Archaeology and Language IV
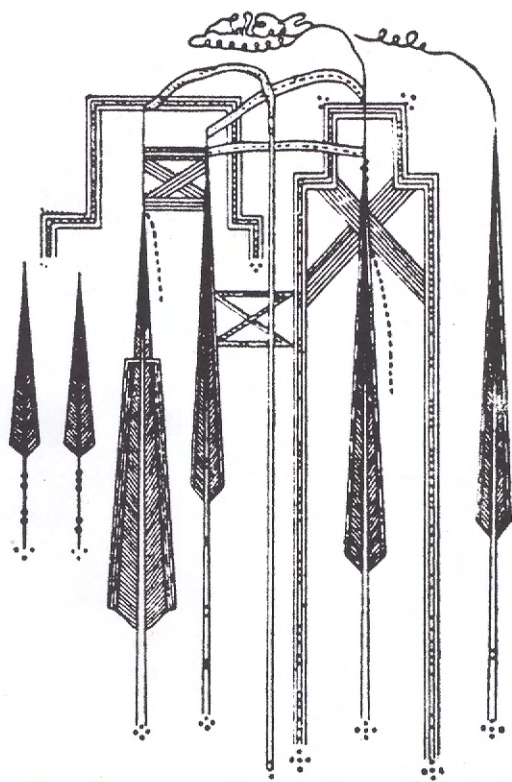
Language Change and Cultural Transformation

Edited by Roger Blench and Matthew Spriggs

Cum remotae gentium origines historiam transcendant, linguae
nobis praestant veterum monumentorum vicem.

Gottfried Wilhelm Leibniz, *De originibus gentium*

There is no tracing the connection of ancient nations but by
language; and therefore I am always sorry when any language is
lost, because languages are the pedigree of nations. If you find the
same language in distant countries, you may be sure that the inhab-
itants of each have been the same people; that is to say, if you
find the languages are a good deal the same; for a word here and
there the same will not do.

Samuel Johnson, quoted in Boswell
1785

If we possessed a perfect pedigree of mankind, a genealogical
arrangement of the races of man would afford the best classifica-
tion of the various languages now spoken throughout the world;
and if all the extinct languages, and all intermediate and slowly
changing dialects had to be included, such an arrangement would,
I think, be the only possible one . . . this would be strictly natural,
as it would connect together all languages extinct and modern, by
the closest affinities, and would give the filiation and origin of
each tongue.

Charles Darwin, *On the Origin of Species*

To seek, by the multiple routes of anatomy, physiology, history,
archaeology, linguistics and even palaeontology, what have been
in historic times and in the ages which preceded the most ancient
remains of humanity, the origins, the affiliations, the migrations,
the mixtures of the numerous and diverse groups which make up
the human species.

Paul Broca, 'La linguistique et l'anthropologie'

Für mich est jedes Wort ein sprechendes Lebewesen, das seine
Geschichte erzählt, sobald ich es kennen gelernt habe. Ich sehe
die Zeit kommen, wo man von einer etymologischen Biologie
sprechen wird.

Gottlieb Adolf Krause
'Die Stellung des Temne innerhalb der Bantu-Sprachen', 1895

General introduction

ROGER BLENCH AND MATTHEW SPRIGGS

PRINCIPAL THEMES IN ARCHAEOLOGY AND LANGUAGE

The relationship between linguistics and archaeology has been affected by both the internal dynamic of the disciplines in question and external political and social trends. Many archaeologists still feel that archaeology and linguistics do not share much common ground; some of the reasons for that are internal to archaeology, whilst others can be traced to the sometimes startling misuse of these linkages by earlier scholars.

The idea of a relationship between a linguistic prehistory and an archaeological prehistory is a seductive one, but in the past it has often led to dangerous liaisons. The data from both disciplines are open to constant reinterpretation as new evidence comes in and new models are adopted. Linguists or archaeologists who interpret their data by tying it to a particular statement of 'fact' for another discipline in one year may well find that 'fact' discredited the next and the interpretation of their evidence undermined. If circularity of argument is to be avoided, these two databases for constructing prehistory must be assembled quite separately, and compared only at a subsequent stage of synthesis.

For many areas of the world, such as the Pacific and Africa, it is common for an overview of linguistic prehistory to be available before an equivalent archaeological picture has been produced. The newly arrived archaeologist should not completely ignore hypotheses of culture history derived from linguistic data, but should treat them as just that, hypotheses that may or may not provide a realistic model for a region's prehistory. An explanation derived solely from archaeological data may turn out to have greater explanatory power, or the original linguistic model may provide a plausible narrative that adequately encompasses the evidence of both disciplines. In this latter case, the archaeological data is not so much explained by the linguistic as consonant with it, as both are linked to the same broad social processes. They may, of course, not be in any particular case.

The comparison of archaeological and linguistic evidence has not proved very popular in the post-1945 era, partly because of the stigma derived from

the misuse of both disciplines by the Nazis to construct their 'master race' ideology, but also because of flaws in the method of comparison. Theories of language affiliation were often developed without the use of a critical or orthodox methodology to reconstruct human history. Isolated archaeological observations were being explained by equally isolated linguistic ones.

Another reason that archaeology and linguistics have been kept apart has been because of internal developments in archaeological theory, particularly the trend of the discipline towards a sort of 'archaeology is archaeology is archaeology' position. This has acted to exclude data from multiple sources:

> Yet there is little general awareness of the value of combining the study of archaeological data with that of historical linguistics, oral traditions, historical ethnography and historical records although it is clear that many archaeological problems can be resolved in this way . . . the resistance seems to come from the view, widely held by processual archaeologists, that their discipline must be based as exclusively as possible on the study of material culture.
> (Trigger 1989: 356)

Partly in response to earlier theoretical excesses, the 'sceptical' generation of post-war western archaeologists was extremely aware of the limitations of their discipline for reconstructing a rounded prehistory. In 1956–7, Glyn Daniel could write:

> We must alas, for the most part, keep the builders and bearers of our prehistoric cultures speechless and physically neutral. This may seem to you an unsatisfying conclusion. And so it is but then much of our prehistory is unsatisfying and difficult, tantalisingly meagre and sketchy. We can appreciate this and accept the limitations of prehistory along with its excitements.
> (Daniel 1962: 114–115)

Hawke's 1954 'ladder of inference' was climbed by archaeologists with increasing fear of heights. Details of prehistoric technology could be learned, economy could be investigated with some success, but the higher rungs of prehistoric socio-political organisation would always remain shaky, and an understanding of prehistoric ideology remained forever beyond the reach of a sensible archaeologist (Hawkes 1954). Trigger (1989: 327, 392) notes that despite the optimistic assertions of the 'new archaeologists' of the 1960s such as Binford (1962), the processualist agenda, as it developed in subsequent decades, has remained firmly on the lower rungs.

From the early 1980s onwards, increasing concern was expressed by archaeologists over the seemingly limited goals of processual archaeology. A variety of approaches, often lumped together as 'contextual archaeology', have returned again to the optimistic aim of earlier generations to construct a more rounded prehistory. Attempting to identify past social and linguistic groupings is part of this project. As is perhaps the case with all such developments in

social and historical disciplines, this is reflective of broader changes in contemporary society rather than being internal to archaeology.

We are in a period of growing interest in 'roots'. When personal identities are under a bewildering array of pressures, the certainties of the past are combed for answers to the question 'Who am I?' In justifying his interest in the old question of the origins of the Indo-Europeans, Colin Renfrew (1987) did not claim purely disinterested motives for wishing to know 'What songs the sirens sang':

> You may ask, who cares? What on earth does it matter what language was spoken by long-dead people? . . . But language and identity are closely linked and there are few things more personal than the language one speaks. Indeed language and national identity are today very widely equated. One's 'ethnic' affinity is often determined much more by language than by any identifiable physical characteristics, and elections are won or lost by Flemish or Walloons, bombs detonated by Welsh nationalists and Basque separatists, and massacres perpetrated in many parts of the world – most recently in Sri Lanka – on the basis of distinctions which are linguistic and cultural more than anything else.
> (Renfrew 1987: 2)

And so he feels it must have been in the past: 'if we are interested in the origins of the modern world, we must understand the nature of past societies; this includes the social organisation of these ancient peoples and their sense of self-identity, which brings us to the questions of ethnicity and language' (ibid.: 3).

Trigger (1989: 376) sees this interest in the past of specific groups of people as part of a growing humanist trend in archaeology, in opposition to the goals of neo-evolutionist processual archaeology which saw case studies of particular regions as merely testing grounds for general theories of human behaviour and cultural change. When carried out in the developing world and/or with native peoples, such archaeology can be seen as both neo-colonialist and insulting. As archaeologists have become more sensitized to the needs and aspirations of the peoples among whom they work, and whose ancestors they may be studying, they have responded by providing histories that are relevant to the lives of local populations and that seek to answer the 'where do we come from?' questions that help to anchor identity in a world in flux.

STREAMS IN LINGUISTIC PREHISTORY

Tlön, Uqbar, Orbis Tertius: fringe theories of linguistic affiliation
As the epigraphs on p. v indicate, the view that historical linguistics has something to contribute to the history of peoples has existed for more than two

centuries. Indeed, Johnson appears to be already reacting to an aspect of historical linguistics that has often caused it to be regarded with the gravest suspicion by other disciplines: the tendency for some of its practitioners to develop unusual models of world prehistory based on apparent links between geographically remote languages.

One of the earliest theories to develop along these lines was the version of Amerindian history that claimed that the inhabitants of the New World were the Lost Tribes of Israel. This interpretation was advanced as early as 1650, when Menasseh ben Israel published his account of the traveller Aaron Levi who reported that he had encountered Hebrew-speaking Amerindians in the mountains near Quito. This type of linguistics is often broadly referred to as Voltairean linguistics, from his famous characterization 'Etymology is a science in which the vowels count for nothing and the consonants for very little.'[1]

This type of theorizing, usually the province of amateurs, is often linked with bolder cultural hypotheses that usually involve long-distance migration, and often have a religious or political agenda. It is easily caricatured and may often provide a well-founded excuse for archaeologists and prehistorians to avoid this type of excursus. Such theories are, of course, not exclusively based on linguistic evidence, but lexical connections are generally claimed to support the comparison of material culture. Two key themes of this body of scholarship relate to specific regions of the world: Ancient Egypt and the Pacific.

The notion that civilization was somehow invented in Ancient Egypt and spread out through the remarkable navigations of its inhabitants has a pedigree as far back as Classical Greece (Bernal 1987), and the ascription of Egyptian origins to African peoples was well under way by the beginning of the twentieth century. Johnson (1921 but manuscript prepared in 1897) wrote an influential history of the Yoruba, arguing against an Arabian origin for the Yoruba and promoting their migration from Egypt. Such theorizing continues today in the works of the followers of Cheikh Anta Diop and is often promulgated in luxuriously produced handbooks of hieroglyphics. However, claims for such land migrations were relatively restrained compared with the deepwater navigation proposed in classics such as Perry's (1923) 'Children of the Sun'. Elliot Smith and later Thor Heyerdahl were eloquent proponents of long-distance migrations, and much curious scholarship was adduced in support of such hypotheses.

The substantial literature on pre-Portuguese Trans-Pacific contacts originated as early as the seventeenth century (Wauchope 1962: 83 ff.). Although recent DNA research may be taken to suggest that such contacts did indeed occur at least sporadically, this is far from accepting that some of Kublai Khan's ships, still carrying elephants, were driven eastwards to the New World after a failed invasion of Japan (Ranking 1827), or that fragments of the fleet of Alexander the Great reached the Americas in 323 BC (Gladwin 1947).

Exponents of such ideas are typically aggrieved when the predictably cautious academic establishment fails to take on board their ideas. One of the advocates of trans-Pacific contact took a robust view of their caution:

All the lights in the House of the High Priests of American Anthropology are out, all the doors and windows are shut and securely fastened (they do not sleep with their windows open for fear that a new idea might fly in); we have rung the bell of Reason, we have banged on the door with Logic, we have thrown the gravel of evidence against their windows; but the only sign of life in the house is an occasional snore of dogma.

(Gladwin 1947)

There is probably a useful distinction to be drawn between fringe ideas that draw the attention of more cautious scholars to possible, previously unsuspected, connections and similarities (Heyerdahl, for example) and those that are nothing more than an encumbrance to scholarship (Atlantis, Von Daniken, Velikovsky). The moral is that we should keep Gladwin's windows open but look out through them rather than simply sleeping by them.

Links with nationalist ideologies

One of the more troubling aspects of the history of this discipline has been its links with nationalist ideologies. Linguistic nationalism still engenders a rich emotional harvest at present, often for good reason, since the suppression of minority languages is commonly a prominent feature of totalitarian governments. Democracies sometimes encourage voluntary euthanasia among minorities through neglect. Nonetheless, when a national language is linked to a national culture, it is a short step to linking that to archaeological entities and thence to broader historical claims on territory and political authority (see Kohl and Fawcett 1995).

Throughout the nineteenth century, these ideas would have been considered acceptable by many researchers, and links between nationalist ideologies and scientific research were unproblematic. However, somewhere in the early twentieth century, a split developed between the rationalist, academic tradition and the promotion of certain types of archaeology in support of nationalist goals. This has been well documented in Germany and the former Soviet Union, where linguistic ideologues developed theories of the relation between particular language groups and specific types of material culture and were ruthless with those tempted to disagree (Trigger 1989). Nonetheless, evidence is mounting that there is a European-wide tradition of rewriting the past in pursuit of nationalist goals (Díaz-Andreu and Champion 1996).

Nikolay Marr (1865–1934), who has been called the 'Lysenko of anthropology' in Russia, had a comparable influence on all types of linguistic, ethnographic and archaeological research in his tenure as Director of the Russian Academy of Material Culture. His career and influence are described in Slezkine's (1994) account of Russian imperial relations with the minority peoples of Siberia. Central to Marr's ideas were evolutionary or 'Japhetic' theories of language, whereby languages developed in stages from 'primitive' to advanced. Primitive societies had 'mollusc-like' speech forms that had to

develop 'upwards', until at the conclusion of history all language would merge into a single Communist speech. This eventually led him to the conclusion that both ethnography and archaeology were anti-Marxist, and these were formally condemned at the All-Russian Conference on Archaeology and Ethnography in 1932. The practical consequence of Marr's tenure of authority was the destruction of much of the academic infrastructure around these subjects: museums, journals and learned societies were disbanded and non-Marxist teachers persecuted. Marr's work was explicitly rejected by no less a figure than Stalin, who wrote an essay in 1950 examining the relation of Marxism to linguistics (Stalin 1950; Slezkine 1994: 314). Shnirelman (Chapter 10, Volume I), describing Russian 'linguo-archaeology', warns that links with nationalist ideologies are still alive today although their structure is less formalised than in an era of centralized state control.

German linguists played an important role in the development of Indo-European scholarship, and as early as the mid-nineteenth century, Jacob Grimm was to explain the distribution of various sound changes by referring to the ethnic character of speakers. Gustaf Kossinna (1858–1931), whose principal work, *Die Herkunft der Germanen*, published in 1911, became a key text in Nazi Germany, provided an important ideological plank for German territorial expansion. Kossinna argued that specifically Germanic material culture could be identified in archaeological sites and that where such material was found, this was evidence of the original extent of Germany.

The positivist tradition

It is tempting to dismiss both marginal historical linguistics and nationalist ideology as forgotten errors of a past epoch. Historically, however, they have had an important influence on archaeologists, making them wary of all types of correlation with linguistic theories, no matter how carefully couched.

Another, more sceptical, tradition of historical linguistics has existed for several centuries and indeed persisted through a long period of neglect. For example, precursors to historical linguistics exist both among the Sanskrit grammarians and in the works of the rabbinical scholars. Most striking is the work of Yehuda Ibn Quraysh, who lived in Fez, Morocco, in the tenth century, and was the first to compare the phonology and morphology of Hebrew, Aramaic and Arabic in his book *Risāla* (Téné 1980). Such precursors seem to have had little influence on their successors, and an intellectual tradition developed only after historical linguistics was put on a more scientific footing. This event is conventionally attributed to Sir William Jones' famous lecture in 1786 demonstrating the links between Sanskrit and the classical languages of Europe, but it has become clear in recent years that Jones' perception was far from original (Muller 1986). Bonfante (1953) quotes a reference to an unpublished manuscript by Marcus Boxhorn (1612–1653) hypothesizing a 'Scythian' origin for all the major languages of Europe, whilst in Saumasius' *De Hellenistica*, published in 1643, reconstructed proto-forms for European numerals are proposed. The concept of reconstruction of an

Indo-European proto-language appears as early as 1713 in the works of the English divine William Wotton:

> My argument does not depend on the difference of Words, but upon the Difference of Grammar between any two languages; from whence it proceeds, that when any Words are derived from one Language into another, the derived Words are then turned and changed according to the particular Genius of the Language into which they are transplanted. [. . .] I can easily suppose that they might both be derived from one common Mother, which is, and perhaps has for many Ages been entirely lost.
>
> (Wotton 1730 [1713]: 57)

Wotton had related Icelandic ('Teutonic'), the Romance languages and Greek, which are certainly as convincing a demonstration of Indo-European affinities as Jones' demonstration of the links of classical languages with Sanskrit. Moreover, Wotton developed some estimates of the speed of language change and was concerned about the apparent contradiction with the widely accepted 'Biblical' age of the earth. Jones, in contrast, erroneously believed that Egyptian, Japanese and Chinese were part of Indo-European while Hindi was not, which suggests that his method had serious flaws.

Outside Indo-European, Uralic classification had been virtually completed prior to Jones. As Ruhlen observes: 'The basic structure of the Uralic family had thus been roughly worked out at least six years before William Jones's celebrated address, which opened the era of I-E [Indo-European] studies' (Ruhlen 1991: 66).

The nineteenth century was a major period for the development of historical linguistics, and indeed most of the debates that still characterize the discipline today have their origin in the work of scholars of the previous century. Throughout the nineteenth century, there was a strong conviction that language could be analysed to establish historical results. Donaldson commented in the 1830s:

> There is in fact no sure way of tracing the history and migrations of the early inhabitants of the world except by means of their languages; any other mode of enquiry must rest on the merest conjecture and hypothesis. It may seem strange that anything so vague and arbitrary as language should survive all other testimonies, and speak with more definiteness, even in its changed and modern state, than all other monuments however grand and durable.
>
> (Donaldson 1839: 12)

and Craik in the 1860s: 'Each language has a life of its own, and it may be made to tell us its own life, so to speak, if we set the right way to work about it' (Craik 1861: 1).

Just as Finno-Ugric (i.e. Uralic) and Indo-European were earliest on the scene in terms of historical reconstruction, so their scholars began the tradition

of reconstructing history through lexical reconstruction. Early attempts to do this, such as those by Pictet[2] (1859–63), evolved convoluted theories of the migrations of the Aryan race that we should now consider highly suspect; however, this should not distract attention from the significance of the enterprise.

These efforts continued throughout the late nineteenth century and they served to establish the conventions that were to be adopted and developed elsewhere in the world. Historical linguistics of this type requires a certain density of research to be credible; without adequate lexical materials for language classification and reconstruction, no amount of methodological sophistication will fill the lacuna.

The pattern of research

Research concentrations are often reflections of political accessibility and funding. Research on the Andamanese and Nicobarese languages has remained largely static due to the refusal of the Indian government to issue research permits. Although they coexist in the same part of the world, Papuan has lagged far behind Austronesian due to the inaccessibility of many Papuan languages. Comparative Australian has taken off following the efforts of relatively few highly motivated individuals. Bantu is far better known than Niger-Congo due to early interest in the topic, accessibility of many of the languages and relatively unproblematic transcription.

Despite these problems, a global picture of the disposition and relations of language phyla is slowly beginning to emerge. The established phyla assigned to the world's languages now appear to be relatively stable (although the analysis of macrophyla is highly controversial; see next section). Data are beginning to be less of a problem than collating them. Few regions of the world are entirely without archaeology, although the density of excavated sites is highly variable. In consequence, crackpot theorizing and the promotion of nationalist ideologies are at a lower level, and the volume of papers and books exploring the links between language and archaeology is on the increase. The major threat to this area of scholarship is probably now its old-fashioned empiricist allegiance and a positivist commitment to data; to avoid strangulation at the hands of the post-modern devotees of Kali, it will have to develop more sophisticated public relations. Lenin is reputed to have said that the express train of history cannot be stopped; all that revolutionaries can do is grease the wheels.

THEMES IN THE INTERACTION OF LINGUISTICS AND ARCHAEOLOGY

Historical linguistics, lexicostatistics and glottochronology

The single most important theme of these books is the interaction of historical linguistics with archaeology. Historical linguistics may be defined as the analysis of the relationship between languages that are assumed to be genetically

related, that is to 'have sprung from some common source', such as English and German. Historical linguists attempt to establish the rules that have allowed each language to evolve from the common source and from this information to reconstruct hypothetical proto-forms. Usually this is based on the comparison of two or more languages, but the 'internal reconstruction' of a single language is also possible, using indications within a language, such as dialect variation or fossil morphology, to build up a picture of an earlier stage of that language. In the case of isolates such as Basque or Burushaski, this is the only procedure possible. Historical linguists are also increasingly concerned with the sociological aspects of the construction of a modern speech form: to establish the patterning of loanwords, the extent of former dialect variation and possible social distinctions in former stages of reconstructed languages.

Linguists are concerned to develop testable rules by which specific languages can be related to one another, relating to phonology, morphology and lexicon. These rules generate a tree-like genetic structure that allows the modelling of the relative antiquity of splits between different languages or other more complex aspects of their inter-relations (see Ross, Chapter 13, Volume I). Proto-forms predicted by the rules that relate two or more languages and a sequence of proto-languages can be reconstructed for nodal points in the genetic tree.

Lexicostatistics – the counting of cognate words in a standardized list, and assigning a numerical degree of relationship – seems to have been first used in the early nineteenth century. Dumont d'Urville (1834) compared a number of Oceanic languages (which would today be called Austronesian) and proposed a method for calculating a coefficient of relationship. He extended his comparison to some Amerindian languages and concluded that there was no evident relationship with the Oceanic languages in his sample. Hymes (1983) provides a detailed history of the further development of lexicostatistics in the nineteenth and twentieth centuries.

Another aspect of historical linguistics is glottochronology. Writers such as Wotton (1730) had the idea of calculating how rapidly languages change by comparing ancient texts of known date with the modern form of those languages. Robert Latham (1850) was probably the first author to sketch the possibility of assigning a precise date to the split of two languages through applying a mathematical algorithm. Hymes (1983: 73 ff.) cites other tentative experiments in the nineteenth century but these seem not to have been developed until Swadesh (1952).

Lexicostatistics and glottochronology have the attractive aspect of quantification: they seem to represent a scientific approach to the dating and genetic classification of languages. However, very few historical linguists now accept the premises of such approaches. In part this may reflect a wave of criticism of the mathematics underlying these methods (see discussion in Hymes 1983: 75). More important, however, has been the realization that languages undergo a variety of changes in interacting with one another. Lexicostatistics must assume a standard of lexical purity that allows languages to change at a regular

rate, especially in their core vocabulary. Using the generally accepted methods of historical linguistics, only relative dating is possible; for absolute dating linguists now turn to archaeology.

Historical linguistics as a discipline

Archaeology is taught as a method that can be applied to any situation, rather like economics, and although archaeologists divide into theoretical schools and schools develop their own terminologies, this is usually not location-specific. Indeed, within a single institution different methods may well be promulgated by individual scholars. In other words, the archaeology of, for example, Japan or Australia does not appear to have a large technical vocabulary that would not be immediately comprehensible to a regional outsider.

Although theoretical linguistics has comparable intellectual subdivisions, there is only a limited interface between historical linguists and the larger linguistic establishment. This is partly because historical linguistics remains a minority interest in a world dominated by syntax, phonology and, to a lesser extent, sociolinguistics. Historical linguists are often partly self-taught or take their cue from individual teachers. The consequence is that there can be striking disagreements over method and standards of evidence; this debate is most apparent in the case of the sometimes bitter disputes that have ranged over macrophyla.

Scholars of the older-established phyla often take a patronizing attitude to results from those phyla more recently recognized. This is particularly striking in the case of Indo-European, where the conviction that the phylum is well founded and that its reconstructions are accurate and convincing appears to be widespread among its adherents. A darkly humorous version of this can be seen in the comments of Hopper (1989), reviewing Thomason and Kaufman (1988), who contrasted the 'factually established genetic categories' such as Indo-European with 'broad-based guesses' such as Niger-Congo, Afroasiatic and Nilo-Saharan. The view taken in these volumes is that the major language phyla of the world that are accepted by the scholarly community are all equally well founded.

The Indo-Europeanist habit of ignoring what are strangely called 'minor languages' has resulted in a virtual lacuna in research on Indo-European languages of India with only small numbers of speakers. One of the more evident tendencies in Indo-European linguistics is to give primacy to written languages, such as Sanskrit. Thus, reconstruction of the Indo-Aryan languages is in terms of relating the present-day forms to attested Sanskrit (cf. Turner 1966), rather than subjecting the body of Indo-Aryan languages to the usual procedures of historical linguistics. The consequence has been a striking inadequacy of fieldwork to describe the more than 300 unwritten Indo-European languages spoken in the India–Pakistan region today (see the assessment of research needs in Grimes 1996). A rather similar procedure for Dravidian has allowed the assemblages of cognates compiled in Burrow and Emeneau (1984) to be cited as 'proto-Dravidian', even though their work is very Tamil-

centred. The conventional practice of historical linguistics in the region is thus in a rather backward state. Applying the standards of proof common, say among Austronesianists, would of course reduce Indo-European to a 'broad-based guess'.

Geographical coverage

All types of research have a patchy coverage when considered globally, but linguistics and archaeology have proven especially sensitive to political and economic constraints (see above). Different disciplinary traditions also lead to uneven emphases with particular regions. For example, although East Asian archaeology is well represented in terms of excavated sites, specific digs seeking the origins of food production are a relatively new phenomenon. The incidence of monuments can be in inverse relationship to an emphasis on economic prehistory. Countries with a dominant culture often discourage work on regional languages for fear of encouraging local aspirations. Until recently, the languages of China were poorly known, and research on minority languages unaccountably spoken by peoples not part of an officially recognized 'nationality' was strongly discouraged (Ramsey 1992: 162 ff.).

In addition, intellectual traditions and the organization of scholarship affect interdisciplinary work. Countries with national research centres that unite scholars from different intellectual areas, such as France, the former Soviet Union and Australia, are far more likely to produce interdisciplinary scholarship than England and America, where experts are ghettoized in university departments. Generally speaking, where careers depend upon publications, and only publications in a specific discipline are highly valued, there is every incentive to concentrate in one intellectual area to the exclusion of others. Indeed, in both linguistics and archaeology, intellectual justifications for excluding other approaches have been explicitly developed, as witness the example of generativism (Chomsky 1988).

The consequence has been that both historical linguistics and its combination with archaeology are developed to very different degrees in different parts of the world. The areas where the focus has been most significant are Eurasia and Oceania: Eurasia because of the Indo-Europeanist tradition and its remarkable survivals in the former Soviet Union, and Oceania because of the fortunate support for this type of approach in a few key institutions. India represents a curious lacuna in Eurasia, since, despite its importance in the early decades of the twentieth century and the production of the massive 'Linguistic Survey of India' during the 1920s, restrictions on research permits have led to an almost complete cessation of research by outside scholars on its some 500 unwritten languages. The New World and Africa have been marked by relatively small amounts of research. In Africa this may be due to nothing more than time-depth (convincing amounts of data have only recently become available) and lack of dedicated institutions. In the case of the Americas, however, despite the all-embracing tradition of anthropology, which conjoined archaeology, cultural anthropology, and linguistics, the

absence of a major tradition of synthesis suggests that the reality has been academic isolationism.

Texts and pretexts

One of the earliest interfaces between archaeology and language has remained distinct from the type of historical linguistics discussed here: the interpretation of ancient written documents and the decipherment of scripts. This story has been rehearsed too many times (e.g. Simpson 1985) to need further recounting, beginning with the decipherment of hieroglyphics and cuneiform, through to Hittite and other epigraphic languages of the Ancient Near East. In this century, decipherment has been extended to India, China and Central America, and continues today with recent proposals for the decipherment of the Olmec script of the Yucatan (Wichmann, Volume II). Epigraphy is also equipped with its own eccentric fringe: a Harvard Professor of Zoology tells us that inscribed rocks in Texas record the journey of migrant Zoroastrians from Iberia some 2,000 years ago (Fell 1980: 164).

Interpreting epigraphy and relating it both to known historical events and to excavated sites has been a major theme of archaeology, especially in the Near East. Indeed, the prominence accorded to written texts has obscured other types of interpretation of linguistic data. Thus, although a considerable amount of work is done translating, transcribing and interpreting ancient texts in a variety of Semitic languages, overall models of the evolution and dispersal of this language family barely exist. An example of this is the attempt by Zohar (1992) to interpret the spread of Semitic in the Near East. African Semitic languages (which are considerably more numerous and diverse than those of the Near East) are referred to as 'minor languages' in the text and excluded entirely from the family tree of Semitic (Zohar 1992: Figure 1).

There is a strong argument for supposing that much of the most innovative work in using historical linguistics has been brought about by the *absence* of ancient texts. Just as North American archaeology developed innovative analytic techniques to analyse the sites of hunter–gatherer communities, modelling in historical linguistics has been stimulated in regions of the world where there are no early texts.

Testable hypotheses

One of the attractive aspects of linking historical linguistics with archaeology is that it is possible to generate testable hypotheses. Linguists are usually way ahead of archaeologists in their speculations. Finding an informant for a language is easier and far less costly than mounting an archaeological expedition to search, for example, for the origins of food production. An experienced linguist can often elicit a range of basic and key cultural vocabulary in a few hours, whereas excavations often take many months and sometimes years. Historical linguists are often tempted to throw off hypotheses on the origins of food production far more quickly and perhaps more casually than would be permissible within other academic frameworks.

When a prediction is made, however, it can at least be tested. So, for example, if a historical linguist claims that certain species of domestic animal can be reconstructed back to the proto-language of a particular phylum, and at the same time makes a proposal for the homeland of the speakers of the proto-language, then excavations should ideally be able to confirm the presence of those species. An example of such a correlation is presented in the chapter by Green and Pawley (Volume III) where linguistics is used both to pinpoint a proposed homeland of Oceanic languages and to suggest the structural features of house-forms that should be present. Archaeology suggests that structures of the predicted type are indeed present. Such correlations are rare in practice, especially when only a small number of sites have been identified, but as the density of well-investigated sites increases, hypotheses can be subjected to a reasonable test.

Phyla and macrophyla

There are some language phyla whose existence is generally accepted, such as Indo-European or Austronesian, as a result of the weight of scholarly opinion. In a few cases, such as Nilo-Saharan, despite its introduction in the 1950s and a series of conferences since then, a body of scholarly comment exists questioning either its unity as a phylum or the families that compose it. In addition, there are regions of the world where a large number of languages exist that show common features but that have not been shown to be related to the satisfaction of most researchers. These 'geographical' names are often shown as phyla in works of synthesis. The most important of these are Papuan, Australian and Amerind: zones of languages with common features and coherent subgroups where overall genetic relations have proved resistant to the methods of historical linguistics. Similarities of phonology or other features do suggest a common origin, but it is possible that they have diversified so far from a common proto-language that proof will remain a chimera. Finally, in one case, Andamanese, inadequate data makes any final judgement impossible at present. Table 2 sets out the language phyla of the world and their status in this hierarchy.

It is not possible to order the class of 'accepted' phyla by degree of acceptance. In recent years, numerous publications have advanced the case for macrophyla, that is, the uniting of several accepted phyla into one genetic group. The best known example is Nostratic, a macrophylum that brings together most of the phyla of the Eurasian landmass, whose membership varies according to different authors. The journal *Mother Tongue* has published the speculations of 'long-rangers' who wish to promote continent-spanning comparisons. With increasing awareness of the traditions of such scholarship in the former Soviet Union, and the publication of some major texts (e.g. Bomhard 1994), this type of large-scale comparison has reappeared. Other more controversial proposals include Indo-Pacific and Amerind (Greenberg 1987) and Sino-Caucasian from the Soviet School, especially Starostin (e.g. Shevoroshkin 1992). These proposals have excited considerable scepticism, although most linguists do not

Table 2   Language phyla of the world and their status

Phylum	Usual acronym	Where spoken	Status/comment
Niger-Congo	NC	Western, central and southern Africa	Accepted
Afroasiatic	AA[a]	NE Africa and the Middle East	Accepted
Indo-European	IE	Eurasia	Accepted
Uralic	U	Eurasia	Accepted
Kartvelian	K	Caucasus	Accepted
North Caucasion	NC	Caucasus	Accepted
Chukchi-Kamchatkan	CK	Siberia	Accepted
Yeniseic	Y	Siberia	Accepted
Eskimo-Aleut	EA[b]	Bering Strait	Accepted
Dravidian	DR	India	Accepted
Sino-Tibetan	ST	Central Asia	Accepted
Miao-Yao	MY	China	Accepted
Daic (=Tai-Kadai)	D	SE Asia	Accepted
Austroasiatic	AS[a]	SE Asia	Accepted
Austronesian	AN	Pacific	Accepted
Trans-New-Guinea	TNG[b]	Papua New Guinea	Accepted
Pama-Nyungan	PNY	Australia	Accepted
Na-Dene	ND[b]	North America	Accepted though affiliation of Haida is debated
Khoisan	KH	Eastern and southern Africa	Usually accepted
Nilo-Saharan	NS	Eastern and central Africa	Usually accepted
Altaic	AT	Eurasia	Usually accepted although the affiliation of Korean is debated
Papuan	PP[b]	New Guinea	Consists of a large number of accepted groups but their unity is not considered proven
Australian	AU[b]	Australia	Consists of a large number of accepted groups but their unity is not considered proven
Amerind	AM[b]	Americas	Consists of a large number of accepted groups but their unity is not accepted
Andamanese	AD[b]	Andaman islands	Inadequate data make effective historical linguistics impractical

This table excludes a number of well-known isolates such as Basque, Burushaski, Ghilyak, Ainu and Japanese, as well as African isolates (see Blench this volume) and problematic languages of Asia such as Nahali and Kusunda.
[a] AA is unfortunately used for both Afroasiatic and Austroasiatic. AS is adopted here for Austroasiatic to eliminate confusion. PN is applied to Polynesian, hence the use of PP for Papuan here.
[b] Proposed acronym

command the vast range of data that would be necessary to give them a full evaluation (see Blench, this volume, for discussion of African examples). Ruhlen (1991: 270 ff.) gives a lengthy bibliography of 'alleged connections between families usually assumed to be unrelated', which suggests that almost any two or more of the world's language phyla have been related by some researcher.

Behind such enterprises is an intriguing and controversial agenda: the reconstruction of proto-World, or 'Proto-Sapiens' as Ruhlen (1994: 192) has it. The hypothesis that all human language has a common origin is certainly emotionally persuasive; the myth of the Tower of Babel still exerts a powerful pull. However, conviction is not proof and enthusiasm not demonstration. Although one of the most eloquent advocates of proto-World, Vitaly Shevoroshkin, has recited poems in this remarkable language on radio and television, this cannot yet conjure it into reality.

The exploration of long-range comparison has aroused considerable opposition; historical linguists working on a smaller scale are frequently outraged at the misuse of language data by non-specialists. Trask (1995), for example, has recently analysed in considerable detail the evidence for a traditional hypothesis linking Basque to Caucasian languages, and concludes that it depends in almost every case on a misuse or defective analysis of the Basque language materials. Thurgood (1994) has shown that the hypotheses, such as Benedict's Austro-Tai, that link together the major language phyla of SE Asia are based on ancient loanwords.

Between near-global hypotheses and accepted phyla stand more modest proposals that link together two phyla that already have a history of observed similarities. Two recent examples are Austric (linking the Austronesian and Austroasiatic phyla; Reid 1994) and Niger-Saharan (Niger-Congo with Nilo-Saharan; Blench 1995). The linking of Japanese (or Japonic) to the Altaic phylum has a venerable pedigree but still continues to generate controversy and cannot be regarded as accepted.

Intriguing as these planet-spanning proposals are, they remain to be critically evaluated by the body of historical linguists and thus cannot easily be used by archaeologists. Indeed, there are still few wholly convincing models to explain the origin and diversification of accepted phyla; to interpret the more doubtful macrophyla would be over-egging an already rich pudding.

Linguistics and genetics: 'The New Synthesis'

An aspect of the reconstruction of prehistory that has come to the fore since the mid-1980s is the use of evidence from genetics, especially from analysis of mitochondrial DNA. However, the reputations of traditional biological anthropologists have stood recently at an all-time low following analyses such as that of Gould (1982), who accurately skewered the underlying racial preoccupations of the supposedly scientific physical anthropologists of the nineteenth and early twentieth centuries. It should be noted that osteometrics remain acceptable in many European traditions, especially in France, as witness a standard text on human remains in the Sahara (Dutour 1989).

A major break with traditional biological anthropology occurred, however, with the development of modern techniques of DNA analysis, both because DNA could potentially be recovered from archaeological material and because DNA analysis seemed to offer a way of relating present human populations to one another and to past materials. Linguistic classifications of human populations seemed to offer a way beyond simple racial models; more abstract, they seemed to provide an ideal analogue to the classificatory trees from DNA. If DNA trees and language trees were to correspond, then this would provide striking mutual confirmation for models of human prehistory. Indeed, the links between them were enthusiastically promoted at the end of the 1980s and into the early 1990s as 'The New Synthesis' (see, for example, Cavalli-Sforza *et al.* 1988; Renfrew 1992). The culmination of this trend was the appearance of *The History and Geography of Human Genes* (Cavalli-Sforza *et al.* 1994), which promotes a major revision of the methodology for exploring human history.

Some archaeologists are among those disturbed by the implications of 'The New Synthesis' for encouraging narrow nationalistic readings of history, and restoring the discredited view of race, language and culture as generally co-terminous (Pluciennik 1996). Linguistic and archaeological naiveté aside, the new data of genetics are not being inserted into a political vacuum as geneticists sometimes seem to assume. A more self-critical awareness is clearly required when dealing with the implications of broad genetic generalizations linked most uncertainly, as Pluciennik points out, to archaeological entities.

Such entities themselves are sometimes subject to divisive claims by putative descendant groups. For instance, the continuing dispute over who are the 'real' Macedonians with a claim to the heritage of Alexander's symbols of power nearly brought Greece and the former Yugoslav Republic of Macedonia to war recently (Brown 1994). In such circumstances, genetic data are more than likely to be seized upon and misused to stir up feelings of enmity between the rival claimants. Language and archaeology have already been misused in this way.

More recently, there has been a distinct withdrawal from some of the claims of this type of work. The 'fit' between language trees and DNA results has been seen not to be quite as close as suggested in earlier publications. Chen *et al.* (1995: 610) compare genetic and language trees on a global basis and conclude that: 'The consensus between language trees and genetic trees is low . . . so low as to make the trees incomparable.' This will probably remain the case on the scale of phylic and macrophylic relations that they analyse. With very large landmasses such as Eurasia, language shift is an extremely common process, as the disappearance of Basque-related languages suggests. To find a people speaking their 'original' language may prove to be the exception. In contrast, much of the Pacific has seen expansion of populations into otherwise uninhabited territory. Almost certainly, Oceania will again prove an important testing-ground for the methods of DNA analysis as it has with linguistics and archaeology, because the parameters of population movement and contact can be simplified.

CONCLUSIONS: AN AGENDA PAST 2000

With the publication of these volumes, we hope that the process of synthesizing historical linguistics and archaeology will have largely shaken off its previously negative image. Many archaeologists still hold the view, either explicitly or implicitly, that linguistic and human biological evidence are either inadmissible or irrelevant in the discussion of archaeologically defined entities such as 'cultures'. At one level they are right: much confusion has occurred in the past by mixing the investigation of concepts and terms between the disciplines involved in researching the history of particular regions at too early a stage. If, however, it is history one is after, rather than simply a narrow archaeology, then archaeologists cannot ignore important sister disciplines such as historical linguistics, genetics and human biology when attempting to synthesize the evidence.

An encouraging trend of the last few years, represented by the interest shown in the language and archaeology sessions held at the New Delhi WAC Congress, is the increasing number of linguists and archaeologists who *are* interested in what multi-disciplinary research has to offer.

We must remain aware, however, of the abuses of the earlier part of this century, when biological, linguistic and archaeological data were combined wilfully to create extreme nationalist fantasies that race, culture and language are always coterminous. There are enough examples of this from recent and indeed contemporary history to necessitate critical self-awareness of how interpretations can come to be used in ways never intended, by people to whose views we may not wish to subscribe. The alarm bells sounded in some quarters over 'The New Synthesis' of archaeology, genetics and language need to be heeded.

As with all types of scientific change, paradigm shifts occur over time, though with a less revolutionary time-scale than that advocated by Kuhn (1962). Universities and academic institutions have been able to keep dominant schools of method coherent through control of publishing and because a relatively small circle of individuals were in power. As these networks of power increasingly fragment, as publishing becomes cheaper and more accessible (particularly with advances in information technology) and as more research takes place outside the academy, then more diverse approaches to interdisciplinary studies will be able to flourish.

With this added diversity of approach, the current unfortunate distinction between prehistory and history should lessen or even disappear. Both the study of the archaeological evidence of the past and the modelling of social change through historical linguistics should be considered valid approaches to the past. The result should be the study of the broad outlines of a human history that allows for a complexity in the past that is so evident in the present.

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NOTES

1   Although quoted in Leonard Bloomfield's 'Language' (1935: 6), the direct source in Voltaire's writings has yet to be uncovered, and there is more than a suspicion that this is a piece of convenient linguistic folklore.
2   Pictet also first used the expression 'linguistic palaeontology', often attributed to more recent authors.

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Introduction

ROGER BLENCH AND MATTHEW SPRIGGS

Volumes I and II of this sequence have dealt with the theory of relating archaeology and language in terms of 'broad-brush' correlation, exploring the connections over time and space between regional archaeology and language distribution across large areas of Oceania, Africa or central Asia. Volume III dealt more directly with the concrete linkages between material culture, texts and linguistic and archaeological sequencing. This final volume is intended to explore the more elusive areas of language change and language classification. As was the case with Volume III, it is intended to provide a feeling for the texture of current debate in terms of topics covered and methods used.

RETHINKING LANGUAGE CLASSIFICATION

The General Introduction attempts to emphasize the fluidity of language classification, a feature perhaps more obvious to editors than authors, as individual chapters tend to underline certainties. The first theme of the book deals with some contentious linguistic issues concerning the classification of languages. There is little doubt that much of the classificatory agenda in this century has been set by Joseph Greenberg (1963, 1987), whose hypotheses, even where wrong, have often become a major stimulus to other scholars to amend and expand upon them. Greenberg's first major field of enquiry was African languages and his classification was widely considered to be a success of the method of 'mass comparison' (Greenberg 1966). His results have been widely quoted in other disciplines, including all types of writing about the early history of the continent. Nonetheless, Greenberg's classification has been superseded in many areas and the newer versions are gradually beginning to replace the Greenberg model. Various summaries of the present classificatory situation in Africa have been published (e.g. Blench 1993, 1997), whilst Ruhlen (rev. ed. 1991) remains the best 'global' synthesis.

Apart from refining and adding detail to the internal classification of the major phyla, recent speculation has turned on the possible external links of