Language Distribution

Online resources to accompany *A History of Humanity: The Evolution of the Human System*
February 2020

Prologue

This online resource collection is to interpret the place of language in human history. It proceeds by classifying language phyla (or families), mapping language distributions, and tracing the movements and divergence of language phyla over time. It is a simplified presentation of a complex issue, with concise definitions and descriptions. It traces the logical order of language divergence and migration, summarizing the history of language divergence and movement in six periods from 65,000 years ago to 1,000 years ago.

Following the overall history of language change, separate stories are told for each of the 14 individual language phyla presented here. These stories provide descriptions of each Homeland, language migrations over time, maps, concise spreadsheets that show subgroups in each phylum, and citations of works on each phylum.

> To access the complete set of online materials associated with these resources, including high-resolution maps and the full spreadsheet for each language phylum, visit the Language Distribution Worldwide Dataverse. Also available through the dataverse are discussions on the effects of "language overlays," definitions of "macro-phyla" for very early times, early maritime migrations, and theoretical debates in historical linguistics.

Definitions

The **elements of language**, as understood by linguists, include *lexicon* (the meanings of words), *morphology* (the pieces of words and how they are fit together), *phonology* (the sounds made in any language), and *syntax* (the organization of lexicon, morphology, and phonology into meaningful sentences). Language **phyla** (singular **phylum**) are ancestral families of languages, defined here as families likely to have existed for more than 15,000 years. This analysis traces the history of 14 known phyla, with attention to their most prominent sub-families.

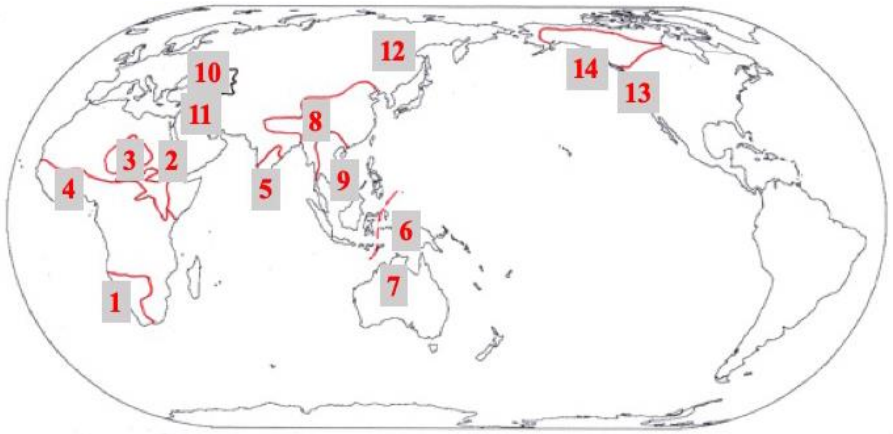
The order of language change is the principal emphasis in this historical summary. Languages change through an orderly divergence over time of their lexicon, phonology, morphology, and syntax. In the "tree model" that is applied here, descent of languages is unilineal, with a genealogy such that each language has a single parent but may have several sisters. For each phylum, a concise spreadsheet displays the top four levels at which languages diverged and gave way to daughter languages. Language families displayed in spreadsheets, along with locations of current languages, make it possible to estimate the places in which the parent languages were spoken. Relying on this approach of working from current to past languages, the materials here show estimations of the geographic homeland in which the founding language of each phylum was spoken. (Using more complex techniques, linguists also work toward reconstruction of the lexicon and syntax of the founding language of the phylum.)

Language phyla: homeland and distribution ca. 1500 CE

The accompanying map shows the estimated geographic homeland of each phylum and the geographic distribution of each phylum in ca. 1500 CE, before the migrations of the oceanic age. (Not shown are the many sub-families within each phylum).

1.Khoesan
2.Afroasiatic
3.Nilo-Saharan
4.Niger-Kordofanian
5.Elamo-Dravidian
6.Indo-Pacific
7.Australian
8.Trans-Himalayan
9.Austric
10.North Caucasian
11.Kartvelian
12.Eurasiatic
13.Amerind
14.Na-Dene

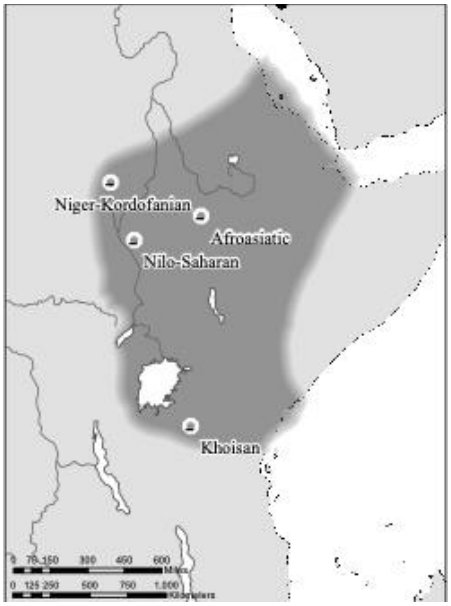
Language phyla, showing geographic distribution ca. 1500 CE.



History: Human expansion, as seen through language distribution.

Processes of change are fundamental to languages. Some direct or indirect descendants of early language families survive today, enabling us to estimate the process of their initial migration and settlement. On the other hand, more recent migrations and settlements have overlaid or imposed new languages that have replaced earlier languages, making it difficult to recover old language history. Below is a concise summary of the migration and divergence of languages and their speaking populations in six periods from 65,000 years ago to the recent past.

Origin of spoken language. It is assumed here that the process began with the rather sudden invention of spoken language—"proto-human" language—some 70,000 years ago, among people of the Northeast African region, who were a subgroup of the *Homo sapiens* population spread throughout the African continent. Further, it is assumed that the original language gave rise to all other human languages by processes of differentiation and divergence. While we have no direct linguistic evidence on the place of origin within this region, it is striking that four major phyla, the source of virtually all of Africa's languages, have their homeland in this general region. The Language Homeland has a very diverse ecology, supporting many sorts of plants and animals.



Pleistocene tropical expansion, 60,000 to 45,000 years ago. The initial language phyla whose descendants are now known as Khoesan, Afroasiatic, Nilo-Saharan, and perhaps Niger-Kordofanian took form at an unknown pace after the rise of a "proto-human" language. Early groups developed in the middle Nile Valley, later groups migrated to some distance away, and an alternation of large and small moves persisted over time. Migration eastward, into Asia, proceeded along the Indian Ocean littoral, relying on boats in significant measure. These migrations led to communities that formed the Elamo-Dravidian, Indo-Pacific, and Australian phyla. Similarly, and further inland, settlers formed the Trans-Himalayan and Austric phyla. In both Africa and Asia, the speaking human migrants encountered other hominins who lacked language: it is known that they interbred; those incorporated into the speaking *Homo sapiens* community may have learned to speak.

Pleistocene Temperate Expansion, 45,000 to 21,000 Years Ago. Humans entered the temperate zone 45,000 years ago, most likely by moving north from the Indus Valley or the Persian Gulf. Once they reached the grasslands that lay beyond the intervening deserts and mountains, the migrants moved both westward into Europe and eastward into northeastern Asia. Three phyla survive to reveal the story of the settlement of temperate lands—North Caucasian, Kartvelian, and Eurasiatic—but also the Basque family. Of these, Eurasiatic has since grown the most and thus preserves the best record of its origin and expansion. In Europe and Central Asia, the speaking human migrants encountered Neanderthal communities; again, it is known that they interbred.

Terminal Pleistocene expansion, 21,000 to 12,000 years ago. Soon after the most extreme moments of the Glacial Maximum, temperatures began to rise at a steady rate. This terminal Pleistocene era of warming encouraged migration in many parts of the world, and it also brought the development of housing and other new productive techniques by humans everywhere. Maritime migrants from northeast Asia traveled eastward to North America, relying on the "kelp highway" of offshore resources to travel beyond the Laurentide ice sheet until they settled at the Salish Sea (the region of today's Vancouver and Seattle) and created the Amerind phylum. From there, other voyagers moved southward along the western coast of the Americas, spreading the Amerind phylum across most of North and South America. Soon thereafter, a subsequent group of mariners arrived from northeast Asia, launching the Na-Dene phylum along the north Pacific coast and up the Yukon Valley. By 15,000 years ago, therefore, humans had settled most of the lands of both hemispheres.

Early Holocene, 12,000 to 6000 years ago. With fluctuations, the warming of the Earth continued for 4,000 years into the Holocene era. In this age, productive techniques expanded especially with the rise of agriculture and animal husbandry in several regions. Migrations of this era were no longer the occupation of lands empty of humans, but the entry of new settlers into existing settlements. Migrations overlapping the Terminal Pleistocene and Early Holocene included a dramatic expansion of Afroasiatic speakers from the Nile Valley to the west, north, and northeast, making their languages dominant in much of the then-grassy Sahara, North Africa, the Levant, and Arabia. In a parallel movement, speakers of Chinese languages expanded from southern highlands into the lowlands of what are now south China and the Yellow River Valley of north China. Far to the north, speakers of Yukhagir family of Eurasiatic languages occupied the Arctic littoral, moving to the west. Agriculture developed especially in the Levant and seems to have spread eastward to India, westward to Europe, and northward to the Caucasus, though the language groups of these early farmers are not yet known.

Middle and Late Holocene, 6000 to 1000 years ago. Agricultural technology continued to advance. Rice farmers developed paddy rice, relying on water buffalo to build terraces and irrigate their crops, settling lands on the Asian mainland and throughout the Philippine and Indonesian archipelagoes. Ox-plow-driven cultivation of wheat and barley, similarly, led to expansion of Indo-European speakers throughout Europe. Yam-farming Bantu-speakers, beginning near Mt. Cameroon, spread and diversified their production, eventually occupying most of the southern third of Africa. As horses became domesticated in the steppes of west and central Asia, the resulting war chariots enabled Indo-European and Altaic-speaking warriors to conquer widely until others adopted the weaponry. Yukhagir-speaking migrants moved to the west of the Urals, now relying on domesticated reindeer for traction and milk as well as meat. In North America, Algonkian-speakers spread from their homeland near the Pacific to become

dominant throughout the St. Lawrence Valley, while Penutian-speakers migrated southeast from California, ultimately becoming the main population of the Maya city-states of Central America. More widely known as "civilizations" but emerging in the same era were the urban populations of Mesopotamia, the Nile Valley, the Yellow River Valley, and the Indus Valley.

Within the most recent thousand years, wars brought substantial loss of life and widespread migration in the Mediterranean, West Asia, and East Asia. Most spectacular was the rise of the Mongol Empire, which was the primary force for Eurasian change for nearly two centuries. From 1500, languages of western Europe reached coasts around the world, as Russian language reached across Siberia. From 1800, western European languages overlaid languages of the Americas and, by 1900, became second languages in Asia, Africa, and the Pacific. Nevertheless, Chinese, Japanese, Arabic, and South Asian languages also spread through migration.

References

(In addition, see the references cited for each phylum.)

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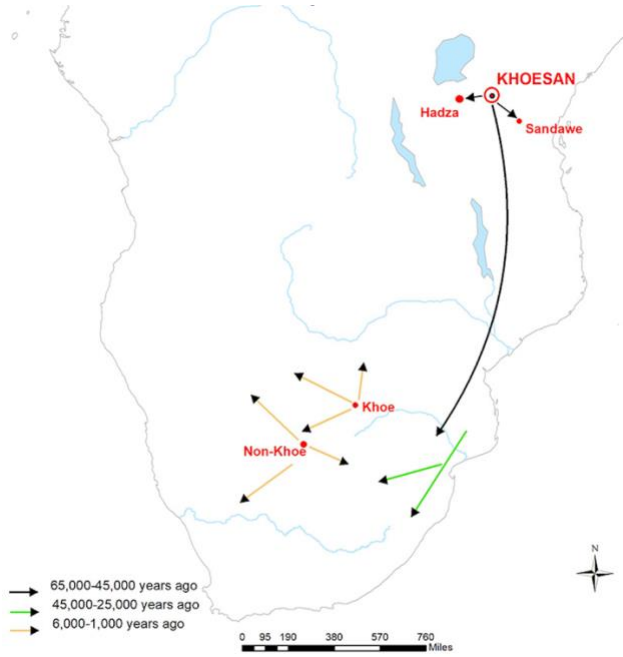
1.Khoesan

February 2020

Homeland.

Khoesan languages, now spoken primarily in southwestern Africa, give evidence of having had their homeland at the frontier of modern Kenya and Tanzania, especially as indicated by the Hadza and Sandawe languages, still spoken in that area. Languages within the Khoesan phylum have changed steadily with time (as have other languages), yet certain of the ancestral characteristics of each group remain.

Because the overlap from Bantu-speaking settlers during the late Holocene covered the traces of early Khoesan migrations, the map shows current distribution of Khoesan languages or language groups rather than the distribution and migration of Khoesan languages in late Pleistocene and early Holocene times.



1.Khoesan map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top four levels

Khoisan			
	Hadza		
		Hadza	
	Sandawe		!Xûû
		Sandawe	ǁX'auǁ'e
	Khoe		
		Khoekhoe	
			North
			South
		Kalahari Khoe	
			West
			East
	Non-Khoe		
		Ju	
			!Xûû
			ǁX'auǁ'e
			Ju|'hoan
		!Ui-Taa	
			!Ui
			Taa
		ǂHõã	
			ǂHõã
	Kwadi		
		Kwadi	

See "1.Khoesan" listing in full spreadsheet for Khoesan languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. The Khoesan phylum formed out of original speaking community. Assuming that the initial proto-human language split into two main groups, one may hypothesize that the ancestors of Khoesan languages were in one group, while all other known languages were in the other group. Speakers of languages within or closely related to the Khoesan phylum migrated from their homeland to the south and west, carrying a Late Stone Age technology with them. In southern Africa they encountered and presumably interbred with earlier hominin inhabitants of southern Africa, who used a Middle Stone Age technology. But the Middle Stone Age technology regained its dominance of southern Africa, apparently through better adaptation of its population to the habitat.

45,000–21,000 years ago. Khoesan-speakers and Late Stone Age technology advanced further into southern Africa, at the expense of previous inhabitants, aided by invention of bows and arrows.

21,000–12,000 years ago.

Holocene Changes.

12,000–6,000 years ago. Khoesan speakers expanded to most of southern Africa but lost some lands to the north as speakers of Afroasiatic expanded southward.

6,000 years ago–1000 CE. In the mid-Holocene, especially during the past 5000 years, Bantu speakers of the Niger–Kordofanian phylum migrated into East Africa and then into parts of southern and southwestern Africa. Khoesan speakers were gradually limited to southwestern Africa and to small settlements surrounded by Bantu speakers.

Commentary and Debates.

The characteristic sounds of Khoesan languages include several implosive “click” sounds. Some of these phonemes have been borrowed into nearby Bantu languages. Quentin Atkinson has claimed, based on genetic evidence, that the Khoesan homeland was in southwestern Africa.

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Ehret, Christopher. “Africa from 48,000 to 9500 BCE.” In Christian, *Cambridge World History*, Vol. 1, 372–74.

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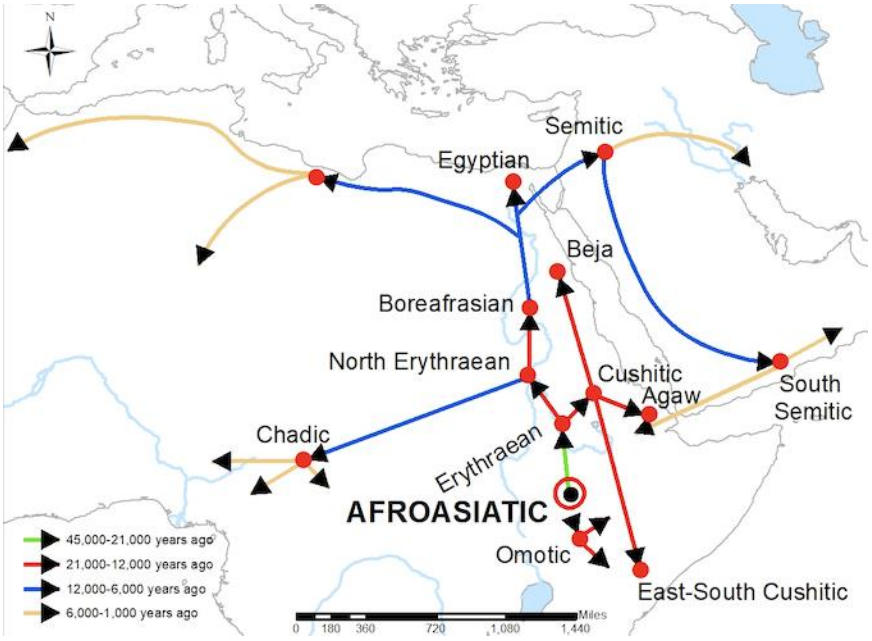
2.Afroasiatic

February 2020

Homeland.
The homeland of Afroasiatic languages lies in the middle Nile Valley. Its location is indicated by the division between the Omotic languages (all in the middle Nile Valley) and all other Afroasiatic languages.



2.Afroasiatic map, version 1. December 2019. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top five levels

Afroasiatic				
	Omotic			
		North Omotic		
			Dizoid	
			Gonga-Gimojan	
			Mao	
		South Omotic		
	Erythraean			
		Cushitic		
			Beja	
			Agaw	
			East-South Cushitic	
				Eastern Cushitic
				Southern Cushitic
		North Erythraean		
			Chadic	
			Boreafrasian	
				Egyptian
				Berber
				Semitic

See “2.Afroasiatic” listing in full spreadsheet for Afroasiatic languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. Languages ancestral to those of the Afroasiatic phylum emerged from the original speaking community and persisted within the homeland.

45,000–21,000 years ago. Languages of the Afroasiatic phylum took form and divided into Omotic and Erythraic families before the Glacial Maximum.

21,000–12,000 years ago. The division of Omotic into North and South and the division of Erythraean into Cushitic and North Erythraean likely took place in the era of late Pleistocene warming. Late in the Terminal Pleistocene, the Cushitic and North Erythraean groups underwent subdivision. East–South Cushitic overlaid some northern territories of Khoesan.

Holocene Changes.

12,000–6,000 years ago. Early Holocene warming encouraged the migration and separation of Cushitic and Erythraean groups. Chadic speakers settled the Lake Chad basin; Boreafrasian speakers moved to the lower Nile and then became the dominant languages of Northwest Africa, Egypt, and the Levant.

6,000 years ago–1000 CE. Roughly 2,000 years ago, Semitic-speaking merchants from South Arabia moved into Cushitic-speaking Ethiopia. Their languages, now known as Tigrinya and Amharic, became important and even governing languages of the region.

Commentary and Debates.

Because of the importance of Semitic languages in the spread of literacy from more than 3,000 years ago, many scholars have assumed that the Semitic homeland in the Levant was the homeland for a much wider range of languages and peoples. The ultimate ancestry of Semitic languages in the Afroasiatic homeland has now been confirmed.

References.

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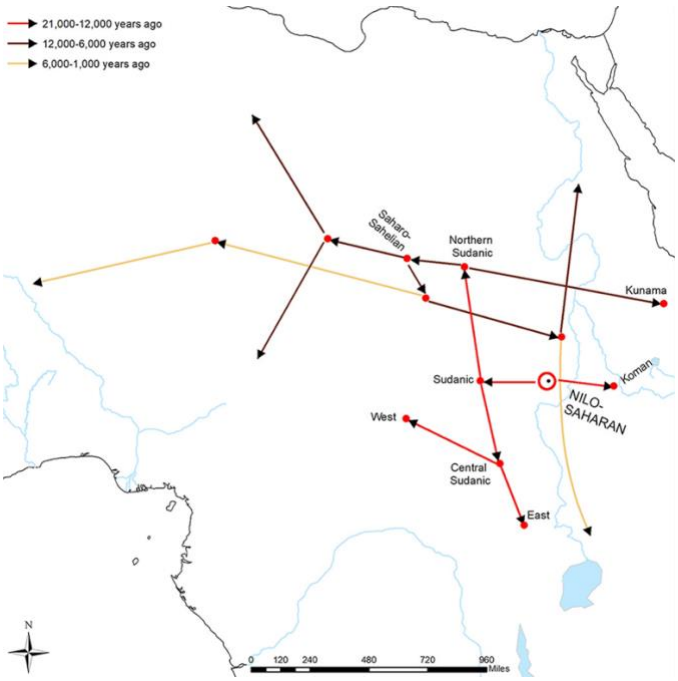
3.Nilo-Saharan

February 2020

Homeland.
The ancestral homeland for Nilo-Saharan languages is in the middle Nile Valley. It is indicated by the division between the two main families within Koman—Gumuz and Western Koman.



3.Nilo-Saharan map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top five levels

Nilo-Saharan				
	Koman			
		Gumuz		
			Gumuz	
		Western Koman		
			Southern Koman	
				Southwest Koman
				Kwama
			Gule	
	Sudanic			
		Central Sudanic		
			East	
				Lendu
				Mangbetu
				Mangbutu-Efe
				Moru-Madi
			West	
				Bongo-Bagirmi
		Northern Sudanic		
			Kunama	
				Kunama
			Saharo-Sahelian	
				Saharan
				Sahelian

See “3.Nilo-Saharan,” listing in full spreadsheet for Nilo-Saharan languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. Languages ancestral to the Nilo-Saharan phylum arose out of the original speaking community.

45,000–21,000 years ago. In this period, as Gregerson has argued, the Niger-Kordofanian family formed and separated from Nilo-Saharan.

21,000–12,000 years ago. In the late Pleistocene, the Koman languages remained centered near to the original Nilo-Saharan homeland in the Nile Valley, while speakers of Sudanic languages began to move to the northwest and southwest. Perhaps after the Glacial Maximum, the Central Sudanic languages divided into those in the east (south of the original homeland) and the west, in the basin of Lake Chad.

Holocene Changes.

12,000–6,000 years ago. During the early Holocene, the Northern Sudanic languages divided into Kunama (east of the Nile) and the Saharo-Sahelian languages (west of the Nile). The Saharo-Sahelian languages expanded within the warming and humid Sahara and spread as far west as the middle Niger. Various of the Central Sudanic languages expanded their terrain to the west and the south.

6,000 years ago–1000 CE. Speakers of Nilotic languages, a subgroup of Sahelian, moved with their cattle and crops southward and upstream along the Nile from 1000 BCE to 1500 CE.

Commentary and Debates.

The Nilo-Saharan homeland is remarkably close to that of Afroasiatic: the languages of the two phyla, however, have become very different. It is possible that the initial migrants to Asia from Africa were speakers of Nilo-Saharan or languages ancestral to Nilo-Saharan. Greenberg speculated about the possibility that this combination of languages was ancestral to Dravidian and Indo-Pacific.

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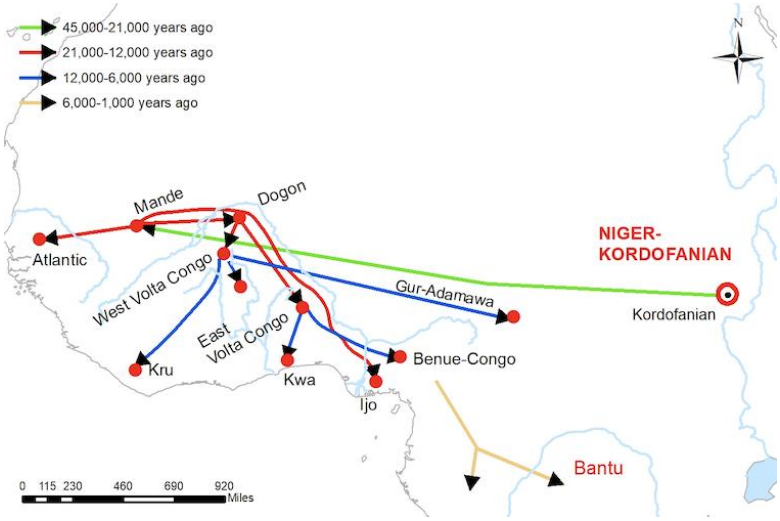
Gregersen, Edgar. "Kongo-Saharan." *Journal of African Languages*, 11 (1972): 69–89.

4.Niger–Kordofanian

February 2020

Homeland.
The homeland of Niger–Kordofanian languages is indicated clearly by the Kordofan Hills, where speakers of one branch of the ancestral phylum continue to live.



4.Niger-Kordofanian map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top five levels

Niger-Kordofanian				
	Kordofanian			
		Heiban		
		Talodi		
		Rashad		
		Katla		
	Niger-Congo			
		Mande		
		Atlantic		
		Ijo		
		Dogon		
			West Volta-Congo	
				Kru
				Gur-Adamawa
			East Volta-Congo	
				Kwa
				West Benue-Congo
				East Benue-Congo

See “4.Niger-Kordofanian,” listing in full spreadsheet for Niger-Kordofanian languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. Languages ancestral to the Niger–Kordofanian phylum arose out of the original speaking community, likely within the Nilo-Saharan phylum.

45,000–21,000 years ago. Niger–Kordofanian speakers arose within the Nilo-Saharan phylum, forming the Niger-Kordofanian phylum as of 40,000–50,000 years ago. Early speakers of Niger–Kordofanian may have migrated to West Africa, perhaps unsuccessfully, as earlier occupants maintained their hold on those lands.

21,000–12,000 years ago. After the Last Glacial Maximum, members of the Mande language family within Niger–Kordofanian successfully settled far to the west in the middle Niger Valley. Subsequent separations from Mande languages led to the Atlantic languages, west of Mande along the Atlantic; the Ijo languages, at a distance to the southeast in the lower Niger Valley; followed by Dogon, in hill country of the middle Niger. Migration from Dogon lands led to the formation of West Volta–Congo and East Volta–Congo language families, both at the frontier of savanna and forest ecologies.

Holocene Changes.

12,000–6,000 years ago. Mande spread both to the east and west along the savanna. West Volta–Congo divided into Kru (on the West African coast) and Gur–Adamawa, centered in today's Burkina Faso but extending eastward along the savanna, beyond Lake Chad. Settlers then moved south and into forested regions: East Volta–Congo divided into Kwa (from today's Benin to Ivory Coast), and Benue–Congo, in the lower Niger Valley.

6,000 years ago–1000 CE. Groups within eastern Benue–Congo expanded south and east to form Bantoid languages; groups within Bantoid, known as Bantu, expanded great distances throughout central, eastern, and southern Africa.

Commentary and Debates.

From the nineteenth century, linguists debated the ancestry of Bantu languages, recognized for their similarity across Central, East, and Southern Africa. Joseph Greenberg resolved the main debate in the 1960s, showing that all the languages closest to Bantu were in southwest Cameroon. Yet migrations of Bantu speakers were complex and dispersed across millennia—their details are still being worked out.

References.

Fourshey, Catherine Cymone, Rhonda M. Gonzales, and Christine Saidi. *Bantu Africa: 3500 BCE to Present*. New York: Oxford University Press, 2017.

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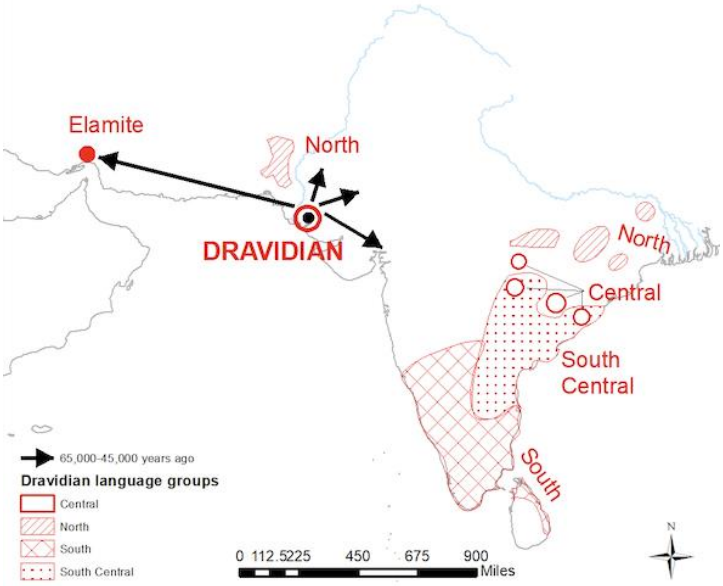
5.Elamo-Dravidian

February 2020

Homeland.

This phylum includes the languages descended from those of migrants who first moved along the Indian Ocean littoral, settling the region of the Persian Gulf, Indus Valley, and South Asia. The Dravidian languages are now spoken mostly in South India. The Elamite languages, once spoken at the mouth of the Persian Gulf and known only through their written form, are here assumed to have been parallel to Dravidian. Combining these elements, I place the homeland of Elamo-Dravidian near the mouth of the Indus.

Indo-Iranian and Indo-Aryan languages, brought by settlers from the north in the late Holocene, overlaid much of the territory of Dravidian and Elamite languages. It is hypothesized that Dravidian languages once extended to a much larger territory and included subgroups that did not survive, but there is currently no coherent evidence to support this argument. As a result, the map presents a present-day distribution of Dravidian languages.



5.Elamo-Dravidian map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top four levels

Elamo-Dravidian			
	Dravidian		
		North Dravidian	
			Brahui
			Kurukh-Malto
		Central Dravidian	
			Kolami
			Ollari
		South-Central Dravidian	
			Gondi-Kul
			Telugu-Chanchu
		South Dravidian	
			Tamil-Kannada
			Koraga
	Elamite		

See “5.Elamo-Dravidian,” listing in full spreadsheet for Elamo-Dravidian languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. It is assumed that Elamo-Dravidian languages or the ancestral stock of Elamo-Dravidian languages reached South Asia by 60,000 years ago and then spread throughout the region, including settlers speaking Elamite languages in the Persian Gulf and speakers of Dravidian languages in the Indus Valley and in most of what is today India.

45,000–21,000 years ago. One may speculate that speakers of this group of languages may have migrated northeast to the temperate zone to the north, roughly 45,000 years ago, perhaps giving rise to Kartvelian or North Caucasian languages.

Holocene Changes.

21,000–12,000 years ago. For North India and Iran, little can be known about languages in this era, as Elamo-Dravidian languages were largely overlaid by later-arriving Indo-Aryan and Indo-Iranian languages.

12,000–6,000 years ago.

6,000 years ago–1000 CE. Indo-Iranian and Indo-Aryan languages, brought by migrants from the north, increasingly overlaid and replaced the Elamite and Dravidian languages. There are a few remnant Dravidian languages in today's North India and Pakistan, but it appears that the whole of Elamite and substantial sections of Dravidian languages disappeared as Indo-Aryan and Indo-Iranian languages advanced, especially from 5,000 to 2,000 years ago. Sumerian language, known from texts written more than 5,000 years ago, has shown no relationship to other languages. If any relationship were to be discovered, one would first expect it to be within Elamo-Dravidian.

Commentary and Debates.

Some proponents of Hindu nationalist outlook claim that Indo-Aryan languages were always in South Asia. This is unlikely, given that Indo-Aryan languages are a subgroup of Eurasiatic, which arose in northeast Asia.

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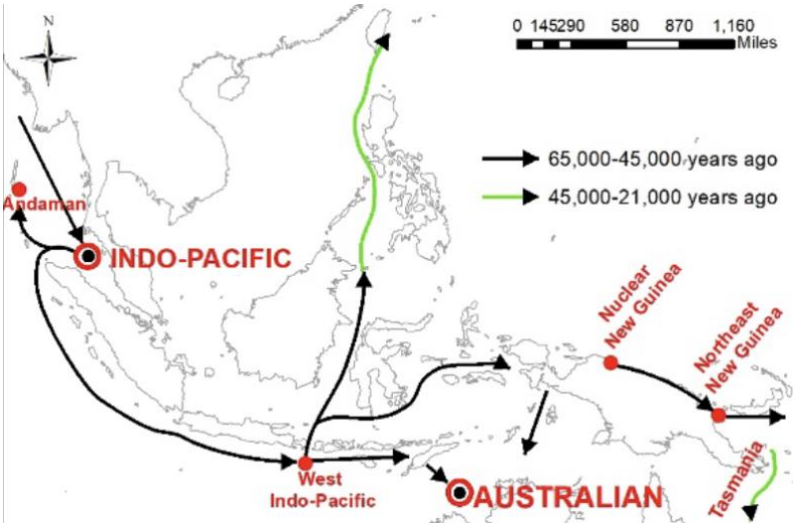
6.Indo-Pacific

February 2020

Homeland.
The homeland of Indo-Pacific is difficult to locate with precision. Because of the overlay by Austronesian languages as they expanded throughout the archipelago of Southeast Asia in the late Holocene, it has not yet been possible to identify traces of early Indo-Pacific languages in western Indonesia or the Philippines. It is assumed here that, since the settlers were moving eastward along the Indian Ocean littoral, they would have reached the west coast of Sunda (present-day Malaysia or Sumatra), established a homeland, and then dispatched settlers from that base throughout Sunda and Sahul.



6.Indo-Pacific map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Greenberg's 1971 classification of Indo-Pacific, drawing especially on the compilations of the German scholars Wurm and Schmitz, was based on the assumption that it was the language group of the original settlers of island Southeast Asia and Melanesia. As *Homo sapiens* first arrived, the region was in the form of the subcontinent of Sunda and the neighboring continent of Sahul. Greenberg's view of Indo Pacific included widely dispersed languages, including those of the Andaman Islands, the Solomon Islands, and Tasmania, along with New Guinea. These were allocated into the four regions of the hypothetical distribution of the phylum. The Australian phylum is widely believed to have diverged from Indo-Pacific in the late Pleistocene Epoch. Tasmanian languages are only faintly attested and are also argued to be subgroups of the Australian rather than the Indo-Pacific phylum.

Concise spreadsheet: top three levels

Indo-Pacific		
	Andamanese	
		Great Andamanese
		South Andamanese
	West Indo-Pacific	
		North Halmaheran
		Timor
		West New Guinea
	Nuclear New Guinea	
		North New Guinea
		Southwest New Guinea
		South New Guinea
		Central New Guinea
		East New Guinea
	Northeast New Guinea Pacific	
		Northeast New Guinea
		Panaras
		Uasi
		New Britain
		Central Solomons
		Bougainville
		Santa Cruz
	Tasmanian	

See "6.Indo-Pacific," listing in full spreadsheet for Indo-Pacific languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. Settlers moved throughout the regions of Sunda, Sahul, and the islands, by land and sea.

45,000–21,000 years ago. Recently discovered paintings—in caves in highland Sulawesi and Kalimantan—created 40,000 years ago suggest that Indo-Pacific speakers were ubiquitous in the region. At a certain point the Indo-Pacific languages would have diverged, with Australian languages becoming a separate phylum. Comparisons of Indo-Pacific and Australian languages have suggested 37,000 years ago as a time for that separation.

While the details of their watercraft and navigation systems are not known, the Indo-Pacific-speaking settlers spread to the Solomon Islands, and probably up the chain of islands to Taiwan, the Ryukyus, and to the Amur Valley in northeast Asia.

21,000–12,000 years ago. Genetic evidence suggests that people of ancestry similar to that of New Guinea were present in northeast Asia and among the early settlers of the Americas during the Terminal Pleistocene.

Holocene Changes.

12,000–6,000 years ago. The largest group of closely related languages within Indo-Pacific is the Trans-New Guinea family (as labeled by Wurm), and the largely equivalent Nuclear New Guinea families (as labeled

by Greenberg). In an overlay within the phylum, these languages likely expanded along with the rise of agriculture based on taro.

6,000 years ago–1000 CE. A major overlay of Indo-Pacific languages came from the north. Austronesian-speakers arrived in the Philippines from Taiwan, built communities relying on paddy rice, and expanded throughout the western Indonesian archipelago; they expanded in smaller numbers to New Guinea, Micronesia, and Polynesia.

Commentary and Debates.

Wurm's 1982 classification focuses on languages of Papua New Guinea, centering on Trans-New Guinea as the main language group of the region. In fact, Wurm's Trans-New Guinea phylum is quite similar to the Nuclear New Guinea portion of Greenberg's 1971 Indo-Pacific phylum, which includes other language families to the east, north, and west.

On another issue, Greenberg classified the Tasmanian languages as an Indo-Pacific group, thus implying a maritime voyage along the coast of Australia. Claire Bowern argues that Tasmanian languages are more likely a subgroup of the Australian phylum.

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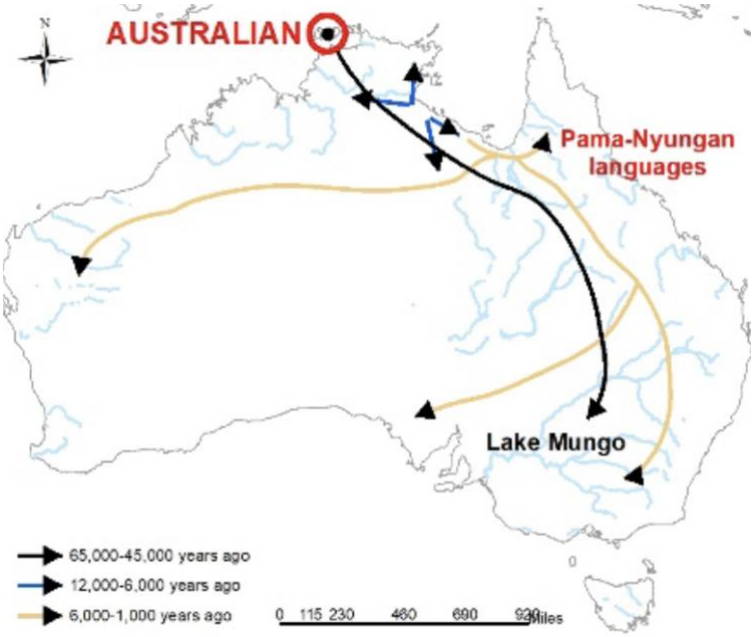
7.Australian

February 2020

Homeland.

Australia was settled, of necessity, by sea. Genetic analysis suggests that there were several settlements of Sahul (now Australia and New Guinea) from Sunda and its archipelago. The most obvious landing point for settlers of Australia – across the strait from Timor – remains a region of dense settlement, and I adopt it as the proposed homeland for Australian languages. Nevertheless, settlers in Australia quickly explored the vast space of the continent: the Lake Mungo site of the earliest known human remains in Australia is in today's New South Wales, far away to the southeast.

Linguists have confirmed that the Pama-Nyungan languages arose somewhere in northeast Australia, 5,000 years ago, and spread to over 90 percent of Australian territory. But no linguistic consensus has developed over the subdivision of the Pama-Nyungan languages or the subdivision among other language groups formed earlier.



7.Australian map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: recognized genetic groups within Australian

Australian			
	Arandic		
	Gngalakgan		
	Gunwinyguan		
	Mirndi		
	Ngumpin-Yapa		
	Nyulnyulan		
	Yarli		
	Pama-Nyungaan		
		(numerous subgroups)	

See "7.Australian," listing in full spreadsheet for Australian languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. Genetic and archaeological records suggest human occupation of Australia as early as 60,000 years ago and no later than 50,000 years ago.

45,000–21,000 years ago. Population appears to have been densest in the northern, more well-watered regions of Australia.

21,000–12,000 years ago.

Holocene Changes.

12,000–6,000 years ago. Pama Nyungan languages spread from northeast Australia to the south and west, overlaying the great majority of previous languages except in the north of Australia.

6,000 years ago–1000 CE.

Commentary and Debates.

Specialists are in consensus that there exists a single phylum of all Australian languages, but they have not agreed on subfamilies within the phylum. R. M. W. Dixon announced a subclassification of Australian in 1980: he has since disavowed it but continues to agree that Australian is a single phylum.

The Pama–Nyungan languages are agreed to have spread from northeastern Australia across most of the continent within the past 5000 years: they are thus assumed to have overlaid most previous language groups. Ongoing efforts to classify the earlier language groups of northern Australia plus the Pama–Nyungan languages have yielded partial results, which are indicated in the Concise Spreadsheet for Australian.

Bowern argues that "Australia must have been settled via New Guinea" (Bowern 2010, 3850). This thesis argues that Sahul was settled only once, through New Guinea, and that settlers spread rapidly through the continent. Bowern and others agree that the Australian phylum separated from Indo-Pacific roughly 37,000 years ago.

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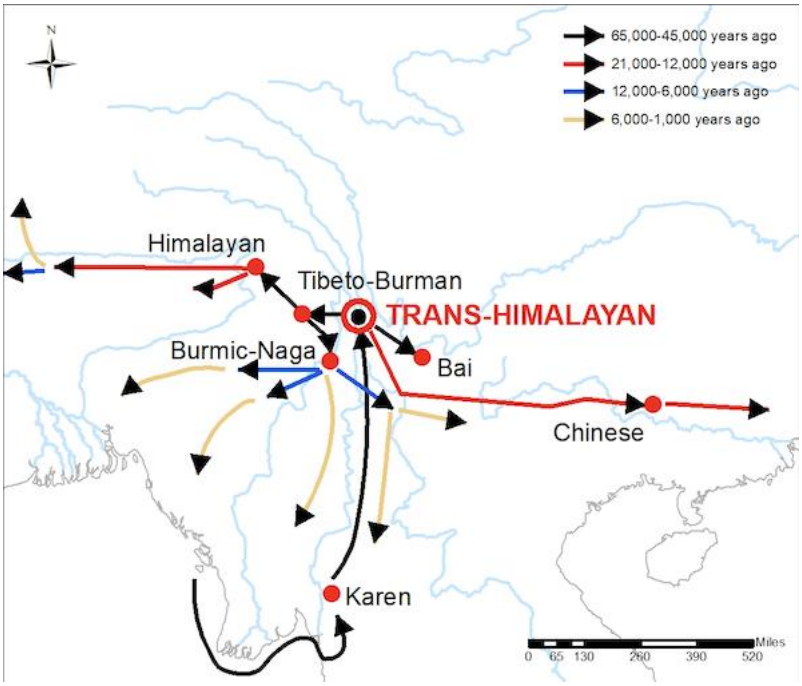
8.Trans-Himalayan

February 2020

Homeland.

The apparent homeland of Trans-Himalayan languages is in the highlands of Yunnan, where the valleys of the Brahmaputra, Irrawaddy, Salween, and Yangzi Rivers converge. There are also indications that a lowland region, now populated by Karen speakers, was an original node of settlement as humans moved eastward along the Indian Ocean littoral, and that settlers then moved into mountainous but productive regions.

The accompanying map displays the hypothesis that the Trans-Himalayan phylum arose from an initial settlement in the lower Salween Valley (now the homeland of Karen languages), followed by the establishment of a more substantial Trans-Himalayan homeland in the highlands. It also focuses on the early formation of Tibeto-Burman and Bai groups in the highlands, with other groups spreading west, east, and south in later times. Not shown on the map are the hypothetical movement of settlers south and west of the Himalayas who may have settled the temperate zone 45,000 years ago.



8.Trans-Himalayan map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top four levels

Trans-Himalayan			
	Karen		
		Pa'o	
		Pwo	
			Phrae Pwo
			Pwo Western
			Pwo Eastern
		Sgaw-Bghai	
			Bghai
			Brek
			Kayah
			Sgaw
	Bai		
		Central	
		Northern	
		Southern	
	Tibeto-Burman		
		Himalayan	
			Assam
			Himalayish
		Burmic-Naga	
			Burmic
			Kachin-Kuki-Naga
	Chinese		
		Yue	
		Hakka	
		Xiang	
		Min Nan	
		Pu-Xian	
		Min-Zhong	
		Min Dong	
		Min Bei	
		Gan	
		Huizhou	
		Wu	
		Mandarin	
		Jin	

See "8.Trans-Himalayan," in full spreadsheet for listing Trans-Himalayan languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago. Speakers of Karen languages, in the lower Salween Valley, may indicate a homeland community for migrants moving eastward along the Indian Ocean. Proceeding inland to the tropical highlands of Yunnan, later generations may have founded the Trans-Himalayan homeland.

45,000–21,000 years ago. In the Yunnan highlands, Bai, Chinese, and Tibeto-Burman families took form; Tibeto-Burman subgroups later moved both west and south. Within Southeast Asia, migrants may have descended from the Yunnan highlands along the Mekong Valley and, in the lowlands of the Mekong and the Red River Valley, formed the homeland for what became the Austric phylum.

21,000–12,000 years ago. Speakers of languages ancestral to Chinese spread eastward to the Pearl River Valley. Their descendants formed other Chinese languages as they migrated northward. Those who reached the Yellow River Valley built a dense population that would later spread back to the south.

Holocene Changes.

12,000–6,000 years ago. There is a clear path of westward spread of Himalayan languages along the southern foothills of the Himalayas, but also including some who crossed the mountains and settled the Tibetan Plateau. Rice cultivation, first under rain and later with irrigation, brought higher population density.

6,000 years ago–1000 CE. Speakers of Burmese languages spread down the Irrawaddy Valley, overlaying previous populations.

Commentary and Debates.

The ancestry and descent of Trans-Himalayan languages has been interpreted in widely differing fashions. The current fashion is to treat Trans-Himalayan as a late comer among language families, which arose during the Holocene. Earlier work, centered on the Dene–Caucasian thesis, treats Trans-Himalayan and its ancestral languages as central to the early settlement of Eurasia and even the Americas.

According to the Dene–Caucasian thesis, articulated especially by John Bengtson, the Trans-Himalayan (or Sino-Tibetan) phylum was a major source of settlers of temperate Eurasia. Specifics to support this thesis would argue that migrants moved west from Yunnan along the well-watered Himalayan foothills to the Indus River and turned north to follow the Khyber Pass and its extension north to the Central Asian steppes. Those moving west could form the North Caucasian phylum and continue to northern and southern Europe, where Basque language is arguably related to North Caucasian and Trans-Himalayan.

References.

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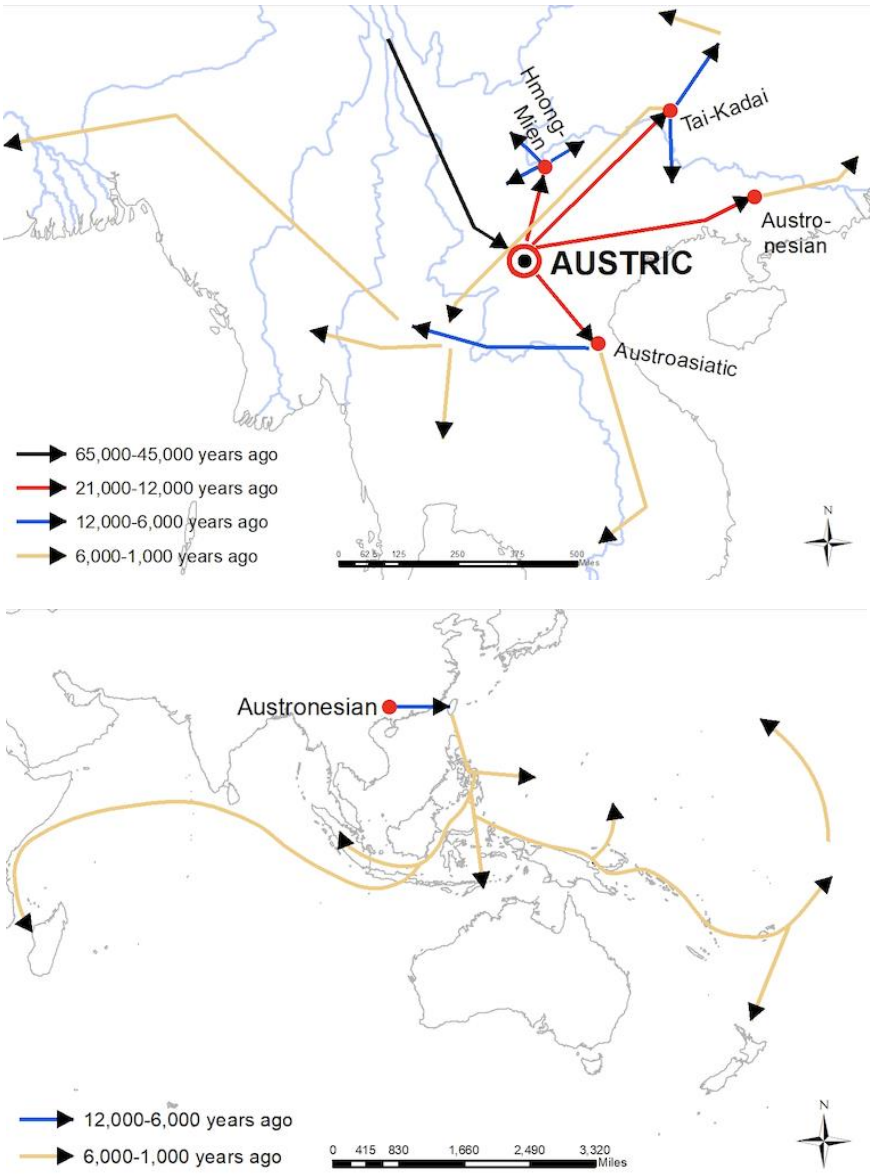
9.Austric

February 2020

Homeland.

The four main subgroups in the Austric phylum are widely recognized: Hmong-Mien, Austronesian, Austroasiatic (Munda and Mon-Khmer (including Vietnamese and Khmer), and Thai-Kadai (including Thai and Laotian). I accept the argument that these four language groups have a common ancestry, formed during the early settlement of Southeast Asia. I have proposed the plain of the Mekong and the Red River Valley in today's Vietnam as a likely spot for the homeland of this ancestral group. That highly productive region was not easily accessible from the west, especially in the Pleistocene era when the subcontinent of Sunda was greatly expanded by the low sea level. I hypothesize, therefore, that after the Trans-Himalayan homeland was established in Yunnan by migrants who ascended the Salween and other rivers, migrants later descended the Mekong River, founding the Austric homeland in the lowlands.



9.Austric maps, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

The main map focuses on the early differentiation of the Austric phylum into its four main subgroups. The map of the Indian and Pacific Oceans portrays the late Holocene maritime expansion of Austronesian-speaking peoples.

Concise spreadsheet: top four levels

Austric			
	Austroasiatic		
		Katuic	
		Bahnaric	
		Khmeric	
		Pearic	
		Khmuic	
		Vietic	
		Mangic	
		Monic	
		Aslian	
		Nicobarese	
		Palaungic	
		Khasian	
		Munda	
	Tai-Kadai		
		Northern	
			Kra
			Northeastern
		Southern	
			Hlai
			Be-Tai
	Hmong-Mien		
		Hmongic	
			Bahengic
			Sheic
			West Hmongic
			Xong
			Hmuic
		Mienic	
			Iu Mien
			Biao Mon
			Kim Mun
			Biao Min
			Dzao Min
	Austronesian		
		Formosan (9 languages)	
		Malayo-Polynesian	
			Western Malayo-Polynesian
			Central-Eastern Malayo-Polynesian

See “9.Austric,” listing in full spreadsheet for Austric languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago.

45,000–21,000 years ago. Migrants may have descended from the Yunnan highlands along the Mekong Valley and, in the lowlands of the Mekong and the Red River Valley, formed the homeland for what became the Austric phylum.

21,000–12,000 years ago. In the late Pleistocene, the Austric group divided into its four constituent groups without any long-distance migrations: they were the ancestors of Miao–Yao, Austronesian, Austroasiatic, and Tai-Kadai.

Holocene Changes.

12,000–6,000 years ago. The Mon–Khmer family established agricultural communities in the Mekong Valley. The Austronesian family established agricultural communities in the Pearl River Valley.

6,000 years ago–1000 CE. Expansion of each of the four groups. Best known is Austronesian, which spread from the Pearl River Valley of South China to Taiwan and then to all of island Southeast Asia and the Pacific and to Madagascar. Speakers of Munda languages moved westward into India. Also, the Nicobar Islands, now off the coast of Myanmar, came to be occupied by speakers of Austroasiatic languages, though they are not far from the Indo-Pacific-speaking Andaman Islands.

Commentary and Debates.

Paul Benedict made the case for an Austric phylum as ancestral to the four well-known families of Southeast Asian languages. While there is little analysis of Austric as a whole, its four constituent families—Austroasiatic, Tai-Kadai, Hmong-Mien, and Austronesian—are relatively well described.

An interesting historical puzzle is the languages of the Nicobar Islands, clearly within Austroasiatic and probably within the Mon-Khmer subgroup, yet at a distance from other languages in the family.

For Austroasiatic, Paul Sidwell distinguishes 13 groups within the phylum. He argues that an Austroasiatic homeland formed 4,000 years ago in the lower Mekong Valley, among groups that became Katuic, Bahnaric, Khmeric, and Pearic. Yet he tentatively ranks all 13 groups at a single level, arguing that lexicostatistical and other methods cannot yet set them in nested order.

Most linguists working on Austric languages assume that currently known languages have overlaid evidence of earlier language groups. For the case of Austronesian overlay of Indo-Pacific, this conclusion has been verified. But for Austroasiatic, Tai-Kadai and Hmong-Mien, it is work giving more attention to how current language distributions might reflect antecedent languages within the Austric phylum. In parallel analysis, there is need for archaeological work targeting early Holocene and Pleistocene times in Southeast Asia.

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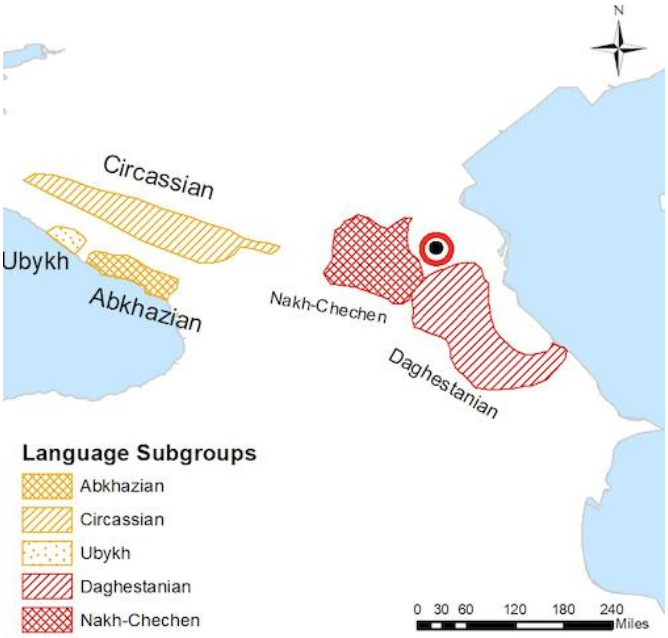
10.North Caucasian

February 2020

Homeland.

North Caucasian languages are limited to a small region, a fertile highland area that may be presumed to be its homeland. It is a phylum that apparently descends from the time of early occupation of temperate Eurasia, from 45,000 years ago. It is possible that the group once extended to a much larger area, as is suggested by the argument that the Basque languages of Iberia may be included in the North Caucasian phylum.

Because the North Caucasian phylum is confined to a small number of languages (under 40) in what is currently a very small area, there is little evidence to hypothesize long-distance relationships. While hypotheses have been proposed linking North Caucasian to Trans-Himalayan, Basque, and to the rise of agriculture in the Levant, the map here is limited to showing the distribution of North Caucasian languages today. In that distribution, the Nakh-Daghestanian group was established earlier than the Abkhazo-Adyghean group.



10.North Caucasian map version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top four levels

North Caucasian			
	Nakh-Daghestanian		
		Nakh	
			Bats
			Chechen
		Daghestanian	
			Avar-Andi-Dido
			Eak-Dargwa
			Abaza
	Abkhazo-Adyghean		
		Circassian	
			Adyghe
			Kabardian
		Ubykh	
		Abkhaz	
			Abkhaz
			Abaza

See “10.North Caucasian,” listing in full spreadsheet for North Caucasian languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago.

45,000–21,000 years ago. Initial settlers may have had their origins in the Trans-Caucasian, Elamo-Dravidian, or conceivably Into-Pacific phyla. From this temperate homeland, forager populations extended to the west, especially in mountain zones. The *Homo sapiens* settlers in Europe were long known as Cro-Magnon but might be properly classified as North Caucasian speakers.

21,000–12,000 years ago.

Holocene Changes.

12,000–6,000 years ago. Speakers of North Caucasian languages were possibly those who, living in today's Levant, first developed agriculture relying on wheat and barley. The Basque languages of the Pyrenees may preserve traces of the migration of these early farmers. Semitic speakers, arriving from Africa, subsequently became the dominant population of the Levant and Arabia, perhaps overlaying southern portions of North Caucasian languages.

6,000 years ago–1000 CE. Indo-European communities arose in the steppes north of the Black Sea and rapidly spread to the west, south, and east, overlaying and restricting North Caucasian languages to the Caucasian highlands.

Commentary and Debates.

The Dene–Caucasian hypothesis argues that North Caucasian, along with Basque, Yenisei, and Na-Dene, are all descended from Trans-Himalayan languages. In this view, the subsequent expansion of Eurasiatic languages overlaid most of these languages.

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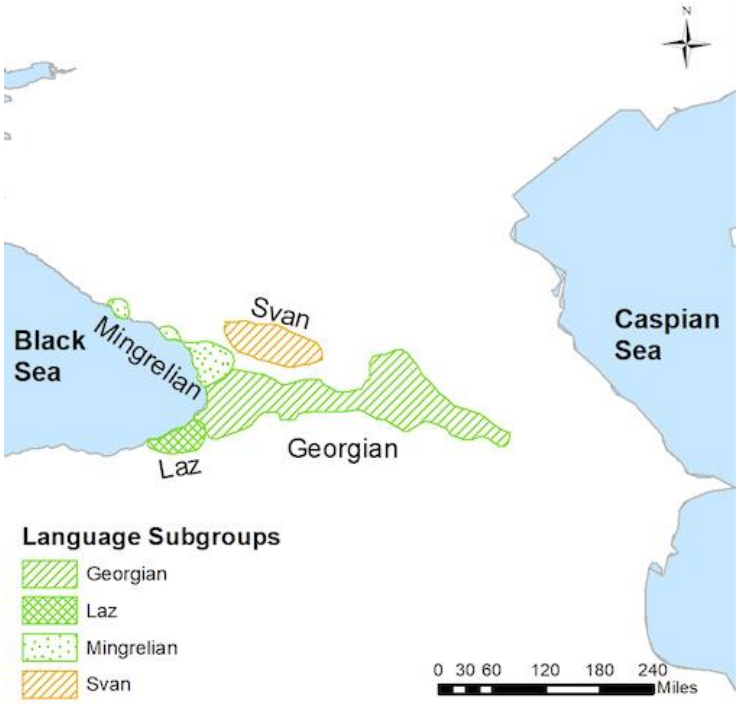
11.Kartvelian

February 2020

Homeland.

The Homeland of this phylum is the South Caucasus, settled roughly 45,000 years ago as *Homo sapiens* entered the temperate zone. One possibility is that these languages descended from Elamo-Dravidian languages.

Because the Kartvelian phylum is constrained to only four languages in a small area, there is insufficient evidence to hypothesize long-term migrations. The map is therefore limited to the contemporary distribution of Kartvelian languages.



11.Kartvelian map version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top four levels

Kartvelian			
	Svan		
	Karto-Zan		
		Georgian	
		Zan	
			Mingrelian
			Laz

See "11.Kartvelian," listing in full spreadsheet for Kartvelian languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago.

45,000–21,000 years ago. Settlers from the south occupied the highlands of the western Caucasus. Kartvelian speakers appear to have been the second group to arrive, after speakers of North Caucasian languages.

21,000–12,000 years ago.

Holocene Changes.

12,000–6,000 years ago. The separation of Svan and Karto–Zan may have taken place during the Terminal Pleistocene. It may be that the Kartvelian languages spread to a wider area in the era before the Glacial Maximum, but the later expansion of Eurasiatic languages took over most of the Eurasian landscape.

6,000 years ago–1000 CE. Separation of Georgian from Zan took place in the mid- to late-Holocene epoch.

Commentary and Debates.

Kartvelian languages today include four main languages spoken in and near the Republic of Georgia. Efforts to link Kartvelian to other languages of Eurasia have led to no widely accepted hypotheses.

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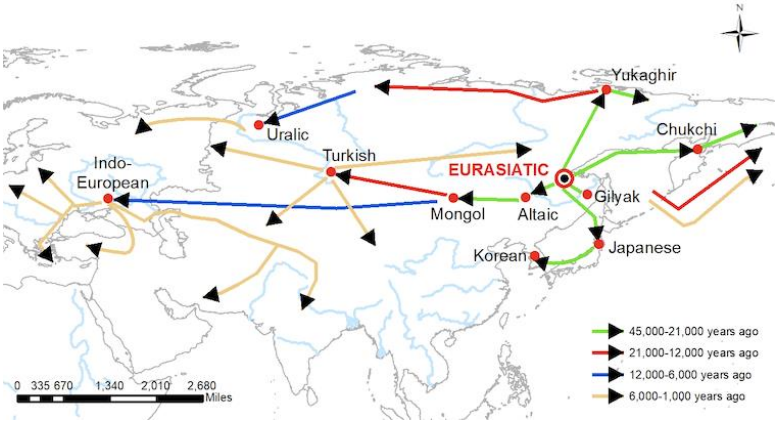
12.Eurasiatic

February 2020

Homeland.
For Eurasiatic, the homeland region is presumed to be the Amur Valley, based on the distribution of Eurasiatic subgroups around that center. From this region, language families spread north, south, west, and east.



12.Eurasiatic map, version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top three levels

Eurasiatic		
	Gilyak	
	Altaic	
		Tungistic
		Mongolian
		Turkic
	Chukotian	
	Korean-Japanese-Ainnu	
		Korean
		Japanese
		Ainu
	Yukaghir-Uralic	
		Yukaghir
		Uralic
	Indo-European	
		Anatolian
		Armenian
		Greek
		Albanian
		Italic
		Slavic
		Baltic
		Germanic
		Celtic
		Tocharian
		Indo-Iranian
	Etruscan	
	Eskimo-Aleut	
		Aleut
		Eskimo

See "12.Eurasiatic," listing in full spreadsheet for Eurasiatic languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago.

45,000–21,000 years ago. Establishment of the Eurasiatic phylum took place no earlier than 45,000 years ago, in the Amur Valley, by settlers who presumably came from the west. Eurasian languages presumably were descended from one of preceding the language phyla, but no candidate has been advanced in detail. Arguing in geographic terms, I propose that Trans-Himalayan languages were the most likely ancestor of Eurasiatic. Initial expansion of Eurasiatic was in northeast Asia in times before the Glacial Maximum. Maritime and riverain technology—relying on boats made of skin sewed around wooden frames—became important, enabling migrants to move south to Japan and Korea, north to Chukotia, and along rivers to form the Yukhagir and Altaic groups. Arrival of maritime settlers from the south, of Indo-Pacific-speaking origin, may have strengthened the maritime tradition of Eurasiatic speakers. Before 22,000 years ago, migrants from one of the Eurasiatic subgroups left Northeast Asia by sea and settled in North America at the Salish Sea and Oregon, becoming the Amerind phylum.

21,000–12,000 years ago. Indo-European and Etruscan families formed (out of Altaic or Yukhagir–Uralic ancestors), at the western fringe of the Eurasiatic language zone. At about 18,000 years ago, migrants from Northeast Asia, speaking Dene languages also spoken in that region, moved by sea to North America. Details of their arrival are shown for the Na-Dene phylum.

Holocene Changes.

12,000–6,000 years ago. Yukhagir-speaking migrants moved west as temperatures rose, forming the Uralic subgroup; they specialized in hunting and then domesticating reindeer. The Altaic group remained based in the east but sent migrants across the steppes. The Indo-European subgroup, centered north of the Black Sea, spread east, west, and south, adopting agriculture that had been developed by preceding groups.

6,000 years ago–1000 CE. Uralic speakers spread further west to the Baltic and Atlantic. Inuit-Aleut formed in northeast Asia and spread east across the Aleutian Islands and the polar fringe of the Americas, in a parallel to Yukhagir–Uralic communities, but focusing on fish and dogs. Altaic spread widely with horse culture, then horses spread beyond the limits of Altaic society.

Commentary and Debates.

Understanding the overall language distribution of temperate Eurasia has been difficult. Indo-European languages were described early and effectively but the relationship of Indo-European languages to other language groups has been hypothesized in several contradictory ways. In Greenberg's Eurasiatic, Indo-European is a late-developing subgroup, which grew rapidly and widely in Holocene times. In Dolgoposky's Nostratic, Afroasiatic, Dravidian, and Kartvelian are added to Eurasiatic, and it is assumed that the homeland of the Nostratic phylum was in the Levant or Caucasus during the Terminal Pleistocene.

Greenberg's classification of Eurasiatic follows rather closely the structure of his classifications of Niger–Kordofanian, Afroasiatic, Nilo-Saharan, Amerind, and Na-Dene. In each case, the distribution of language families clearly reveals a homeland region and a sequence of expansions.

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Ehret, Christopher. "Nostratic—or Proto-Human?" In *Nostratic: Examining a Linguistic Macrofamily*, eds. Colin Renfrew and Daniel Nettle, 93–122. Cambridge: The McDonald Institute for Archaeological Research, 1999.

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13.Amerind

February 2020

Homeland.

Formation of the Amerind group took place in the warming period following the Glacial Maximum. Mariners from northeast Asia voyaged past North America's Laurentide ice sheet by relying on the "kelp highway" of rich maritime resources. They settled in a homeland clearly demarcated as the Salish Sea region—the coastal region from today's Vancouver to Seattle. The density of ethnic groups remaining in this region marks it as a center of dispersion. Settlers spread inland to expand the Almosan–Keresiouan languages; other groups sailed south along the coast, settling at additional points.

13.Amerind map version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top three levels

Amerind		
	Northern Amerind	
		Almosan-Keresiouan
		Penutian
		Hokan
	Central Amerind	
		Oto-Manguean
		Uto-Aztecan
		Kiowa-Tanoan
	Chibchan-Paezan	
		Chibchan
		Paezan
	Andean	
		Aymara
		Itucale-Sabela
		Kahuapana
		Northern
		Quechua
		Southern
	Amazonian	
		Equatorial-Tucanoan
		Carib-Pano-Ge

See "13.Amerind," listing in full spreadsheet for Amerind languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago.

45,000–21,000 years ago.

21,000–12,000 years ago. Settlers moved rapidly from the homeland to establish the main Amerind language families. These included settlement of Hokan and Penutian groups along the coast of California; of Central Amerind group along the west coast of Mexico; the Chibchan–Paezan group on the west coast of Colombia; and the Andean group on the coast of Peru. From the Chibchan–Paezan group, one may hypothesize that settlers crossed the Andes at the low and narrow point in today's Ecuador and moved somewhat downriver to form communities and language groups in the upper Amazon Valley. Greenberg classified and subgrouped the resulting languages into Equatorial-Tucanoan and Ge-Pano-Carib, but the geographical distribution of groups and subgroups suggest strongly that settlers radiated out rapidly from a homeland. This hypothetical grouping, as shown on the accompanying map, is here labeled "Amazonian" and Greenberg's five eastern groups are listed as subgroups of Amazonian.

Holocene Changes.

12,000–6,000 years ago. Movement of Penutian speakers from northern California to the Gulf of Mexico and along the Caribbean to Yucatan and Guatemala: Maya languages are of the Penutian group. In eastern South America, it appears that the forested Amazon Valley was settled first, after which settlement increased in the grasslands to the south and east. Andean languages spread south on both sides of the Andes.

6,000 years ago–1000 CE. Among the migrations in this era was the movement of Algonkian speakers from Oregon to the east, where they became the dominant population in the Great Lakes area. In the same period, Tupi speakers moved eastward from the uplands of the Paraná, becoming prominent in much of eastern Brazil.

Commentary and Debates.

Greenberg, after an initial 1971 classification of Amerind languages, published a coauthored 1986 *Current Anthropology* article with evidence that dental and genetic data were consistent with a single occupation of most of the Americas by migrants from Asia. Linguist Lyle Campbell led a vociferous attack, arguing that large language groups could be accepted only if they were fully reconstructed; Campbell went on to make similar arguments about against Altaic and other language families. Linguists remain split on these issues.

Greenberg and Ruhlen listed six main subgroups of Amerind, two of which (Equatorial-Tucanoan and Ge-Pano-Carib) are limited to the Amazon basin and the Atlantic coast of South America. I argue that the migratory logic of the rapid human occupation of South America suggests that the latter two families must be descendants of one or another of the Pacific coastal groups—Chibchan-Paezan or Andean. Specifically, I argue that Equatorial-Tucanoan is most likely a subgroup of Chibchan–Paezan. I also suggest considering Ge–Pano–Carib either as a subgroup of Equatorial–Tucanoan or as a subgroup of Andean. In the latter case, the Bolivian lowlands would be seen as the homeland of Ge–Pano–Carib.

References.

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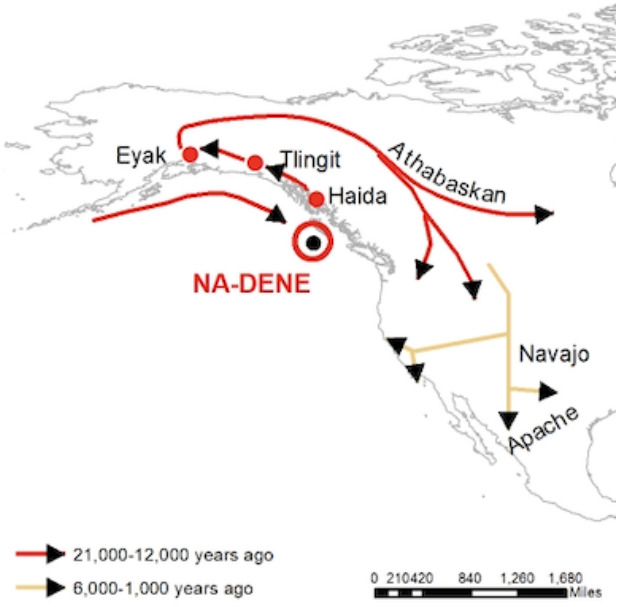
14.Na-Dene

February 2020

Homeland.
Haida Gwaii, an island free of ice before 17,000 years ago, was the basis of settlement by sea of those who became Na-Dene speakers. As the ice sheet melted, settlers from Haida Gwaii spread north along the coast to central Alaska and beyond.



14.Na-Dene map version 1. *Courtesy of the University Library System, University of Pittsburgh; generated by Boris Michev.*

Concise spreadsheet: top four levels

Na-Dene			
	Haida		
	Continental		
		Tlingit	
		Athabaskan-Eyak	
			Eyak
			Athabaskan

See "14.Na-Dene," listing in full spreadsheet for Na-Dene languages by groups and subgroups.

Pleistocene Changes.

65,000–45,000 years ago.

45,000–21,000 years ago. Settlers from northeast Asia moved by land to Beringia, land between Siberia and Alaska exposed by the low sea level in the era of the Last Glacial Maximum

21,000–12,000 years ago. Speakers of Na-Dene languages arrived from Northeast Asia and settled later and further north than the Amerind speakers. They occupied the Canadian island of Haida Gwaii that was free of ice about 18,000 years ago, then moved northward along the Canadian coast to establish the Tlingit and Eyak communities. Later migrants moved inland to the Yukon valley of eastern Alaska: it is unclear whether there were Na-Dene overlays or prior settlements of Beringians in this part of Alaska. Further Na-Dene speakers migrated throughout Athabaska, southeast along the interior Yukon and Mackenzie Valleys. Thousands of years later, Athabaskan groups—the Navajo, for example—moved further south to Arizona and New Mexico.

Holocene Changes.

12,000–6,000 years ago.

6,000 years ago–1000 CE. Na-Dene-speaking migrants moved further south along the Rocky Mountains, leaving linguistic traces in Utah, and forming small settlements to the west in coastal California and to the south, where the Navajo became the principal Na-Dene-speaking community.

Commentary and Debates.

Greenberg reaffirmed, in 1971, Edward Sapir's 1915 classification of the Na-Dene language family. In the 1986 debate over languages of the Americas, opponents to Greenberg accepted Athabaskan languages as a grouping but rejected Eyak, Tlingit, and especially Haida as parts of the grouping.

References.

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Sapir, Edward. "The Na-Dene Languages: A Preliminary Report." *American Anthropologist* n.s. 17 (1915): 534–58.