity in other terms) in an earlier period. Linguistic research created, therefore, the term Indo-Kāfirī-Iranian to denote the common idiom once spoken by the ancestors of both Indians (Dards), Kafirs and Iranians. The ancient tribes speaking Indo-Kāfirī-Iranian (or Proto-Indo-Iranian) are called in prehistory Proto-Indo-Kāfirī-Iranians. To avoid this clumsy term, in this chapter we shall simply use the term Proto-Indo-Iranian(s) (PII). Besides the term ‘Indo-Iranians’, the name ‘Aryans’ is also used in scholarship because both the Indians and the Iranians called themselves ‘*ārya-*’; this word denoted originally the tribal aristocracy of these peoples.

The original homeland of the Indo-Iranians

The earlier existence of the Indo-Iranians and of an Indo-Iranian linguistic community presupposes an area and a period in which they were living. The earliest literary evidence attesting the presence of Indians in the territory of southern Asia dates back at least to the middle of the second millennium B.C. At the same time they are attested indirectly by Indian names and terms appearing in the kingdom of Mitanni and elsewhere in Mesopotamia beginning with the sixteenth century B.C. or perhaps even earlier. At that time the territory

occupied by the ancient Indian tribes in India was restricted mainly to the north-western part of the subcontinent. As regards the Iranians, according to linguistic and historical evidence, they appeared south of Lake Urmia in the course of the ninth century B.C. Both Indians and Iranians moved towards the south and east and slowly occupied their later territories. There are no direct linguistic or historical data concerning the migrations of the eastern Iranians but, on the basis of historical considerations and later evidence, it seems probable that their immigration took place more or less simultaneously with the spread of the western Iranians.

From the structure of these movements it becomes clear that Indians, Dards, Kafirs and Iranians had already separated from one another at the time when they migrated to Iran and the Indian subcontinent from the north and the north-west. Consequently, we have to look for their ancient home in the territories lying to the north of the Iranian plateau and India. Arriving at this logical conclusion, we have to search for the traces of the Indo-Iranians outside Iran and India in the northern territories of Central Asia or even Eurasia. From the first millennium B.C., we have abundant historical, archaeological and linguistic sources for the location of the territory inhabited by the Iranian peoples. In this period the territory of the northern Iranians, they being equestrian nomads, extended over the whole zone of the steppes and the wooded steppes and even the semi-deserts from the Great Hungarian Plain to the Ordos in northern China. This fact was taken into consideration by both important theories on the 'original' (it would be more correct to say 'earlier') home of the Proto-Indo-Iranians.

One of these theories regards Central Asia (in a narrower sense)¹ and the territory north of it as the earliest area of the Proto-Indo-Iranians while the other attempt to determine their earlier home locates it in the steppes of eastern Europe. Obviously, these two conceptions do not exclude one another entirely. If we presume that the earlier area of habitation of the Proto-Indo-Iranians was the zone of the steppes and wooded steppes in eastern Europe, this assumption does not prevent us from regarding Central Asia (in a narrower sense) as an intermediate stage of their migrations towards the east, south-east and south. Theoretically, we could, of course, also think of a reverse succession of these two stages in the migrations of the Proto-Indo-Iranians but in this case the great detour (Central Asia–eastern Europe–Caucasus–Mesopotamia–Iranian plateau–Indian subcontinent) would require a specific justification.

The choice between the two alternatives depends on the position taken by Proto-Indo-Iranian among the Indo-European languages. According to recent linguistic and archaeological investigations, Indo-European represented already a widely ramified group of

¹ For which the Russian name *Svednyaya Aziya*, or Soviet Central Asia, is frequently used.

languages at the very beginning of the Neolithic. The separation of the Indo-European groups of languages had to take place at a time when agriculture began to develop in eastern Europe, that is, in the beginning of the sixth millennium B.C. as shown by the fact that the western Indo-Europeans and the eastern group (represented mainly by the Indo-Iranians) have no common agricultural terminology. At the present level of linguistic and archaeological research, the following Indo-European groups could be distinguished on the territory of central and eastern Europe in the Early Neolithic:

Anatolian group, included Thracian and Pelasgian, represented in Europe by the Körös-Starchevo-Sesklo culture.

Proto-Greek-Macedonian-Phrygian group, represented by the Central European Linear Pottery Cultures.

Daco-Mysian group, represented by the Cucuteni-Tripolye culture.

Baltic group, represented by the Dniepr-Donets culture.

Proto-Indo-Iranian group, represented by the eastern European Kurgan culture (Sredniy Stog II and Pit-Grave cultures).

The geographical area inhabited by the Proto-Indo-Iranians before their migrations towards Central Asia can be established with the help of isoglosses linking them to other Indo-European languages on the one hand and by means of loan-words borrowed from Proto-Indo-Iranian by the neighbouring peoples on the other. It seems that the Proto-Indo-Iranians, the Baltic tribes and the Daco-Mysians remained in contact with each other even after the disintegration of the Indo-European linguistic community. The isogloss PIE $\eta - \text{m} > a$ shows the presence of the Proto-Indo-Iranians in a vast linguistic area comprising, beside them, the Daco-Mysian, Proto-Greek, Proto-Macedonian, Proto-Phrygian, Armenian, Venetian, Illyrian, and one part of Celtic, that is, languages which all take part in this phonemic change. The isogloss PIE $o > a$ testifies, however, the successive change of the linguistic zone. Beside Proto-Indo-Iranian, the latter phonemic change also comprises Daco-Mysian, Baltic, Germanic, Albanian. Its starting point might have been in the Proto-Indo-Iranian linguistic area because later the phonemic change PIE $\bar{o} >$ PII \bar{a} also took place there. It seems that the formerly coherent linguistic zone extending from western Europe to the eastern European steppes was interrupted by the movement of the Proto-Greeks towards the south.

In any case, the isogloss PIE $o > a$ bears witness to the contacts of the Proto-Indo-Iranians with Balts and Daco-Mysians, that is, to a process which fully corresponds to the geographical position of these Indo-European language groups. Unlike the Balts, however, the Protoslavs had no immediate contact with the Proto-Indo-Iranians because their habitats at that time can be localized between the middle course of the Vistula, the Pripet' river,

the Dniepr and the Carpathian mountains. Later, when the Balts began to move towards the north and the Slavs advanced towards the east and south-east, they also got in touch with the Proto-Indo-Iranians.

One of the most important isoglosses, shared by the latter with the Balts, the Slavs and the Daco-Mysians, was the first palatalization: PIE $k' g' gh$ became PII $č j j h$ in the first phase, and Proto-Iranian $ś ź žh$ Proto-Kāfirī $č j j h$ Proto-Indian $ś j j h$ in the second phase. At this stage of phonemic development we can observe the progressive separation of the Proto-Iranians from the Proto-Kāfirīs and Proto-Indians which began by the phonemic change PIE $l > r$ in Proto-Iranian earlier, while the Proto-Indian linguistic area was not fully included in this isogloss. Proto-Baltic and Daco-Mysian also shared in the development PIE $k^w g^w g^wh > k g gh$ with Proto-Indo-Iranian but the further palatalization of the PIE labiovelars (= second palatalization) did not take place in Proto-Baltic. The weakening of Proto-Baltic and Proto-Indo-Iranian contacts is well-illustrated also by the fact that the phonemic change PIE $s > š$ after $i u r k$ was not fully shared by the Balts; it was only in Lithuanian that this development took place and even in it only following r .

The successive dissolution of the Proto-Indo-Iranian linguistic community is clearly marked by the exclusion of the Proto-Indians from the isogloss PIE $bh dh gh > b d g$ while the Proto-Kāfirīs shared in the loss of aspiration. This phonemic change extended over a broad linguistic territory comprising beside Proto-Iranian also Baltic, Slavic, Daco-Mysian, Germanic, Illyrian, Macedonian and Celtic. Comparing this linguistic zone with that of the isoglosses PIE $n m > a$ and PIE $o > a$, we can clearly establish the gradual displacement of all these languages. Afterwards, the isoglosses PIE $ō > ā$ and PIE $k^w e g^w e > k' e g' > č j$ (= second palatalization) obviously indicate an intensive linguistic contact between Proto-Slavs and Proto-Iranians.

A similar picture is offered by the innovations in the vocabulary. There are some lexical elements which also attest Proto-Baltic and Proto-Indo-Iranian contact, as for example the following:

**vīros* (as against Western IE **viros*): OInd. *vīra-*, OIr. *vīra-*, Lith. *výras* Lett. *vīrs*, OPruss. *wijrs* 'man, hero'.

**vēyu-*: OInd. *vāyu-*, OIr. *vāyu-*, Lith. *vejas* 'wind'.

**ghosto-*: OInd. *hasta-*, Av. *zasta-*, OP *dasta-* 'hand', Lith. *paž astė* 'armpit'.

**yevo-*: OInd. *yava-* 'grain, barley, millet', Av. *yava-* 'grain', Lith. *javaĩ* (Pl.) 'grain'.

There exists again a group of words bearing witness to linguistic contacts between Proto-Baltic, Proto-Slavic and Proto-Iranian, for example:

**tek* - 'to flow': Av. *tač*-, Lith. *tek*-, SbKr. *tèč*-.

**kvento*- 'holy, sacred': Av. *spanta*-, Lith. *šveñtas* OChSl. *svę tu*.

The contacts between Slavs and Iranians continued even after the separation of the Proto-Iranians, during the Old Iranian and Middle Iranian epochs. Similarly, the Daco-Mysians were in contact with the Proto-Indo-Iranians, later with the Proto-Iranians and the Iranians from the Neolithic, at least up to the end of the Late Iron Age. They shared almost in the same isoglosses as did the Balts and Slavs, and were considerably influenced by the nomadic culture of the Indo-Iranians. According to recent studies, the horse was first domesticated in the southern Ukraine about the middle of the fourth millennium B.C. or perhaps even earlier. The domestication of the horse, together with the invention of two- and four-wheeled vehicles, had an enormous import on the development and spread of the Proto-Indo-Iranians. On the one hand, through horse-breeding they could better develop their economy while, on the other, they acquired a means that allowed them unprecedented movement on a large scale. In fact, they began to make incursions into the neighbouring territories and arrived, for example, in the course of the Copper Age, also on the plains of eastern Hungary. Thus, their contacts with the neighbouring peoples became more intensive and they exerted considerable influence on their economic and social development. This process was also reflected by the loan-words borrowed by these peoples from Proto-Indo-Iranian and Proto-Iranian.

Such borrowings may be for example OPruss. *aswinan dadan*, 'horse milk', from PIr *aśva*- 'horse', and *dadi*- 'milk', or OPruss. *ape* 'river' (as against Lith. *upe*, Lett *upe*), from PIr *āp*-, *āpi*- 'water'. It seems that some important terms were borrowed by the Daco-Mysians, too, for example, DM *az*- 'goat' (as against *aiz*- 'goat'), from PIr *aža*- 'goat', DM *āpa* 'water' (as against *upa* 'river'), from PIr *āp*- 'water', DM *sara*- 'brook', 'river' (as against *serā*- 'brook', 'river'), from PIr *sara*- 'brook', DM *ude* 'water', from PIr (or OIr.) *uda*- 'water', DM *esp*, *asp* 'horse', from OIr *aspa*- 'horse'. The name for 'horse' was taken over even by the Thracians in the form *asp*.

But the Proto-Indo-Iranians also exerted great influence on the Finno-Ugrian tribes living to the north of them in the forest zone. The linguistic contacts between Finno-Ugrians and Indo-Iranians (or Proto-Iranians and Iranians) lasted roughly from the fifth millennium B.C. up to the invasion by the Huns of eastern Europe at the end of the fourth century A.D. During this long period the Finno-Ugrians adopted a large number of loan-words from Indo-Iranian and Iranian and a considerable part of these borrowings are from the Indo-Iranian and Proto-Iranian epochs. With the help of these loan-words, it will be possible to follow the development of Proto-Indo-Iranian, its split into different dialects or languages, and to establish the succession and relative chronology of some linguistic changes and

even to give some hint concerning their absolute chronology. In the final analysis, within the Proto-Indo-Iranian and Proto-Iranian period, eleven stages of phonemic development can be established comprising three-and-a-half millennia.

FIRST STAGE: 4500–4100 B.C.

Change in the phonemic system

PIE η m > PII $a(n)$, $a(m)$, PIE o > PII a PIE k e k a g e g a g h e g h a k e k a g e g a g h e g h a k^w e k^w a g^w e g^w a g^w h e g^w h a remained still unchanged, PIE l > PIR r (but l was partly preserved in Proto-Indo-Dardic and Proto-Kāfirī).

Loan-word

FU $*aja-$ ‘to drive, hunt’ < PII $*ag-a-$

SECOND STAGE: 4100–3800 B.C.

Change in the phonemic system

PIE k g gh > PII $č$ $ǰ$ h

Loan-words

FU $*orpas$, $*orwas$ ‘orphan’ > PII $*arbhas$

FU $*pakas$ ‘god’ > PII $*bhagas$

FU $*tarwas$ ‘sickle’ < PII $*dharvas$

FU $*martas$ ‘dead’ < PII $*mṛtas$

FU $*porćas$ ‘piglet’ < PII $*parćas$

FU $*taivas$ ‘heaven’ < PII $*daivas$ ‘heavenly being’

FU $*werkas$ ‘wolf’ < PII $*vrkas$

THIRD STAGE: 3800–3500 B.C.

Change in the phonemic system

PII $-as$ $-is$ $-us$ > PII < $-aḥ$ $-iḥ$ $-uḥ$ > (in absolute word ending)

Loan-words

FU *oćtara ‘whip’ < PII *aćtrā

FU *ońća ‘part’ < PII *anćaḥ

FU *ońćura ‘tusk’ < PII *anćuraḥ

FU *ćaka ‘goat’ < PII *ćāgaḥ, *ćāgā

FU *kać ‘to look’ < PII *kać-

FU *mańća (< *manuća) ‘man’ < PII *manuǰaḥ

FU *arwa ‘*present given or received by the guest’ < PII *arg^whaḥ

FOURTH STAGE: 3500–3200 B.C.

Changes in the phonemic system

PII ć ĵ ĵ h > PIr ś ź ź h (Proto-Indian ś ĵ ĵ h, Proto-Kāfirī ć ĵ, ĵ h >

PIE k^w e g^w e g^w he > PII k e ġe ġhe

Loan-word

FU *ońśa ‘part’ < PIr *anśaḥ

FIFTH STAGE: 3200–2900 B.C.

Changes in the phonemic system

PIE bh dh gh > PIr b d g (PInd bh dh gh, PKāf b d g)

PIE k e ġe > PIr PInd PKāf ć ĵ

PIE ō > PII ā

Loan-words

FU *täjine ‘cow’ < PIr *de^xinuh

FU *täδ 'e ‘milk’ < PIr *dedi

FU *peδ ' ‘to milk’ < PIr *pe^xy-

FU *sasar ‘younger sister’ < PIr *svesār

SIXTH STAGE: 2900–2600 B.C.

Changes in the phonemic system

PIE $p t k + X > \text{PII } ph th kh$

PIr $-\bar{a}r -an > \bar{a}$, PIr $-\bar{e}r -en > \bar{e}$

Loan-words

FU $*\acute{s}um-$ ‘strap’ < PIr $*syum\bar{e}$

FU $*er\acute{s}e$ ‘male, man’ < PIr $*r\acute{s}yaḥ$

FU $*warsa$ ‘foal, colt’ < PIr $*vr\acute{s}aḥ$

FU $*s\acute{a}pt\bar{a}$ ‘seven’ < PIr $*sept\bar{a}$

FU $*te\acute{s}e$ ‘ten’ < PIr $*de\acute{s}a$

FU $*\acute{s}ata$ ‘hundred’ < PIr $*\acute{s}ata$ Pl. N.

FU $*sew-$ ‘to eat’ < PIr $*ksew-$

FU $*re\acute{s}me$ ‘strap, cord’ < PIr $*re\acute{s}miḥ$

FU $*sone$ ‘tendon’ < PIr $*sn\bar{e}v\bar{e}$

FU $*kota$ ‘house’ < PIr $*kataḥ$

SEVENTH STAGE: 2600–2300 B.C.

Change in the phonemic system

PII $rs ks > \text{PIr } [r\acute{s} k\acute{s}]$

Loan-words

FU $*mek\acute{s}e$ ‘honey-bee’ < PIr $*mek\acute{s}\bar{t}$

FU $*mete$ ‘honey’ < PIr $*medu$

FU $*kar-$ ‘to dig, plough’ < PIr $*kar-$

FU $*jew\bar{a}$ ‘corn’ < PIr $*yevaḥ$

FU $*repe$, $*ropa$ ‘fox’ < PIr $*reupaḥ$

FU $*repe\acute{s}e$, $*ropa\acute{s}a$ < PIr $*reup\bar{a}\acute{s}aḥ$ ‘fox’

EIGHTH STAGE: 2300–2000 B.C.

Changes in the phonemic system

PIE *e* > PII *a*, PIE *əi* > PII *ai*, PIE *ə* > PII *i*

PIr *-is + d* > *-izd*, PIr *-us+d* > *-uzd*

Loan-words

FU **asura* ‘lord’ < PIr **asuraḥ*

FU **sara* ‘flood’ < PIr **saraḥ*

FU **säre* ‘vein’ < PIr **sariḥ*

FU **sura* ‘beer, wine’ < PIr **surā*

FU **sejte* ‘bridge’ < PIr **saituḥ*

FU **śasra* ‘thousand’ < PIr **śasra* Pl. N.

FU **šeṅke* ‘wooden wedge’ < PIr **śankuḥ*

FU **śorwa* ‘horn’ < PIr **śruvā*

FU **śuka* ‘barb of corn’ < PIr **śukaḥ*

FU **wos-* ‘to buy’ < PIr **vas-*

FU **waśara* ‘axe’ < PIr **vaśraḥ*

FU **woraśa* ‘wild-boar’ < PIr **varāśaḥ*

NINTH STAGE: 2000–1700 B.C.

Change in the phonemic system

PIE *-is* > PII *-iś*, PIE *-us* > PII *-uś* (but Kāfirī *-us* > *-us*)

Loan-words

FU **saś-*, **soś-*, ‘to become dry’ < PIr **sauś-*

FU **šäre* ‘brooklet, rill’ < PIr **ksaraḥ*

TENTH STAGE: 1700–1400 B.C.

Changes in the phonemic system

PII *st zd* > [št žd] (before 1600 B.C.)

PII *-iś* > [-iš], PII *-uś* > [-uš] (but Kāfirī *-us* > *-us*)

PII *tst dzd* > PII *st zd*

Loan-words

FU **wiša* ‘anger, hatred, hate’ < PIr **viš*, **višam*

FU **ora* ‘awl’ < PIr **ārā*

FU **punta* ‘soil, earth’ < PIr **bundaḥ*

ELEVENTH STAGE: 1400–1000 B.C.

Changes in the phonemic system

PIr /b d g/ > [b- d- -g] + [-β- -δ- -γ-]

PIr *ph th kh* > *fθx*

Loan-words

FU **oṅke* ‘hook’ < PIr **ankaḥ*

FU **šere* ‘clan, custom’ < PIr **šarḍaḥ*

With the help of Proto-Indian lexical elements in Hurrian, we can state that the seventeenth to sixteenth centuries B.C. fall within the limits of the tenth stage of Proto-Iranian linguistic chronology. On the basis of this chronological evidence it seems that an average of about 300 years may be attributed to each stage. Surely, this schematic chronological system may not correspond to reality because the rhythm of linguistic change is not necessarily constant. However, this chronological scheme may serve as a starting point for prehistory, in search of the ethnic background of archaeological cultures, and it may be adjusted with the help of additional, such as archaeological, evidence, by later research.

On the basis of these PII and PIr lexical elements adopted by Finno-Ugrian languages, we can reconstruct not only the phonemic development of Proto-Indo-Iranian and Proto-Iranian, but by examining contacts between Proto-Finno-Ugrian and Proto-Indo-Iranian we

are even able to sketch the development of economy and society of the Proto-Indo-Iranians. The PII loan-words of Proto-Finno-Ugrian can be grouped as follows:

1. Food-gathering, fishing, hunting: *aǵ-* ‘to drive, to hunt’, *ankaḥ* ‘hook’, *mekšī* ‘honey-bee’, *medu* ‘honey’, *anćurah* ‘tusk’, *reupaḥ* ‘fox’, *reupāśah* ‘fox’, *śruvā* ‘horn’, *varāžah* ‘wild boar’, *vṛkas* ‘wolf’.
2. Animal husbandry: *áčtrā* ‘whip’, *čāgaḥ* ‘goat’, *dedi* ‘milk’, *de^xinuḥ* ‘cow’, *parćas*, *parśas* ‘piglet’, *pe^xy-* ‘to milk’, *vṛsaḥ* ‘foal, colt’.
3. Tillage: *bundaḥ* ‘soil, earth’, *dharvas* ‘sickle’, *kar-* ‘to dig, to plough’, *śūkāḥ* ‘barb of corn’, *yevaḥ* ‘corn’.
4. Handicrafts: *ārā* ‘awl’, *reśmiḥ* ‘strap, cord’, *syumē* ‘strap’, *śankuḥ* ‘wooden wedge’, *važraḥ* ‘axe’.
5. Social relations: *arbhas* ‘orphan’, *arg^whaḥ* ‘*present given or received by the guest’, *anćah* ‘part’, *asuraḥ* ‘lord’, *manuǵaḥ* ‘man’, *mṛtas* ‘dead’, *ṛśyaḥ* ‘male, man’, *svesār* ‘younger sister’, *śarḍaḥ* ‘clan’, *was-* ‘to buy’.
6. Intellectual life: *bhagas* ‘god’, *daivas* ‘heavenly being’, *kać* ‘to look’, *viš* ‘anger, hatred, hate’, *septa* ‘seven’, *deśa* ‘ten’, *śata* (Pl. N.) ‘hundred’, *žasra* (Pl. N.) ‘thousand’.
7. Human body, dwelling, habitation, alimentation: *kataḥ* ‘house’, *ksev-* ‘to eat’, *sariḥ* ‘vein’, *snēvē* ‘tendon’, *surā* ‘beer, wine’.
8. Nature: *kšar^aḥ* ‘brooklet, rill’, *saituḥ* ‘bridge’, *saraḥ* ‘flood’, *sauś-* ‘to become dry’.

This arrangement of the PII loan-words borrowed by Proto-Finno-Ugrian, together with the chronology given above, may clearly show the development of both populations in the course of their contacts and the dynamic process implied by it.

The contacts between Proto-Indo-Iranians and Proto-Finno-Ugrians began by the practice of hospitality, characteristic of tribal society. The term **arg^whaḥ*, ‘contact, friendly welcome, gift given or received by guest, price’, points to the beginnings of exchange of goods in the form of mutual presents given by guest and host to one another. Mutual hospitality led to marriage relations already in an early period. By that time Proto-Finno-Ugrian groups could have adopted the beating for game in the hunt and the driving of domesticated animals, the knowledge of some games, the keeping of small cattle, some terms concerning hunting and animal husbandry as well as important notions in the field of society and religion.

Later on, one of the Proto-Finno-Ugrian tribes also adopted the keeping of large cattle to exploit in various ways. In the same epoch, as a result of their contacts with the Proto-Iranians, knowledge of the higher numerals and the construction of semi-subterranean houses spread among the Proto-Finno-Ugrians.

In the following period one group of Finno-Ugrians already acquired some primitive forms of agriculture and the practice of gathering honey. The final periods of contact between Proto-Iranians and Finno-Ugrians were characterized by the general widening of their relations to encompass the whole field of production and material culture, excepting that of animal husbandry. The social differentiation of ethnic contacts is well-illustrated by the borrowing of an important social term, *asurah*, 'lord', meaning originally perhaps 'head of the clan'. Towards the end of the PIr period the clan itself as a form of social organization appeared in Proto-Iranian-Finno-Ugrian ethnic relations.

The importance of Proto-Indo-Iranian and Proto-Finno-Ugrian linguistic contacts is obvious. With the help of these well-studied linguistic data we can also draw interesting analogical conclusions concerning the relations of Proto-Indo-Iranians with other peoples and tribes of eastern Europe and western Asia for which, in consequence of the disappearance of whole groups of languages, we dispose only of very fragmentary and scant linguistic evidence.

Spread of the Indo-Iranians

The economic and social development of the Proto-Indo-Iranians took place in three phases. The first begins with the rise of animal husbandry including cattle, sheep, goats, pigs and dogs. Economy was, therefore, mainly pastoral. The two-or four-wheeled vehicle appeared at this phase but, being drawn by oxen, it could not revolutionize economy and communication.

The second phase is marked by the domestication of the horse, about 3500 B.C. – an event which fundamentally changed the scope of animal husbandry and the development of economic life. Economic and social changes were accelerated and, towards the end of this phase, in the period immediately preceding the Bronze Age, horse-breeding became predominant. The great stock of horses, together with the invention of the spoked-wheeled light vehicle, made possible the development of communications to a degree unforeseen before, and the introduction of the war chariot as an important innovation in warfare. Also, a further important consequence, social differentiation was strengthened, royal clans and the classes of war charioteers and warriors developed and, if formerly a slow infiltration of the Proto-Indo-Iranians could only take place into the neighbouring territories, now

expeditions and invasions on a larger scale were directed against the rich territories of the south and south-east where a highly developed urban civilization was flourishing.

The third phase is characterized by the acquisition of the practice of horse-riding which enabled the Proto-Indo-Iranians (or more correctly the Proto-Iranians because the Proto-Indians had already left for the south-east at the end of the second phase) to develop nomadic horse-breeding and to organize great armies of cavalrymen. They became equestrian nomads, compelled by their great herds of horses to change pastures regularly and driven by their one-sided economy to establish economic ties with the neighbouring agricultural peoples either through trade or through robberies and invasions. Climatic changes often forced the nomads to look for new pastures, thus causing great ethnic movements. All these factors gave an important impulse to Proto-Iranian society, strengthened the formation of social classes (priests, warriors, craftsmen and peasants), forced the class of warriors to invade neighbouring lands and in the long run led to the rise of a state organization and conquest of vast territories.

On the basis of what has been said, it becomes clear that the migrations of the Proto-Indo-Iranians may have taken place in at least three successive periods and that they were of very different character.

The first type of migration was represented by the slow infiltration of small cattle-breeding groups who, in general, established friendly relations with the local population of food-gatherers, fishers or hunters.

The second type was the movement of greater groups, clans or tribes, headed by a well-organized army of charioteers and warriors who wanted to settle as leading social groups in new territories but, instead, often adapted themselves to the existing society and state organization.

Finally, the third type may be characterized by the massive movements of equestrian nomads who, together with their livestock, either looked for new pastures or wanted to conquer agricultural territories to supplement their own one-sided economy with their products.

Of course, there also existed some other, transitional types of migrations, but for the understanding of the Proto-Indo-Iranian movements, the forms just mentioned had the greatest historic importance.

The Proto-Indo-Iranians came into contact with the tribes of the Caucasus at an early epoch when animal husbandry in general and horse-breeding in particular began to develop in the steppes of eastern Europe.

The earliest trace of these contacts may be represented by Udi *ek^c* 'horse' which could only be borrowed from PII **ek^h va-* before the first palatalization took place, perhaps at

about 4000 B.C. according to the chronological scheme elaborated above on the basis of PII and PIr loan-words in Finno-Ugrian. Thus, perhaps, the word was adopted before the domestication of the horse as a term for the wild species.

But there exists probably yet another linguistic proof of the most ancient cultural contacts between the Proto-Indo-Iranians and the peoples settled on Cis-caucasian and Transcaucasian territories. Assyrian sources preserved the Lullubean word *kiurum* ‘god’ which can be regarded as an adoption of PII **k̄ ūra-* (cf. OInd *śūra-*, Avestan *sūra-*), the Old Indian and Old Iranian correspondents of which were still applied to denote some gods in Vedic and Avestan times.

Besides these terms, however, other names for the horse and other domesticated animals were also taken over by the Caucasian languages from Proto-Indo-Iranian and Proto-Iranian. We can quote the following examples:

1. Circassian *śə* Kabardian *šə*, ‘horse’; Abkhaz *a-čə* ‘the horse’; Georgian *ačuča* ‘horse (in children’s language)’, Akhvakhian *ičwa* ‘horse’, Andian *iča*, Lak *č’u*, Khinalug *pšə*, (< *b-šə*) ‘horse’.
2. Circassian *ača*, Kabardian *aza* ‘goat for breeding’.
3. Chechen *gaŋ r*, Ingush *goŋ r* ‘horse’.
4. Khinalug *spa* ‘ass colt’.
5. Abkhaz *gu* ‘pinfold’.

Of these terms *ačua*, *ičwa*, *iča*, *č’u*, *čə*, *śə*, *šə* may go back to PII **ečva-*, **ešva-*, **ašva-* because the initial vowel might have been understood as a demonstrative element in north-western Caucasian languages (cf. Abkhaz *a-čə* ‘the horse’). The adoption of the word by the Caucasian languages might have taken place at different epochs. The earliest form could have been **ečva-* which may represent the third stage of the phonemic development of Proto-Indo-Iranian at about 3500 B.C. if the borrowing dates back to the period of the first domestication of the horse.

The second loan-word *ača*, *aza* obviously represents PII **aǰa-*, **aža* ‘goat’ (cf. MP *azak* ‘goat’), the phonemic forms of which would correspond to the third and fourth stages.

The term *gaŋ r*, *goŋ r* can apparently be connected with Persian *gōr* ‘wild ass’, which probably goes back to a PII prototype **g^wōra-*, but the borrowed form already speaks for **gaŋ ra-* representing the fifth stage or even a later period (after *g^w-* > *g-* and *ō* > *ā*).

Khinalug *spa*, ‘ass colt’, can be regarded, of course, as an adoption of Old Northern Iranian *aspa-* and offers a valuable testimony for the long-lasting influence of Iranian horse-breeding in the Caucasus.

Finally, Abkhaz *gu* ‘pifold’, being an important term of cattle breeding, may be the adoption of PIr or OIr **gava-* ‘pifold’ which only survived in the Avestan name of land *Gava-* and in the Ossetic *γäu, qäu* ‘village’ later.

From among the numerous Iranian loan-words of north-western and south-eastern Caucasian languages some may be of Proto-Iranian or even Proto-Indian origin. Thus, Kürin *γäb*, ‘handful’, is obviously an archaic borrowing from PInd or PIr **gabha-* (cf. OInd *gabhasti-*) while Batsian *ħač-*, ‘to see’, may go back to PII **kač-*, ‘to see’, reflecting the third stage of Proto-Indo-Iranian phonemic development, that is, approximately the end of the fourth millennium B.C. Chechen and Ingush *mār*, ‘husband’, may also be an ancient Proto-Indian or Proto-Iranian borrowing of the well-known term **marya-*.

In spite of the poverty of the linguistic evidence, these ancient Proto-Indian or Proto-Iranian loan-words occurring in Caucasian languages offer a valuable testimony for the advance of Proto-Indo-Iranian tribes towards the Caucasus which might have caused some ethnic movement there. If the ancient home of the Gutians (^{KUR}*gu-ti-um*^{KI}) can really be sought on the territory of later Media, then we may think of the possibility that the impulse to their invasion into Mesopotamia – which overthrew the dynasty of Agade, at the end of the third millennium B.C. – was given by the beginning of migrations of the Proto-Indian groups towards the Caucasus, the Caspian and Aral Seas.

Movements of Proto-Indians and Proto-Iranians and their migration routes

Be that as it may, in any case the following great ethnic movement, the invasion of Babylon by the Kassites – which caused the fall of the first Babylonian dynasty – was already obviously connected with the migrations of the Proto-Indians. In spite of some scholarly efforts, the ethnic origin and the language of the Kassites are obscure but generally this people is regarded as a part of a widely spread population bearing slightly differing, though probably identical, names in the literary sources. Thus, the Greek name *Kaspioi*, Middle Iranian *Kāšp* seems to be the outcome of an ancient form **Kāšva-* which may be reflected also by Akkadian *Kaššu*. The latter name was identified with Kassite *galzu/galdu*, assumed on the basis of the name ^m*Kurgalzu* explained by ^m*Re’ikašši* ‘shepherd of the Kassites’ in the *List of Kassite Names*. This theory, however, is to be rejected because the phonemic change *lz/ld > šš* cannot be proved and even the sporadic development *lš > šš* occurs only in Middle- and Neo-Babylonian.

The development of the name **Kāšva-* might have been similar to that of PIr **ašva-* which yielded *aspa-* in Median and Avestan, *asa-* in Old Persian, and **ašša-* in Saka.

Thus, the Iranians became acquainted with the name at the Proto-Iranian epoch in the form **Kāśva-*, which developed into **Kāspa-* in Median, into **Kāspa-* in Old Bactrian and into **Kāśśa-* in Old Saka. It is, therefore, not surprising if Herodotus lists among the peoples of the Old Persian satrapies a tribe *Kaspioi* located in the neighbourhood of the Caspian Sea, and also another tribe of the same name, *Kaspioi*, living in north-eastern Iran. If the original form of the name really was **Kāśva-*, then we could have expected in fact the form **Kāspa-* both in the north-west and the north-east of the Old Persian empire.

To explain the existence of the two peoples bearing the name *Kāspa-* but who settled at a great distance from one another, historic research presumed that we have to do with the remnants of the same population, spread once from the Caspian sea to the north-eastern part of the Old Persian empire. One may doubt the probability of this assumption but there exists some additional evidence in its favour. Further to the north-east of the boundaries of the Old Persian empire, within the Saka language area, we find a land named *Kāś* in Parthian, *Kasia*, *Kas* in Greek, *Kāś* in Sogdian and **K'aṣa* in ancient Chinese. The name survives later as *Kāśγar*. All these forms of the name may reflect the Saka development **Kāś (ś)a-*, (> *Kā śa -*) of **Kāśva-* and attest the presence of this ancient ethnic element even in Kashgaria.

Without doubt, the historical data and their linguistic interpretation speak in favour of the presumption that the Kassites (*Kaššu*) represent a part of a population which, at an earlier epoch, spread from the Caspian sea to Kashgaria and which was cut in two and pushed by the massive migrations of Proto-Indians and Proto-Iranians towards the east on the one hand and towards the west on the other, and therefore survived up to the Old Persian epoch only on the western and the eastern fringes of its former territory.

Attempts were made to regard the *Kaššu*, *Kāsp*, *Kāś* as an ancient population speaking Burushaski, which was thought to belong to the Caucasian languages. There can be no doubt that the language area of Burushaski once had a much greater extension than it has today. It is, however, impossible to admit the spread of the Burushaski population as far as the Caspian Sea in the Neolithic and Eneolithic because archaeological research has clearly shown the existence of three great cultures on the territory stretching from the Caspian Sea to the Pamir. These are the Jeitun culture (the territory of the Kopet Dag), the Kelteminar culture comprising a vast territory around the Aral sea from the Caspian Sea up to Tajikistan, and the Hissar culture in Tajikistan and in neighbouring territories. Of these three the settlements of the Kopet Dag can possibly be ascribed to a Dravidian population and in this case they may mark the northernmost extension of Proto-Dravidians living on the Iranian plateau before the arrival of the Indo-Iranians. As for the Kelteminar culture, it covers a vast territory, much greater than the ancient area which by any stretch of

imagination may be attributed to the ancient extension of the Burushaski population. At the same time, however, the geographical horizon of the Kelteminar culture could well correspond to the area inhabited by the **Kaśu-*, **Kaśva-* (*Kaššu*, *Kāsp*, *KKāś*, etc.) population towards the end of the third millennium B.C. If, however, the identification of the Kelteminar culture with the **Kaśu-*, **Kaśva-* peoples proves to be correct, then the Burushaski tribes may be considered bearers of the Hissar culture.

The first infiltration of the Proto-Indian tillers and shepherds into the territory of the Kelteminar culture might have accelerated the economic and social development of the western **Kaśva-* tribes, while their second wave, the great movement of the Proto-Indian war-charioteers, induced the most developed part of the **Kaśva-* population to invade Babylonian Mesopotamia. Finally, the massive migrations of the Proto-Iranian equestrian nomads (Syntashta and Andro-novo cultures), that is, the third wave of the Indo-Iranians, compelled the less developed **Kaśva-* tribes to withdraw either into the hardly accessible mountainous districts or into the northern wooded steppes and the taiga zone. Later on, in the course of complicated ethnogenetic processes which led to the rise of the Samoyed peoples, they might have had some ethnic contacts with the Nenets (Yurak-Samoyeds), Enets (Tawgi-Samoyeds) Nganasans (Yenisey-Samoyeds) and Sayan-Samoyeds denoting themselves by the term **kaśa* 'man', which can be the continuation of the ancient term **Kaśva-* > **Kaśśa-* > **Kaśa-* once used by the Kelteminar tribes as a self-appellation.

In the scanty linguistic material of the Kassites three important terms denoting deities occur: *Šuriyaš*, *Maruttaš* and *Bugaš*, corresponding to the Old Indian names of gods *Sūrya-*, *Marut-* and *Bhaga-*. *Sūrya-* and *Marut* are unknown in Old Iranian; this fact clearly points to the borrowing by the Kassites of these names from Proto-Indian. Thus, linguistic evidence speaks clearly for the assumption that the people of war-charioteers, which had induced the Kassites to invade Babylonia, belonged to the Proto-Indians. Because of the paucity of Kassite linguistic data, it is difficult to give a realistic assessment of the number of Proto-Indian elements in Kassite. However, the presence in Kassite of the names of three important Proto-Indian deities clearly indicates that ethnic contacts between the tribal aristocracies (the class of war-charioteers) of the two peoples must have been lively and that the new elements of culture introduced by the Proto-Indian war-charioteers deeply transformed the economic and social life of the Kassites.

It seems very likely that simultaneously with the movements of the Kassites – and in any case before 1700 B.C. at the latest, or perhaps even earlier, at the end of the third millennium B.C. – the immigration of Proto-Indian groups into Hurrian territory began, led by the class of war-charioteers (*maryannu*). They brought with them a new species of horse, more suitable for the war-chariot, a new method for horse-training, described by Kikkuli,

the man of Hurri, in a treatise written in Hittite, and a perfected form of the chariot. Through these important elements of their civilization the Proto-Indians gave an impetus to the development of Hurrian society and to the organization of the Mitanni kingdom, many kings of which bore Proto-Indian names. The Proto-Indian tribal aristocracy spread also to Syria and Palestine where it brought about the formation of stage organization based on the class of war-charioteers. Proto-Indian linguistic influence was considerable on the vocabulary of horse-breeding, horse-training, social life and religion as shown by the following list of Proto-Indian terms borrowed by the Hurrians and other peoples of western Asia:²

Horse-breeding and horse-training

aśva-nī- 'horse-driver'; *aśva-* 'horse'. This term was borrowed by Hieroglyphic Hittite in the form *aśuwa-*, by Hebrew in the form of the radical *s-w-s* (< **aśvas*) becoming *sūs* and by Akkadian with metathesis **aśwas s-w-s > s-s-w* giving *sisû*.

**vaṣhanasya* Gen. 'ground', *vartani-* 'round', *babhru-* 'brown', *palita-* 'grey', *piṅgala-* 'red', **aika-* 'one', *tri-* 'three', *pañca* 'five', *sapta* 'seven', *nava* 'nine', *vart-* 'to turn', *rathya-* 'part of the chariot'.

Social life: marya- 'member of the charioteer-aristocracy', **miṣḍhā-* 'wage', *magha-* 'gift, present', *maṇi-* 'necklace', *rukma-* 'jewel', *khādi-* 'bracelet'.

Religion: Mitra-, Varuna-, Indra-, Nāsatyā-, Agni- (in Hittite ritual texts) 'names of gods'.

Also many personal names are known; they enlarge considerably our knowledge of the Proto-Indian vocabulary. There were heated debates about the extent and importance of Proto-Indian ethnic elements in Mesopotamia. In the present writer's opinion recent research tends to underestimate or even to deny the role played by the Proto-Indians in Mesopotamia in general and in the Mitanni kingdom in particular. The objective historic evaluation of the Proto-Indian elements in Mesopotamian texts must take into account the fact that our knowledge of Hurrian is very limited, insufficient to give comprehensive information about the strength of the Proto-Indian immigration into western Asia. It would be a mistake to form an idea about the strength and importance of a population, which did not have its own script and left behind no historical documents, on the basis of the fragmentary evidence at our disposal. Yet the adoption by the Hurrians of numerous Proto-Indian terms and their use of a great number of Proto-Indian names, even in their royal family, show clearly the important role the Proto-Indians played in the Mitanni kingdom and elsewhere in western Asia.

² Phonetic forms which are earlier than Vedic Indian are marked with an asterisk. All the other words are given in their Old Indian form and not in their cuneiform spellings.

The lack of written sources compels us to try to establish the chronology and the routes of the Proto-Indian movements with the help of archaeological finds. It was observed that at three important sites lying to the south-east of the Caspian Sea, namely, Shah-tepe, Turang-tepe and Tepe Hissar in the Gorgan valley, a black pottery (also called grey pottery) – unknown earlier in Iran – began to appear towards the end of the fourth millennium B.C. The same black pottery was found in the great H urrian centres of Chagar Bazar and Alalah . The recently recognized identity of the black/grey pottery of the Gorgan valley and that of the H urrian sites calls for an historical interpretation.

It can be assumed that the Proto-Indians moving in the third millennium B.C. from the steppes of eastern Europe between the Aral and the Caspian Seas to the south, conquered the Gorgan valley and brought about the rise and spread of the black/grey pottery independently of its origin. At the sites in the Gorgan valley a great number of horse skeletons were found, indicating the growing importance of horse-breeding. The signal horns made of gold and silver, from Tepe Hissar and Turang-tepe, may well reflect the organization of war-charioteer troops for the command of which the signals given by these were indispensable. Advancing from the Gorgan valley farther to the west, the Proto-Indians promoted the spread of many important elements of their culture: highly developed horse-breeding and horse-training, the new tactic of war-charioteers, the black/ grey pottery, the social layer of *maryannu*, and their religion. In this historical process they did not act as a separate ethnic body. On the contrary, they became a constituent of H urrian society even though, for a long time, they still preserved their language. The occurrence in áyħurrian of inflected Proto-Indian words clearly proves that for many centuries Proto-Indian was a living language on H urrian territory.

Doubts have been expressed as to the correctness of this theory which attempts to connect the spread of the black/grey pottery with the Proto-Indian movements. In fact, the relationship between elements of a material culture and a population is never simple and obvious. The ethnic factor and the migration of ethnic groups represent only one among other elements that can give impulse to the rise and spread of several elements of material culture. Even if the black/grey pottery had not been invented and produced by the Proto-Indians, its appearance and spread could still be connected with their movements. Pastoral peoples invading a territory with a sedentary culture easily adopt many elements of the indigenous craft skills and thereby create a new material culture, different from their former one. There can hardly be any doubt about the possible or even probable justification of the theory which sees a connection between the rise of the black/grey pottery and the movements of the Proto-Indians. In general, pottery cannot be regarded as an ethnic identification mark, but it can well reflect even large-scale historical processes.

Chronological arguments have also been used against the theory of a Proto-Indian background to the spread of the black/grey pottery. According to these, the emergence of black pottery in the sites of the Gorgan valley may have been much earlier than the arrival of the Proto-Indians. This opinion is based on the theory of the late disintegration of the Indo-European linguistic community, which is now no longer acceptable. However, on the basis of the linguistic evidence discussed above and the relative and absolute chronology resulting from it, the beginnings of the Proto-Indo-Iranian movements can be dated to the first half of the fourth millennium B.C. The separation of Proto-Indian from Proto-Iranian and Proto-Kāfirī possibly began around the middle of the fourth millennium B.C. simultaneously with the domestication of the horse in the steppes of eastern Europe. Accordingly, infiltration and migration of the Proto-Indians could begin towards the end of the same millennium and even the second phase of their advance towards the south might have taken place around the middle of the third millennium B.C., at a time when the first linguistic traces of the Proto-Indians may appear in ancient west Asia. Towards the end of the third millennium B.C. two names, namely *A-ri-si-* (< *sa'*)-*en* (**Arisaina-* = OInd **Arisena-*), to be distinguished from the Hurrrian name *Arišen* < *Aripšen*), king of Urkiš and Nawar and *Sa-um-si-* (< *sa'*)-*en* (**Sauma-saina-* = OInd **Somasena-*), occur on a tablet dating from the time of the dynasty of Agade. Thus the spread of the Proto-Indians towards Mesopotamia and their amalgamation with the Hurrrian population must have begun between 2300–2100 B.C.

It follows from this chronology that the main bulk of the Proto-Indians could arrive through Margiana and Bactria, that is, the northern route, in Gandhāra and create there the 'Gandhāra Grave Culture' around the seventeenth century B.C. The early advance of Proto-Indians on this route towards the Dravidian language area and the Indian subcontinent may be seen from the earliest traces of linguistic contacts between the two populations. In spite of the difficulty caused by the poverty of the Dravidian consonantal system, and particularly that of consonant clusters, insufficient to establish the phonological basis of the most ancient contacts between Proto-Indian and Proto-Dravidian, we can surmise that Dravidian words such as *cāy-* 'to incline, to lie down', *cari-* 'to roll', *cantam* 'beauty, pleasure, happiness', *cati-* 'to destroy, kill' could go back to the respective Proto-Indian forms **ćay-* (Skr. *śete*), **ćar-* (Skr. *car-*), **ćāntam* (Skr. *śānta-*, *śānti-*), and **ćāt-* (Skr. *śātayati*). In any case, even though Proto-Dravidian possessed only one initial affricate to render Indian initial *c-*, *s-*, *ś-*, the words cited can be postulated for Proto-Dravidian, that is, for a rather early chronological level of Dravidian prehistory. For such a date of Proto-Indian and Proto-Dravidian contacts speaks also the fact that one of the Dardic languages, namely, Tirahī, borrowed the word *kuzəra* from Dravidian (cf. Tamil *kutirai*).

Early linguistic contacts between Proto-Indian and Proto-Dravidian groups may have been established through the Dravidian settlements of the Kopet Dag, which had lively relations with Mesopotamia. The territory of the Kopet Dag can possibly be identified with the golden land *H arali* (later *Arali*, *Arallu*) of the Sumerian hymn on the trade with Tilmun, situated beyond Tukriš in the far north-east. The name *H arali* (*Arali*) may be of Dravidian origin (cf. Tamil *aal* ‘to burn, shine’, *aali* ‘fire’, *aalōn*, ‘Agni, sun’), and its meaning could be the same as that of Khorezm, going back to Old Iranian **Xvāra-zmi-* ‘Land of the Sun’. Thus, if this identification proves to be correct, we have direct linguistic evidence for the existence of a Dravidian population in the Kopet Dag settlements. In the sites of this territory, particularly in Namazga IV (dated to the second half of the third millennium B.C.) and V, VI, the black/grey pottery and clay models of vehicles also appeared. This phenomenon may indicate the immigration to the Kopet Dag of one group of Proto-Indian pastoral tribes.

In this epoch another important centre of the Dravidian population might have been Shahr-i Sokhta. It is now generally assumed that Shahr-i Sokhta can be identified with the land *Aratta* mentioned in Sumerian literature. Once again linguistic evidence can be cited in support of this identification. The name *Aratta* can probably be explained by the Dravidian name of the Tamils, namely, *Arava* ‘Tamil man’, *Araviti* ‘Tamil woman’. Thus, *Aratta* (shortened perhaps from **Aravata*) might have meant ‘Tamil settlement’ or ‘Tamil land’, directly attesting the Dravidian language of the population of Shahr-i Sokhta.

Very likely, the migration of the bulk of the Proto-Indians eastward and southward also compelled one part of the Dravidians to leave their settlements and to move in the direction of the Indian subcontinent. But in view of the slim evidence of linguistic contacts between Proto-Indians and Proto-Dravidians (most of the Dravidian loan-words in Indian and of the Indian ones in Dravidian belong to later epochs), one cannot speak of a general movement of the Dravidian population, already living on the territory of Iran at that time. The presence in Baluchistan of the Brāhui, belonging to the Dravidian languages, speaks for the Dravidian immigration into India by the southern route and at a later date, while the Proto-Indians could use the northern route, across the Khyber and other passes, some centuries earlier. Therefore, the massive immigration into India of the Dravidians could have taken place simultaneously with the latest phase of Proto-Indian and Proto-Kāfirī movements perhaps under the pressure of the Proto-Iranian tribes occupying their later territories.

The spread and migrations of the Proto-Iranians probably took place in three groups and in three directions. The separation of the Iranian languages into three great groups, namely, western, eastern and northern, clearly speaks in favour of such an assumption. These movements followed the migrations of the Proto-Indians and the spread of the

eastern Iranian branch of the Proto-Iranians closely connected with the advance to Gandhāra of the Proto-Indians.

Most probably, the western group of Proto-Iranians moved across the pass of Derbend; they appear under the name *Baršua* (in Urartian) and *Parsua* (in Assyrian) in the neighbourhood of Lake Urmia in the ninth century B.C. Their movement may have started in the second half of the second millennium B.C.. The eastern Iranian group of the Proto-Iranians appeared somewhat earlier following in the footsteps of the Proto-Indians and Proto-Kāfirs in Margiana and Bactria. The Bronze Age culture of Bactria can probably be ascribed to the eastern group of Proto-Iranians who later also spread to Transoxania, and to the Proto-Kāfirs.

The question now arises: which was the language of the population which inhabited the territory before the arrival of the Indo-Iranians? We have already mentioned that the Hissar culture may belong to the ancient Burushaski population, which in the third millennium B.C. inhabited a much larger area than it does today. Some linguistic evidence suggests the ancient extension of the Burushaski population towards the west. According to Tacitus (*Ann.* X10), the Parthian Vardanes conquered all the peoples as far as the river *Sindes* which separates the *Dahae* from the *Arii*. On the basis of this passage, the river *Sindes* can be identified either with the Murghab or with the Tedzhen. Whichever river might have been identical with the *Sindes*, the latter name is remarkable from a linguistic point of view.

The name *Sindes* has been viewed as a linguistic trace of Indians who had remained in *Areia* after the majority of the Proto-Indians moved to the Indian subcontinent. Tempting though this theory may be, two arguments speak strongly against it. Indian settlements on the territory of Iran were numerous but all had names of the type *Hindugān*, *Hinduvān*. This can be explained by the Iranians' ability to identify the Indians on the basis of their language. It is therefore unlikely that the Iranians should have preserved an Indian river name *Sindhu*, for them easily recognizable as *Hindu*. On the other hand, a second argument against linking the name *Sindes* with the Indians relates to the question when the Iranians conquered the territory of *Areia*. If this happened before the change $s > h$, that is, before 800 B.C., the approximate date of the conquest, then the Iranians could only have preserved the name in the form *Hindu*. Besides, the Latin form *Sindes* (going back to a Greek source) could better reflect a foreign prototype *Sinda* than a form *Sindhu*.

Thus, the river name *Sindes* < **Sinda* can probably be explained by the Burushaski word *sinda* 'river' and can be regarded as a sign of the earlier presence of the Burushaski population on the northern border of *Areia*. There they could have maintained some contacts with the Proto-Dravidian population of Iran and even with the tribes of the Caucasus,

a hypothesis that would explain the presence of some common elements in the respective vocabularies of the Burushaski and the Caucasian languages (e.g. Burushaski *har* ‘ox’ ~ Georgian *hari*). The relationship of the Sapalli culture with the sedentary civilization of the Kopet Dag and with the territory of Murghab becomes well understandable if we admit the presence of Burushaski ethnic elements reaching from the Sinda river to northern Bactria.

The advance of the Proto-Indians into the Gorgan valley, and the territory of Murghab and further east at the end of the third millennium B.C. set in motion only one part of the sedentary population and did not replace at once all the earlier inhabitants. Most probably the indigenous ethnic elements maintained themselves for a long time, even until the Proto-Iranian immigration in the second half of the second millennium B.C., and preserved their language and toponyms up to the Old Iranian epoch.

Perhaps there exists another linguistic trace of the ancient Burushaski population of Central Asia. Pliny the Elder mentions (*Natural History* VI. 49) that the Scythians used the name *Sil (is)* for the *Laxartes* river. The latter being of Iranian origin, *Sil (is)* may be the name given to the river by the ancient pre-Iranian population. Thus, it can probably be explained by Burushaski *ts.hil* ‘water’ and in a slightly Iranized form (*Sil* > *Sir*) it survives in modern *Sir Darya*.

The beginnings of the move of the northern Proto-Iranians towards southern Siberia can be set into an even earlier period. The Syntashta culture may already represent a later phase of their migrations. If we look for this spread towards the east, we have to state that no clear linguistic trace has been found of direct contact between Proto-Iranians and Samoyeds. The reason for this may be that a belt of tribes, speaking Ket, Kott, Arin, Assan and other related languages and reaching from the Iset’ river up to the Yenisey in ancient times, separated the Proto-Iranians from them. Unfortunately, the Kets excepted, the overwhelming majority of these tribes, together with their languages, completely disappeared. Nevertheless, some traces of their ancient linguistic contacts with Proto-Iranians can still be recognized. Thus, Kott *art’a* ‘true, veritable’, may go back to Proto-Iranian **rta-*, Kott *ćak* ‘force’, *ćaga* ‘strong’ may reflect Proto-Iranian **ćak-* (cf. OInd *śaknoti*) and Kott *ćak* ‘to pass down’ could be an adoption of Proto-Iranian **ćak-* ‘to pass’ (cf. OIr *sak-*). All these forms may represent the third stage of Proto-Iranian development, that is, a rather early period. Perhaps *Ketkuos* ‘cow’, if it goes back to Proto-Iranian **g^wāus* reflects the same stage.

These loan-words may speak in favour of a rather ancient linguistic contact between Proto-Iranian and Ket. Some loans penetrated also into the Turkic languages (cf. Turkic *čaq* ‘force’, *čaq* ‘time’) which probably adopted some Proto-Iranian terms independently from the Ket languages. If these loan-words did not come into Turkic through the intermediary

of some unknown, now disappeared languages, one may think of an early advance of Proto-Iranians as far as the northern zones of Central Asia.

Finally the question arises how is the spatial position of Proto-Iranian, Proto-Kāfirī and Proto-Indian to be reconstructed before the migration of the Proto-Indian tribes to Gandhāra. The linguistic features of Kāfirī (namely PII **zh*, **jh* > Kāfirī *z* (*dz*), *ž* (*j*′) but > OInd *h*, PII **ć* > Kāfirī *ts* but > OInd *ś*) can be explained only by the twofold assumption that Proto-Kāfirī occupied a fringe position within the Indo-Iranian linguistic area and that it had a closer contact with Proto-Iranian. These two statements can only be harmonized if the original position of Proto-Iranian and Proto-Indian was not along a north-south axis but was, at least partly, parallel in this direction and Proto-Kāfirī took the northern fringe of Proto-Indian. Thus, by the movement of the Proto-Indians towards the south-east, the Proto-Kāfirīs found themselves between them and the Proto-Iranians, a spatial position which has remained unchanged up to now.