How to Study the Early Indo-Europeans

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The Sanskrit language, whatever may be its antiquity, is of wonderful structure; more perfect than the Greek, more copious than the Latin, and more exquisitely refined than either; yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, then could have been produced by accident; so strong that no philologer could examine all the three without believing them to have sprung from some common source, which, perhaps, no longer exists. There is a similar reason, though not quite so forcible, for supposing that both the Gothic and Celtic, though blended with a different idiom, had the same origin with the Sanskrit, and the old Persian might be added to the same family. (Sir William Jones, quoted in Mallory 1989:12).

Sir William Jones was right. Over the following two hundred years, linguists would compare the languages he identified and group them together into the Indo-European family. All of the languages Jones proposed are still in the Indo-European family, and several more have been added (the Slavic, Baltic, Anatolian, Albanian, Armenian and Tocharian languages). Copious information on the relationships between those languages as been assembled. Words, called cognates, have been found that correspond to one another. Sounds have been found to correspond (tables can be found in Baldi 1983:4-9 and Mallory 2006:2-6). Germanic f corresponds with p in other Indo-European languages. Many English f words have French p words – fish/poisson, father/pere, fear/peur, few/peu (Mallory 2006:464-65).

Processes of linguistic change have been identified. Sound laws happen when every instance of a sound in a language changes to another sound. At some point, the earliest Germanic speakers changed all p's to f's, while other Indo-Europeans kept the original p. Based on this information, linguists have been able to reconstruct the language ancestral to the entire family: Proto-Indo-European (PIE). Over the last two hundred years they have built up a grammar and a vocabulary for an extinct language that left no written records.

The Indo-European homeland problem consists of two questions. The first question is, where did the Indo-European language family come from (the homeland)? The second question is, how did it spread into the earliest known Indo-European languages – Hittite, Sanskrit, Greek, Latin, etc.? This essay will describe in detail how to answer those two question using a multidisciplinary approach that combines three primary fields: linguistics, archaeology and comparative mythology. It will also touch upon the relevance of ancillary fields that inform the previous three, such as cultural anthropology, biological anthropology and demography.

Marija Gimbutas
Marija Gimbutas was the leading exponent of the "Kurgan hypothesis", which places the homeland of the Indo-European language family in the
Kurgan culture of southern Russia.
The Kurgan culture is a blanket term for the Sredni Stog II, Yamna, Corded, Battle-Axe, Ochre-Grave, and Single Grave cultures along with other elements of what she came to regard as the expanding Indo-Europeans, which covered the area from the Volga to the Yenisei (Gimbutas 1970:156). The word kurgan is the Russian word for the graves which were the defining features of the cultures.

Gimbutas (1963) believed that the Kurgan culture represents the proto-Indo-Europeans. Kurgan sites appear north of the Black Sea, in the territory of the North Pontic culture, in 2400-2300 BC. The North Pontic were a massive Cro-Magnon type people, possibly descended from the Upper Paleolithic inhabitants of the area (Gimbutas 1963:818). They buried their dead in collective graves in long trenches and they did not have horses or wheeled vehicles (Gimbutas 1963:819). At the same time, Kurgan sites appear in and replace the Transcaucasian Copper Age Culture (TCAC). Gimbutas (1963) suggests that the invading Kurgans may have adopted metallurgy and battle-axes from the TCAC (Gimbutas 1963:822), leading to the Maikop culture in 2300-2200 BC. After this they migrated south into the Near East, where they may have become the Hittites and the Kassites (Gimbutas 1963:823). Meanwhile, the Kurgans spread around Europe. Kurgan sites have been found in Transylvania, Yugoslavia and Hungary from 2400-2200 BC. In 2300 BC layers of destruction occurred at the end of Early Helladic II, Troy IIc and Beycesultan Layer XIII(). Gimbutas connects these with Kurgan migrations (Gimbutas 1963:824).

Gimbutas proved that the Kurgan culture is in fact the PIEs by arguing that their remains match the protolexicon. The vocabulary for the Proto-Indo-European language contains numerous words related to technology and economy. Those words include a wide variety of technical terms related to horses, wheeled vehicles and pastoralism. This means that the speakers of Proto-Indo-European had horses, wheeled vehicles and pastoralism. The goal of Indo-European archaeology is to find the culture in the archaeological record that spoke Proto-Indo-European. That is done by searching for a culture whose material objects match the reconstructed vocabulary. The Kurgan culture has horses, equipment used to ride horses, wheeled vehicles, and evidence of pastoralism, so their material remains match the vocabulary of Proto-Indo-European. The spread of the Kurgan peoples is accompanied by the spread of those cultural elements, and thus the early Indo-Europeans spread around Europe accordingly.

Robert Drews
In his 1988 book Robert Drews challenged the steppe hypothesis of Gimbutas by proposing that the PIEs came from Armenia in the early second millennium BC. The first division was Proto-Indo-Hittite into Proto-Anatolian and Proto-Indo-European. The Hittites gradually infiltrated Anatolia from Armenia. The next part of his argument revolves around the Mitanni. Two things are well established: the Mitanni were Aryans, and the Mitanni introduced...
the chariot to the Near East. He goes into great detail about the importance of Mitanni charioteers and their Aryan names and gods. Around 1700 BC, chariot warfare was introduced to the Near East, and this was accompanied by conquests of large populations by small groups of people. Aryan names appear among Hyksos, Levantine, Kassite and Mitanni princes. Shortly after in 1500 BC, Aryan charioteers conquered India as recorded in the Rig Veda. In 1600 BC one such group conquered Greece, and became the Greeks. Drews said that all the Greek chariot terms are Indo-European (Drews 1988:170). He also said that the chariot must have been used for warfare by the Mycenaeans. The Iliad only shows the chariot being used for transport, but Drews argues that if the Mycenaeans wanted to use it for transport, they would have developed something more commodious. He also talks about the sudden massive increase in wealth in Greek tombs around 1600 BC, and argues that that was the result of foreign invaders who have the dominion over the land to extract that kind of wealth. The grave goods are also very international, which Drews says reflects their international origins.

**Colin Renfrew**

In 1988 Colin Renfrew proposed that the Indo-European homeland was in Anatolia at the beginning of the Neolithic. Renfrew asserts that Indo-European languages spread across Europe in the Neolithic with the spread of agriculture. He took a processual approach to the spread of Indo-European languages, and devised three models for language change. Initial colonization occurs when a language spreads to an area that had no previous language (Renfrew 1988:121). Replacement occurs when a language in one area is replaced by a language from another area, and continuous development is the evolution of language through gradual changes that lead to convergence and divergence (Renfrew 1988:122). Renfrew also devised models of linguistic replacement. The most important of those is demography-subsistence. Farmers have far higher populations than hunter-gatherers, and farmers will absorb hunter-gatherers as they spread. In this way the language of the hunter-gatherers get replaced by the language of the farmers. Renfrew argues that Indo-European languages and agriculture spread across Europe together from Anatolia this way.

**J.P. Mallory and David Anthony**

J. P. Mallory and David Anthony both favour a steppe homeland in the fifth, fourth and third millennia BC. Mallory (1989:211) identifies the PIEs with the Yamnaya culture and assigns a date range of 3600-2200 BC. He points out that in some areas there are no occupation sites, and where there are sites they tend to be temporary camps, consistent with a mobile economy (Mallory 1989:211-212). Anthony (1991:206-208) identifies the early PIEs with the Sredni Stog culture and the later PIEs with the Yamna culture. They are a continuation of Gimbutas’ hypothesis in that they both use the same location in southern Russia and roughly the same time frame. Anthony (1991:193) identified bit microwear on the teeth of horses from 4000 BC, and used the appearance of wheeled vehicles as
evidence that they spoke Proto-Indo-European, whose vocabulary contains many wheel terms (also, a bit is the part of a horse’s harness inside the horse’s mouth). His sequence is as follows. The Anatolian branch separated from the homeland in 4200-4000 BC (Anthony 2008:12). This would account for the lack of wagon vocabulary and the generally archaic nature of the Anatolian languages.

Sredni Stog burials different from the local population appear in the lower Danube and eastern Hungary for the first time in 3800 BC, representing a small migration that had little impact (Anthony 1991:208). The second group to break off was the Tocharians, who may have been the Afanasievo culture of 3700-3500 BC (Anthony 2008:13). This, however, is disputed by Koryakova (2007:53), who pointed out that there are very few sites between the Yamnaya and Afanasievo locations that could connect the two. In 3500 BC the Baden-Cernavoda Complex appeared all over Eastern Europe, marking the abrupt end of Old Europe. Wheeled vehicles first appear in Poland, Hungary and Ukraine in 3300-2200 BC, representing the first major Indo-European migration west into Europe (Anthony 1991:207). Included in this were the Celtic and Italic branches from 3100 to 2800 BC (Anthony 2008:13). Out east the Yamnaya culture gave rise to the Surtanda/Botai culture of 3000-2500 BC, which in turn gave rise to the Andronovo culture beginning in 2300 BC (Anthony 1991:203). Anthony (2008:22-27) proposes that the Proto-Indo-Europeans absorbed people into themselves through prestige. He makes five points: 1) the Pontic-Caspian peoples had the best horses and they had a lot of horses, and they could have grown rich by exporting horses; 2) horseback riding gave them a huge advantage in mobility, raiding and warfare as horses allowed them to cover a much larger area and expand into areas they previously could not; 3) their culture included the sanctity of verbal contracts and the obligations of patrons to clients that allowed them to incorporate outsiders into the system as full members; 4) one effect of the changes brought about by horses might have been mutual obligations of hospitality between guests and hosts and this extended protection to new groups; however, this does not show up in the Tocharian and Anatolian languages, and so postdates their separation; 5) based on vocabulary and archaeological evidence of feasts and gift-giving, the Proto-Indo-Europeans may have had a potlatch system that allowed people to build prestige and recruit allies (Anthony 2008:23-26). These cultural features would have facilitated the absorption of other people into the Proto-Indo-European community. Anthony (2008:11) posited the following: around 2000 BC, the languages still in the homeland area were Armenian, Greek, Indo-Iranian, Baltic, Slavic and Germanic. Pre-Greek stayed in the homeland area long enough to acquire many Indo-Iranian traits, and left before the satem shift and ruki rule appeared, which spread to Baltic, Slavic, Armenian and Albanian but not Greek (Anthony 2008:11).

**Harald Haarmann**

Harald Haarmann argues for a similar position. Haarmann (1994) argues that the first genetic gradient actually
dates back to the colonization of Europe in the Paleolithic. This is based on continuity of cultural traits and forms, which explains Asian genetic features in European populations (Haarmann 1994:284). Haarmann (1994:284) argues that the Indo-Europeans migrated into Europe in three waves (4400-4300 BC, 3500 BC, 3000 BC) and that first there was a period of coexistence before the pre-Indo-Europeans were absorbed. In Western Europe, the pre-Indo-European settlements were relatively small, and the Indo-Europeans came to dominate them (Haarmann 1994:285). In southeastern Europe, however, the pre-Indo-European settlements were much larger and Indo-Europeans arrived relatively late in the area, resulting in significant substratum influence on the Indo-Europeans of the area (Haarmann 1994:285-286). This is reflected in the large linguistic and mythological influence of the pre-Greek substratum on the Greeks (Haarmann 1994:285). Haarmann also mentions that there is an ethnic boundary between Indo-Europeans and Uralic peoples in northern Europe that corresponds with the genetic and linguistic boundaries (Haarmann 1994:285).

There are therefore a great many answers to the same question, some of which are somewhat contradictory (Gimbutas vs. Mallory, Anthony and Haarmann), and some are completely incompatible (Renfrew vs. Drews vs. Gimbutas, Mallory, Anthony and Haarmann). They all used different methods to answer the question at hand. Renfrew used only archaeology. Drews used archaeology and history. The rest used linguistics and archaeology. With these differing methods they all arrived at different conclusions, some far more problematic than others. We will now examine the methods of the Indo-European homeland problem and evaluate the various homeland hypotheses in that light, starting with linguistics.

**Linguistics in Indo-European Studies**

The Indo-European homeland problem is studied by linguistics and archaeology, which draw on the information of other fields to be mentioned later. The linguistics side is concerned with the study of Indo-European languages, and the archaeology side is concerned with the study of cultures that spoke Indo-European languages. The archaeological-cultural side also includes cultural anthropology, biological anthropology (genetics) and comparative mythology. An Indo-European archaeologist is essentially doing the archaeology of a linguistic problem. That was where Renfrew and Drews failed: they approached the Indo-European homeland problem as straight archaeology without any attention paid to the linguistic evidence. An Indo-European archaeologist is looking for the people who spoke a member of the Indo-European language family, so linguistics is an absolutely critical part of it. There are many aspects of the linguistics side of the question. The first is the continuing use of comparative linguistics to identify similarities between the Indo-European languages. Linguists can continue to refine the reconstructed languages and the family tree. There are also some issues to consider.
Comparative linguistics produces a cladistic family tree where Proto-Indo-European becomes its daughter languages through a series of binary fissions, very much like cell division in biology. The real behaviour of languages is not that simple, though. Baldi noted that 'the family tree model captures the results of change and not the processes' (Baldi 1988:445). Languages do split into groups. First, multiple dialects will form within a language. Then, those dialects will diverge until they are mutually incomprehensible, and two daughter languages will appear. The genetic analogy only goes so far, however. Languages in contact with one another will influence one another. The standard family tree model will represent the inheritance of words from Old English to Middle English, but it will not represent the huge influx of vocabulary from Old French in the Norman invasion of England that had a huge impact on Middle (and Modern) English.

The second aspect is historical linguistics. It is essential that we know how languages behave through time. This also involves linguistic anthropology: the relationship between language and culture. Cultures change through time, as well as languages. The Proto Indo-European culture no doubt existed not just for a single year, but for a few centuries at least. During this time, the culture and its language gradually changed and diverged. Languages do not change instantly. First dialects develop, and then those dialects become so far apart that they are separate languages. A key part of Indo-European studies is finding out how the branches diverged and what interaction and exchange occurred while they were still close enough to loan words back and forth. Daughter languages that developed close to one another will share more cognates than distant daughter languages (Ehret 1974:10). This is the basis for the sequence of separations. One thing everybody can agree on is that Anatolian is the most archaic branch and that it separated first. Anthony and Renfrew both assert that (Anthony 2008:11, Renfrew Renfrew 1988:159). No theory of the expansion of Indo-European speakers is complete without that sequence of separations, and linguistics is essential to creating it. Woodard mentioned (Woodard 1990:267) that Drews’ assumption that North and South Greek had little internal differentiation in the Late Bronze Age goes against the research of Warren Cowgill, who discovered that at least three dialects, probably more, were spoken in the Mycenaean kingdom (Woodard 1990:267). Drews claimed that the people who invaded Greece in 1600 BC spoke PIE. This would require PIE to become Common Greek, then diverge into North and South Greek, and then the Mycenaean dialects in two hundred years, which Woodard disputes (Woodard 1990:268).

Language change is not tied to anything material, which is what archaeologists can see. It is tied to ethnicity, which is one of those things archaeologists can only see indirectly. People gravitate toward the language with the most prestige. Language change is accompanied by changes in the perception of self and group, and
reclassifications in the way those are defined (Anthony 2008:21). The situation in Europe after 3300 BC was one of increased mobility, new pastoral economies, explicitly status-ranked political systems, and inter-regional connectivity—exactly the kind of context that might have led to the stigmatization of the tightly closed identities associated with localized groups of village farmers’ (Anthony 2008:22). Languages shift in the direction of prestige and power, and in this case they shifted toward the Indo-Europeans.

Another aspect is the issue of the correspondence between the reconstructions generated by linguists and the real language that once existed. Reconstructed PIE and real PIE are not necessarily the same thing. We must not confuse the method and its results with the facts. We cannot assume that a simple series of binary splits actually occurred, as the results of comparative linguistics would suggest as first glance (Pulgram 1959:423). In reality, comparative linguistics produces the commonalities between attested languages, which is quite useful to the study of past people if you recognize it as such. One issue is the uniformity of the language. Hall (Hall 1960:204) stated that, based on reconstructions of Proto-Romance, the degree of realism in reconstruction is actually reasonably high. He even included a Proto-Romance text, and argued that it would have been five-sixths comprehensible to a Roman of 50 BC (Hall 1960:204).

Linguistic paleontology uses the presence of a word to indicate the presence of the object in the Proto-Indo-European environment (Mallory 1989:111). This assumes that the meaning of the word has been accurately reconstructed. In some cases, this is quite easy. Sheep is easy to reconstruct: all of the descendants of owis mean sheep (Mallory 2006:111). The descendants of the word for beech, however, mean beech in some languages (Gaulish, Latin, Old High German, Old English and Old Norse), oak in some (Albanian and Greek) and elder in Russian. However, all of those words are cognates and have the same mother word in PIE (Mallory 2006:112). In some cases the meaning has diverged so much that we have only a vague idea of what the original word meant (Mallory 2006:113). The meaning of words for plants and animals can change as people move into a new ecological zone (Ehret 1974:8). The issues of semantic fields and folk taxonomies are also important here (Mallory 2006:112-113). Shifts in semantic categories can accompany culture change. Ambiguities and semantic overlap can indicate where categories changed, and etymologies can reveal metaphors and associations from previous semantic categories. The comparative study of taxonomies in daughter languages can reveal the significance and organization of different kinds of knowledge (Ehret 1974:9).

A very important aspect of linguistics is external language relations. This gives us clues to the location of the homeland based on who was and was not nearby. If the homeland was in Anatolia or Armenia, as Renfrew and Drews argue, then the neighbours of
the proto-Indo-Europeans would have been the proto-Semites and Kartvelians. If the proto-Indo-European homeland were in the steppes, their neighbours would have been the Uralic peoples. There is a little borrowing with Semitic and Kartvelian, but there is also a lot of borrowing between PIE and Proto-Indo-Iranian on one side and the Uralic languages, especially Proto-Finno-Ugric, on the other. Haarmann argues that this heavily favours a steppe homeland (Haarmann 1994:267). The Uralic homeland has been established in the area west of the Ural Mountains (Haarmann 1994:277), thus the proto-Indo-Europeans must have been somewhere nearby. Regarding relationships between Semitic and Kartvelian, Haarman said that the source of the PIE *stauros and Proto-Semitic *tauros was probably the languages of the Neolithic farmers of Anatolia, who were neither Indo-European nor Semitic (Haarmann 1994:270). Mallory ascribes the correspondences between Indo-European on one side and Kartvelian and Semitic on the other as wanderworten: words that were passed down a chain of cultures over a long distance (Mallory 2006:445). Anthony in his review of Drews pointed out that in Anatolia and Greece non-Indo-European languages were still very important by the time of the first attested languages, which suggests that Indo-Europeans were intruders in a previously non-IE area (Anthony 1991:202).

In reviewing Renfrew, Haarmann (1994:268-277) points out that if the proto-Indo-Europeans were agricultural, then there should be a large agricultural vocabulary in the proto-lexicon. This is not the case, however. Haarmann also points out that there is no mention of people who might be Indo-European in Sumerian, Elamite and Semitic sources. Sumerian contains pre-Sumerian words for flora and fauna, but no Indo-European loanwords (Haarmann 1994:269). He cites numerous words in the Semitic languages that come from a pre-Semitic substratum in Anatolia, many of which are related to agriculture (Haarmann 1994:270). There is no Indo-European element. That substratum may have been related to the pre-Indo-European languages of the ancient Aegean (Haarmann 1994:271). The Anatolian, Greek and Semitic languages all show words from that substratum, such as words for cypress and olive (Haarmann 1994:271). Greece has 181 pre-Greek place names, the coast of Asia Minor has 175, eight percent of the Greek lexicon is mostly from that substratum (with a few Semitic and Egyptian words), and no more than fifty percent of the Greek lexicon has been confirmed to be Indo-European (Haarmann 1994:273). He also notes that a significant number of Greek agricultural terms and terms for plants and animals of the region are borrowed from that substratum. There is also the matter of attested non-Indo-European languages of Anatolia, such as Hattic, Hurrian and Urartian. This makes it quite clear that the inhabitants of Anatolia prior to 2000 BC were in no case Indo-European.
The other major component of the search for the Indo-European homeland is archaeology. Linguists can reconstruct relationships between languages and many aspects of culture, but it is archaeologists who can give that culture a location in space and time. Archaeologists find archaeological cultures, and attempt to match them with a language by comparing the culture with the lexicon. The Yamnaya culture is represented by kurgan burials (Koryakov 2007:46) and is concentrated along the middle Ural River extending to the Volga, with scattered single or double kurgan burials in the southern Ural Mountains (Koryakov 2007:47). The biggest kurgans (more than 5 meters high) contained only males; big kurgans (2-5 meters) contained mostly males and rarely females; and two thirds of kurgans were less than 1.2 meters high (these were variable in composition) (Koryakov 2007:48).

Radiocarbon dates give the Yamnaya culture around the Volga a time range of 3500-2200 BC. The Yamnaya culture started in the Volga and spread to the Ural Mountains, where it evolved out of Eneolithic cultures. There was definitely status differentiation, as indicated by the very high portion of adult males in kurgans (Koryakova 2007:55). The nearby Abashevo culture kept pigs (Koryakov 2007:65), and one of the Indo-Iranian to Finno-Ugric loanwords is the word for pig. In Sintashta graves, a man was accompanied by a horse while women and children were given small horned animals (the source does not specify animals) (Koryakova 2007:79). The Yamnaya culture, meanwhile, was based on sheep pastoralism with no horses (Koryakov 2007:54). The Yamnaya culture is identified with the PIEs by Gimbutas, Mallory and Anthony, and flatly contradicts Renfrew and Drews.

An important point needs to be made regarding archaeological evidence and its interpretation. The only thing that is directly visible in the archaeological record is material traits. This includes pottery styles, technology and other material objects along with settlement patterns. Language and ethnicity are not seen directly but are determined through a series of bridging arguments. This makes it critically important to properly analyze and classify material traits. In Indo-European archaeology cultures like Corded-Ware, Tripolye, Yamna, Sredni Stog, Andronovo, Afanasievo and others have been very well studied and defined (Anthony 2008, Gimbutas 1963, Koryakova 2007). By charting the distribution and movement of traits across space and time we can determine when and where cultures were in contact and where they moved. All arguments about language and ethnicity come from that. This is the role of culture-historical archaeology in Indo-European studies.

Processual archaeology can use the scientific method to make bridging arguments that allow the study of social organization and (to a lesser extent) ideology. Processual archaeology traditionally has three components: ethnography,
ethnoarchaeology and archaeology. Lewis Binford, for example, describes ethnoarchaeology and uses ethnographic data in Part 3 of Binford 1983. The needs of Indo-European studies would strongly favour the inclusion of a fourth element: sociolinguistics. Ethnographies will tell us how people actually behave. An example of ethnography would be studying living and historically attested pastoral societies to determine how they actually behave. Ethnoarchaeology will tell us what patterns in the archaeological record are produced by what activities. This ties in with ethnography and ethnohistory: the ethnoarchaeologist goes from a known culture to their material record, so that an archaeologist can go from a similar material record to a similar culture. Linguistics can also get involved in this.

Sociolinguistics and linguistic anthropology will tell us how languages actually behave. Anthony mentioned language change in 20th century Gaelic fishermen as an example while talking about Proto-Indo-Europeans of the fifth millennium BC (Anthony 2008:22). There are two directions evolution can take: divergence and convergence. In linguistics divergence is the binary splits of cladistic family trees (examples are in Hock 450, Mallory 1989:21). Convergence is pidgin and creole languages, and borrowing (Hock 1991:491,512). Study of living and historically attested languages will allow linguists to determine the processes by which these occur, and an example of ethnoarchaeology would be correlating living and historically attested languages with their material cultures. Once correlations are found between material change and linguistic change, archaeologists can go in the opposite direction, from material culture change to language change. This is the role of processual archaeology in Indo-European studies. In addition to cultural processes and social organization, the roles of individuals and ideologies can be studied. Comparative mythology can supplement and complement archaeological and linguistic finds relating to religion, allowing for a more complete study of ideology. The difficulty with ideology is that it has the largest cross-cultural variation and is largely unique to each culture, hence the use of linguistics and comparative myth. That is the role of postprocessual archaeology in Indo-European studies.

History and historical archaeology are also important when dealing with attested cultures, as the historical record provides a great amount of information about the Indo-Europeans and the people they interacted with. The most important function of history in Indo-European studies is that the language of a written document is an easy and sure indication of the language (or one of the languages) of the author. All attested ancient Indo-European languages are known this way. The second function of history is that literature can identify ideological information such as religion and ethnicity. The ethnic identity of the Aryans is known because they identify themselves as such in the Avesta and the Rig Veda. This information is
several bridging arguments away from the evidence in prehistoric cultures, but in historic cultures this information is right in front of the historian. Norman Yoffee critiqued The Coming of the Greeks (Yoffee 1992) on the grounds that Drews made factual mistakes in Near Eastern history: ‘Amorites are infiltrating nomads; the homeland of Hurrians is unknown; Kultepe may or may not be Kanesh; long-distance raids could not have been conducted without chariots and apparently first occurred under Hattushilish I and Murshilish I’ (Yoffee 1992:95). All of that information can be provided by written documents.

**Genetics in Indo-European Studies**

One way of gaining information on where people have been moving is genetic studies. This is the third type of data collected in Indo-European studies. Piazza et al (1995) found through the study of gene frequencies evidence of two demic migrations: one in the Neolithic that coincides with the spread of farmers, and one that coincides with the spread of the Kurgan culture. The first principal component of the gene frequencies studied forms a nearly perfect circular pattern centered on the Fertile Crescent (Cavalli-Sforza 1997:387), that coincides with the spread of wheat and pottery, indicating a migration from southeast to northwest. The gradient was the result of mixing of Middle Eastern farmers with European hunter-gatherers (Cavalli-Sforza 1997:388). The Y-chromosome shows a similar gradient (Cavalli-Sforza 1997:389). The other four principal components (PC) studied showed the following gradients: the second PC has a north to south gradient, the third PC is centered on the region between the Volga and the Don, the fourth PC corresponds with the historically attested expansion of the Greeks when they colonized the Mediterranean, and the fifth PC probably represents a partial contraction of Basque territory (Cavalli-Sforza 1994:390). Haarmann argues that the first genetic gradient actually dates back to the colonization of Europe in the Paleolithic. This is based on continuity of cultural traits and forms, which explains Asian genetic features in European populations (Haarmann 1994:284). Haarmann argues that the Indo-Europeans migrated into Europe in three waves (4400-4300 BC, 3500 BC, 3000 BC) and that first there was a period of coexistence before the pre-Indo-Europeans were absorbed (Haarmann 1994:284). In Western Europe, the pre-Indo-European settlements were relatively small, and the Indo-Europeans came to dominate them. In southeastern Europe, however, the pre-Indo-European settlements were much larger and Indo-Europeans arrived relatively late in the area, resulting in significant substratum influence on the Indo-Europeans of the area. This is reflected in the large linguistic and mythological influence of the pre-Greek substratum on the Greeks (Haarmann 1994:285). Haarmann also mentions that there is an ethnic boundary between Indo-Europeans and Uralic peoples in northern Europe that corresponds with the genetic and linguistic boundaries (Haarmann 1994:285).

**Comparative Mythology in Indo-European Studies**

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The fourth form of data collection is comparative mythology. Comparative mythology uses its own comparative method to reconstruct the mythology of the proto-culture, thereby providing more information about that proto-culture (Mallory 1989:128-142).

The Old English Beowulf and the Persian Shahnameh are nearly identical in their stories, and may provide examples of genetic connections. Monette (2008:108-110) provides a side by side comparison of those two. The plots are nearly identical; only the names of the places and characters are significantly different. They may be recorded descendants of a PIE myth.

Emile Durkheim’s functionalism was the foundation of the work of Georges Dumezil (Mallory 2006:429), who argued that many Indo-European myths have a feature called tripartition and that this is causally linked to tripartite social organization. Dumezil argued that many Indo-European cultures have three divisions, an idea that has been pursued by many scholars since. Specific examples found in Belier 1991:11-12 include India, Persia, the Scythians, the Ossetes, the Gauls, the Irish and the Romans, all of whom had threefold divisions of their societies into priests, warriors and producers reflected in their myths. This is also reflected in their pantheons. The gods represent one of the functions. They are, based on Mallory 2006:430-433:

First function (priestly/juridical function): India (Varuna, Mitra), Iran (Ahura Mazda), Roman (Romulus, Horatio Cocles), Norse (Odhinn), Irish (Esus), Lithuanian (Velinas).

Second function (warriors and kings): India (Indra), Iran (Indara), Roman (Mars, Tullus), Norse (Thorr), Gaul (Taranis), Irish (Ogma).

Third function (producers): India (Ashvins), Roman (Quirinus), Norse (Freyr), Gaul (Teutates), Irish (Bres).

The structuralism of Claude Levi-Strauss has also been used in Indo-European comparative mythology. Martin West’s article revolved around the story of the death of Baldr in Norse mythology, and he argues that the whole story is based on binary oppositions. Baldr was killed when the blind Hodhr threw mistletoe at him. (West 2004:1). In the Mahabharata, Vritra agreed with Vishnu to make peace with Indra on the following conditions: that Vritra cannot be killed 'by Indra and the Gods with matter dry or wet, rock or wood, thunderbolt or weapon, by day or by night' (West 2004:3).

There are three possible reasons why two Indo-European cultures can have common mythological ideas: universals, historical connections and genetic connections. One is that there are certain recurring themes that occur worldwide. This is the search for universals (Mallory 2006:425). There certainly are universal mythological elements that occur; Bruce Trigger identified several in Understanding Early Civilizations (Trigger 2003). The way to identify universals would be to check to see if they appear among cultures that had no contact with Indo-Europeans. The same mythological idea appearing across continents and among many cultures would strengthen the argument for a universal. Dumezil’s (Mallory 2006:411-413) tripartition is
probably not really a feature specific to Indo-Europeans but a universal. Bruce Trigger's (2003:486-490) account of the function of sacrifices in *Understanding Early Civilizations* has a tripartite hierarchy of commoners (who provide food for the gods), kings (who act as intermediaries) and the gods. The origins of tripartition are probably to be found in something common to all cultures that impacts social organization.

The PIEs certainly had a mythology, and elements of that mythology have been inherited by descendants. This is the search for genetic connections (Mallory 2006:426). As Mallory uses it, genetic connections is a metaphor that refers to myths that were passed down orally from the Proto-Indo-Europeans to their descendants. This applies specifically to those myths specific to the Proto-Indo-Europeans; myths of the Proto-Indo-Europeans that are common around the world would be universals. This would be a mythological idea that appears in multiple far flung Indo-European cultures but not in non-Indo-European cultures. Beowulf and the Shahnameh are certainly genetic connections: England and Iran are on opposite ends of the Indo-European world, and the stories are identical: only the names differ. This suggests that the Proto-Indo-Europeans had a similar myth, and that it was passed down through the generations largely unchanged to the Persians and the English.

Linguistically unrelated neighbours pass mythological ideas around. This is the search for historical connections (Mallory 2006:425). The (Indo-European) Greeks, for example, imported a lot of mythological ideas from their non-Indo-European substrate and from the Semitic mythologies of the Near East (Haarmann 1994:285-286). The Romans imported ideas from the non-Indo-European Etruscans and the Indo-European Greeks. This requires that the two cultures be in contact with one another, and that there be a demonstrable similarity. This does not have to be between an Indo-European and non-Indo-European culture; it can be between two Indo-European cultures. If it is, though (such as Greek elements in Roman mythology), then the possibility of common inheritance from the PIEs must be ruled out. Likewise, to establish genetic connections the possibility of borrowing after the separation of the branches must be ruled out (Mallory 2006:425).

*Understanding Migrations*

From the beginning of Indo-European studies, it has been assumed that the Proto-Indo-Europeans migrated from the homeland to their present locations. It would therefore be a good idea to consider how migrations work. Modern demographers define population change as birth rate, death rate and migration rate (Anthony 1988:444). He identified, based on Rouse 1986:177, causes for migrations including population pressure, environmental/climatic change, the attraction of favourable conditions in the destination and 'pushes' by other migrants. Anthony also outlined the relationship between kinship, ethnicity and migrations. These migrations tend to revolve around a specific kinship group that has information about the destination.
through ties to another kinship groups. Ethnicity is not nearly as important; in simpler societies kinship is far more important than ethnicity. This results in a very narrow range of material culture along the migration (Anthony 1991:194). Archaeologists need to properly understand how migrations work to understand the spread of Indo-European languages.

**Understanding Ethnic Identity**

There are some important points that need to be made about ethnic identity. Jones (2008) provides a description of ethnicity as “the aspect of a person’s self-concept that results from identification with a broader group, in opposition to others, on the basis of perceived cultural differentiation or common descent” (Jones 2008:327). The concept of ethnicity he provides on that page is “embedded in economic and political relationships between groups” fluid and flexible with changes in individual identity” and involves the construction of ‘us’ vs ‘them’ oppositions (Jones 2008:327).

Anthony 2008 provides an example of the relevance of ethnicity to Indo-European studies when he talks about “widespread cultural shifts in group self-perception” as a factor in the spread of the Proto-Indo-Europeans. (Anthony 2008:21). That is the issue in this section: the group self-perception/ethnic identity of the Proto-Indo-Europeans and the people around them. An important point to make is that ethnicity is not directly visible in the archaeological record. The archaeological record does not record the locations and boundaries of ethnic groups and their movements. It records similarities in material traits, which do not necessarily (and often do not) coincide with ethnic boundaries, where they actually existed. Language is also not directly visible in preliterate cultures. This one is somewhat easier, however, as if words for material objects are known through reconstruction then we can compare the words for material objects with the material objects in the archaeological record. This complicates our search for the homeland. That being said, the PIEs may have had an ethnic identity. Haarmann argued that the Uralic languages borrowed some very basic vocabulary from the Indo-European languages because of a difference in prestige. The Proto-Indo-Europeans were pastoralists, and the Uralic peoples were hunter-gatherers (Haarmann 1994:278). This suggests that they did have an ethnic identity of some sort. This is also the process by which large amounts of Sumerian and Akkadian (the prestige languages) were borrowed into Hittite, Latin into Welsh and Chinese into Japanese (Haarmann 1994:280). So the PIEs may possibly have had an ethnic identity, and there is no evidence of an ethnic identity for any of the proto-groups with one exception.. There is one group of early Indo-European that definitely had an ethnic identity: the Aryans, who can be traced as far back as the Andronovo culture that represents the Proto-Indo-Iranians. Aryan is used as an ethnic designation is both the Avesta (Iranian branch) and the Rig Veda (Indic branch), and both the Persians and the Indians use it to this day. That ethnic identity cannot be traced back to the proto-Indo-Europeans with certainty; it does not show up in any other branch.
Conclusion: The Method of the Indo-European Homeland Problem

There exists a great variety of answers to the same question. The hypothesis of Anthony, the most likely hypothesis at present, describes an expansion from the Sredni Stog and Yamnaya cultures where the Indo-Europeans spread largely peacefully through both migration and absorption of surrounding cultures. Before him, Marija Gimbutas described warlike patriarchal Indo-European charioteers conquering peaceful matricentric Old Europe. Renfrew placed the homeland in Anatolia and described the expansion of the Indo-Europeans as the expansion of Neolithic farmers. Drews placed it in Armenia and revived the tradition of conquering charioteers subjugating all before them. Gamkrelidze and Ivanov also placed it in Armenia.

Researchers are looking for the answer to the Indo-European question: where did they come from, and how did they become the Indo-Europeans of today? The answers provided above are mutually contradictory, so not all of them can be true at once. So how do we go about answering the Indo-European question? The method itself will use four forms of data collection: linguistics, archaeology, genetics and comparative mythology, which will all contribute to one body of theory. Linguistics will refine its reconstructions of mother languages and learn how language change works. It will tell the archaeologists what languages borrowed from what, indicating contact situations, and what languages diverged from what, indicating genetic connections.

Archaeology will study the distribution of material traits and learn how to link them with cultures and languages. Archaeologists will find out where the early Indo-Europeans were and where they moved. Genetics will identify large migrations. Comparative mythology will reconstruct aspects of the proto-culture and identify instances of contact with substrates and adstrates. Cultural anthropology is not a method but an understanding of ethnicity, and social organization is essential when studying any culture - including the early Indo-Europeans. The answer to the Indo-European question is the synthesis of that data. It has been two hundred years since the commencement of this research, and still there is no satisfactory answer. The Indo-European family stretches from Iceland to India, and tracing its spread will involve studying in great detail the archaeological record of that whole area. All the Indo-European peoples need to be thoroughly understood, as well as all the peoples they interacted with. That may seem like the thirteenth task of Hercules, but with a thorough knowledge of the data, a sound method of devising a theory, and the willingness to attempt the seemingly impossible, we can answer the Indo-European question.
References


Binford, Lewis. 1983 In Pursuit of the Past. Thames and Hudson, New York


Ehret, Christopher. 1976 Linguistic Evidence and its Correlation with Archaeology. World Archaeology 8(1):5-18


Monette, Connell. 2008 Heroes and Hells in Beowulf, the Shahnameh and the Tain Bo Cuailnge. The Journal of Indo-European Studies 36(1,2):99-148


West, Martin. 2004 The Death of Baldr. The Journal of Indo-European Studies 32(1,2):1-10
