

# 1: SPACE AND TIME: THE GEOGRAPHIC CONTEXT OF EAST ASIAN CIVILIZATIONS IN GEOLOGIC AND HUMAN TIME<sup>1</sup>

*a. What characteristics of location, climate and human ethnic type distribution and relationships among civilizations do the three zones of East Asia share? How do these shared traits distinguish East Asia from South and West Asia? At what point of time in your narrative and why then does the “H” become a meaningful unit of time?*

*b. In what ways have the three zones of East Asia differed from each other in terrain and climate and in terms of the human behavior that differences in terrain and climate encouraged at different times in each zone since the latter part of the last ice age? At what point of time in your narrative and why then does the “H” become a meaningful unit of time?*

## A. Defining East Asia in Space

### 1. A negative definition

There are negative as well as positive ways of defining most arrangements of things. Sometimes you can back into a useful definition of some configuration of things by listing all that it is *not*.

#### a. East & South Asia differ drastically

The most obvious aspect of East Asia is that it is *not* South Asia (i.e. the Indian subcontinent).

For upwards of forty million years, South and East Asians have been kept apart by the Tibetan Plateau, the highest large stretch of land on the planet. Even the crows can't fly the direct route southwest from the southwestern part of East Asia to the northeastern part of South

Asia. The plateau averages 15,000 feet in altitude and the mountains that ring it and branch off from it rise to 30,000 feet. Going around the plateau on foot or even on horseback takes too long, and requires going through too many other peoples' territories.

As a consequence, people hardly ever went from South Asia to East Asia until recently and the two have never very much mixed their gene pools. They never mixed their cultural genes either. Hence, South Asians and East Asians neither look nor behave like each other.

This physical isolation of East from South Asia has been going on practically forever in human time. At least 60 million years ago the South Asian tectonic plate began to slowly crunch into the Eurasian continent. It pushed up the mountains and the high plateau that now constitute the Tibetan highlands. In geological time that was just a moment. In human terms it was forever.

#### b. East & Central Asia differ incrementally

The transition from East to Central Asia is more gradual. East Asia's Northern Periphery Zone (Zone A on the map at the end of the frontmatter file) merges seamlessly into West-Central and West Asia, with no great physical obstacles to the transit of man or beast. However, the further west you go toward West Asia, the more you notice Persian and then Greco-Roman physical traits. Noses and heads get longer, faces and limbs hairier.

East Asian cultural traits also fade out as Persian and Greco-Roman cultural traits and physiognomies fade in. Alphabets and moneys change in form. An eastern Persian Sassanid coin of the 8th century AD has Chinese characters on its obverse (“heads” side) and the Persian version of Arabic script on its reverse (“tails”). Further west, the coins are entirely Persian. Further east, the coins are entirely Chinese in shape and language.

#### c. east to the Pacific

Heading east from North China, one bumps into Korea and Japan, which eventually became parts of East Asia, but then comes the vast open Pacific. It goes on for thousands of miles with few stopping off points, none of which are close enough to each other or to the East Asian mainland to function as the Canary Islands did for Spain and Portugal in the

Atlantic. Early Iberian mariners could practice navigating the Atlantic by making little hops to the Canaries and back, facing similar wind patterns to those they would encounter further west and testing new ship types they would later use to reach the New World.

The Pacific is not so cozy. Its warm and moist summer “monsoonal” winds blow north and west to provide East Asia with almost all of its moisture (and its deadly typhoons). The countervailing winter “continental” winds blowing down from the north merely determine whether this moisture falls as snow or rain. Once past Japan, early explorers had to go much further to reach a California which still lacked even an Oakland, of which Gertrude Stein once said, “there is no there there.” It was the Atlantic that led to the silver and gold of the Aztecs and Incas.

#### d. due north.

There is even less “there there” if you head north beyond Zone A. The high plains give way to forest and then another plain which even in high summer only thaws a few inches down. Most of the rivers run north, but most of them run dry before reaching the Arctic Ocean. Once you reach the Arctic there is little to do except herd reindeer or hunt seals. Even the technology of the full industrial age is challenged by the harsh terrain and climate and the sheer distances involved.

### 2. A positive definition

By negative definition, East Asia must be everything north and east of Tibet, everything east and south of the center of Central Asia, everything south of the northern forests and west of the Pacific Ocean. If you look at a map of East Asia defined in these negative terms, you will gain a hint for a positive definition of the region. At the center of such a map sits China, with (moving clockwise) Eastern Turkestan, Mongolia, Manchuria, Korea, Japan, peninsular Southeast Asia, and the eastern parts of Tibet arranged around China. China provides civilization for all these peripheral areas. These in turn provide East Asia with its winter cold (Zone A) and year-round supply of moisture (Zone C).

<sup>1</sup> 1<sup>st</sup> draft 9/94; 4<sup>th</sup> rev 8/98, by Edward Kaplan.

### a. cultures and/or states in China's orbit

These peripheral regions have been significantly influenced by China at some time or other down through the ages. Therefore, we can define East Asia in a positive sense as China plus all the territories it can reach, influence and possibly control, whether permanently or temporarily. "East Asia" is merely the Western synonym for what the Chinese call their sphere of influence: "All-Under-Heaven" 天下

### b. but China's orbit varies over time

To begin with, China's sphere of control was very narrow. Chinese power fitfully expanded over time. It grew to its maximum physical extent in medieval times and to its maximum extent in cultural terms during early modern times. China's ability to exert direct, physical, military-political control of and even cultural influence over its neighbors has been shrinking since the late 18th century.

## 3. Jose Ortega y Gasset's definition of a nation

Ortega was a Spanish political philosopher and cultural historian of the first half of this century. He faced a similar problem in identifying Spain at different times. Eventually he threw up his hands and decided that the only way to define as "Spanish" all of the many native and immigrant peoples of the Iberian Peninsula since the coming of the Romans was to notice that all these different people at least had a "common future." This congeries of territories only became "Spain" in 1492, when Ferdinand and Isabella united most of the Iberian Peninsula.

### a. limits when applied to a civilization

We can apply Ortega's definition to East Asia at all times by defining it as the segment of Eurasia comprising all of the places that had a common future destiny of being substantially influenced by an expanding Chinese civilization.

Some places received substantial Chinese influence and were destined to become permanent constituent parts of China itself. Others borrowed much of their civilization while temporarily belonging to China. Still others borrowed a significant part of their civilization from China, but never became a constituent

part of it.

### b. "daughter cultures" of China

The entities not destined to permanently have their heads sat upon by the Chinese we can call the "daughter cultures" of China.

Korea, Japan, parts of Manchuria and Mongolia and Vietnam are daughter cultures of China. Most of the cultures of the east coast of China and the Yangzi Valley were once daughter cultures too, but were eventually swallowed up by an expanding Chinese state.

## 4. East Asia's three zones

### a. once separate cultural regions

There is a physical-geographic basis for this fissioning off of daughter cultures. To emphasize that East Asia is not homogeneous I have divided it into three zones.

Zone B (See map in frontmatter file) comprises China and those ancient daughter cultures swallowed up by China soonest. Zone C's middle region was swallowed up by China next. Its northern and southern extremities have managed to stay or become independent. Zone A has been swallowed up most recently and precariously.

These three regions were originally quite separate entities. They created their common future in the course of the last 3,000 to 4000 years.

### b. Northern Periphery (Zone A) & Southern-Eastern Periphery (Zone C)

Taken together, Zones A and C wrap themselves almost all the way around East Asia except for the no-man's land to the southwest leading toward the Tibetan highlands. These two zones represent the outer limits of China's cultural reach.

Notice that Zones A and C interface with each other in Northeastern Asia. It was the interaction between the cultures of both of these two zones under Chinese influence that made the cultures of Korea and Japan unique.

### c. Central Zone (Zone B)

In some ways "Zone B" is just another label for China itself. China originated in one small subzone of this Central Zone. It later interacted with the cultures of the middle reaches of Zone C. Then, over the course of some 3,500 years, the resulting

Zone B-C hybrid fitfully expanded into the rest of Zone B, and by assimilating the local cultures became the China the world has known for the last 1,500 years.

In some ways, therefore, the Central Zone fits Ortega's definition more fully than do either of the two peripheral zones. Chinese culture is in itself both more eclectic and physically much larger than Spain. East Asia is bigger yet.

## B. East Asia's Northern Periphery (Zone A)

### 1. Physical and climate geography

#### a. physical geography: open steppe (caodi 草地) & north-running rivers

Much of Zone A is a high open plain but there are also plenty of mountains. Some mountains divide Zone A from North China, some divide it internally into three subzones. Even the tallest of these Zone A mountains are, however, pretty easy to get around.

The region between the hundredth meridian and the Rockies in the United States most resembles East Asia's Northern Periphery (Zone A). The Chinese refer to what Montanans call "high plains" as *caodi* 草地 literally "grass lands." The synonymous Russian word is *steppe*.

The Zone A high plains have always been relatively easy terrain to get across. Even primitive men could have and apparently did walk east the 6,000 miles from Central Europe avoiding the steepest of the hills and mountains.

If later, more sophisticated, peoples had tried to use boats to ease their passage, they would have been out of luck. The rivers run the wrong way: from south to north to empty into the Arctic Ocean, not a very interesting direction either for military or commercial transport.

#### b. ice ages, post-glacial periods (& latter's pluvial & post-pluvial sub-periods)

Ice ages are a relatively recent phenomenon, at least in geological terms. The paleoclimatologists think they only started about 3-5 dozen million years ago. This was about the time that the Tibetan Plateau had risen to a significant altitude. A recent theory suggests that the plateau

changed the direction of the jet stream, and this caused periodic ice ages. For whatever reason, every million years or so since then, sometimes more frequently, an ice age has occurred.

Another, supplementary, theory focuses on periodic small changes in the shape of the earth's orbit. These changes supposedly cause intermediate length ice ages, ones occurring more frequently than a million years. There may also be a change in the wobbling of the earth that occurs still more frequently. Finally, the sun may change its heat output in a cyclical fashion, perhaps connected with sun spot cycles, but having a longer period than the eleven odd years of the sunspot cycle.

As earlier, during the last million years or so, which is when our species assumed its current form, both big, medium length and little ice ages have been frequent occurrences.

During these ice ages, not much of interest goes on in the heavily glaciated regions. Altitude may be a bigger factor than latitude in glaciation. In East Asia, the closer you are to the Tibetan Plateau and its surrounding mountains, the more hemmed in by ice you are. The ice actually fades out as you head north into Zone A because you are also heading down hill. But even there it is still pretty cold during an ice age, particularly once you hit the permanently frozen ground well to the north.

The most recent big ice age finally began to wane about 20,000 years ago, when our species had already been in existence for between 20,000 and 200,000 years. Between 20,000 and 12,000 years ago the ice receded, scraping the earth clean in some places, dumping gravel or boulders or even soil or all three in others. Fortunately, there were as yet no environmentalists around to lodge complaints against Nature for so drastically rearranging the landscape and creating "global warming." Things turned out well after all. Soon after 10,000 BC agriculture was finally invented in several scattered locations across Eurasia.

The melting glacial ice absorbed heat and then carried that heat north via the rivers, warming the land the water was flowing over. As a result, the climate turned fairly decent over much of the Northern Periphery, most of which was outside the area of major glaciation. The Zone A climate soon became nice enough

to have attracted the attentions of travel agents, if there had been any travel agents that early.

So began the pluvial (meaning wet) first substage of the interglacial. In East Asia, the pluvial substage began around 12,000 BC and continued until about 4,000-3,000 BC.

Most low spots in the Northern Periphery became lakes or ponds. The rivers flowed north all the way to the Arctic Ocean, which carried less ice than now because of all the heat being carried into it by the rivers.

Grass grew lushly on the high plains during a growing season much longer than now. Many places must have resembled the biblical descriptions of the Garden of Eden. This is no coincidence. The southwestern extension of this high plain into Persia was where the Book of Genesis seems to have located the Garden of Eden.

Conditions in Zone A were ideal for agriculture, except that agriculture had not yet gone through the formality of having been invented. It was not until near the end of the pluvial substage, in 8,000-6,000 BC that Old World agriculture was finally invented in several places in Western and Eastern Asia and slowly began to spread from both directions toward the Northern Periphery.

Farming finally reached the Northern Periphery c. 4,000 BC, just in time for the pluvial to start turning into the postpluvial substage. By then most of the glaciers had finally melted. Most of the rivers no longer carried enough glacial melt to flow all the way to the Arctic. Less heat reached the northern stretches of Zone A, gradually shortening the growing season and reducing amounts of available water.

We are still in the postpluvial substage of the interglacial now, and the Northern Periphery is probably drier now than at any time during the past 6,000 years. No matter whether we are destined to enter a new ice age or whether the interglacial stage is to be continued by "global warming," Zone A is not likely to improve in climate.

## **2. The Northern Periphery's three subzones**

As the map indicates, subzone A1 is separated by the Tian Shan Mountains from subzone A2. Subzone A1 comprises Chinese Turkestan, now known as Xin-

jiang province. Subzone A2 comprises Mongolia. Subzone A3 contains what we still call Manchuria but the Chinese call the "Northeastern Provinces," the eastern two-thirds of Korea and the northern two-thirds of Japan.

### **a. subzone A1**

Subzone A1 has been the easternmost range of Persian culture at least since Medieval times. In ancient times people speaking a language that may have been related to Persian extended further east into northern B1, but after c. 200 BC such peoples fade out of the historical record, possibly having retreated west to Afghanistan. Subzone A1 is now China's Xinjiang province. A1 still contains many Turks, who display a Persian culture, carry on both herding and oasis farming and commercial economies, and passionately resist assimilation into the Chinese culture being brought in by numerous emigrants from Zone B.

Subzone A1's resources, exploitation of which has attracted these Chinese, include oil and a number of minerals, as well as enough empty desert for China to use to safely test its nuclear weapons.

### **b. subzone A2**

Subzone A2 dried out sooner than A1 and so had to shift from farming to pastoral-nomadism earlier and more completely. It contains the Gobi Desert, parts of which are the driest places in East Asia.

Its dominant ethnic groups are Turks and Mongols, that is, people who speak languages belonging to the Turko-Mongolic branch of the Altaic family of languages. Persian influences are thinner.

In terms of modern political units, A2 comprises what used to be called Mongolia (the region east of Lake Baikal, Outer Mongolia (for much of this century called the People's Republic of Mongolia and now known as the Mongolian Republic), and to the south Inner Mongolia, now called the Inner Mongolian Autonomous Region. Living up (down?) to its Orwellian name, the latter is wholly subordinate to China, run from Beijing as a kind of Indian reservation for 1.5 million Mongols and at least ten times that many Chinese settlers.

The Chinese of Inner Mongolia engage in farming, mining and a number of industrial age urban activities. This southern part of subzone A2 has become, ethnoculturally and culturally at least,

essentially a part of China.

### c. subzone A3

Subzone A3 is quite different in climate from A1 and A2, partly because it is closer to the ocean. Hence its mainland portions are more like northern Wisconsin than Montana. Much of it is still covered with forests. Cleared land is cultivable quite far north.

Languages spoken there mostly belong to the Tungusic branch of the Altaic family of languages. Manchurian language speakers conquered China in the 12th-13th and again in the 17th-20th centuries. Patriotic resentment of these conquests by modern Chinese leads them to call the northern and central parts of A3 the Northeast, rather than Manchuria. The Chinese have a point. From the 1870s to the 1920s about 26 million Chinese migrated into this area, and have tripled their numbers since then, utterly swamping the several million surviving Manchus and other non-Chinese ethnic groups. In effect, the northern and central parts of Subzone A3 have become extensions of subzone B2.

That is not true of Korea or Japan. The eastern two-thirds of Korea and most of Japan (except for the southwest corner) are also a part of A3. These parts of Japan and Korea share with the continental part of A3 similar climates and terrain, and also similar ethno-linguistic traits.

Korean is, like Manchurian, an Altaic language. Japanese is probably either Altaic or a creole (hybrid) between the aboriginal Malay languages spoken in southwestern Japan and the Altaic spoken by infiltrators and possibly invaders who crossed over to Japan from the Korean peninsula.

## 3. Zone A human and historical geography

### a. Easternmost Caucasoidals; late arrival of Mongoloidals

Zone A represents the border zone between East Asian Mongoloidal physical ethnic types and the Caucasoidal types of West Eurasia. The latter have bigger noses, paler skin, and much more body and facial hair than do the Mongoloidals. When a Chinese kid in China sees a white guy and wants to shout a non-obscene racist epithet at him, *da bizi* (大鼻子) "big nose!" is the preferred term, showing

the ability of naive racism to pick out the sharpest distinction between the two ethnic types.

Caucasoidals mostly live in the Central and Western portions of Eurasia, and settled much of South Asia as well. Their earliest connection with East Asia came by way of the Northern Periphery.

The Mongoloidals arrived in Zone A relatively late, reaching A1 later than the Caucasoidals. Mongoloidals may only have diffused northward from Zone B after the end of the Pluvial stage. They quickly became dominant in A3, and more than half dominant in A2, but they never fully established their dominance in A1 until many Chinese settlers arrived there during the last half century.

Even now they do not enjoy the kind of overwhelming ethnic dominance in A1 that they hold in Inner Mongolia or Manchuria. They have become numerous enough, however, to make the Persian and Turkish language speakers of A1 very nervous and defensive about their native cultures.

### b. post-pluvial dessication & shift from agriculture to pastoral-nomadism

The big cause of change in this region during historical times has been the ongoing and ever more intense dessication of much of A2 and A1. As a consequence, over the last 6,000 years ever more farmers have had to shift from agriculture to sedentary ranching and nomadic herding. Arctic herders may have infiltrated A2 from the north during the early part of the postpluvial and taught some nomadic herding techniques to the farmers who were abandoning the hoe to take up herding.

The animals herded are sheep, goats, the small horses native to the region and the yak (a hairy kind of cattle that had evolved on the high plains). The worse the climate, the greater the dependence on the yak and sheep, and the fewer the number of horses, which yield less milk and meat than yaks. Indeed, for a long time horses were milked and eaten, but not ridden..

### c. symbiosis/parasitism with sedentary regions

In some favored areas herders also still do a little scratch agriculture on the side. In others conditions are so bad that only herding is viable. To gain extra grain, cloth and manufactured goods, it

pays for herders to enter into symbiosis with areas that still practice agriculture, both nearby oases and ultimately the great sedentary agricultural and commercial civilizations to the south.

The herdsman-farmer balance of power underwent a great change when pastoral-nomads learned to ride their horses. In areas to the west of A1 this may have happened by c. 4,000-3,000 BC. In Zone A, however, we have no reliable evidence for horse riding much earlier than 1,000 BC. Once they learned to ride horses, the pastoral-nomads quit eating them, though they continued to milk them. Horse-riding people soon began to ceremonially bury horses in what look like chieftains' graves.

There was ample reason for so honoring horses. Herding from horseback allowed movement over greater distances from summer to winter pastures, and this permitted larger herds to survive the winter. Hunting from horseback taught the pastoral-nomads the techniques of cavalry warfare, of which they were the pioneers.

The preferred default relationship of the pastoral-nomads with the sedentary farmers was parasitism. Horse-riding pastoralists could easily get away with hit and run raids on farming communities. They even thought they provided services for the farmers. They provided protection from other raiders, sometimes a share in the loot from raids on other sedentary peoples, and even the opportunity for adventurous farmers to shift from a sedentary to a more warlike way of life as raids extended into the evolving center of Chinese civilization in Zone B.

We must distinguish between mere herding—a kind of sedentary pastoralism, what we call ranching—and true pastoral-nomadism. People engage in ranching when they can grow enough food for their animals so that they do not have to migrate seasonally from one pasture to others.

In places like A2, where pastoral-nomadism developed most fully, the land quickly dried out early in the postpluvial substage. This so shortened the growing season that people could not grow fodder in enough quantity or reliably enough to avoid making seasonal migrations over significant distances to feed their animals. Such people did not evolve the concept of ownership of land directly, but rather enjoyed ownership of grazing rights to both summer and winter pasture lands. The

riding of horses by c 1,000 BC is what shifted the balance of power toward the hitherto low men on the Zone A totem pole, the pastoral-nomads. Arrival of the Early Industrial Age in Zone B after 1,000 AD eventually put military superiority back on the side of the sedentary peoples of Zone B. Governments could use early industrial scale tax revenues to mobilize many more weapons, new and old, and men against pastoral-nomads.

Pastoral-nomads could no longer supplement their incomes through cavalry warfare. This has probably lowered their standard of living back to something approximating what it was during the Bronze Age. If not for the possibility of extracting, smelting and selling minerals, as well as some meat and wool to the industrial people in A1 and A3 and in nearby parts of China and Russia, their economic level would be even lower.

## C. East Asia's Central Zone (Zone B)

### 1. Its five subzones & their evolving climates

Four of these five subzones are quite different from each other as well as from the three subzones of Zone A. Even into late antiquity they often marked the borders between independent countries. Cultural differences between the zones survived not just into Medieval times, but even into the present, though the independent states embodying these cultures had long since become absorbed by a pan-Zone B Chinese universal state.

The inhabitants of B1-4 still use these differences to despise each other at least as much as Frenchmen and Englishmen do. A B2 person (e.g. from Beijing) considers a B4 person (e.g. from Hefei) so great a bumpkin as almost to be a foreigner. Unless both are well-educated he might well consider a Shanghai native (C1) to actually be a foreigner.

#### a. subzone B1

This region comprises the Great Bend of the Yellow River, sometimes called the Ordos, and extends eastward to the western foothills of the Taihang Mountains. It is bordered on the south by the Wei River valley extending to the northern foothills of the Qinling Mountains.

This region is dominated by the "yellow earth" associated with China, though it is also found elsewhere (notably in eastern Washington state and western Iowa). Called *loess* in German, *huangtu* 黄土 in Chinese (which means "yellow earth"), in East Asia this soil is blown south from the Gobi Desert in subzone A2 by the cold, dry winter winds, particularly during postpluvial times, when A2 is dry enough so that its soil is not well anchored by vegetation.

During the oft-repeated postpluvials of the last dozen million years, this soil has piled up for hundreds of feet, particularly on the windward sides of the hills of B1. When stalks of grass covered by this windblown soil rot away, they leave capillaries that allow water to drip down deep into the soil. This water dissolves wholesome nutrients there and then percolates back up to root-nourishing level.

Though a modest amount of water will grow crops on *huangtu* with little or no added fertilizer, getting water has become ever harder over the course of the most recent postpluvial. Since c. 1,000 AD, B1 has been too dry for its agriculture to support a capital city of a million or so, the minimal size necessary to serve a Chinese universal state. Hence Chinese capitals have shifted northeast to B2.

The climate here was once even more rotten. During the last ice age much of the west and southwest of B1 was covered with glaciers and was scraped clean or covered with the gravel as the glaciers retreated.

B1 only began to get a half-way decent climate just as agriculture was being invented (c. 6,000 BC), just to the east of B1 in the fulcrum subzone

#### b. subzone B2

It would not be an exaggeration to say that subzone B2 was created by the Yellow River wobbling back and forth over the millennia. Sometimes it flowed into the Gulf of Bohai north of the Shandong peninsula. At other times it entered the Yellow Sea to the peninsula's south. The Yellow River cuts through and erodes the yellow soil of B1 and becomes tannish-yellow (hence its name) while carrying that soil in suspension as it flows somewhat rapidly down hill.

The river slows down when it hits the flat lowlands of B2 and loses much of its capacity to carry the suspended soil, and so deposits it as silt. The silt builds up the

river's bed and then at several generation intervals the river has to switch over to a new, lower bed. In the process it fills in the wetlands of B2, and creates flat, dry, alluvial plains in their stead.

When agriculture came in, most of B2 was still wetlands and so wasn't quite ready for prime time farming, but parts of it were ready, particularly the higher ground along the eastern foothills of the Taihangs and near the hills in the Shandong peninsula. Big marshes remained common in B2 until a thousand years ago, but nature and human action collaborated in filling in and draining B2's wetlands once cheap iron digging tools became available c. 500 BC. However, human action merely accelerated this great macroclimatically-linked change which was occurring anyway over long stretches of time.

#### c. subzone B3

Subzone B3 comprises the southwest of modern China, including the provinces of Sichuan and Yunnan. It is very fertile, particularly in Sichuan, the northern part of the region. Sichuan means "four rivers," meaning the four main tributaries of the Yangzi River which water a high plain in the center of that province. This high plain is far enough south to have a moderate climate despite its altitude. It is a great place to grow lots of food.

The region's main geographic shortcoming is that it is hard to get to from the other subzones. It is easy enough to leave B3. You just float down the Yangzi, but merchants had to tug their boats upstream at great expense of labor until the steamship arrived only 150 years ago.

Hence, though subzone B3 has always been prosperous and its people inventive, it has also tended since late antiquity to be isolated from the economic and political mainstream, except as a refuge for rebels and for trade in fairly portable things, like light, highly valuable laquerware. During late medieval and early modern times it also became a center of the printing industry. Books, even printed books, are pretty valuable per unit of weight. So it pays to export them to a distance.

Sichuan now has a population of over a hundred million people (and a few thousand hapless pandas). The pandas are losing out to people who elbow them aside, inexorably turning their hillside bamboo land into terraced rice paddies.

To the south of Sichuan, Yunnan does

its best agriculture on the cooler but less fertile hillsides. The more fertile valleys are hot and often malarial. The last part of B3 to be extensively settled by ethnic Chinese, it was still frontier country a century or two ago, and even now is the last redoubt of unassimilated ethnic minorities.

Further west and south subzone B3 fades into the Tibetan Plateau, a military and commercial dead end, with no economically viable route to South Asia.

#### **d. subzone B4**

Subzone B4 comprises the middle part of the Yangzi valley, and is roughly bounded by two lakes, Dongting in the west and Boyang in the east. In ancient times, particularly during the postglacial pluvial, these lakes were so big that they formed a single great lake in the middle part of the Yangzi valley. This was almost an inland sea, though much smaller than the Mediterranean and containing fresh rather than salt water. As the pluvial gave way to the postpluvial substage and less water seasonally came down out of the glaciers of the Tibetan Plateau, this great lake shrank to form the two separate lakes.

The region has a mild climate and lots of rain. The shrinking of the lakes has made lots of good alluvial soil available for farmers, who have accelerated the shrinkage of the lakes by constructing polders on their fringes (much like those the Dutch build on the fringes of the North Sea). The region is subject to disastrous floods whenever, as in 1998, tropical storms drop enough water to temporarily refill parts of the ancient lake bed. Dense settlement of the old lake bed by farmers makes such floods all the more disastrous.

Fortunately, even before the full blossoming of the industrial age, B4 had also become one of the key commercial centers of China. It took advantage of the flow of goods down the Han River from the northwest into the Yangzi just above Lake Dongting, up the Gan from the south into Dongting and up the Xiang from the south into Lake Boyang. The great tri-city urban complex now called Wuhan at the confluence of the Han and Yangzi Rivers is China's equivalent of Chicago as the great entrepot servicing the central region of the country.

#### **e. the fulcrum subzone**

This fifth subzone is the small but historically important region where the other four subzones overlap. It runs eastward from Xi'an to Zhengzhou, with a wing extending north and east toward the eastern foothills of the Taihang range.

The fulcrum subzone comprises a cluster of microterrains and microclimates, most within convenient commuting distance of each other. These resemble the terrains and climates of each of the four subzones that surround it. It is, therefore, a place where people can do all of the sorts of things possible in all of the other subzones. In many places high plains herding can take place within a few hundred yards of riverside farming, as highland loess soil quickly gives way to creek bottom alluvium. Up until medieval times, at least, forests of various degrees of maturity coexisted with open plains. Aridity and tree-chopping have eliminated most of the subzone's forests since then.

In early antiquity, this was, a great place to experiment with new activities to supplement old ones. It is not surprising, therefore, that this was one of the many places in Eurasia where agriculture was independently discovered. This was c. 6,000 BC, a few thousand years later than in the West.

## **2. Zone B's human historical geography**

The early human geography of the Central Zone is not as clear as it was a year or so ago. New bones dug up by paleontologists far from China seem to contradict the old consensus on the dating of man's arrival in East Asia.

Homo erectus in Java has been tentatively redated from 700,000 BC back to 1.8-2.0 million BC. Some suggest this early arrival may be from a different and more archaic species than the Homo erectus of Africa. This has revived, probably mistakenly, the theory (proposed by Carlton Coon in the 1930s) that Homo sapiens evolved out of Homo erectus separately in Africa and East Asia.

Homo sapiens' first appearance has also been pushed back from c. 50,000 BC to at least 100,000 BC and perhaps to 250,000 BC, at least in East Africa. Since our species's first appearance in East Asia is still only datable to about 30,000 BC, there was more than enough time for men

to have migrated there from the west, thereby potentially falsifying Coons' theory after all.

On the other hand, this dating does not exclude local, separate evolution either. Peking Man (the Chinese variant of Homo erectus) and modern Mongoloids both tend to have incisor teeth with shovel-like depressions on their surfaces. So too, however, do many African H. erectus remains. The tools used by Homo erectus types in the east (including in Japan, where H. erectus tools but not bones survive) do not have the same range of types as in the west.

A consensus is growing that there were several migrations out of Africa:

1) An archaic version of Homo erectus might have left Africa before 2 million BC and reached East Asia a few hundred thousand years later.

2) A more advanced Homo erectus, might have left Africa some time after 1 million BC but only reached as far as the Middle East and Western Europe. This Homo erectus may have evolved into the dead end of Neanderthal Man in western Eurasia (it not being clear that Neanderthals ever made it into East Asia).

3) Finally, African Homo erectus may have evolved into an early version of Homo sapiens in Africa. This creature may have then migrated out of Africa some time after 0.5 million BC and gotten all the way to East Asia, evolving into the regional races as they settled down into novel environments along the way. The East Asian H. erectus may (or may not) have participated in this last evolutionary stage.

This last physical change was perhaps masked from the observation of modern paleontologists. First, early H. sapiens was quite rare, and second, from their first appearance in c. 250,000 BC until past 100,000-50,000 BC they retained the same patterns of behavior (no formal burials, only informal and transient camping sites) and tools used by the more developed Homo erectuses and Neanderthals.

Only after these Homo sapiens started holding funerals and creating ceremonial cave paintings (and inventing the more elaborate religions associated with these practices) after 50,000 BC, did they become common enough for their ever more elaborate tools to begin to be noticed by archaeologists. They then began the long evolution toward agriculture, state-build-

ing and ultimately market exchange and industry.. (Keep this ancient chronological sequence from mental change to material change in mind when evaluating the rival claims of the material determinists and ideational determinists in chapter 2.)

### **a. the "standard" Mongoloids & B3**

If these Homo sapiens migrating from Africa via the Middle East hybridized with local more developed Homo erectus in or near China, that might account for the shovel-shaped incisor teeth of East Asian H. sapiens. These H. sapiens might also have brought undifferentiated Mongoloid traits with them from Africa, as Andres Betts has persuasively argued. In any event, H. sapiens continued to evolve on site in East Asia. The earliest Mongoloid H. sapiens resembled American Indians of the northeast U.S. (who left Asia across the Bering Straits c. 40,000 BC). The Navahos, who may have migrated to North America as late as 5,000 BC, look like modern East Asian Mongoloids.

During one of the short warming episodes that punctuated the last ice age, some of the early Mongoloids may have moved into subzone B3, the high plateau of the southwest, surrounded by high mountains. When the weather turned cold again and the mountain passes became blocked by glaciers they could not get out of B3 again for several dozen thousand years.

Isolated in an area that must have had a climate not unlike Greenland's, this small inbreeding group of proto-Mongoloids were forced to unconsciously favor traits that made for survival in a cold climate.

Having relatively short limbs compared to body length conserves heat because less surface area is exposed. Raised cheekbones shield the nasal passages from cold air more than do the "big noses" of the Caucasoids and some early Mongoloids. Similarly, an extra layer of fatty tissue over the upper eyelid shields the eyes from the cold. Having less body and facial hair also helps. Human body hair is not thick enough to form a protective pelt. It can, however, act like the fins of a radiator. As a consequence, the more body hair they have, the more likely humans are to suffer from hypothermia in a cold climate.

However the earliest Mongoloid versions of H. sapiens may have evolved, and however long that may have taken, they

may have finished their evolution in B3 within c. 20,000 years, a period too short to make them a separate species. If we assume Dr. Betts' thesis that the original southern African H. sapiens were already proto-Mongoloid, similar and perhaps more radical racial formation likely occurred in western Eurasia and northern Africa.

The above account is loosely based on the theory of "punctuated evolution" promoted by Steven Jay Gould, who was partly inspired by the Marxist theory of abrupt political revolution. Evolution of this type also includes rapid bursts of revolutionary change. Keep tuned over the next decade to see if the implosion of the Marxist states evokes a parallel change in fashion among paleontologists and their historian groupies.

### **b. the Mongoloids' Central Plain northern center**

Subsequent to their evolution in B3, between 20,000 and 10,000 BC, the ice age ended, the glaciers melted, and the fully evolved Mongoloids could finally get out of B3.

These Mongoloids first radiated out into the rest of Zone B, then up into A3 and then A2. Some of them kept going beyond A3 all the way up to the Arctic. There they could retain the hunting-gathering lifestyle first created in B3 during the ice age and used it to become the Inuits (Esquimos). The Inuits have slowly moved east from northeastern Asia to North America, reaching Greenland early in the current millennium.

By the time the Mongoloids reached the fulcrum subzone and the southern reaches of B1 (perhaps not long after 10,000 BC), climate and terrain there were finally becoming conducive to agriculture. By no later than 6,000 BC these people had, independently so far as we can tell, invented the earliest forms of East Asian Zone B agriculture in the fulcrum subzone.

Thereafter, the reach of this culture spread from the fulcrum subzone. At first it moved into much of B2 and B1, and eventually into the southern half of Zone B and the adjoining portions of Zone C. There it encountered, interacted with, and then swallowed up cultures from an independent southern Zone B and middle Zone C center of culture.

### **c. the Mongoloids' southern center**

The radiation of the Mongoloids south and southwest into Southeast Asia during the 1st millennium BC and 1st millennium AD is confirmed by "isochron maps." These differ from the weatherman's isotherm and isobar maps by plotting points where Mongoloids appeared, and then drawing lines linking points of the same date. Such isochron maps show B3 as the apparent center of distribution of the Mongoloids. This independently backs up the theory that the Mongoloids finished evolving in B3.

The southern parts of Zone B (B3, B4) and its border with C1 and C2 was likely an independent center of culture. The advancing Mongoloids probably found Polynesian-like people already living in the Zone C coastal regions. This may have affected the type of farming invented there, which was rather different from that invented in the fulcrum zone.

Over the long run, however, this southern center of culture became subordinate to and was swallowed up by the expanding northern center, probably because its rulers lacked the north's combination of defensive and offensive advantages. The south had nothing like the great open plain of B2. Southern states sometimes invaded the north, but it was even easier for the more easily united north to invade the geographically fragmented south. This remained true even after the south had entered the early and then full industrial age more vigorously than had the north.

This pattern of northern political and military dominance over the south has held all through Chinese history, even into the 20th century. The Nationalist government of Chiang Kai-shek, for example, had its headquarters in the southern part of C1, and took refuge in B3 during World War II. When it attempted to drive the Communists out of northern Zone B after the war, anyone who knew his Chinese historical geography understood they were bound to be the losers. And indeed they did lose.

## **D. The Southern-Eastern Periphery (Zone C)**

### **1. Its greater size during the last ice age**

Zone C used to be a lot bigger than it is now. During the last ice age much of

the finite amount of water available on the planet was locked up in glaciers. The ocean levels dropped substantially and a good bit of the continental shelf at the eastern edge of East Asia was above water. You could walk down what is now the continental shelf a hundred miles east of the current shoreline from southwestern Japan to Taiwan and southern Vietnam and never get your feet wet.

### a. Upper Paleolithic cultural continuum

During the Upper Paleolithic period, when this great land bridge existed, there was great cultural continuity from southern Vietnam to Japan. It is hard to document now because most of the best lands then have long since gone under water.

Some coastal and highland Upper Paleolithic to Mesolithic sites in Japan (beginning before 10,000 BC) and one Upper Paleolithic site near the coast of Vietnam (dated to 18,000 BC) are similar enough to each other to suggest a common lifestyle and perhaps ethnic similarities as well.

Even now, except for Chinese (which arrived late), there may be only one or two language families embracing most of the languages of Zone C.

Some physical anthropologists think they can detect a vaguely similar “Polynesian” range of physical ethnic types in most parts of Zone C. I should warn you, however, that “Poly-” means “many.” Use of this prefix suggests the term is something of a conceptual grab bag for the physical anthropologists.

### b. its premature nature in terms of civilization's evolution

This broad coastal plain of Zone C would have been great for agriculture during the Upper Paleolithic, when it still existed. The only problem is that agriculture had not been invented yet then. It may even have been one of the regions where the transition from gathering to farming took place. The second East Asian center of ancient agriculture, in the southern portion of C1, not far from modern Shanghai, was engaged in farming by c. 6,000 BC, the same time the fulcrum subzone's quite different style of agriculture appeared. It is plausible to surmise that the Shanghai area farmers had neighbors to the east who had also farmed, perhaps even earlier and taught them how to do it.

By 6,000 BC, however, the glaciers

had long since mostly melted and the waters had risen. Instead of one broad coastal plain, there were hundreds of narrow coastal plains isolated from each other and their hinterlands by the hills of the interior of southern China.

That is what rendered the middle reaches of Zone C highly vulnerable to takeover by the expanding large universal state of China coming out of the northern part of Zone B by the 3rd century AD. That state could knock off the small, isolated states of Zone C one by one. Even the larger southern states were not able to overcome the obstacles of the south's physical geography.

## 2. Its Post-glacial three subzones

### a. subzone C1

Southern C1 has since ancient times had significant links to B2 and B4. Some scholars suspect that the shift to state-building after 3,000 BC was the result of interaction between C1 and B2. Farming cultures of the two types may have expanded until they bumped up against each other just west of the Shandong peninsula. These cultural interactions in Shandong may also have had something to do with that area being the place where Confucianism first appeared after c. 500 BC.

Further south, the C1 culture produced the independent state of Wu during the middle of the 1st millennium BC. Though Wu was long-since swallowed up by expanding Chinese states from B4 and B1, the regional accent of the Shanghai region is still called the “Wu dialect.”

At its northern boundary, C1 comprises the west coast of the Korean peninsula and the southwesternmost Japanese island, Kyushu. There may be a C1 substratum to the ethnic makeup of both Korea and Japan, though it is more evident in Japan. Some historical linguists define Japanese as a creole (mixed) language combining Malay (i.e., from C1) and Altaic (from Zone A) elements.

### b. subzone C2

The ancient state of Yue took form here during the 1st millennium BC. “Yue” is the same character (越) spelled as “Viet” in the name of Vietnam. The Vietnamese believe their ancestors once ruled much of subzone C2 and not just the southern half of C3, as they now do.

It is probably more nearly correct, however, to make such a link more indirectly. The ethnic term Yue may have been used by similar peoples running a number of isolated local states along the coast of C2 and C3 at various times. The northernmost of these Yue states may not have had much to do with the southernmost. The latter should not, therefore, take very much credit for Yue state's takeover of Wu, or be shamed by Yue's subsequent defeat and swallowing up by Chu, the great power of subzone B4.

The Vietnamese are surely correct, however, in their insistence that people related to themselves played a significant role in creating the culture and civilization of China. Of course when we examine C3, the Vietnamese portion of Zone C, we must also acknowledge a role for Chinese expansion in Vietnam's transition into civilization, high civilization particularly.

### c. subzone C3: links to Vietnam, South Asia

The northern half of subzone C3 is now China's Guangdong (Canton) province. The southern half is modern Vietnam.

The two parts of C3 are more closely related than it seems at first. They are very close in climate and terrain. It would not be much of an exaggeration (though it would be highly politically incorrect) to characterize the Cantonese as Vietnamese who speak 7th century AD Chinese with a Vietnamese accent, and the Vietnamese themselves as Cantonese who still speak Vietnamese but with many elements of Chinese vocabulary and grammar. The Chinese lost their military and political grip on Vietnam after the 10th century AD, but retained Canton, perhaps because it was closer to the center of Chinese power..

## 3. Differing fates of middle sections, outer edges

The following generalizations hold pretty well: The middle sections of Zone C were permanently swallowed by an expanding China. The northernmost and southernmost sections became independent daughter cultures of China. The northernmost section remained more fully Chinese in culture because not directly linked to another civilization. The southernmost section adjoined and was influenced by South Asia.

## E. A Usable Form of Historical Time

### 1. Cosmic and historical time and space

You don't have to be a modern physicist to understand that space and time are linked in all sorts of ways. The more space you confront, the more time it takes to cross it or to get up high enough to comprehend that space as a whole. (It doesn't take long for a 747 to reach cruising altitude, but it took quite a while to get to the stage where 747s could be manufactured..

#### a. geological and cosmic time

You no doubt noticed while reading this chapter that some forms of time were qualitatively different from others. The biggest difference was between cosmic/geological and historical time. The former was more nearly like travel time across Zone A in a 747, the latter (at least potentially) like the time it takes to walk home from the bus stop.

I often wonder if even cosmologists have a feel for the 15 billion year age of the universe. I certainly don't. Nor do I have any notion of what it means if the universe turns out to be 4 billion years older than that. Neither does the cosmologist, except for how the change affects his equations.

The problem is the unmeaningfulness of the unit "billion." It doesn't help to imagine dollar bills piled up to reach beyond the moon. That pile is too high to be comprehended in terms of some multiple of a pile one can imagine, say the height of my typing table.

All we can do is snicker when someone does a Carl Sagan imitation ("billions and billions of . . .") I must confess I can't even take in the meaning of the forty million years it has taken to push up the Tibetan plateau and its surrounding mountains.

#### b. historical time

Historical time should be easier to comprehend, but usually it isn't, particularly for ancient history. Again, the numbers are still too big. The beginning of high civilization is approximately 2,500 years ago. Seems like a long time for a

creature that only lives for 70-80 years on average. Early civilization began about 5,000 years ago. Our species supposedly first appeared 100,000 to 200,000 years ago. At that point we might as well be in geological or cosmic time.

### 2. Meaningful historical time

#### a. the "H," the "G" and "half-G"

Still, the situation is retrievable. Suppose we could make the "century" a meaningful unit of time. Assume we can expect to remain sentient for about 75 years. (We would deduct four or five years of infancy and a year of so of senescence.) Still short a quarter of a century. However, most of us have parents. If they produced us at around age thirty, and if we stay on good terms with them, they can brief us on the quarter century that preceded our becoming sentient.

That might be enough to make the century a humanly meaningful unit of time for us. Let us call such a rethought century an "H" (short for both "hundred" and "humanly") We now find that high civilization began 25 H ago; early civilization only 50 H ago. Human-style religious ceremonials first appeared only 300 H ago. Moving the decimal point two places to the left does not strain the mathematical abilities even of the historian. In fact, the archaeologists, to make radiocarbon dating easier to use, already date the birth of high civilization at 2,500 BP (Before Present). We have merely improved on this by moving the decimal point two places to the left.

I would also propose dividing the H into four G (for generations) and the G into two half-Gs. People do all sorts of historically interesting things by generation, including start revolutions, which as often as not have to be finished by disciples a half-generation younger. Year of birth may be less a cause of a human G's unity than the year a bunch of people turn eighteen and leave home for work or school, particularly in modern times.

#### b. when to use human time

I do not recommend substituting the H and G for all or even most historical dates. "0.87 H ago our forefathers brought forth . . ." does not scan very well.

However, the H may serve as an occasional device to bring home to you the relative recency of our species and the

several stages of civilization we have so far constructed. Using it as I have in the chart "Stages Of The Evolution Of Early And High Civilization In East Asia" just before the map in the frontmatter file may help you realize how nearly Confucius and Mencius and the other great men of China's transition into high civilization are our contemporaries.

EHK