

## FORUM: Studies in Migration Worldwide

# Mid-Holocene Migrations: Another view of the rise of Civilization

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The human species is remarkable among all forms of life for its recurring yet eclectic patterns of migration. In addition to the seasonal migrations that are common to so many species (following food or returning to favored sites for reproduction), humans have migrated in all directions and have settled virtually every space on earth. Even after settling all the continents, humans responded further to the urge to migrate, moving as individuals and in groups to settle among existing populations, to explore new environments, travel to distant venues for their livelihood and, more recently, to cluster among the bright lights of the city.

Human migration, especially "cross-community migration," is arguably an inherent human practice—an instinct—that shapes all human society. Migrant individuals and groups, especially young adults, leave their home community willingly or under duress, traveling to enter other communities. There they must learn new languages and customs to fit in, but they may also introduce their own practices and terminology into their adopted neighborhood. With time, the migrants may remain as settlers, return home, or venture further. More broadly, this process of migration preserves contact among communities and spreads ideas and innovations.<sup>1</sup>

This essay focuses on what we can learn by comparing migration from era to era. For present purposes, I have divided the experience of migration into four great eras, of which we explore the third in detail. As a prelude, we address migration in the initial period of human expansion throughout the Eastern Hemisphere (up to 25,000 years ago) and then in the complex era from 25,000 to 8,000 years ago. At its center, the essay concentrates most fully on what may be called a "middle period" in human migration, when agriculture had been fully and comfortably developed, but before the written record began. Finally, as a sequel, we consider migration and the rise of diasporas in the era of literacy during the past 3000 years.<sup>2</sup> Overall, the essay addresses how our knowledge of migration varies by era, and how migration itself changed over time.

### Prelude: Migration in Late Pleistocene and Early Holocene Eras

Over the long term, human migration has been conditioned substantially by changing climatic conditions and also by the periodic development of new technologies enabling more intensive exploitation of the environment. For these reasons, the chronology of this essay is set primarily in geological and climatological terms, and then is nuanced further by shifts in human technology. For geologists, the Pleistocene Era (from 2.5 million years ago to about 12,000 years ago) is based on recent rock formations: it concludes with the Younger Dryas cold spell, which ended 11,700 years ago. The Pleistocene Era was the time in which the genus *Homo* emerged in Africa; the rise and spread of *Homo sapiens sapiens* came late in the Pleistocene. The succeeding Holocene Era is defined by geologists to include the period from 12,000 years ago to the present. Within it the Early Holocene era, from 12,000 to 8,000 years ago, brought rapid warming, increased humidity, and rapid rise in sea level. What I am

calling the "mid-Holocene" era, from 8000 to 2000 years ago, was a period of relative warmth and remarkable stability in climate.<sup>3</sup>

On top of this concise picture of geological and climatological change, we now impose periods of migration, based on our understanding of human technological and social change. The modern human species emerged in Africa roughly 200,000 years ago. A regional subgroup of those communities, based in northeast Africa, began decisive expansion throughout Africa and the Eastern Hemisphere about 70,000 years ago. From that point until about 25,000 years ago, human expansion took place in an era in which temperatures declined steadily and relatively smoothly.<sup>4</sup> These small communities, with basic tools and with newly developed languages that set the patterns for our own speech, found themselves able to settle in new and different habitats. By 50,000 years ago they had spread throughout Africa to their west and had spread eastward along the Indian Ocean coast, occupying India, Southeast Asia, and Australia. By 40,000 years ago they had moved north to the cooler, temperate zones of Europe and northern Asia. Migrations did not stop once territories were occupied: communities found a range of reasons to move in new directions. Currently available evidence documents these communities and their migration through archaeological, genetic, and linguistic references, though it is difficult to be specific at present about the details of the migrating communities.<sup>5</sup> During this early era, humans subsisted mainly by various types of foraging, including hunting and fishing, although each new ecology required new techniques and social arrangements.

From the end of the Pleistocene into the early Holocene -- from 25,000 years ago to 8000 years ago -- the climate and natural environment fluctuated wildly, while human technology advanced remarkably. Temperatures dropped precipitously from 25,000 years ago to a low point 18,000 years ago, bringing large-scale glaciation in Europe, North America, and mountainous regions. Then a rapid rise in temperature continued until 13,000 years ago, when temperatures dropped again for a thousand years to a near-record low. Then temperature, humidity, and sea levels rose relentlessly until 8000 years ago, at which point they stabilized at levels very much like those of today.<sup>6</sup> Remarkably, this chaotic era of climate change was also the time of rapid shifts in human technology. Most famously, agriculture developed in several parts of the world during the warming after 12,000 years ago. Also in the late Pleistocene and early Holocene, humans began the domestication of animals, developed ceramics through their expanded facility with fire, and greatly expanded the construction of permanent homes.<sup>7</sup>

Migrations were an important part of the changes in human society in this late-Pleistocene and early-Holocene era. Populations had to retreat from zones where glaciers and deserts expanded; other great migratory movements are believed to have taken place. But the complexity of environmental changes, combined with the limitations on available evidence, leaves us with great and unresolved debates: we remain uncertain on the timing, the routes, and the social conditions of several migrations of this era. In the most debated instance, the initial settlement of the Americas took place as early as 25,000 years ago and as late as 16,000 years ago; it took place perhaps by movements on land and perhaps along the Pacific coast by watercraft; the settlers came perhaps from Northeast Asia and perhaps from Southeast Asia.<sup>8</sup> In a second great area of controversy, the Indo-European languages took form as early as 20,000 years ago and as late as 8000 years ago; their homeland was either north, south, west, or east of the Black Sea; the expansion of populations speaking Indo-European languages was either through the movements of foraging peoples or through farming, especially of wheat and barley.<sup>9</sup> In another area of debate, this was arguably the era in which Semitic-speakers came to the Fertile Crescent, Egyptian-speakers came to the lower Nile, and Berber-speakers came to northwest Africa -- all of these languages having ancestry in the middle Nile Valley, south of the desert -- although some scholars debate the timing and even the point of origin of this migration.<sup>10</sup> Further, speakers of Chinese languages are thought to have spread from the south coast of China northward to the Yellow River Valley at during some part of this period, but the timing and process of this migration remain unclear. In contrast to these important but still poorly documented migrations of the period before 8000 years ago, the migrations of the mid-Holocene are much more fully understood: we turn now to them.

## **Agricultural Migrations in the Mid-Holocene, 4000 BCE–1000 CE**

By 8000 years ago, the Holocene era had become well established as a time of remarkably stable climate, with relatively warm and humid conditions. These optimal climate conditions, combined with the agricultural techniques developed in previous millennia, facilitated the spread of agriculture worldwide. In addition, and because the mid-Holocene is a more recent and less complicated era, the documentation available to scholars today is fuller and clearer. The archaeological record is far more detailed and the level of consensus among scholars investigating the history of language record is far fuller.<sup>11</sup> As a result, for the period beginning five thousand years ago—well before the expansion of written sources some three thousand years ago—we are able to trace certain major migratory movements and account for major social and cultural factors. These migrations are the principal emphasis of this essay.

The mid-Holocene migrations selected for discussion here began some 4000 to 5000 years ago. In each case, agriculture had developed rather fully in the homeland from which migrants expanded, especially in the preceding two millennia during which climate had been both warm and consistent. The narratives of four such mid-Holocene migrations, while they reveal regional and cultural distinctions, nonetheless convey the underlying similarity of these expansions. To emphasize their commonality, I will treat these agricultural migrations as an aspect of the broader development of "civilization" in many parts of the world.<sup>12</sup>

The Bantu migrations of Africa, the Austronesian migrations of Southeast Asia, and the Indo-Iranian migrations of Central and South Asia are three great migratory processes that began between four and five thousand years ago. These processes continued until a thousand years ago (or even more recently in some cases), and they led some migrants to settle thousands of kilometers away from the initial point of dispersal. In every case they were movements of agricultural peoples, so that community members spent most of their time farming their lands, but with periodic moves into new territories. These three great migratory experiences differed from each other as they unfolded and in their historical consequences, yet they include basic similarities and they illustrate the underlying commonality of human habits of migration. In addition, I add preliminary information on a fourth migration in the same period, that of Penutian-speaking peoples from northern California to the tropical lowlands of Mesoamerica.

In all four cases, the details of the migrations were lost, in later generations, from the memories of the dispersed populations. Historians and other scholars, however, have recently assembled many types of information to unravel the stories of these expansions. The stories to follow are therefore about the migrations themselves, but also about the process of rediscovering them through modern historical and scientific research.

The Bantu-speaking peoples originated as one of many groups of yam-growing populations who lived on the grasslands that are now on the border of Cameroon and Nigeria, not far from the West African coastline. Some four thousand years ago, members of that group began to move southward, into the great forests of Central Africa.<sup>13</sup> Sometimes they moved slowly, from farmstead to farmstead, but at other times they traveled by canoe along north-south and east-west rivers. As they migrated they met the inhabitants of the forest—hunting peoples known today as Pygmies—and gradually worked out an accommodation with them. After perhaps a thousand years of such movement, the most distant migrants came to the end of the forest and climbed up to the East African highlands, at the eastern frontier of modern Congo. There they met groups of local inhabitants, some speaking Nilo-Saharan languages and others speaking Cushitic languages. These highland populations had developed farming systems based on cultivation of millet and on herding of cattle, sheep, and goats. The Bantu-speaking migrants adopted many elements of this agricultural system and continued to grow in numbers. Thus, yam cultivation spread to the limits of the forest, while millet cultivation spread in the savanna areas to the east and south of the forest. In further regions of eastern and southern Africa, the expanding Bantu-speaking farmers encountered Khoisan-speaking peoples with an economic system based on foraging. Here too there was significant intermarriage and cultural exchange in the context of overall Bantu expansion.

Two additional major changes came to the area of Bantu settlement. First was the development of iron technology in the region along the savanna-forest fringe of north Central Africa, about 1000 BCE. This development led to the rapid spread of iron technology throughout southern Africa, especially the Bantu-speaking region.<sup>14</sup> Second, the cultivation of bananas became possible at about the beginning of the Common Era, and became an important contribution to the diet of the expanding Bantu-speakers. Bananas reached the East African coast along with the maritime voyages of Austronesian-speakers from what is now Indonesia. (For perhaps several centuries, these seafaring migrants moved along the coast of East Africa, interacting with the African populations and ultimately settling in Madagascar.) Bananas spread inland from coastal points on the Horn of Africa, inland from Zanzibar, and up the Zambezi Valley. In both the highland area of the Great Lakes and in the forested region of the Congo River basin, different varieties of bananas and plantains became a substantial portion of the diet.<sup>15</sup>

Overall, the "Bantu migration" has been shown to be not one migration but a long succession of migratory movements. At each stage, the expanding Bantu-speakers encountered local populations, learned from their technology, and became dominant in the region. Cultivation of yams was supplemented by millet, bananas, and other crops. Animal husbandry expanded and iron technology spread throughout the region. Yet it is not entirely clear why the Bantu-speakers returned again and again to expansion, nor is it clear why they so commonly assimilated the other populations they met.

The study of Bantu languages has enabled not only the tracing of migratory stages, but also the changing social institutions of the migrants. Small-scale lineage organizations changed in various circumstances to yield matrilineages in some cases and patrilineages in others. Most of the migratory movements were achieved by these relatively small-scale social structures. In East Africa, Bantu-speaking migrants sometimes adopted the age-grade institutions that were prominent among Nilo-Saharan and Cushitic speakers, thus enabling larger-scale mobilization. In addition, at the southerly extremes of the Bantu-speaking region, formal states also began to develop. The largest of these was the state of Mwenemutapa, which arose in the second millennium CE as an inland state that entered into trade and diplomacy with Indian Ocean merchants.<sup>16</sup>

The Austronesian-speaking peoples, who arose as rice farmers of the Yangzi Valley, near the Pacific coast, began a process of expansion that was similar to that of the Bantu-speakers, except that it was substantially by sea. These communities lived in stilt houses, and moved along the waters in outrigger canoes. At a time that may have been somewhat earlier than the initiation of Bantu migration, some Austronesian-speakers moved across the ocean to Taiwan, where they expanded and diversified their societies for perhaps two thousand years.<sup>17</sup> Meanwhile, the Austronesian-speaking population on the mainland came gradually to be absorbed by the expansion of surrounding populations speaking Chinese languages. The settlers in Taiwan, meanwhile, renewed their migratory initiative, sending vessels in search of lands especially to the south. Over a period of a thousand years these settlers set up farms all across the Philippines though also encountering the previous inhabitants, who spoke Indo-Pacific languages.<sup>18</sup> From the Philippines, Austronesian migrants moved east to certain of the islands now known as Micronesia and south to Borneo, Sulawesi, and as far as Bali.

Up to this point, the Austronesian agricultural system relied especially on rice, yams, pigs, and chickens. In the migrations south and west, Austronesians carried this full complex to Java, Sumatra, the Malayan peninsula, and to many more islands. In these islands too they encountered the local populations, who presumably spoke Indo-Pacific languages. At the limit, Austronesian voyagers seem eventually to have explored the whole of the Southeast Asian coastline and indeed the whole of the Indian Ocean littoral – to India, East Africa, and to Madagascar.

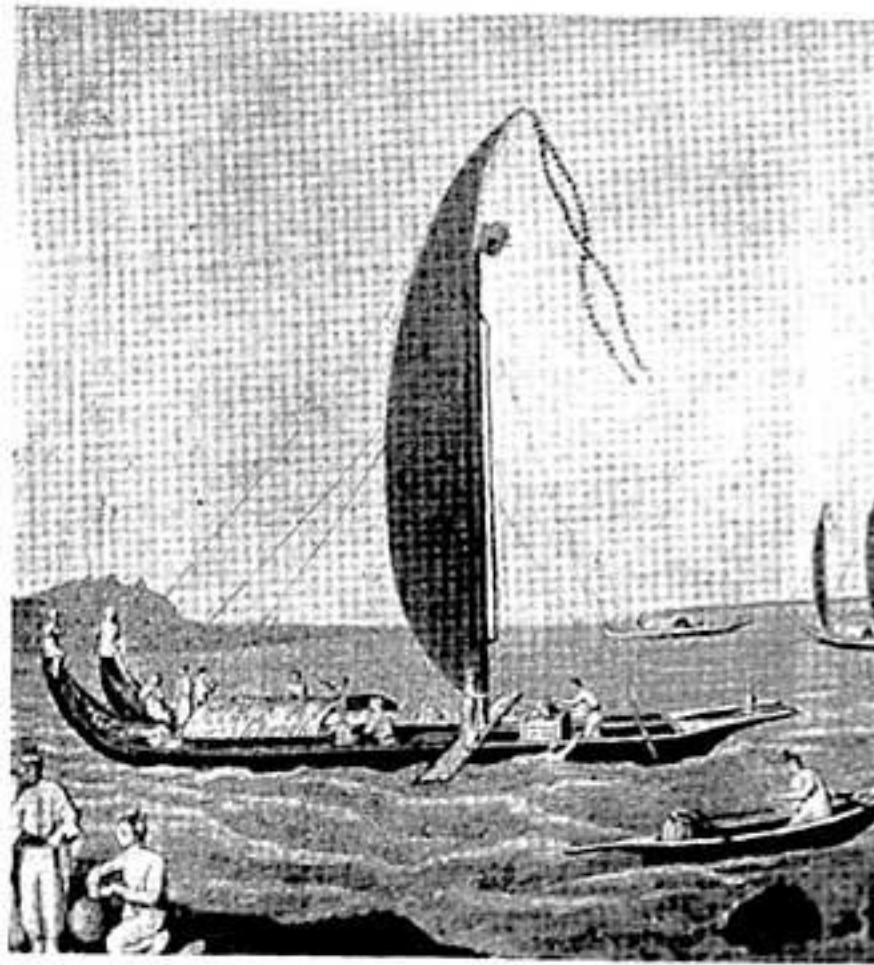
Two further innovations brought change to the southwestern region of Austronesian expansion: the adoption of iron production and the development of wet rice. Iron production developed in Vietnam in the first millennium BCE and soon spread throughout the region of Sunda. At a similar time the technique of paddy rice spread from the mainland to the Austronesian-speaking islands. In this system, village units worked steadily with water buffalo to create large terraces that could be flooded and drained

at different points in the growing season. Productivity and population expanded substantially, especially in Java, the Philippines, and Bali.

Meanwhile, another group of Austronesian migrants moved east from Sulawesi, and settled in the Moluccas, New Guinea, and further east. There they encountered the existing inhabitants, speakers of Indo-Pacific languages, and also a significantly different ecological system. On the island of New Guinea, the Indo-Pacific speakers had developed a dense population through an agricultural system relying especially on taro (a tuber they had domesticated), especially in the highland areas of New Guinea but also on islands west, north and east of New Guinea, from New Britain to the Solomons: in sum, these peoples are known as Melanesians. Austronesian migrants—apparently including some recently arrived from the Philippines—settled in coastal and lowland areas, while Melanesians predominated in inland and some coastal regions. While the two groups doubtless entered conflict, they also exchanged cultural traditions. As a result the Austronesian communities adopted taro, bananas, and sugar cane; they gave up rice; and they maintained pigs, chickens, dogs, and outrigger canoes.

The period from 1500 to 1000 BCE brought the rise of the Lapita culture on the islands east of New Guinea, from New Britain to the Solomons. Here, Austronesian-speaking settlers established communities among Indo-Pacific-speaking Melanesians, and developed a culture highlighted by a distinctive form of pottery, which came to be traded over a wide area.<sup>19</sup> Two further waves of migration followed. One, in the period 500 BCE to 500 CE, involved voyages to the north of New Guinea to settle the unpopulated islands now known as Micronesia. The other, beginning slightly later, involved voyages further east from the Solomons to occupy the widely-dispersed islands of the eastern Pacific—this was Polynesia.

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From Cook's Voyage  
Double Canoe of Ra'iatea in 1769.

Polynesian double-hulled canoe as seen in 1769. Courtesy of New Zealand Electronic Text Collection: <http://nzetc.victoria.ac.nz/tm/scholarly/SmiHawa-fig-SmiHawa132a.html>

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These Polynesian migrations were outstanding because of their geographic scale and the technological skill they involved. Voyagers had to sail into the wind, locate widely-separated islands, and provision themselves for long voyages. Double-hulled vessels with single great sails were central for such travel, though double-hulled vessels were also used over shorter distances as warships. A complex but successful system of navigation combined information on the heavens, winds, currents, and animal life. The immense triangle of Polynesian settlement—from its origins in Samoa to Hawaii in the north, Rapanui (Easter Island) in the east, and New Zealand in the southwest—is extraordinary by any account.



But the scope of Polynesian maritime exploration clearly went beyond those limits. There is strong evidence of Polynesian visits to the Pacific coast of South America, from whence they brought back sweet potatoes, which later enabled the expansion of population in New Zealand. Archaeological and linguistic evidence from California to Chile suggests other remnants of Polynesian visits.<sup>20</sup>

In sum, the Austronesian migrations persisted over several thousand years, they included successive changes in agricultural and other technology, and they were governed by the impulses of small communities rather than by centralized polities. In parallel with the Bantu migrants, their movements involved surges of several hundred years followed by periods with little migration. Yet they appear to have sustained an underlying belief system that recognized the value of migration and the challenge of exploration, and these values gained predominance from time to time.

A third great migration of the mid-Holocene era, perhaps even more widely recognized than those of Bantu and Austronesians, was that of Indo-Iranian speakers from Central Asia into Iran and India. These were populations of farmers and herders who moved south and east (their precise homeland is still in dispute, as is the timing at which the migrations began), through mountains and to plateaus and river valleys of Iran and South Asia. The Indo-Iranian speakers formed as a language group, along with the other Indo-European subgroups, probably at some time in the early Holocene area. It is assumed that they lived east of the Armenian-speakers and west of the Tocharian-speakers. The subsequent expansion of populations speaking Turkish and other Altaic languages appears to have erased most traces of the Indo-Iranian homeland.<sup>21</sup> (This development was thus parallel to the Chinese-speaking occupation of the Austronesian homeland in the lower Yangzi Valley. )

The Indo-Iranian migrants split into two major branches, much as the Austronesian migrants did. To the southwest and into Iran went the Iranian speakers; to the southeast and across the Indus Valley went the Indo-Aryan speakers. In each case the migrants were populations relying both on agriculture and domestic animals: wheat and barley, cattle and sheep. Since the presence of Iranian migrants in Iran and Indo-Aryan migrants in India is well attested by about 2000 BCE, it is most likely that the initial departures from the Central Asian homeland began at least a thousand years earlier. Chariot warfare first arose in the Eurasian steppes in the third millennium BCE, and by the beginning of the second millennium BCE warriors relying on chariots had spread and restructured military and political life in China, Anatolia, the Fertile Crescent, and probably also in Iran and north India.

Cultural and religious traditions, especially through texts that were transmitted orally, are another outstanding characteristic of these migrating populations. The Vedas, the religious poetry and song now celebrated in Hindu religion, may well have arisen in the course of this linkage of chariot warfare and Indo-Iranian migration. After long resistance to transcribing them, they were at last written in Sanskrit early in the Common Era.<sup>22</sup> Closely related is the critique of the Vedas by Zoroaster, known as the Avestas: these texts were written in Aramaic script early in the first millennium BCE. Debates continue as to the time and place of Zoroaster's preaching, but I would put it in the early second millennium BCE and in Central Asia.<sup>23</sup>

In both east and west, the Indo-Iranian migrants encountered not only dense populations but cities, states, and literacy. At the western frontier of Iran were the Sumerian and Elamite cities and writing systems; in the Indus Valley were the Harappan cities. As a result, we have a written record for parts of the Indo-Iranian migrations which greatly exceeds that for the Austronesian or Bantu cases. Otherwise, the cultural exchanges among migrants and established populations proceeded as one might expect. In India, immigrants took up rice culture. Iron production developed in India in the first millennium BCE, and spread throughout the region. In Iran, the immigrants took up aspects of the political culture that had developed in Sumeria and in the succeeding Akkadian and Assyrian states.

In addition, I offer a fourth major case of mid-Holocene migration, although this narrative draws on a narrower base of evidence. These were movements that began in the homelands of people speaking Penutian languages in northern California, and which led to the expansion of populations speaking

related languages in Mesoamerica – especially the Maya but also surrounding peoples in what is now southern Mexico and Guatemala. The principal evidence for this migration is linguistic, especially the linguistic classification developed by Joseph H. Greenberg. Debate over the linguistic evidence continues, but I am confident that the analysis of Greenberg will be sustained in its outline if not in detail.<sup>24</sup> The Penutian language group formed in the course of the early human settlement in the Americas. Along with two neighboring groups, the distribution of Penutian languages show that the coasts of Oregon and California were the principal area of initial settlement in North America, at a time somewhat prior to 16,000 years ago.<sup>25</sup> From this North American homeland, migrants spread out in successive migrations across all of temperate North America and into the Mesoamerican tropics.<sup>26</sup>

Here we face a fascinating historical puzzle. The idea that Maya and other Mesoamerican languages are indeed subgroups of the Penutian languages, which are based on the north coast of California, is the core of the puzzle. I begin by assuming that Greenberg's language classification is correct, and find that this assumption presents us with a historical puzzle including several dimensions. When did Penutian speakers come to Mesoamerica? By what route did they move? What is the relationship between Penutian migration and the expansion of maize cultivation? What is the relationship between Penutian migration and the rise of Maya cities and states?

We can be almost sure that this migration began as a pre-agricultural migration and that it adopted an agricultural dimension later on. Of the seven subgroups within Penutian languages, three are clustered along California's Pacific coast, one is in the Nevada plateau, one is centered in Arizona, one reaches to the Gulf coast from Texas to Florida, and the final one is centered in southern Mexico and Guatemala. The peoples of California sustained a lifestyle focusing on foraging and fishing, but also gathering of grasses, into the eighteenth century. Meanwhile the Penutian-speaking groups of Arizona (the Zuni), the Gulf coast, and Mexico all became maize-cultivating agriculturists. Biological and archaeological research have shown that maize cultivation began in southwestern Mexico about 9000 years ago, spreading widely to the north and south starting some 5000 years ago.<sup>27</sup> At roughly the same time, some 5000 years ago, the "pre-classic" period of monument construction began in the Mayan lands; the Mayan calendar, interestingly, begins at 3114 BCE. If we assume that the expansion of Maya society began 5000 years ago, we must decide whether the inhabitants spoke Penutian languages at that point, or whether they adopted Penutian languages at a later time.<sup>28</sup>

It seems therefore that the migrants started as foragers rather than farmers. It is likely that their route included Arizona and New Mexico, especially since these oases in dry lands attracted migrants from many surrounding regions. Since maize farming reached Arizona and New Mexico relatively early, it is possible that the Penutian-speakers picked up agriculture at that point, and carried the tradition further as they migrated. Yet if these migrants were to become the founders of Maya culture, they would have had to arrive in Yucatán by 5000 years ago, which is known as the beginning of the "pre-classic" period of construction in Maya lands. Another possibility is that the Penutian-speakers arrived in Yucatán after the rise of Maya society, and came to dominate it in language. Such a change might have happened at such later points as roughly 1100 BCE, when new and larger ears of maize became widespread, or in about 250 CE, at the start of the classic period in Maya society.

As a result, it appears that there is every reason to begin thorough study of Maya language and history in the context of Penutian languages more generally. Further, comparison of this agricultural migration with others of the same era in other parts of the world may provide helpful insights that may enable the unraveling of the current puzzle.

To summarize some common lessons from these migratory expansions, we have four cases in which migrants began from known homelands (three of them with well-developed agricultural practices), and expanded across large territories in successive migrations. The migrations appear to have started and stopped periodically. The process took the migrants through changing terrains, and brought them into encounters with various local inhabitants. All of the migrations brought settlers into previously populated regions, with the exception of the Polynesian and Micronesian migrations into unpopulated regions of



the Pacific. The results changed the populations, the economies and the cultures of the affected regions, and brought the populations into contact with a wider range of communities.

In effect, these migrations comprised a different type of civilizational expansion, since these processes unfolded at the same time as the major river-valley civilizations developed. This period of time, from 3000 BCE to the opening of the Common Era, is commonly interpreted as that of the rise of civilization, but where civilization is thought to have existed only in a few, widely separated urban centers with monarchies, large armies, and bureaucratic hierarchies. Mesopotamia, the lower and middle Nile, the Indus Valley, the Yellow River Valley, and the Mediterranean littoral are seen as the centers of civilization, and civilization in this perspective is seen as *intensive*, self-centered development of relatively isolated societies.

The argument here is that, at much the same time and with much the same technology, an *extensive* development of civilization was also arising. The agricultural expansion of Bantu-speakers, Austronesian-speakers, Indo-Iranian speakers, and also of Penutian-speakers brought expanded population and a new social order to large areas. The social structure of such civilizational dispersal was not generally hierarchical, though it has been noted above that state systems arose out of each of these four agricultural expansions. Further, it was even the case that three of these waves of agricultural migration actually encountered each other and encountered the centers of urban civilization. That is, Austronesian mariners, as they crossed the Indian Ocean at the beginning of the Common Era, surely encountered Indo-Iranian settlers in South Asia; they just as surely encountered Greco-Roman mariners and merchants who navigated between Egypt and India; and they encountered Bantu-speakers (ancestors of the Swahili) along the coast of East Africa.<sup>29</sup> These linkages enable the historian today to have a concrete recognition of the connections that took place among societies several thousand years ago. It gives support to an approach to world history that focuses substantially on encounter, interaction, and sharing, rather than a focus limited to the study of individual or civilizational genius arising in isolation.

The very nature of interaction is seen differently when one includes agricultural expansion as part of civilization. Even the spread of iron throughout the Eastern Hemisphere is seen differently in this regard. Iron technology was once seen as a unique invention in an Anatolian civilizational center, which diffused slowly to less-developed parts of the world. The smelting of iron did indeed develop initially in Anatolia, but we can now propose a different understanding. As a natural result of the endless human tinkering with fire—including the production of ceramics—artisans raised the temperature of their fires to the point of being able to melt metallic ores, starting with silver and gold and eventually reaching the melting of iron. Within the course of a thousand years, this experimentation led to the melting, smelting, and purification of iron in Anatolia, West Africa, Central Africa, India, and Vietnam, and spread from those nodes to surrounding regions. In the Americas, this process had expanded past gold and silver to the smelting of copper in South America, but not yet to that of iron.<sup>30</sup>

### **Sequel: Migration and diaspora, 1000 BCE to the present**

Let us now turn to comparison of these agricultural migrations with a more condensed treatment of migrations during the past three thousand years, an era for which we have much better documentation—but also an era in which some new characteristics of migration came to be added to earlier patterns. For the period of the past three thousand years, the written record plays an important role both in documentation and in the actual character of migration. Most obvious is that written records provide documentation for historians, enabling us to read descriptions of migration written in past times and even to locate the testimonies of individual migrants. From such documents we gain better ideas of the timing, the starts and stops of migration, and the accompanying social conditions and changes. Since written documents come especially from states, the written record helps to demonstrate that states—large and small—had a growing influence on migration in the last three thousand years as compared with earlier times.

But the second great importance of written records reminds us that migrations took place not only

because of states, and that diasporas have grown up as distinctive social institutions within the past three thousand years. That is, literacy enabled dispersed populations to record and exchange their experience. In this way, history and memory could be spread among migrants and their descendants. This new technology enabled the more secure creation and defense of diaspora as a historic community based on migratory experience.

Diasporas can preserve their common identity through oral tradition linking migrants and their descendants, but such preservation becomes difficult after several generations. The written record—even if the number of literate members of a diaspora was tiny—enabled the dispersal of diaspora consciousness across huge distances, and enabled the diaspora experience to be conveyed to readers even centuries later. Thus the Greeks and the Jews, known today as the early examples of diaspora communities that ultimately gave rise to the general notion of diaspora, can in fact be seen as the creators of diaspora as a stable social structure. Greeks and Jews—migrants sustained in their common identity by literacy—enabled their broad communities to persevere.<sup>31</sup> In contrast, the Bantu and Austronesian dispersals, while much larger in their numbers of settlers, did not sustain themselves over the centuries as conscious, large-scale communities. Both Bantu and Austronesians had well-developed systems of oral tradition that could pass on lineage history and political tradition, but even well-structured oral traditions change over the generations and are dispersed widely only with difficulty. The Indo-Iranians thus provide an interesting borderline case: their traditions, carried on for centuries through oral tradition, were committed to writing two to three thousand years ago, and thus contributed to a sense of Indo-Iranian diaspora which remains socially significant.<sup>32</sup>

In other migrations of the past three thousand years, the role of literacy in documenting and influencing the migration becomes evident. The Scythians were migrants of an Indo-European group that moved westward to settle in the grasslands that are now Romania and Bulgaria: Herodotus described them briefly. The Scythians were perhaps a western stream of the migrants known further east as Indo-Iranian and Indo-Aryan. Later such migrations across the Eurasian steppes included those of the Huns, under their famous general Attila, who appear to have been a group that had earlier been defeated and sent west in the conflicts of the Hsiong-Nu with the Han state of China. In each case, they entered the historical record through the writings of observers outside their communities. In interaction with the Huns and then in more complex with the Eastern and Western Roman Empire, many tribes of German migrants—Goths, Vandals, Lombards, and more—moved from the forested areas of Germany into the lands southeast and southwest of their homeland. One such group moved west, as the migrants known as Angles and Saxons moved to England and settled to form a kingdom. But while the Anglo-Saxons sustained their German-descended identity, the German migrants to other areas assimilated rapidly to the local language and culture.

One late-moving but formidable wave of migrants speaking Germanic languages was that of the Vikings, the "northmen" who raided, traded, and settled from roughly 800 to 1100 CE, remaking the map of the North Sea littoral, the lands that are now Poland and Russia, and even the Mediterranean and the North Atlantic. Despite the remarkable power of the Vikings in their era of expansion, and despite the numerous kingdoms they formed, they had little impact as a language or ethnic community, in that they married rapidly into the local population and adopted local language and customs. The disappearance of Viking settlements in North America might have been a similar pattern of adopting local customs. The exception is the population of Iceland, which retains a strong sense of its identity as a Norse diaspora.

Two other major migrations of much the same era had quite different results. Arab migrants spilled out of Arabia as leaders of the newly proclaimed religion of Islam in the early seventh century. By the tenth century, the Fertile Crescent, Egypt, and much of North Africa has become Arab in language and culture. Meanwhile, Turkish communities experienced their second great migratory expansion. The first such expansion had taken place two millennia earlier, in the era of war chariots, and brought Turkish expansion in the Volga Valley, Central Asia, and much of Siberia. In this second expansion, in which Turkish-speakers became closely associated with Islam, they expanded south and west, into Iran, the Caucasus, and Anatolia. For both the Arabs and the Turks, there was not only a significant spread of in-

migrating settlers, but many of the people among whom they settled ultimately adopted Arabic or Turkish language and identity.

Three later migrations, of the second millennium CE, followed patterns somewhat parallel to those of Arabs and Turks: the Mongols of northeast Asia, the Fulbe of West Africa and the Nilotes of northeast Africa. The Mongols, long located just north of the Yellow River heartland of China, expanded to control at least half of Eurasia in the thirteenth and fourteenth century through an effective military machine and equally effective diplomacy. Thereafter, elite families of Mongol ancestry retained influence over a wide area, yet Mongol language and ethnicity contracted back to the original homeland. In West Africa, the Fulbe people, cattle-keeping specialists, slowly expanded eastward from the tenth century CE to occupy many regions that had an ecological fit with cattle-keeping. By the eighteenth century, these disparate Fulbe communities became linked through a literate leadership that took up Islamic scholarship, and by the nineteenth century Fulbe communities became political leaders from the Atlantic to Lake Chad. In a contrasting case during the same millennium, Nilotic-speaking communities of the middle Nile Valley began sending migrants upstream (to the south), settling in lands that are now parts of Uganda, Kenya, and Tanzania. As farmers with cattle, organized into lineage-level organizations, they came to dominate substantial regions of the East African highlands, yet without a sense of wider identity. Thus, while the Fulbe sense of a diaspora community remains resilient, the descendants of Nilotic migrants tend to think of themselves as separate and localized ethnicities.

Based on the more specific documentation of migrations during the era of literacy, we may propose some historical generalizations about migratory movements in general. First, it appears that the initiating regions commonly dispatched migrants for periods of roughly 300 years, after which out-migration died down for at least several centuries; a new migratory initiative might appear after several more centuries. Second, and even in the era of literacy, some migratory groups formed lasting diaspora communities, while others did not. Vikings and other Germanic-speaking migrants generally assimilated soon and left little diaspora, with the exception of the Anglo-Saxons in England. Mongols too assimilated within two centuries. But Arab, Turkish, and Chinese migrants, in contrast, assimilated others so that their "homeland" areas expanded greatly.

Finally, let us extend our comparisons to more recent and more familiar migrations, in the period since 1500 CE. Do they share many of the characteristics of preceding migrations? Or does their "modernity" make them fundamentally different from earlier migrations? Can the migrations of speakers of English, Spanish, Portuguese, French, Russian languages, in later times, be seen as similar? Of course one may argue that states and empires were more numerous and even more important in recent centuries than in the two preceding millennia, and that this factor makes modern migrations distinctive. Yet some exceptions to this point arise immediately: the large-scale migrations of Africans, Indians, and Chinese may have involved empire, but it was empire led from other centers, provoking migrations, rather than an imperial center dispatching colonists to expand the empire. Even within Europe, the huge eighteenth- and nineteenth-century migrations of Italians and Germans took place largely outside the context of empire.

A point of equal importance is that diasporas, which formed as cross-regional communities as long ago as three thousand years, grew substantially in importance during the last five centuries. Perhaps the most impressive example is the African diaspora, where most of the migrants were in slave status but where a literate elite was able to maintain lines of identity among dispersed descendants of Africa with each other and with the homeland.<sup>33</sup> The literary dimensions of Chinese, Indian, Italian, Irish, Armenian, and other diasporas confirm this vision. Since another distinctive characteristic of the last few centuries is the rise of nations and nationhood, it seems relevant to point out that diasporas have grown up with nations and have influenced them significantly.<sup>34</sup>

The technology of migration has changed with time. While the improved modes of transportation on land, on sea, and in the air are the obvious advances, it may be that the technology of literacy and the practice of literate communication have been more important than transportation in adding new character

to migration. In another important change, the survival of migrants has improved, especially in recent centuries; as a result the ability of migrants to return home has advanced as well.

To conclude, this essay emphasizes two main points, one for understanding of migration today and one for the contribution of migration to the understanding of world history broadly. For migration today, the speed and relative safety of migration and the greater ease of communication make migration a more attractive and more feasible option. The rise of diaspora communities adds a collective and supportive dimension to the individual and familial practices that have long governed migration. New bureaucratic constraints have thrown up obstacles to migration, but state regulations have helped to mitigate the degree of forced and involuntary migration. In sum, while migration today has added many nuances to practices of the past, the underlying motivations for migration remain in play, along with the individual and social benefits that migration brings.

For migration in world history, the principal argument of this essay is to show the importance and the character of the mid-Holocene agricultural migrations. It is to emphasize the parallels and the links of these agricultural migrations to the contemporaneous rise of localized civilizations in certain river valleys. Expanding agricultural civilizations give us a picture of connection and interaction in the key mid-Holocene period of human development: such migrations reveal the creative agency of small communities and the leadership that could be exerted in societies that had little hierarchy. Thus the experiences of agricultural migrations developed practices of collaboration and interaction that became important in the broad mix of "civilization." These *extensive* civilizations, in parallel and in interaction with *intensive*, urban civilizations, set patterns for the subsequent expansion and transformation of human society.

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## Notes

<sup>1</sup> Patrick Manning, "Cross-Community Migration: A Distinctive Human Pattern," *Social Evolution and History* 5, 2 (2006), 24-54; Patrick Manning with Tiffany Trimmer, *Migration in World History*, 2<sup>nd</sup> ed. (Abingdon, UK: Routledge, 2012).

<sup>2</sup> Climatologists and geologists describe the major eras of this time in terms of the Pleistocene, ending roughly 12,000 years ago, and the Holocene, beginning at 12,000 years ago. Archaeologists have described the same period as the Paleolithic, the Neolithic, depending on the size and character of stone implements. For historians considering human migration, I suggest that relevant periods are the early Holocene (a time of rapid warming) and the mid-Holocene (a time of steady climate).

<sup>3</sup> John L. Brooke, *Climate Change and the Course of Global History: A Rough Journey* (New York: Cambridge University Press, 2014), 130-148. For Brooke's view of the Mid-Holocene, see *ibid.*, 165-212.

<sup>4</sup> Christopher Ehret, "African History, Human History," *Cambridge World History*, vol. 1 (Cambridge: Cambridge University Press, forthcoming).

<sup>5</sup> *Ibid.*

<sup>6</sup> Brooke, *Climate Change*, 166.

<sup>7</sup> Steve Mithen, *After the Ice: A Global Human History, 20,000 – 5000 B.C.* (London: Weidenfeld and Nicholson, 2003); Patrick Manning, "Migration," *Cambridge World History*, vol. 1 (Cambridge: Cambridge University Press, forthcoming).

<sup>8</sup> B.M. Fagan, *The Great Journey: The Peopling of Ancient America* (Gainesville: University Press of Florida, 2004); [Spencer Wells](#), *Journey of Man: A Genetic Odyssey* (Princeton: Princeton University Press, 2002); Jon M. Erlandson, M. H. Graham, Bruce J. Bourque, Debra Corbett, James A. Estes, & R. S. Steneck, "The Kelp Highway Hypothesis: Marine Ecology, The Coastal Migration Theory, and the Peopling of the Americas," *Journal of Island and Coastal Archaeology* 2 (2007), 161–174; Nelson J.R. Fagundes, et al., "Mitochondrial Population Genomics Supports a Single Pre-Clovis Origin with a Coastal Route for the Peopling of the Americas," *American Journal of Human Genetics* 82 (2008), 583–592.

<sup>9</sup> Colin Renfrew, ed., *Archaeology and Language: The Puzzle of Indo-European Origins* (Cambridge: Cambridge University Press, 1987); J. P. Mallory, *In Search of the Indo-Europeans: Language, Archaeology and Myth* (London: Thames and Hudson, 1989).

<sup>10</sup> Christopher Ehret, *History and the Testimony of Language* (Berkeley: University of California Press, 2011).

<sup>11</sup> Genetic evidence could also be applied in detail for these times, though it has not been used in this study.

<sup>12</sup> For a view of "civilization" based more on lifestyle than on the rise of states, see Felipe Fernández-Armesto, *Civilizations: Culture, Ambition, and the Transformation of Nature* (New York: Free Press, 2001).

<sup>13</sup> Joseph H. Greenberg, *The Languages of Africa* (Bloomington, IN: Indiana University Press, 1948); Jan Vansina, *Paths in the Rainforests: Toward a History of Political Tradition in Equatorial Africa* (Madison: University of Wisconsin Press, 1990); Christopher Ehret, "Bantu Expansions: Re-envisioning a Central Problem of Early African History," and Ehret, "Christopher Ehret Responds," *International Journal of African Historical Studies* 34, 1 (2001), 5-41 and 82-87; pp. 42-81 consists of responses to the article from 14 scholars of African history, linguistics, and archaeology.

<sup>14</sup> Christopher Ehret, *The Civilizations of Africa: A History to 1800* (Charlottesville: University Press of Virginia, 2002).

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<sup>17</sup> Peter Bellwood, *Man's Conquest of the Pacific: The Prehistory of Southeast Asia and the Pacific* (New York: Oxford University Press, 1979). It is likely that other populations preceded them – for instance, communities speaking Indo-Pacific languages related to those in islands to the south.

<sup>18</sup> Descendants of those populations still exist in small numbers throughout mainland and island Southeast Asia.

<sup>19</sup> Bellwood, *Conquest of the Pacific*.

<sup>20</sup> Caroline Roullier, Laure Benoit, Doyle B. McKey, and Vincent Lebot, "Historical collections reveal patterns of diffusion of sweet potato in Oceania obscured by modern plant movements and recombination," *Proceedings of the National Academy of Sciences* 110, 6 (2013), 2205–2210.

<sup>21</sup> Ossetian in the Caucasus and Yagnobi, Shughni, and Yazgulyam languages of Tajikistan are Indo-Iranian languages still spoken in the area that might have been part of the Indo-Iranian homeland.

<sup>22</sup> *The Vedas: Texts, Language, and Ritual. Proceedings of the Third International Vedic Workshop, Leiden, 2002*, eds. Arlo Griffiths and Jan E.M. Houben (Groningen: Egbert Forsten, 2004); *The Indo-Aryan Controversy: Evidence and Inference in Indian History*, eds. Edwin F. Bryant and Laurie L. Patton (London: Routledge, 2005).

<sup>23</sup> Alberto Cantera, ed., *The Transmission of the Avesta* (Wiesbaden: Harrassowitz Verlag, 2012).

<sup>24</sup> Greenberg did his first work in Africa, demonstrating the fallacious nature of language classifications that had focused as much on racial as linguistic criteria. He led in resolving the question of Bantu origins. Greenberg's work on African languages has been revised in subsequent work but the principles by which he worked have been consistently reaffirmed; Greenberg's classifications of Amerindian, Indo-Pacific, and Eurasiatic, follow the same principles. Greenberg, *Languages of Africa*; Greenberg, "The Indo-Pacific Hypothesis," in Thomas A. Sebeok, ed., *Current Trends in Linguistics*, vol. 8 (The Hague, 1971), 807-871; Greenberg, *Language in the Americas* (Stanford: Stanford University Press, 1987); Greenberg, *Indo-European and its Closest Relatives: The Eurasiatic Language Family*, 2 vols. (Stanford: Stanford University Press, 2000).

<sup>25</sup> The other two language groups arising on the Pacific coast from British Columbia to California were labeled as North-Central Amerind and Hokan. Joseph H. Greenberg and Merrit Ruhlen, *An Amerind Etymological Dictionary* (Stanford University: Department of Anthropological Sciences, 2007).

<sup>26</sup> Linguistic evidence suggests a second major point of settlement in the Americas on the northwest coast of South America: from that coastal vantage point, migrants moved northward to the Caribbean and eastward to the Andes and beyond. Based on this author's analysis of Greenberg and Ruhlen, *Amerind*.

<sup>27</sup> Archaeological work has shown the location and the timing of maize domestication: first used some 9000 years ago on the Balsas River valley of southwestern Mexico. Then it spread to Oaxaca 6000 years ago and to Puebla 5500 years ago. It began rapid spread to more distant regions in about 2500 BCE. George W. Beadle, "The ancestry of corn," *Scientific American* 242 (1980), 112-119; Anthony J. Ranere, Dolores R. Piperno, Irene Holst, Ruth Dickau, José Iriarte, "[The cultural and chronological context of early Holocene maize and squash domestication in the Central Balsas River Valley, Mexico.](#)" *Proceedings of the National Academy of Sciences* 106 (2009), 5014–5018.

<sup>28</sup> In a potential parallel, Sumerian society developed a state and literacy; then Akkadian, a language of the very different Semitic family, gradually replaced Sumerian by about 2000 BCE, though the Sumerian writing system remained in use. *The Sumerian World*, ed. Harriet Crawford (London: Routledge, 2013).

<sup>29</sup> On Greeks in the Indian Ocean, see Agatharchides of Cnidus, *On the Erythraean Sea*, ed. and trans. Stanley Burstein (London: Hakluyt Society, 1989); and Eivind Heldaas Seland, *Ports and Political Power in the Periplus: Complex Societies and Maritime Trade on the Indian Ocean in the First Century AD* (Oxford, UK: Archaeopress, 2010).

<sup>30</sup> Ehret, *Civilizations*.



<sup>31</sup> Robert Garland, *Wandering Greeks: The Ancient Greek Diaspora from the Age of Homer to Alexander the Great* (Princeton: Princeton University Press, 2014); Nergis Canefe, *The Jewish Diaspora as a Paradigm: Politics, Religion, and Belonging* (Istanbul: Libra Kitap, 2014).

<sup>32</sup> It seems plausible, particularly from the cases of Bantu and Austronesian diasporas, that these societies sustained underlying social values that arose to prominence from time to time, encouraging courageous and determined migration. But it is not yet clear how to investigate this possibility.

<sup>33</sup> Patrick Manning, *The African Diaspora: A History through Culture* (New York: Columbia University Press, 2009); Stéphane Dufoix, trans. William Rodarmor, *Diasporas* (Berkeley: University of California Press, 2008); Robin Cohen, *Global Diasporas: An Introduction* (Seattle: University of Washington Press, 1997).

<sup>34</sup> For an excellent study of diaspora in recent centuries, see Donna Gabaccia, *Italy's Many Diasporas* (Seattle: University of Washington Press, 2000).

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