

HURRIANS AND INDO-EUROPEANS IN THEIR HISTORICAL AND ARCHAEOLOGICAL CONTEXT

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It is a pleasure to have been invited to contribute to this Festschrift for Professor Hideo Fujii. I wish him many more years' fruitful work, but must apologize for reintroducing well-worn topics. I do so with the intention of inserting some viewpoints of my own. Naturally only a selection of the published literature on the Proto-Indo-Europeans and early Hurrians can be cited for want of space. My long-standing interest in the latter is well attested (Burney 1958, 1971, 1989a, 1989b, 1994 and in press).

The search for the precise identity of ancient populations, not least in the Near East, continues to engross numerous specialists, while alarming those on the periphery by the complexity of the many questions raised. The disciplines of comparative linguistics, philology, historical analysis, anthropology, palaeoecology and practical archaeology all have their roles. Grasp of the archaeological publications and first-hand knowledge of the terrain in question are also desirable. If it were possible to find anyone with so wide a range of expertise, the approaches to all ancient ethnic groups would be better directed! Coordination instead of fragmentation of effort could then be achieved.

The limits to individual grasp of the multifarious problems surrounding both Indo-Europeans and Hurrians need not be disastrous, provided always that there is a sense of balance, a willingness to listen and a generous measure of common sense. Alas, this last is not always to be found in academic publications. Some of the more dogmatic or fanciful approaches will inevitably be alluded to in this discussion.

Dearth of relevant data remains a problem, although much recent research in different disciplines has been devoted to the Proto-Indo-Europeans and their descendants. Useful overviews have appeared on the early Indo-Europeans (Mallory 1973, 1989; Anthony 1991), as well as a concise but masterly work on the Hurrians (Wilhelm 1989). Yet even these are not without shortcomings.

Linguists, philologists, historians, anthropologists, palaeoecologists and archaeologists all have their own theories or models, their own approaches, special interests, prejudices and (dare one say?) their own idiosyncrasies. As an archaeologist the writer must declare an interest, while making every effort to achieve balance. This seems appropriate now that various tentative ventures have been launched towards a greater mutual understanding between the disciplines involved (Markey and Greppin 1990).

The archaeologists have one advantage, the imperative to keep their noses close to the ground, both on excavations and during field surveys. The Japanese excavations at Tell Jigan and other sites in the Eski Mosul (Saddam Dam) area of northern Iraq are an exemplar of conscientious devotion to their trenches and to the pottery and other finds therefrom (Fujii *et al.* 1987). Intensive surveys have to be carried out with comparable discipline. On the wider-ranging archaeological reconnaissance, however, the sherd-gathering student is liable to be greeted as a "pottery engineer". Hard-won familiarity with regional environment, at least in the more favourable months, is a positive gain. On the negative side must be set the widely held dogma, elevated by some archaeologists almost to the level of a theological doctrine, to the effect that indigenous development was the norm in prehistory; and that migrations can be all but ruled out as a stimulus to cultural change, the extreme position in the argument. It is undeniable that earlier emphasis on diffusion (Childe 1952) required drastic modification, being in any case based on far fewer data than those available today. Yet however questionable it may be, hyper-diffusionism

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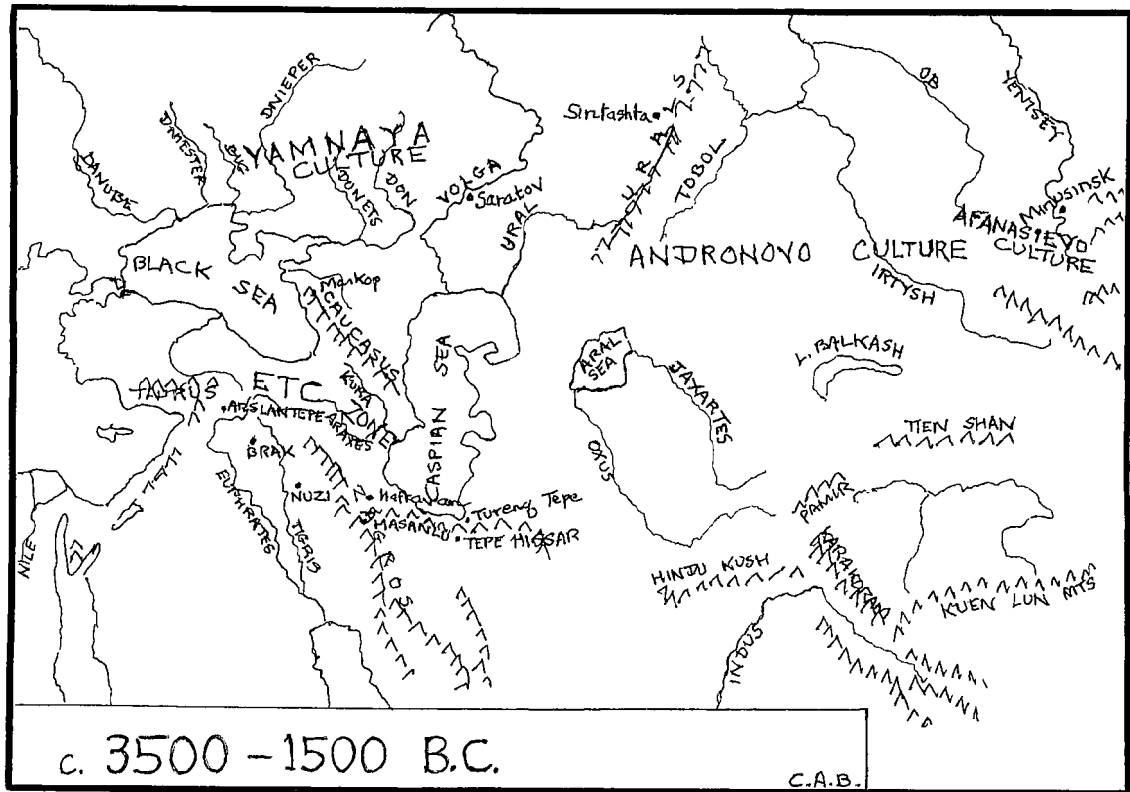


Fig. 1 Proto-Indo-European and Hurrian habitats.

is not dead, at least not in the context of placing the Proto-Indo-European homeland around Çatal Hüyük, in the seventh millennium BC (Renfrew 1987: 75–98). Common sense and a recognition of the limits to knowledge of preliterate societies are essential. Without historical records, however fragmentary or biased, how much would we know of the so-called barbarian invasions which led to the downfall of the Roman empire in the west, still less of Theodoric, Genseric or Attila (Gibbon 1776–87)? Destructions abound in the archaeological record, but how much evidence is there to identify individual tribes, least of all in that age of rapid movements from southern Russia to north Africa ?

In contrast to inbuilt archaeological parochialism, linguists have long since held one advantage, a willingness or even a zeal to take the panoramic view, continental or even at times worldwide, in their quest for comparative data. In this respect they are closer than the archaeologists to the traditional allies of the latter, the anthropologists. This wider view is easily comprehensible in Indo-Europeanists, seeing how widespread the use Indo-European languages has become across the globe. There is a danger, however, that tiresome details of space and time may be brushed aside in pursuit of the quarry, often the product of etymological reconstruction and indicated in the literature by an asterisk. Some use of such reconstructions will be made below, but with due caution. The most glaring distortion of linguistic scholarship was seen earlier this century, in the uncritical exaltation of the Aryans, the effects of which were lifted only two or three decades ago (Polikov 1974; compare Childe 1926). Nineteenth-century outlooks have been a long time dying. Arrows have sometimes been drawn on maps with more imagination than material basis (Renfrew 1987: 206).

Linguistic palaeontology is commonly regarded with some suspicion by archaeologists, when they note how much can be built on all too slim foundations, in a manner admittedly not altogether different from the model-building beloved of prehistorians. To be discounted are efforts to reconstruct the sounds made when men and women opened their mouths in (say) the third or fourth millennium BC, i.e.

glottochronology, now widely though not universally discredited (Gamkrelidze and Ivanov 1984). This must especially be so when there are hints of what may be called archaeo-nationalism, the quest by a contemporary people for distant ancestral roots: the smaller the people, the more they are prone to this malady. Linguistic palaeontology — here under scrutiny in the context of the Proto-Indo-European homeland, environment and society — can, however, be of considerable value to the archaeologist, even if any non-linguist is obliged to take it for the most part on trust. For many years Indo-Europeanists have been endeavouring to reconstruct the natural environment surrounding the Proto-Indo-European population, essentially to determine at least the general location of the homeland, the *Urheimat*, so long the focus of debate. Trees (Friedrich 1970), wild mammals (Mallory 1982), fish (Mallory 1984) and birds (Mallory 1991) are among the topics of research, the best of which is directed to securing the foundations of the imposing edifice so painstakingly erected over many decades by specialists from numerous countries. A proportion of their labours appears from time to time in conference proceedings (e.g. Polomé and Winter 1992) or in successive volumes of the *Journal of Indo-European Studies*. Archaeologists and historians, however objective their assessments must be, ignore such conclusions at their peril.

What of the cuneiformists and historians of the ancient Near East? Their scholarly studies, like those of the linguists, stretch back over a longer time-span than most relevant archaeological research. Consequently there lingers on a tendency to discount the existence of ethnic groups not directly attested in surviving written sources. Except for southern Mesopotamia and Egypt and a few other sources such as Ebla, there is little that can be termed a historical record before the second millennium BC.

The Hurrians

Hurrian words and names have been recognized in documents of the Akkadian period from the Khabur region, from Gasur and from Nippur, though suggesting no more than a limited infiltration at this early stage (Wilhelm 1989: 7–9; Milano 1991). While a Hurrian presence in northern Mesopotamia and Syria during the later third millennium BC is perforce agreed, there remains a reluctance to concede the case for a Hurrian homeland coterminous with the extensive Early Trans-Caucasian cultural zone (Burney and Lang 1971: 47–51). There is now some support for this theory (Diakonov 1990: 62–3) and a willingness to postulate a Proto-Hurrian homeland (Wilhelm 1989: 6). This nomenclature is logical, given the wide agreement that Hurrian and Urartian were linguistically related through a common Proto-Hurro-Urartian ancestor (Diakonov 1971), with possible East Caucasian affinities (Diakonov and Starostin 1986).

The Hurrians have been largely identified with Mitanni, overlooking the fact that this was a political rather than an ethnic entity (Drower 1973), the same authority mentioning a movement from eastern Anatolia (Drower 1973: 417). The vision of skilled horsemen, implied in the famous Kikulli text from Boğazköy, and of the *maryannu* as the earliest manifestation of knightly prowess has diverted attention disproportionately to the role of Indo-Aryans in the Near East in the mid-second millennium BC. The question of how these charioteers and cavalry appeared for a time in the forefront of Near Eastern power politics has not been adequately addressed. For any solution to be attempted, it is essential to look back much further, even to the fourth millennium BC.

This assertion runs counter to the traditional opinion of the historians, based on the cuneiform sources, with a hesitant approach to ethnic identification in the absence of onomastic evidence, perhaps the surest indication of ethnicity. Unfortunately for its ready recognition, the Hurrian contribution to the varied cultural landscape of the ancient Near East became obscured by acculturation: the Hurrians became in effect the apostles of Sumero-Akkadian learning in the lands to the west and north-west, culminating in their role in the civilization of the Hittite New Kingdom in the fourteenth and thirteenth centuries BC.

Yet had the direct ancestors of the historical Hurrians not played a part in the Near East in earlier

generations, specifically in the third millennium BC? Radiocarbon dating suggests, contrary to earlier absolute chronologies (Burney and Lang 1971: 46), that the relevant context in terms of material culture can be traced back as early as c.3600/3500 BC (Easton 1976; Sagona 1984: 122–7 and Table 4). This higher dating, as argued below, will prove of wider significance than might have been expected.

In any exposition of the Early Trans-Caucasian (ETC) role in the Near East it is important to maintain geographical precision (Fig. 1). Even one very recent map (Carter and Parker 1995: 97) implies territorial limits for this remarkably extensive cultural zone for some reason excluding Trans-Caucasia and north-western Iran. There has even reappeared the term “Karaz culture”, in vogue when only a thin scatter of ETC sites had been recognized (Marro 1993: 58–61). Variants in buildings and pottery, while undeniable, should not blind us to the overall unity of the ETC cultural zone over many centuries, commonly distinguished as the ETC I and ETC II periods. No doubt a number of factors brought about the breakdown of this homogeneous cultural tradition, in the third and final period, ETC III (c.2600–2000 BC). Innovations are especially apparent in the Malatya-Elazığ region of the upper Euphrates basin, where a distinctive painted pottery developed, recognized in its true context a generation ago (Burney 1958: 169–71, 202–8). That context derives from ETC roots, evident in the ceramic forms, cross-fertilized with painted pottery traditions at home in north Syria and exemplified in Alalakh XVI–VIII (Burney 1958: 208). Suggestions of a purely localized culture (Marro 1993: 61–2) or of ethnic affinities with central Anatolia, specifically with Hattians and Proto-Hittites, on the basis of ceramic decorative motifs (Carter and Parker 1995: 102–3) are surely rather far-fetched. Reference to motifs on ETC pottery from Trans-Caucasia further stretches credulity. Such arguments smack of “iconographic palaeontology”: sometimes justifiable, they require supporting evidence to become readily acceptable.

Faint hints of early Hurrians lurk in linguistic data: thus the Sumerian word *ta/ibira*, meaning ‘copper-worker’, can with certainty be attributed to a Hurrian derivation (Wilhelm 1989: 8–9). Copper-working in the Malatya-Elazığ region dates back well before the ETC III period, especially at Norşuntepe (Zwicker 1980) but also at Tepecik and Arslantepe (Palmieri, A. M., Sertok and Chernykh 1993). The abundant evidence of a Sumerian presence along the Euphrates on either side of the modern Turco-Syrian frontier (summarized in Roaf 1990: 63–7), as well as the indications of relations with the Mesopotamian world in the Late Uruk period further up the valley at Arslantepe (Frangipane and Palmieri 1983), suggest, with the metallurgical evidence, a favourable cultural climate for the first entrée of the Hurrian highlanders from their ETC homeland into the lowlands. Therefore economic stimuli would have been predominant, well before the advent of chariotry and cavalry, as in the days of Mitanni. Thus can be explained the distinctive character of the ETC III culture of the Malatya-Elazığ region, a constant factor being the abundant nearby source of copper in Ergani Maden. Hurrians may well have penetrated widely through northern Syria and Mesopotamia by virtue of their skills as coppersmiths and very probably also as traders. Thus a favourable climate was created, with appropriate incentives, for the later mass movements of Hurrians into the lowlands. Where such favourable conditions for industrial production and trade did not exist, as in the greater part of the rest of the wide ETC cultural zone, material culture suggests a conservative society, changing but slowly. In some areas it survived perhaps until the mid-second millennium BC (Burney and Lang 1971: 47), as also indicated by recent and ongoing excavations at Sos Hüyük, east of Erzurum (Sagona 1994).

The penetration of ETC elements into the Elazığ area in the ETC I period and then in ETC II across the Euphrates River into the area of Malatya was the result, it seems, of a powerful centrifugal force behind the relatively rapid expansion of the ETC population from the general region of Trans-Caucasia. Once settled in the Elazığ-Malatya region, the economic influences outlined above came into operation on the newcomers. An ample range of excavated material now demonstrates the character of this region in the fourth and third millennia BC (Conti and Persiani 1993). There is a reasonable possibility that the ETC population through its highland homeland, from the Caucasus to the Urmia basin and to Malatya, may have evolved a hierarchical or ranked society, although the available archaeological evidence

can hardly be said to include symbolic indications of rank or authority (Mallory 1989: 233). Of local cults there is some evidence, most vividly at Pulus (Sakyol) (Koşay 1976), implying though scarcely proving a degree of social cohesion. Reference to Hurrian communities in north Syria and Mesopotamia shows the juxtaposition of ruler and city council. In the highland zone no doubt a less sophisticated familial structure persisted, based on the extended family and in some cases controlling large territories; but the evidence is of later date, from the Urartian written records (Diakonov 1984: 43). The growth of extended families may be postulated from the increasing size, through successive occupation levels, of the ETC II round houses of Yanik Tepe, in the northern Urmia basin (Burney 1961, 1962, 1964). Country estates close to the royal dynasty of Urartu are mentioned in Sargon II's account of his eighth campaign (714 BC) (Luckenbill 1927: 91).

Archaeological indications of the Hurrian impact on the lowlands are of course associated with the emergence of Mitanni. Recent seasons of excavations at Tell Brak remove any possibility that the Hurrian presence was negligible in cultural terms. On top of the ruins of the major temple was built a palace, whose private quarters were reached by staircases to an upper storey, as at Alalakh, representing a departure from previous design. Traces of inlaid glass, with the historical record, indicate a date close to the mid-sixteenth century BC. By then Parattarna, king of Mitanni, controlled the whole territory from Kizzuwatna and Alalakh near the Mediterranean to Nuzi in the east. The desecration of the temple and secularization of its site surely mark an alien intrusion, not the work of a small band of horsemen (Oates 1987). While there may not be agreement on the historical identification of Tell Brak (Oates 1987; Matthews and Eidem 1993), it was clearly a city of major economic if not also political importance.

The very name 'Hurrian' may give clues to the origins of this ethnic group. Just as there are hints of Indo-European origins near the Caspian, in a land where the sun rises from the sea (Steiner 1990), so it is suggested that the term *hurri-le* signifies 'easterners' or 'north-easterners' and thus the homeland whence they expanded into upper Mesopotamia and north Syria (Diakonov 1990: 62). This term may be compared with Hurrian *hurri* ('morning').

An archaeological pointer to links between the Urmia basin and the Khabur valley — however cautiously such parallels should be treated — is to be seen in painted sherds of a figure with legs splayed apart, perhaps a dancer, and wearing a fringed kilt or skirt, occurring at Haftavan VI (Edwards 1983: 351e) and at Tell Brak level 3 (Stein 1984: Plate XI, 7). With a date for the beginning of Level 3 at Brak from c.1550 BC, the association with the rise of Mitanni is evident; but it comes rather too late for the migration of Hurrian newcomers from the highlands to the east or north-east.

On linguistic and historical grounds a migration from Iranian Azerbaijan has been proposed and dated c.1700 BC (Diakonov 1990: 64). An earlier movement out of the Urmia basin, so far indistinguishable likewise in the archaeological record, has boldly been proposed as the earliest historically attested movement of Indo-Europeans into the Near Eastern lowlands. These were the Gutis, who overran the Akkadian state, and who are here identified with the Tukres and the historical Kuchi-Tocharians far to the east (Henning 1978). This posthumously published idea, however, has been vigorously attacked on the ground of the time-span of nearly three millennia (Zimmer 1990a: 319), with preference for a Trans-Caucasian homeland for the Gutis/Quis (Diakonov 1990: 63). The Hurrian kingdom established in the mid-second millennium BC was officially named Hanigalbat, surviving in name into the Late Assyrian period: it was the dynasty which was called Mitanni/Maitani. It may be significant that the Urmia basin was later called Matieni, forming part of the eighteenth satrapy in the reorganization of the Persian empire by Darius I (Burney and Lang 1971: 180).

Military movements are notoriously difficult to trace in the archaeological record without benefit of pictorial or written documentation, as in the Late Assyrian palaces, or without a chain of destructions such as those left by Genghis Khan. The military presence in the archaeological record is overwhelmingly that of the defensive rather than the offensive. It seems that the *maryannu/marianna*

charioteers of Mitanni were neither an aristocratic elite nor an Indo-Aryan caste but exclusively Hurrian (Diakonov 1990: 64). Etymologically this term can fairly be described as Eastern Caucasian, a hint of the possible geographical antecedents of these horsemen, perhaps from much the same quarter as the Gutu before them. A word for “watch soldier”, possibly of Hurrian origin, as well as Urartian, though found also in Late Akkadian, in Ugaritic and especially in Assyrian, is *huradi*. This may be associated with the stem *hur*, “belonging to the semantic sphere of war” and “quite conceivable as the self-description of a race” (Wilhelm 1989: 1). It could alternatively have been a pejorative term, as with the Habiru ‘mercenaries’, ‘tinkers’ etc. rather than a precise ethnic group. Unfortunately the Turkic *hur* (‘free’) can hardly be related. One fact seems certain: the dominance of the Hurrians, in the lands which became Mitanni, in chariotry, until it was introduced effectively to other lands, notably the Levant and New Kingdom Egypt. To what degree chariotry was a Hurrian invention in the Near East can be answered only with reference to Indo-Europeans, discussed below.

The more peaceful accomplishments of the Hurrians — in literature, music and their religious manifestations — have long been recognized, from central Anatolia to upper Mesopotamia. These were the Hurrians of the diaspora, who had undergone a long process of acculturation. The Hurrians who had remained behind in their highland homeland, the ETC cultural zone, stayed largely untouched by the urban world of the southern plains. By the mid-second millennium BC, however, new elements in the material culture were appearing (Çilingiroğlu 1984), including painted pottery from north-western Iran (Edwards 1986); but there is little or no trace of settlements in the second millennium BC in wide tracts of eastern Anatolia. In Trans-Caucasia too data are largely from tombs (Burney and Lang 1971: 86–110). Two sectors, however, of the former ETC zone — the Urmia basin and the Elaziğ-Malatya region — were less isolated, enjoying continuity of settlement and closer contact with Mesopotamia and Syria, especially along the upper Euphrates.

The complex iconography of the famous gold bowl of Hasanlu (Winter, I. J. 1989) has long been associated with the Hurrian myth of Kumarbi, itself perhaps implying unsettled conditions around the end of the second millennium BC, if not earlier. While the ceramic evidence seems to point to an Iranian presence in north-western Iran at that time (Iron II period), the gold bowl is unequivocally Hurrian or Hurro-Mannaeian in inspiration. Myth and cult, pantheon and family guardians alike survived through generations of obscurity. But it was language which indubitably survived, as proved by the numerous Urartian inscriptions. The Urartian language, it is generally agreed, had evolved from a Hurro-Urartian substratum, which may well have been the language of the ETC population in the fourth and third millennia BC. As for the gold bowl of Hasanlu, it reflects the context of Hurrian society before the expansion into the lowlands, in the era of the ETC Hurrian homeland (Stein 1989: 84).

Religion and funerary customs are commonly supposed to preserve ancestral memories and traditions. Uch-Tepe and other early burial mounds (kurgans) occur in areas where all known evidence points to a non-Indo-European population, almost certainly Hurrian in large part, with East Caucasian elements (Mallory 1989: 29–30, 231–3). The Hurrian sun-god Shimake was etymologically related to the Urartian sun-god Shivini, though less exalted in rank. The Hurrian moon-god Kushuh has been associated with the Proto-Hattian moon-god Kasku, a relationship suggesting very early linguistic contacts between Hattians and Hurrians, thus between central and eastern Anatolia (Wilhelm 1989: 53). Such contacts must have occurred by the later fourth millennium BC, after the initial expansion of the ETC cultural zone (Sagona 1984: 138–9). Given the pastoralist and semi-nomadic character of much of ETC society and the difficulty of detecting settlement remains in areas then largely forest-covered and probably building mainly in timber, the absence of supporting archaeological evidence is only to be expected.

The latter end of Hurro-Urartian history is bound up with problems related to the early Armenians, an Indo-European people who penetrated Urartu during the later seventh century BC from the west (Herodotus VII, 73; Strabo XI, 14, 12). Linguistics have been deployed to refute the writer’s suggestion of a largely Hurrian ancestry for the Armenians, unconnected with their adoption of an Indo-European

language related to Old Phrygian (Burney and Lang 1971: 177–9; Greppin n.d.). The arguments around the theme of race versus language are interminable. An alternative explanation could be that small bands of Armenians succeeded, with the decline and fall of Urartu, in gaining control of much of eastern Anatolia, including the most productive pastures; but that these newcomers were few, and became absorbed into the indigenous Hurro-Urartian population, while imposing their language on the majority. The scarcity of Hurro-Urartian survivals in the Armenian language seems to prove nothing (Diakonov 1985). How many linguistic survivals were absorbed into Turkish with the Seljuk conquest of Anatolia? In Anglo-Norman England, however, the conquered native population retained much of its cultural identity through the preservation of its language, though subject to radical evolution and absorption of much of the vocabulary of the Norman ruling class. Three centuries, however, were to pass before the preservation of the English language was assured. In human history and prehistory tribal movements, massacres and political instability have seldom allowed so long a period for cultural consolidation.

The Indo-Europeans

The Indo-Europeans and their Proto-Indo-European (PIE) ancestors may at first be considered a wholly new theme, alien to and divorced from study of non-Indo-European populations in the ancient Near East, whether Sumerians, Elamites, Semites or indeed Hurrians. True it is that European prehistory may be envisaged as extending to the Caucasus, though since the days of Childe its eastern frontier has retreated westwards towards the Dnieper. But the Caucasus has never been so formidable a natural barrier that contacts and even major movements from north to south, from the steppes of the Pontic-Caspian zone to the highlands of Anatolia and Iran, can be discounted. As indicated above, any frontier is as much in the minds of modern-day scholars as in the realities of the past millennia.

The problem of the PIE homeland cannot be set aside without comment, for on its solution depends much of the interpretation of later developments involving Indo-Europeans, from the Indus valley to Anatolia and to the Caspian steppes and beyond (Fig. 1). A fairly recent discussion (Anthony 1991) puts matters in perspective, in a manner uncluttered by nationalistic or academic prejudices or obsessions. Anthony stresses several aspects: the great preponderance of PIE linguistic links with Finno-Ugric over those with Semitic; the archaeological pointers to PIE associations with the Andronovo culture in the east, the situation in the west being less clear for the period preceding dispersal from the PIE homeland; the limits of the homeland; and the linguistic evidence for a homeland in the temperate zone. All these factors indicate a PIE homeland north of the Caucasus, most probably between the lower Volga and the Dnieper basins.

T.V. Gamkrelidze, in contrast, puts the PIE homeland “somewhere in the broad area extending from the Balkans to northern Mesopotamia and the Iranian plateau... in the fifth to fourth millennia BC” (Gamkrelidze 1990: 6). He goes on to place the PIE homeland in “a region contained within eastern Anatolia, the southern Caucasus and northern Mesopotamia in the fourth to fifth millennia BC” (Gamkrelidze 1990: 10). While welcoming archaeological support from an unexpected quarter (Renfrew 1987), he flies in the face of the archaeological data when they do not agree with his linguistic analysis. He skirts the issue of the archaeological evidence. At one point the Proto-Indo-Europeans are peaceful agriculturalists; the next moment they are rapidly mobile charioteers, whose migrations, complete with horses and chariots, began as early as the end of the fourth millennium BC (Gamkrelidze 1990: 12). This hypothesis could be said to fit well alongside the late Roman Ghirshman’s reconstruction of pre-Iranian movements (Ghirshman 1977). References to Proto-Kartvelian parallels imply a quest by Gamkrelidze for his own prehistoric ancestors. Diakonov has commented ironically that “the whole Ivanov-Gamkrelidze theory shows a picture of Indo-European languages moving in a giant rotating movement with immovable Georgian as the axis of the giant wheel” (Diakonov 1990: 61). The Armenians and even the Azerbaijanis demonstrate comparable approaches.

Greek migration westwards from Anatolia to the Aegean, suggested by Gamkrelidze, fits in with

James Mellaart's ideas of a generation ago, e.g. on Minyan ware (Mellaart 1958). At the end of his Bellagio symposium paper (Gamkrelidze 1990: 14) he throws in the theory that "the area north of the Black Sea and the Volga steppes may be considered the basic common (although secondary) homeland for the "Ancient European" languages..". The emphasis is on 'secondary', with an olive branch to Gimbutas in a reference to this as "the homeland of the western group of Indo-European languages." An alternative PIE homeland in the Balkans, though cogently argued, seems less probable (Diakonov 1985a). Perhaps the strongest archaeological hint of Indo-European origins in Gamkrelidze's secondary homeland, the Pontic-Caspian zone, lies in the earliest known domestication of the horse, located more precisely along the Dnieper (Anthony 1986; Anthony and Brown 1991) or at least within the PIE homeland between the Dnieper and the lower Volga.

One of the recurrent lines of linguistic argument revolves round the great length of time needed for the breakdown of the PIE proto-language, initially in the west into the Anatolian dialects first evident in the *karum* of Kanesh and in the east into Tocharian. The assumption of a measurable rate of change appears to be fundamental to many a palaeo-linguistic model. But may a non-linguist be so bold as to question this? The writer finds himself for once in agreement with Renfrew on a crucial point (Renfrew 1990: 19). Surely in preliterate societies and in those with only a very small literate "cleracy" linguistic changes can develop far more rapidly, when there is no strict canon of speech, written expression or style? One could cite the example of early English, of the degree of change from Chaucer to Shakespeare in two hundred years, compared with the four centuries or so since Shakespeare. The implication for Anatolia would seem to be that immigration of PIE elements as late as the mid-third millennium BC could have given birth to the Indo-European dialects of the period of the Assyrian colonies. A dating of these movements during the fourth millennium BC, however, seems more probable (Mallory 1989: 263–4; Mellaart 1981; Steiner 1990).

Gamkrelidze's reconstruction of Kartvelian connections with Indo-European languages is not unanimously accepted by linguists (Harris 1990). The whole region of the Caucasus does seem to have been a reservoir of heterogeneous ethno-linguistic groups over many millennia, a phenomenon related to the constant demographic, cultural and military movements through and around this mountain barrier. Hence came ever renewed contacts between the northern and Near Eastern peoples. It is the hint of a relationship between Proto-Kartvelian and Hattian which makes study of the former particularly significant. Such are the clues to population movements in the era of the ETC cultural zone.

Attempts to reconstruct PIE society (Polomé 1992), economy (Diebold 1992) and religion (Dumézil 1958, 1977; Mallory 1989: 128–42) have been too numerous for much discussion here. Some later, regional developments, notably in India and related to a supposed tripartite social structure, have been attributed to the PIE substratum on inadequate evidence (Zimmer 1990a: 313). Life in the open plains of the Pontic-Caspian zone must have accentuated any sense of insecurity: this may explain the pattern of villages, typical of the Kurgan tradition, focussed on a hill fort; it also gives a context to the dichotomy between "inside" and "outside" in assessments of their society by early Indo-Europeans. Security and mutual support were to be found within: outside lay the hostile, limitless world of the plains. The door itself had a symbolism denoting the boundary between these two, a symbolism evidently not unfamiliar to the Hurro-Urartian tradition as expressed in the recessed, rockcut stelae of Urartu (Tarhan and Sevin 1975). The most enduring expression of Indo-European attachment to the security of the interior space was the dominant role of the family, discernible in the etymology of words denoting 'homestead' (Indic *dam*, Italic *domus* etc.). The available evidence for Proto- and early Indo-European religion shows an absence of temples but a tradition of gatherings akin to the Scottish *ceilidh*, livened by food, drink and music, with recitations. Again there is a parallel with early Hurrian tradition in the ETC cultural zone, with its widespread evidence for a domestic cult of the hearth (Volpe, della 1990: 159–60); and with textual evidence of Hurrian sacrificial practices and anointing of divine statues, with which an instrumental or choral accompaniment was often associated (Wilhelm 1989: 65). Prominent in early Indo-European

ritual was horse sacrifice (Mallory 1981); and the respect for the horse persisted over many millennia, as exemplified by the names of the fifth-century AD Jutish mercenaries Hengist and Horsa ('stallion' and 'horse'), who occupied the south-east corner of the British Isles, which became the kingdom (later county) of Kent.

Whatever may be thought of reconstructions of Neolithic communities as being controlled by governing goddesses and sisterhoods, for which of course there can be no textual proof, it seems undeniable that Neolithic Europe including the Pontic-Caspian zone was relatively peaceful, in the light of the absence of defences for settlements and of weapons in burials (Gimbutas 1990: 284; Meskell 1995). A few suggestions may be ventured on the changes which came about in the Pontic-Caspian zone in the fifth millennium BC. Rapid demographic change is indicated by the spread of uniform burial customs over the Yamnaya (Pit-Grave) cultural zone in the later fourth and earlier third millennium BC (Mallory 1990). Yet the presence in the PIE lexicon of many words for 'high mountains', 'heights', trees, plants and fauna at home in a highland environment cannot be brushed aside. Of considerable significance is the change, apparent from spectrographic analyses, in the sources of copper for artifacts occurring in the Pontic-Caspian zone in the Early Eneolithic period, notably in the Sredny Stog culture of the middle Dnieper and Donets basins, and in the Late Eneolithic Yamnaya (Pit-Grave) culture of c.3600–2200 BC (Mallory 1989: 206–15). This change was from Balkan-Danubian copper sources to others in the Caucasus. Technology in the Yamnaya culture was not very sophisticated, with tools for agriculture, hunting and fishing and weapons including flint daggers and arrowheads and stone battle-axes and mace-heads. Here is little support for the linguists' view of an advanced PIE material culture. There is, however, another link with the Caucasus, whence viticulture seems to have been introduced (Diebold 1992: 334).

Whether a hunger for land or the lure of booty or both motivated these highlanders, once they had spilled out on to the northern plains and steppes, they found conditions allowing for rapid movement and expansion. Arable farming was developed where the soils were favourable. Stockbreeding too was in evidence, with linguistic and archaeological data alike indicating a growth in the economic importance of cattle for the PIE population. Pastoralist nomadism and transhumance would have remained significant, as indeed likewise in the Hurrian ETC zone, where stockbreeding seems to have grown in importance towards the end of the fourth millennium BC (Sagona 1993: 453–4). Just when this movement from the north Caucasus foothills occurred, bringing newcomers into the region destined to become their homeland (*Urheimat*), is uncertain: it seems likely that at least the first wave of immigrants arrived in the period of the Sredny Stog culture of the Dnieper-Donets region and its contemporaries, including the Lower Mikhaylovka group, i. e. in a time-span beginning in the mid-fifth millennium BC.

Such is the vast extent of the Pontic-Caspian zone that mastery of agriculture, cattle-breeding and copper-working would not in themselves have enabled the PIE newcomers to overrun the steppes and plains so rapidly and so decisively. One animal, the horse, played a major role, having first been domesticated in the fifth millennium BC (Sredny Stog etc.) and adopted as a mount in the fourth (Anthony 1986). The implications of this innovation for general mobility hardly require emphasis.

Soon after the appearance of horse-riding, a force for cultural unification within the Pontic-Caspian PIE homeland, widespread remains of two-wheeled carts and four-wheeled wagons are found in burials. Such wooden vehicles occur from the mid-fourth millennium BC, both in the TRB (Funnel Beaker) culture of northern Europe and at much the same time in Yamnaya contexts in the Pontic-Caspian zone and in Europe in the Carpathian basin and northern Italy. It has been suggested that these vehicles evolved from sledge through sledge-on-rollers to sledge-on-wheels, an invention made possible by the introduction of castration to produce oxen, in the first instance to pull the plough. Oxen alone could serve as draught animals, given the weight of these carts and wagons with their solid disc wheels (Piggott 1983: 239). Agricultural requirements gave the initial stimulus to development of wheeled vehicles, implying extensive farm lands surrounding individual settlements. The advantages of wheeled transport

for commercial caravans would surely, however, have been recognized quite soon.

The mixed economy of the PIE homeland from the mid-fifth millennium BC must have been a source of economic strength. The additional acquisition of the means of rapid movement of personnel on horseback as well as of goods, if at a slower pace, by ox-cart gave the PIE population an advantage over all other contemporary ethnic groups, whether in Europe or the Near East. The PIE lexicon appears to add weight to the significance of wheeled transport in the Pontic-Caspian homeland. There has been discussion on the original birthplace of wheeled vehicles, whether in the Pontic-Caspian zone, in Sumer or (less plausibly) in Trans-Caucasia (Mallory 1989: 163). The orthodox view, crediting the Sumerians with this among many other technological innovations (Childe 1952), now requires reassessment. Not to be overlooked are the etymological parallels between PIE *k^wek^wlo-*, Sumerian *gigir*, Semitic *galgal-* and Kartvelian *gigar*, all but the Sumerian being asterisked as PIE and other linguistic constructs (Gamkrelidze and Ivanov 1984; Mallory 1989: 163). The archaeological evidence is helpful, with an array of radiocarbon dates indicating that wheeled vehicles were widespread by the mid-fourth millennium BC. Although admittedly it is hard to push their origins back earlier in the fourth millennium BC, there is yet a slight chronological priority over the appearance of the Sumerian pictographic sign representing a four-wheeled vehicle.

The common words for 'wheel' evidently point to the dispersal of Indo-European groups, for whatever reasons, from the PIE homeland as having begun not before c.3300 BC. This general dating could be profoundly significant, though some doubts have been voiced on the linguistic palaeontology (Renfrew 1990).

The above discussion largely presupposes the possibility of deploying linguistic and archaeological data, reinforced by anthropological and historical insights, in the reconstruction of PIE culture in its widest sense. The minimalist view, however, holds that the very term "Indo-European" has a solely linguistic meaning. The same authority is nevertheless willing to accept common Indo-European traits, such as "Father Sky", the goddess "Dawn" and the significance of a code of conduct including the concepts of "hospitality" and "truth" in social life, the latter echoed millennia later by Darius I at Naqsh-e-Rustam. Moreover, the backbone of early Indo-European communities is agreed to have been a polity based on patrilinear extended families (Zimmer 1990b).

Chariots and Horsemen

From the miscellany of data assembled above conclusions must be put forward, some with more assurance than others.

There is no reason to doubt the importance in prehistoric times of economic pressures or incentives. The role of transportation in PIE relations with the Near East cannot be exaggerated, notably in the growth of trade. This was probably indirect, through intermediaries in the Hurrian lands of the ETC cultural zone. There is no proof of the commodities involved; but wheeled transport and pack animals would have been prerequisites. Apart from the earlier appearance in Mesopotamia of the potter's wheel, not directly relevant, the case for Sumerian primacy in manufacture of the wagon and the cart is unconvincing. Matters were different of course when radiocarbon determinations for Pontic-Caspian sites seemed to demonstrate a dating well after the Late Uruk period of Mesopotamia: now a higher absolute chronology is accepted. It has been tempting to attribute a wide range of innovations to the nascent urban society of southern Mesopotamia. Certainly the Sumerians, with their genius for administration, can be credited with the first full scale development of writing and irrigation. Sailing craft were regularly plying the waterways; and in due course Hammurabi was to make their crews liable to conscription in time of war (Driver and Miles 1952–55). The mass production of tools and weapons in cast tin-bronze seems also an achievement of the Sumerians, but surely not the wheeled vehicle. For one thing, it was not widely suitable for use in the alluvial Tigris-Euphrates plain, divided as it was by innumerable waterways. The natural means of movement was by water, whatever the "Royal Standard"

of Ur may suggest. Limited land movement made for static, set-piece military engagements.

Archaeologists are too often inclined to examine and compare artifacts with little consideration for the craftsmen who produced them. The linguists can come to their aid by drawing attention to the privileged status of the cartwright in early Indo-Aryan society and likewise of the smith. The economic role of the former and the dependence of the farmer for his tools and the soldier for his weapons on the latter must cast some light, however oblique, on PIE and later Indo-European society. In Vedic India the craftsman may well have enjoyed privileges, such as his role in the sacrificial ritual, setting him rather apart from the main community, the priests, warriors and farmers. These are sometimes envisaged as the backbone of PIE society, too uncritically supposed to be founded on a tripartite structure (Mallory 1989: 131; Zimmer 1990a: 313). One argument discerns this tripartite social structure in a treaty of c.1380 BC between Mitanni and the Hittite kingdom, enlisting the aid of the Indic gods Mitra, Varuna, the war god Indra and the Nasatyas (Dumézil 1958). Vedic India, however, was not the same as the PIE Pontic-Caspian homeland. For one thing, there is no hint in the latter of the presence of a fourth class, the sudras, the non-Aryan conquered indigenous population of India.

Weapons do not occur in enough variety and quantity in the Yamnaya cultural context to provide clear archaeological indications of a prominent military class in PIE society. Nor can such evidence be detected in the largely contemporary Hurrian society of the ETC cultural zone to the south. Yet the PIE population, as indeed the Hurrians soon afterwards, possessed those two means for initial expansion, the horse and the wheeled vehicle. As mentioned above, the dispersal from the PIE homeland began from the later fourth millennium BC but not earlier. What more likely stimulus for such a dispersal, even if its precise form eludes us, than contact with the thrusting entrepreneurs of the Late Uruk Sumerian cities and their outposts (Algaze 1989)? Many historical parallels show that sudden awareness of richer, more sophisticated societies is a powerful incentive to leave home in search of wealth.

By the second millennium BC these movements by early Indo-Europeans would have been greatly restricted but for the enhancement of the advantage of abundant supplies of horses, in the development of that formidable weapon of war, the horse-drawn chariot. Of light construction with spoked wheels, manoeuvrable on the battlefield, this was in no way comparable with the solid-wheeled ox-carts and wagons of the PIE homeland and in Sumer, the land of their adoption. As is well known, it was an Indic (Indo-Aryan) element which brought the disciplined use of chariotry to the kingdom of Mitanni, though their presence cannot be proved before the fifteenth century BC (Mallory 1989: 38). Linguistic evidence, however, implies an earlier period for the arrival of these Indo-Aryans in north Syria. The rapid dissemination across the Near East, including Egypt, of the horse-drawn chariot is attested from c.1700 BC. The argument is between those suggesting an independent development of the Near Eastern chariot from the heavy, disc-wheeled ox-cart (Littauer and Crouwel 1979: 68–71) and supporters of an Indo-European, specifically Indo-Aryan, origin. The wide dispersal of Indo-European words for ‘wheel’ (*ratha*, *rota* etc.), ‘shaft-pole’, ‘axle’, ‘yoke’ and ‘harness’ has influenced discussion (Mallory 1989: 275–6; *contra* Renfrew 1987: 86). Perhaps it would be wiser to make a contrast simply between a Near Eastern and an intrusive origin, the latter not exclusively Indo-European.

The archaeological evidence, though not abundant, may be said to support the argument for an intrusive, non-Near Eastern origin of the chariot, while the remarkable rapidity of its spread in the early second millennium BC also suggests its importation. The crucial innovation was the spoked wheel, widely attested in New Kingdom Egypt, known to have imported horses and chariots from Mitanni. At one time it seemed as if the earliest occurrence of the spoked wheel in the highland zone of the Near East was on some of the wagons buried with other, disc-wheeled wooden vehicles in Armenia, at Lchashen beside Lake Sevan. While these prove the wood-working skills of the local cartwrights, their dating is late, around the thirteenth century BC. The writer can no longer uphold his suggestion of the introduction of these vehicles to the Sevan area from Mitanni (Burney and Lang 1971: 105–6). The seven chariots among the fifty wheeled vehicles depicted in the rock drawings of the Syunik district in western Armenia

cannot be dated more precisely than to the second millennium BC. Moreover, they represent chariots — distinguished from the carts by rear rather than central axle — in design not military function, since the draught animals, where indicated, are not horses but oxen (Piggott 1983: 78–82). More relevant is the occurrence far to the north-east, on the Sintashta River in the southern Urals, of a cemetery where five timber-lined graves were excavated in 1972, revealing impressions in the soil of chariots with spoked wheels, having diameters of 0.90m. to 1.00m. There is also abundant evidence of horse sacrifice, with seven in one tomb (Piggott 1983: 91–2). The cultural context is Andronovo, thus dateable from the early second millennium BC: these chariots therefore occur in a vast cultural zone probably comprising a number of sub-provinces. Approximately contemporary evidence comes from a Timber-Grave Kurgan cemetery near Saratov on the lower Volga, where a chariot with spoked wheels is incised on a pot (Piggott 1983: 92–3).

The wider significance of these Andronovo and Srubnaya (Timber-Grave) finds is that they can with some assurance be set in a defined ethno-linguistic context, to be termed Indo-Iranian. The Andronovo zone can be equated with the territories of the historical Eastern Iranians (Saka, Massagatae, Sarmatians and Alans). The problem remains, à propos the origins of the horse-drawn chariot, of the relatively late date of the Sintashta cemetery. This being the earliest known surviving evidence of spoked wheels in the Eurasian steppes, it can be objected that there is no archaeological case for priority for the horse-drawn chariot outside the Near East. But this would be to ignore the ample evidence for early and widespread domestication of the horse, even though wild horses survived almost indefinitely, e.g. in the representation on a silver bowl of the early third millennium BC from Maikop (Piggott 1983: 88). Moreover, parallels between the earliest Yamnaya burials of the Volga-Ural group and graves in the Tobol basin east of the Urals, on the one hand, and the Afanasievo culture of the Minusinsk-Altai region around the headwaters of the Yenisey River, on the other hand, indicate a vast eastward expansion of the Yammaya (Pontic-Caspian) population and thus of the early Indo-Europeans. With them they took their material culture and ritual traditions. This expansion seems to have occurred by c.3000 BC (Mallory 1989: 62, 225–6). Thus an Indo-European population had penetrated two thousand miles east of the lower Volga, to the very heart of central Asia. With the availability of horses and timber, the long tradition of wooden carts and wagons and the vast scale in terms of territory and probably also of population, by prehistoric standards, it seems inconceivable that the horse-drawn chariot with spoked wheels had not been in use here long before the period of the above-mentioned Sintashta cemetery. The decisive argument is related to the nature of the steppes and the great distances. It has been observed that a solid-wheeled ox-cart moves at only one tenth of the pace of a horse-drawn chariot (Piggott 1983: 241). The movements required to gain new pastures, peacefully or by force, needed to be swift: there was time enough for women and children and family possessions to arrive at the sedate pace of an ox-cart caravan.

The horse-drawn chariot seems to have first arrived south of the steppes with the Indo-Aryan migration from the Andronovo zone. One group entered India and the other north-eastern Iran, the latter perhaps by c.3000 BC and as a direct outcome of the eastward expansion to the Yenisey. Except for the Gurgan plain and Tepe Hissar, there is little or no archaeological trace of these first Indo-Europeans to enter Iran. The term ‘grey ware’, familiar in the archaeological literature, is sometimes misused, at least by implication (Mallory 1989: 50), being occasionally used to embrace Early Bronze Age and Iron I pottery alike, instead of being restricted to the latter. This is no pedantic point, since the Iron I grey ware (Hasanlu V, Haftavan V etc.) is generally accepted as the hallmark of the Iranian migrations of the mid-second millennium BC, too late to be relevant to the origin of the chariot (Young 1967 and 1985).

It has been postulated, with good reason, that the Indo-Aryans first introduced or developed chariotry in Iran; and that it was adopted by the Hurrian and Kassite populations occupying much of western Iran (Diakonov 1984: 22). The gold bowl of Hasanlu, albeit of late date (unlikely to be earlier than c.1000 BC, though conceivably so), has a crowded design dominated by three chariots in a file, led by a god,

almost certainly the Hurrian storm god Teshub/Tesheba. The Urtian kings, who overran the Urmia basin in the late ninth century BC, are amply recorded as expert horsemen, giving a leading role in their army to the cavalry and chariotry (Burney and Lang 1971: 143; Melikishvili 1960: 204). What debt, if any, was owed by the Urtian army to the frontier regions in Trans-Caucasia in relation to chariotry is a question posed by such evidence as the quadrigae engraved on a bronze belt-plate from Astkhi-Blur in Armenia, attributed to the eighth or ninth century BC: the chariots are involved in a stag hunt (Piggott 1983: 136). The Assyrian military records are of course both written and pictorial. Chariotry was playing a major or at least significant role by the early thirteenth century BC under Shalmaneser I (Luckenbill 1926: 40), no doubt an outcome of the fall of Mitanni. The subsequent defeat of the Mushki by Tiglath-Pileser I, when he captured 120 chariots (Saggs 1984: 59), and Late Assyrian dependence on a supply of horses from such regions as the Urmia basin (Luckenbill 1927: 84) are noteworthy.

The spread of the lightly constructed chariot — suited to parades, hunting and raiding as well as to the battlefield, where it was controlled by the blowing of trumpets — westwards to central Europe (Slovakia) and eastwards to Vedic India and even to China during the Shang period (c.1850–1027 BC) emphasizes the immense span of Indo-European activity. The adoption of chariots in China marks their dissemination beyond the Indo-European sphere. Later on, Sun Tzu, living late in the Spring and Autumn Period of Chinese history (c.770–477 BC), compiled a military manual, *The Art of War*, full of profound good sense and still highly regarded, in which the use of chariots is mentioned (Sun Tzu 500 BC).

Two Peoples ?

This discussion has touched only briefly on the interrelationships between Hurrians and Indo-Europeans. It is now appropriate to draw what conclusions are possible, while yet posing questions which cannot be answered here, if anywhere.

The problems of the PIE and Hurrian homelands are here treated as solved, in that the evidence points overwhelmingly to the Pontic-Caspian and ETC cultural zones respectively (Fig. 1). There is a geographical common frontier, approximating to the Caucasus, though later the picture becomes much less sharply focussed, notably in Iran. Both ethnic groups seem to have derived aspects of their culture from the Caucasus, such as viticulture especially for the Hurrians; the PIE lexicon relates to a mountainous land; and rivers and mountains are significant in both mythological traditions. But there are differences, including the disparity of our knowledge of the cultural antecedents. There is one chronological synchronism, the emergence of the ETC culture and of the Yamnaya (Pit-Grave) culture at much the same time, around 3600 BC. Yet there is no equivalent in the Hurrian homeland to the Sredny Stog culture of the Dnieper-Donets region, evidence of which enables the archaeological dimension of the PIE homeland to be stretched back well into the fifth millennium BC. Present-day knowledge of eastern Anatolia in the fifth and early fourth millennia BC, however, remains virtually non-existent, except for the Malatya-Elazığ region and also the Urmia basin. The far more restricted habitat of Hurrian-speakers compared with that of speakers of Indo-European languages after the dispersal from the PIE homeland has contributed to the narrower vision of their proto-lexicon. Of course debate continues round the whole question of the validity of linguistic palaeontology; and many scholars are sceptical of those reconstructed words preceded by an asterisk !

Hurrians and Indo-Europeans had much in common in their cultural traditions. Both were centred round the patrilinear family, evident in Hurrian property laws at Nuzi (Justins 1992: 450). The Indo-European sky god and the Hurrian weather god are broadly comparable. Religion was not codified in temples, priesthoods and their rituals, except where acculturation occurred in the Near East. Music and recitation accompanied rituals and social gatherings in both ethnic homelands. Solid-wheeled vehicles became widespread in both homelands before chariotry appeared. Both societies were essentially tribal for most of the time, until the Urtian collaterals of the Hurrians established their

kingdom, even if extensive tribal alliances may have been more easily established in the open plains and steppes of the Pontic-Caspian zone.

Warfare must have been more widespread and culturally significant than appears from available data. Warrior burials are widely distributed in the Near East from the later third into the early second millennium BC, but die out c.1600 BC (Philip 1995). The highly detailed annals of the Assyrian kings, however, are hardly reflected in the archaeological record for Anatolia or Iran. Only cities such as Nineveh, violently and permanently destroyed, have left clear evidence in the ground of their destruction. In preliterate times armies could march through alien territory without leaving any signs of their passing likely to be detectable today. Such forays would have been simpler in the Pontic-Caspian zone and on the steppes to eastward than in the Hurrian homeland with its natural barriers to easy movement. The Vedic records contribute to the evidence of a military class in the Indo-European world, in those lands under the tutelage of the war god Indra. The term “Aryan”, used of himself by Darius I and properly limited to the Indo-Iranians, carries the meaning of ‘member of the community’ and by extension ‘kinsman’ or ‘friend’ (Szemerényi 1977: 125–49).

Times of unrest or war can hinder or destroy trade, particularly where merchants have to travel long distances through insecure or hostile regions. War can, however, be a stimulus to economic endeavour by increasing demand, especially for metals. The Sumerians were great imitators, acquiring their economic superiority largely through their administrative talents, with the added advantage of operating on interior lines in relations with peripheral lands lacking political unity. The initial phase of economic expansion had come in the later fourth millennium BC, just at the time when the diaspora from the PIE homeland was beginning. Was there perhaps a causal connection? Be that as it may, trade from the heart of the ETC cultural zone, the Hurrian homeland, would pass through such “gateway” settlements as Arslantepe near Malatya, itself a metal-working centre (Frangipane and Palmieri 1983: 394–406; Burney 1993). Links between the Pontic-Caspian zone and the Near East beyond the ETC zone at this time were very possibly more significant via the Balkans and north-western Anatolia than via the Caucasus, though such north-south movements have been suggested (Mallory 1989: 263–4). Later, in the second millennium BC, cultural influences tended rather to move northwards from the Urmia basin into Trans-Caucasia. The dating and distribution of kurgans in and around Trans-Caucasia implies an interchange of populations either side of the Caucasus.

The PIE homeland may well have witnessed a phenomenon comparable with the swarming of bees, a *colluvies gentium*, in that people from round and about were drawn as by a magnet to the wide cattle-rearing grasslands, where there was space to expand and to secure a firm base for the family. This gathering of tribes may initially not have been related to ties of kinship but rather to economic stimuli. Thus the marginalized elements in surrounding regions — wandering craftsmen, landless younger sons, tinkers and even perhaps would-be mercenaries — would have been attracted to these wide new spaces (Zimmer 1990b: 145–6). Once they ceased to be wide enough, the urban communities of much of the Near East were in danger. A similar phenomenon, on a smaller scale, is observable with the Habiru in the Fertile Crescent during the second millennium BC.

What, finally, can be said of Indo-Europeans and Hurrians in the Near East? Both technologically and in military skills they were a positive and sometimes interrelated force, highlanders and steppe pastoralists among and at times against the old sedentary urban and rural communities. Nowhere except in Iran and in the ETC zone with its eventual successor state of Urartu did these northerners come to a dominant role, as did the Aryan invaders of northern India.

Whether the archaeologists, linguists, historians and anthropologists are justified in seeking to distinguish different ethnic groups is arguable. This has proved a difficulty in a very different context, the age of the gradual Anglo-Saxon occupation and ultimate conquest of the land since called England. The juxtaposition of two groups, the older Celtic inhabitants and the Germanic intruders, is recognizable in graves of the fifth and sixth centuries AD, where the Anglo-Saxon invaders were buried with weapons

but not so the native Britons. Moreover, there was a difference of two inches (five centimetres) in the average stature of the taller Anglo-Saxons and the shorter Britons. The genetic mixture was such that by the seventh to ninth centuries AD the stature of the two groups had levelled out at the mean between the shorter Celts and taller Anglo-Saxons. The ultimate answers may be reached through DNA tests, now being conducted on physical remains from north Germany and Denmark and from England and Wales (Härke 1995a-b). Turning once again to eastern Europe, it is perhaps unfortunate to find unspecified reference to genetic evidence “supporting the hypothesis of two originally separate homelands for the Uralic and Indo-European peoples...” (Haarmann 1994: 285).

In the final analysis, ethnic identity is not in any meaningful sense shaped by genes but by cultural identity, wherein language plays a significant but not necessarily a dominant role. An Indo-Aryan — Hurrian symbiosis has been suggested (Mayrhofer 1966: 29). One linguist even claims (Justins 1992: 450) that “if the Hurrian language... were not so clearly non-Indo-European in its particulars, one would ask if the Hurrians were not more Indo-European than the Hittites.” What more can be said ?

Abbreviations

ETC = Early Trans-Caucasian, PIE = Proto-Indo-European.

List of publications cited

AS *Anatolian Studies*
 BAR *British Archaeological Reports*
 JAOS *Journal of the American Oriental Society*
 JIES *Journal of Indo-European Studies*

Algaze, Guillermo

1989 The Uruk expansion, *Current Anthropology* 30: 571–608.

Anthony, David W.

1986 The “Kurgan culture”, Indo-European origins and the domestication of the horse: a reconsideration, *Current Anthropology* 27: 291–314.

1991 The archaeology of Indo-European origins, *JIES* 19: 193–222.

Anthony, David W. and Brown, Dorcas

1991 The origins of horseback riding, *Antiquity* 65(246): 22–38.

Burney, Charles

1958 Eastern Anatolia in the Chalcolithic and Early Bronze Age, *AS* 8: 157–209.

1961–1964 Excavations at Yanik Tepe 1960–1962, *Iraq* 23: 138–53; 24: 134–49; 26: 54–61.

1989a Hurrians and Proto-Indo-Europeans: the ethnic context of the Early Trans-Caucasian culture, in Emre, Hrouda *et al.* 1989: 45–51.

1989b The Khirbet Kerak question and the Early Trans-Caucasian background, in Miroshedji 1989: 331–9.

1990 The Indo-European impact on the Hurrian world, in Markey and Greppin 1990: 45–52.

1993 Arslantepe as a gateway to the highlands: a note on Periods VIA-VID, in Frangipane, Hauptmann *et al.* 1993: 311–7.

1994 Contact and conflict in north-western Iran, *Iranica Antiqua* 29: 47–62.

(in press) The highland sheep are sweeter, paper delivered to a symposium on *Cultural Interaction in the Ancient Near East* in the University of Melbourne, autumn 1994.

Burney, Charles A. and Lang, David Marshall

1971 *The Peoples of the Hills*, London: Weidenfeld and Nicolson.

Campbell, Stuart and Green, Anthony R. (editors)

1995 *The Archaeology of Death in the Ancient Near East*, Oxbow Monograph 51. Oxford: Oxbow Books.

Carter, Elizabeth and Parker, Andrea

1995 Pots, people and the archaeology of death in northern Syria and southern Anatolia in the latter half of the third

- millennium BC, in Campbell and Green 1995: 96–116.
- Childe, V. Gordon
 1926 *The Aryans: A Study of Indo-European Origins*, London: Kegan Paul, Trench, Trubner and Co.
 1952 *New Light on the Most Ancient East*, London: Routledge and Kegan Paul.
- Çilingiroğlu, Altan
 1984 The second millennium painted pottery tradition of the Van lake basin, *AS* 34: 129–39.
- Conti, Anna Maria and Persiani, Carlo
 1993 When worlds collide: cultural developments in eastern Anatolia in the Early Bronze Age, in Frangipane, Hauptmann *et al.* 1993: 361–413.
- Diakonov, Igor M.
 1971 *Hurrisch und Urartaisch*, Munich: R. Kitzinger.
 1984 *The Prehistory of the Armenian People*, revised edition, translated by Lori Jennings. Delmer, New York: Caravan Books.
 1985a On the original home of the speakers of Indo-European, *JIES* 13: 92–174.
 1985b Hurro-Urartian borrowings in old Armenian, *JAOS* 105: 597–603.
 1990 Language contacts in the Caucasus and the Near East, in Markey and Greppin 1990: 53–65.
- Diakonov, Igor M. and Starostin, Sergei A.
 1986 *Hurro-Urartian as an Eastern Caucasian Language*, Munich: R. Kitzinger.
- Diebold, A. Richard
 1992 The traditional view of the Indo-European paleoeconomy: contradictory evidence from anthropology and linguistics, in Polomé and Winter 1992: 317–67.
- Driver, Godfrey R. and Miles, John C.
 1952–55 *The Babylonian Laws* (2 volumes), Oxford: Oxford University Press.
- Drower, Margaret S.
 1973 Syria, c.1550–1400 BC, *Cambridge Ancient History II (i)*, 3rd. edition: 417–525. Cambridge: Cambridge University Press.
- Dumézil, Georges
 1958 *L'Idéologie Tripartite des Indo-Européens*, Brussels: Burchem Latomus.
 1977 *Les Dieux Souverains des Indo-Européens*, Paris: Gallimard.
- Dyson, Robert H. *et al.*
 1989 East of Assyria: the highland settlement of Hasanlu, *Expedition* 31 (2/3): 1–127.
- Easton, Donald F.
 1976 Towards a chronology for the Anatolian Early Bronze Age, *AS* 26: 145–73.
- Edwards, Michael R.
 1983 *Excavations in Azerbaijan (North-Western Iran) I — Haftavan Period VI*, Oxford: BAR International Series 182.
 1986 “Urmia Ware” and its contribution in north-western Iran in the second millennium BC: a review of the results of excavations and surbeys, *Iran* 24: 57–77.
- Emre, K., Hrouda, B., Mellink, M. and Özgüç, N. (editors)
 1989 *Anatolia and the Ancient Near East — Studies in Honor of Tahsin Özgüç*, Ankara: Türk Tarih Kurumu.
- Frangipane, Marcella and Palmieri, Alba
 1983 Perspectives on Protourbanization in Eastern Anatolia: Arslantepe (Malatya). An Interim Report on 1975–1983 Campaigns, *Origini* 12(2): 287–668.
- Frangipane, M., Hauptmann, H., Liverani, M., Matthiae, P. and Mellink, M. J. (editors)
 1993 *Between the Rivers and Over the Mountains — Archaeologica Anatolica et Mesopotamica Alba Palmieri Dedicata*, Rome: Department of Historical, Archaeological and Anthropological Sciences, University of Rome “La Sapienza”.
- Friedrich, Paul
 1970 *Proto-Indo-European Trees: The Arboreal System of a Prehistoric People* Chicago: University of Chicago Press.

- Fuji, H., Ii, H., Kawamata, M., Numoto, H., Oguchi, H., Matsumoto, K. and Yagi, K.
 1987 Working report on the first season of Japanese archaeological excavation in the Saddam Dam Salvage Project, *Researches on the Antiquities of Saddam Dam Basin Salvage and Other Researches*: 33–61, State Organization of Antiquities and Heritage of Iraq.
- Gamkrelidze, Thomas V.
 1989 Proto-Indo-Europeans in Anatolia, *JIES* 17: 341–50.
 1990 On the problem of an Asiatic original homeland of the Proto-Indo-Europeans, in Markey and Greppin 1990: 5–14.
- Gamkrelidze, Thomas V. and Ivanov, V. V.
 1984 *Indo-europejskij jazyk Indo-evropejcy — Rekonstrukcija istoriki tipologičeskij analiz prajazyka i protokultury*. 2 volumes. Tbilisi: Tbilisi University Press.
 1985 The ancient Near East and the Indo-European question: of tribes speaking Indo-European dialects, *JIES* 13: 3–91.
- Ghirshman, Roman
 1977 *L'Iran et la Migration des Indo-Aryens et des Iraniens*, Leiden: Brill.
- Gibbon, Edward
 1776–87 *The History of the Decline and Fall of the Roman Empire*, London.
- Gimbutas, Marija
 1990 The social structure of Old Europe — Parts 2–4, *JIES* 18: 225–84.
- Greppin, John A. C.
 1987? The effect of the Hurrian people and their language upon the earliest Armenians, offprint.
- Haarmann, Harald
 1994 Contact linguistics, archaeology and ethnogenetics: an inter-disciplinary approach to the Indo-European homeland problem, *JIES* 22: 266–88.
- Hanzhang — see Sun Tzu
- Härke, Heinrich
 1995a Finding Britons in Anglo-Saxon graves, *British Archaeology* 10: 7.
 1995b Make no bones about it. The English are really Celts, *Daily Telegraph* (16 December).
- Harris, Alice C.
 1990 Kartvelian contacts with Indo-European, in Markey and Greppin 1990: 67–100.
- Henning, W. B.
 1978 The first Indo-Europeans in history, in Ulmen 1978: 216–29.
- Herodotus
 1946–50 (reprinted) *Histories*: Loeb Classical Library: 4 volumes. English translation by A. D. Godley. London: Heinemann.
- Huot, J. -L., Yon, M. and Calvet, Y.
 1985 *De l'Indus aux Balkans: Recueil à la Mémoire de Jean Deshayes*, Paris: Editions Recherche sur les Civilisations.
- Justins, Carol F.
 1992 The impact of non-Indo-European languages on Anatolia, in Polomé and Winter 1992: 443–67.
- Koşay, Hamit Z.
 1976 *Keban Project Publications Series III — Pulur Excavations 1968–1970*, Ankara: Middle East Technical University.
- Littauer, M. A. and Crouwel, J. H.
 1979 *Wheeled Vehicles and Ridden Animals in the Ancient Near East*, Leiden: Brill.
- Luckenbill, Daniel David
 1926 *Ancient Records of Assyria and Babylonia Volume I*.
 1927 *Ancient Records of Assyria and Babylonia Volume II*, Chicago: University of Chicago Press.
- Mallory, James P.
 1973 A short history of the Indo-European problem, *JIES* 1: 21–65.
 1981 The ritual treatment of the horse in the early Kurgan tradition, *JIES* 9: 205–26.
 1982 Indo-European and Kurgan fauna I: wild mammals, *JIES* 10: 193–222.

- 1984 Proto-Indo-European and Kurgan fauna II: fish, *JIES* 12: 263–79.
 - 1989 *In Search of the Indo-Europeans*, London, Thames and Hudson.
 - 1990 Social structure in the Pontic-Caspian Eneolithic: a preliminary review, *JIES* 18: 15–57.
 - 1991 Kurgan and Indo-European fauna III: birds, *JIES* 19: 223–34.
- Markey, Thomas L. and Greppin, John A. C. (editors)
- 1990 *When Worlds Collide — Indo-Europeans and Pre-Indo-Europeans*. The Bellagio Papers. Ann Arbor: Karoma Publishers.
- Marro, C.
- 1993 Introduction à la céramique du haut-Euphrate au Bronze Ancien, *Anatolia Antiqua* 2: 43–69.
- Matthews, Donald and Eidem, J.
- 1993 Tell Brak and Nagar, *Iraq* 55: 201–7.
- Mayrhofer, Manfred
- 1966 *Die Indo-Arier im Alten Vorderasien*, Wiesbaden: Otto Harrassowitz.
- Melikishvili, G. A.
- 1960 *Urartskie Klinobraznye Nadpisi* (Urartian Cuneiform Inscriptions), Moscow: USSR Academy of Sciences.
- Mellaart, James
- 1958 The end of the Early Bronze Age in Anatolia and the Aegean, *American Journal of Archaeology* 62: 9–33.
 - 1981 Anatolia and the Indo-Europeans, *JIES* 9: 135–49.
- Meskel, Lyn
- 1995 Goddesses, Gimbutas and ‘New Age’ archaeology, *Antiquity* 69: 74–86.
- Milano, L.
- 1991 Mozan 2: the epigraphic finds of the sixth season, *Syro-Mesopotamian Studies* 5(1): 1–34.
- de Miroshedji, Pierre
- 1989 *L’Urbanisation de la Palestine à l’Âge du Bronze Ancien*, Oxford: BAR International Series 527 (i-ii).
- Oates, David
- 1987 Excavations at Tell Brak 1985–86, *Iraq* 49: 175–91.
- Oddy, W. A. (editor)
- 1977 *Aspects of Early Metallurgy, Occasional Paper* 17. London: British Museum (Historical Metallurgy Society and British Research Laboratory).
- Palmieri, Alberto M., Sertok, Kemal and Chernykh, Evgenij
- 1993 From Arslantepe metalwork to arsenical copper technology in eastern Anatolia, in Frangipane, Hauptmann *et al.* 1993: 573–99.
- Philip, Graham
- 1995 Warrior burials in the ancient Near Eastern Bronze Age: the evidence from Mesopotamia, western Iran and Syria-Palestine, in Campbell and Green 1995: 140–54.
- Piggott, Stuart
- 1983 *The Earliest Wheeled Transport From the Atlantic Coast to the Caspian Sea*, London: Thames and Hudson.
- Poliakov, L.
- 1974 *The Aryan Myth*, London: University of Sussex Press.
- Polomé, Edgar C.
- 1992 Comparative linguistics and the reconstruction of Indo-European culture, in Polomé and Winter 1992: 369–90.
- Polomé, Edgar C. and Winter, Werner
- 1992 *Reconstructing Languages and Cultures — Trends in Linguistics: Studies and Monographs* 58, Berlin and New York: Mouton de Gruyter.
- Renfrew, Colin
- 1987 *Archaeology and Language — The Puzzle of Indo-European Origins*, London: Jonathan Cape.
 - 1990 Archaeology and linguistics: some preliminary issues, in Markey and Greppin 1990: 15–24.

- Roaf, Michael D.
1990 *Cultural Atlas of Mesopotamia and the Ancient Near East*, Oxford and New York: Facts on File Ltd.
- Saggs, Harry W. F.
1984 *The Might That Was Assyria*, London: Sidgwick and Jackson.
- Sagona, Antonio G.
1984 *The Caucasian Region in the Early Bronze Age*, Oxford: BAR International Series 214 (i-iii).
1993 Settlement and society in late prehistoric Trans-Caucasus, in Frangipane, Hauptmann *et al.* 1993: 453–74.
(in press) Between the Aras and Karasu Rivers: archaeology in the highlands of eastern Anatolia, paper delivered to a symposium on *Cultural Interaction in the Ancient Near East* in the University of Melbourne, autumn 1994.
- Stein, Diana L.
1984 Khabur ware and Nuzi ware: their origin, relationship and significance, *Assur 4/1*: 1–65, Malibu: Undena Publications.
1989 Art and architecture, chapter in Wilhelm 1989: 80–90.
- Steiner, Gerd
1990 The immigration of the first Indo-Europeans into Anatolia reconsidered, *JIES* 18: 185–214.
- Strabo
1917–54 *Geography*: Loeb Classical Library: 8 volumes. English translation by H. L. Jones and J R. S. Sterrett. London: Heinemann.
- Sun Tzu
c.500 BC *The Art of War*, with commentary by General Tao Hanzhang. English translation by Yuan Shibing. Ware, England: Wordsworth Editions.
- Szemerényi, Oswald
1977 Studies in the kinship terminology of the Indo-European languages, *Acta Iranica* 7: 1–240.
- Tarhan, M. Taner and Sevin, Veli
1975 The relation between Urartian temple gates and monumental rock niches, *Türk Tarih Kurumu Belleten* 39: 401–12.
- Ulmen, A. L. (editor)
1978 *Society and History — Essays in Honour of Karl August Wittfogel*, The Hague: Mouton.
- della Volpe, Angela
1990 From the hearth to the creation of boundaries, *JIES* 18: 157–84.
- Wilhelm, Gernot
1989 *The Hurrians*, English translation by Jennifer Barnes. Warminster, England: Aris and Phillips.
- Winn, M. M.
1974 Thoughts on the question of Indo-European movements in Anatolia and Iran, *JIES* 2: 117–42.
- Winter, Irene J.
1989 The “Hasanlu Gold Bowl”: thirty years later, in Dyson *et al.* 1989: 87–106.
- Young, T. Cuyler
1967 The Iranian migration into the Zagros, *Iran* 5: 11–34.
1985 Early Iron Age Iran revisited: preliminary suggestions for the reanalysis of old constructs, in Huot *et al.* 1985: 361–78.
- Zimmer, Stefan
1990a The investigation of Proto-Indo-European history: methods, problems, limitations, in Markey and Greppin 1990: 311–44.
1990b On Indo-Europeanization, *JIES* 18: 141–55.
- Zwicker, U.
1977 Investigations on the extractive metallurgy of Cu/Sb/As ore and excavated smelting product from Norşuntepe (Keban) on the upper Euphrates (3500–2800 BC), in Oddy 1977: 13–26.