



The Association for
Asian Studies

Presidential Address: The Structure of Chinese History

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Source: *The Journal of Asian Studies*, Vol. 44, No. 2 (Feb., 1985), pp. 271-292

Published by: Association for Asian Studies

Stable URL: <http://www.jstor.org/stable/2055923>

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Presidential Address: The Structure of Chinese History

G. WILLIAM SKINNER

One of the most dramatic cycles of economic development and decline in all of Asian history occurred in North China between the eighth and the thirteenth centuries.¹ It was marked by the growth of an ever more complex regional economy centered on the city of Kaifeng—a development that got under way in the wake of the An Lushan rebellion of 755, accelerated only gradually during the remainder of the Tang period, spurted ahead throughout the tenth century and most of the eleventh, and leveled off in the decades around 1100. The key elements in this saga of regional development deserve brief summary.

Kaifeng grew in importance as Tang power ebbed. Most of this growth was at the expense of Luoyang, the Tang second capital, which lay to the west on a more strategic and defensible site. Both Luoyang and Kaifeng had access to the Grand Canal, but Kaifeng's site, some 190 km. closer to the geographic center of the North China plain, gave it a particular advantage in an era that saw a steady eastward shift of the region's population gravity.² Kaifeng, whose eighth-century wall enclosed a modest 8.3 sq. km., was vastly enlarged in 955, when a post-Tang imperial pretender built an outer wall enclosing over 56 sq. km. This was the city that became the capital of the Northern Song dynasty, whose dates, 960–1126, span the phase of most rapid growth in the developmental cycle we are considering.

Within a few decades of the dynasty's founding, the entire transport network of North China had been revamped to serve the new imperial capital. While the Grand Canal, which connected Kaifeng with Hangchow, remained the key waterway traversing the North China Plain, other canals were built out from the city and rivers were dredged and diverted in accordance with an overall plan. In addition, a new system of imperial highways was constructed which radiated from Kaifeng like spokes from the hub of a wheel.³ This centralized and relatively dense transport network facilitated the efficient extraction of revenues, encouraged areal specialization in both extractive and manufacturing industries, led to an expansion of the trading areas not only of Kaifeng but of other cities, and set the stage for a dramatic increase in the

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This address—presented at the annual meeting of the Association for Asian Studies on March 24, 1984, at the Washington Hilton Hotel, Washington, D.C.—is dedicated to Knight Biggerstaff, a former president of the Association, who taught the author more about Chinese history than an anthropologist, at least in those days, had any need to know.

¹ I rely heavily on Robert M. Hartwell's path-breaking analysis (1967) of the medieval develop-

mental cycle in North China.

² City building, too, was increasingly concentrated in the eastern and northeastern areas of North China throughout the centuries from Sui through Song. Kaifeng's early development as a commercial center coincided with the late Tang relaxation of economic controls (see Twitchett 1966), which in effect favored central places in accordance with their transport advantages regardless of administrative status.

³ For complementary maps, see Hartwell 1967: 103 and Shiba 1970:42.

total volume of trade. Kaifeng's population grew to at least 750,000 by 1078, and may have approached a million at its peak a few decades later. Other cities prospered as well, all bound by close commercial as well as administrative ties to Kaifeng.⁴

Robert Hartwell's authoritative treatment of the creation of a regional economic system during the Kaifeng cycle emphasizes the crucial role of the large, readily accessible market provided by the city's own population. Rice for the metropolis came from the Lower Yangzi via the Grand Canal, and wheat and millet came from Shandong and Henan via the Guangji and Huimin canals, respectively. Timber for the city's houses and stores, and firewood and charcoal for its stoves, came from forests in the far periphery of the region. The fibers for Kaifeng's textile plants, the grain for its breweries, and the coal and iron for its foundries came to the capital from diverse parts of North China. Industrial development and commercial expansion stimulated, and in turn fed on, functional integration and areal specialization throughout the economy. By the eleventh century, the region's commerce was elaborately specialized. The ferrous products transported to Kaifeng from what is today the Henan-Hebei border area were exchanged for grain brought in from the south, for foreign imports, for processed agricultural products that reached Kaifeng from the east, and for nonmetallic manufactures of the metropolis itself. The latter, including drugs, chemicals, household utensils, bricks and tiles, porcelain, lacquerware, and books, were retailed throughout North China.

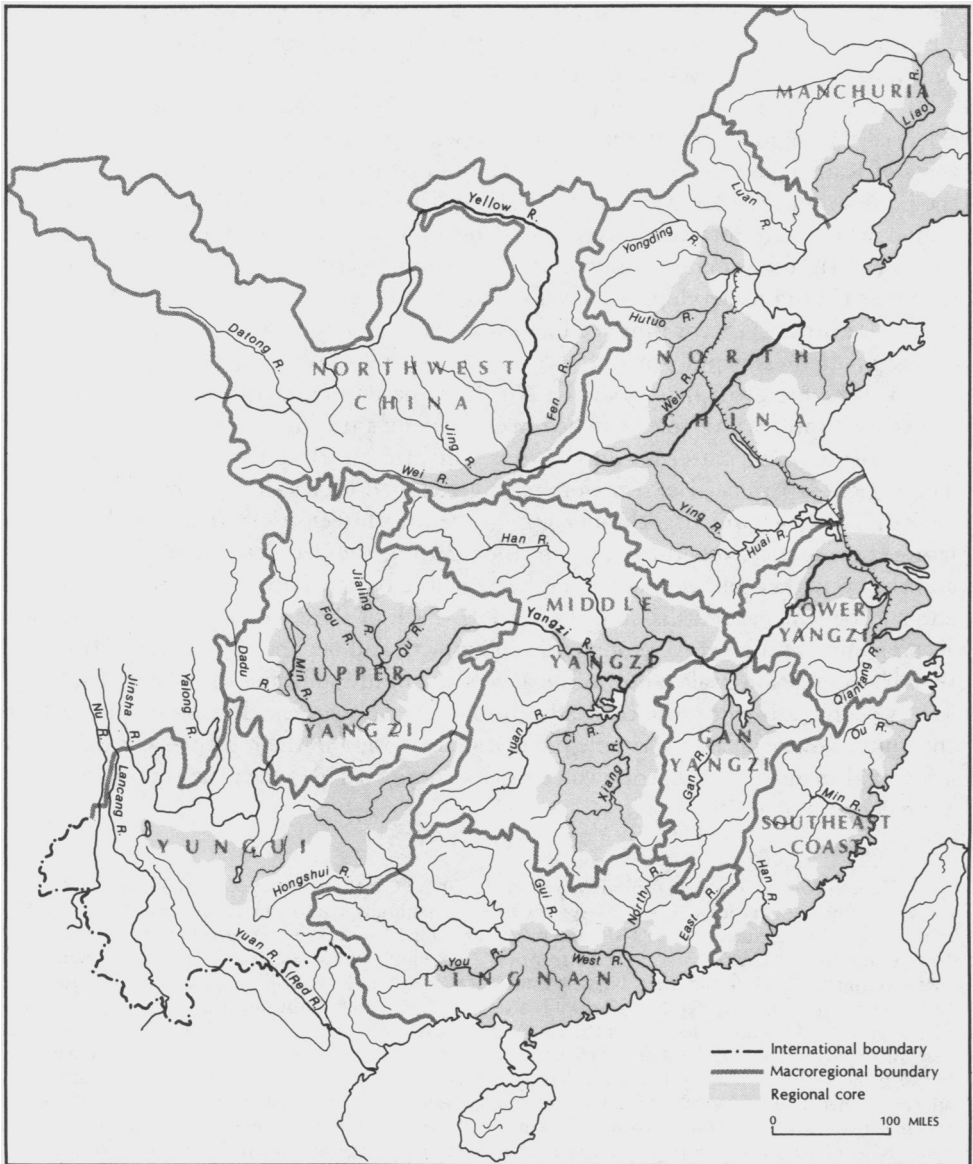
The upswing of this developmental cycle occurred during an extended period of peace and order which was uninterrupted by serious foreign incursions and only moderately disrupted by the fighting that accompanied the fall of the Tang and the subsequent competition for the Mandate of Heaven. Its downswing, which began early in the twelfth century and continued to a nadir in the thirteenth, was punctuated by a series of catastrophes. The Jurchen tribes, who founded the Jin dynasty in 1122, overran most of North China within the next four years, and for nearly a century all but a southern strip of the region remained within the Jin empire. Kaifeng itself was captured in 1126 and stripped of its imperial status. In 1194 the Yellow River burst its dikes and changed the course of its lower reaches, wreaking havoc upon the elaborate system of waterways centered on Kaifeng and, *inter alia*, severing direct water communications between most of the region's iron mines and smelters and their Kaifeng market. Then, in 1212, the Mongols set out to destroy the economic and military base of the Jin empire. This was done methodically over a twenty-year period by laying the greater part of the North China Plain to waste. Kaifeng, devastated by an epidemic in 1232, fell the following year to Mongol troops. Famines, floods, and epidemics plagued the North China Plain for decades after the armies had passed on.

At the onset of the Kaifeng cycle in the mid-eighth century, the total population of the North China macroregion (I refer here to the specifically delimited physiographic region shown on Map 1) was approximately 20 million.⁵ It rose above 30 million at some point in the twelfth century and probably did not level off—at what may have been a peak of 33 to 35 million—until the last decade of that century, when the disastrous floods that preceded and followed the change in the course of the Yellow River and the economic dislocation the change entailed had a significant and sus-

⁴ Of the twenty-nine cities throughout the empire whose annual commercial tax quota as of 1077 exceeded 30,000 strings of cash, ten were in North China. See Ma 1971:165–71.

⁵ Provincial breakdowns are provided for A.D.

742 in Bielenstein 1947. Bielenstein's provincial population estimates are incorporated with others for later centuries and published in comprehensive tables in an appendix to Durand 1960.



Map 1. China's macroregional systems, ca. 1893, showing major rivers and the extent of regional cores.

tained effect on overall mortality. Three-quarters of a century later, some decades after order had been restored throughout the region and waterworks initiated to retame the Yellow River, a Yuan census indicated a total population for North China of some 11 million, only a third of its peak near the turn of the century. As for Kaifeng, from a peak of over 900,000 in 1100, its population fell to less than 90,000 in 1330. When new walls were finally built in 1368 to replace those destroyed by Mongol troops in 1126, they encompassed an area very nearly the same as that of the Tang city some six centuries earlier (Hartwell 1967:151).

It is important for my purposes here to recognize that the Kaifeng cycle was essentially a regional rather than an empirewide phenomenon. Few of the manufactures of Kaifeng and other industrial centers in North China—and certainly none of the products of their famed metallurgical industries—could find a market outside the region when transport costs were added on. The accelerating prosperity in North China had significant effects only on the three immediately adjacent regions, and even there the timing of developments was markedly different. The economy of Northwest China, for instance, went into decline just as the economy of North China entered the period of its most rapid growth.

In the subsequent history of the North China region, Beijing (Peking) assumed the central integrating role that had been Kaifeng's during the medieval cycle, and changes in trading patterns and the transport grid clearly reflect this radical shift.⁶ The region experienced two major Beijing-centered cycles during the late imperial period. The first, which got under way in the mid-fifteenth century, was checked by famine, epidemics, rebellion, and invasion during the decades from 1580 to 1660, and the cycle that followed was brought to a close by the Taiping and Nien rebellions and subsequent natural disasters after 1850. Each of these developmental cycles was accompanied by a great wave of population growth and decline. During the Ming, the region's population peaked out in the 1580s at a figure substantially below that of the 1190s—probably not more than 28 million. The subsequent developmental cycle in the Qing, however, saw a veritable population explosion in the region—approximately a five-fold increase during the two centuries ending 1850, when the total population approached 120 million.⁷

⁶ Three successive imperial capitals were built on overlapping sites in the Beijing area—by the Jin in the 1150s, by the Yuan in the 1250s, and by the Ming in the 1420s. The destruction and disruption that accompanied each of the three dynastic transitions hindered sustained development in North China, and the three centuries from 1150 to 1450 may in broad perspective be seen as transitional between the great medieval cycle already described and the rather different cycles of the late imperial era. In the course of this transition—which in most respects involved sequences of two steps forward and one step backward—problems of provisioning the capital were solved, the population of the metropolitan area grew to become the region's dominant urban market, the region's transport network was reoriented, and the basic outlines of a restructured trading system were laid down.

The most critical development had been the construction by the Yuan of a long canal running across the North China Plain that connected the Lower Yangzi portion of the earlier Grand Canal with Tongzhou, just east of Beijing. This second

Grand Canal system, more ambitious and difficult to maintain than the first, was completed in 1289, and in due course a paved road was constructed that ran along its stone embankments from Hangzhou to Beijing. Meanwhile, four other major imperial highways were built out from the capital, and the Yuan organized under the Board of War a postal system radiating from Beijing that was remarkably efficient for its time. Subsequent restoration and perfection of the system by the Ming left North China in the mid-fifteenth century once again strongly imprinted with a radial transport network that structured the region's administration and commerce and shaped the spatial patterning of agricultural and industrial specialization. This time, however, the hub was situated far from the geographic center of the region at the very northern rim of its resource-rich core.

⁷ These estimates are based on the provincial figures presented in Durand 1960: 250–55, and on the extensive analysis in Ho 1959. In his treatment of catastrophic deterrents to population growth, Ping-ti Ho appears to have overlooked the impor-

The Kaifeng cycle and the Beijing-centered cycles in the Ming and Qing are historical episodes of a particular structural type which I take to have been characteristic of middle and late imperial China. They are akin to the agrarian long waves or "logistics," with periodicities in the 150- to 300-year range, which have been discerned by economic historians of Europe.⁸ That such macrocycles of development and decline or prosperity and depression have not been widely recognized in the historical literature on China follows, I surmise, from the usual focus on the empire as a whole or on its component political divisions. Economic macrocycles are a systemic property of macroregional economies—not of provinces and not of the Chinese empire per se—and consequently their contours become clear only when regional economies are taken as the units of analysis. Before turning to the general characteristics and causes of regional macrocycles, I should like to broaden our base by sketching out the cyclical rhythms of a second regional economy, one in which we can see a different set of factors operating. In this respect the Southeast Coast is a good foil for North China. The contrast it provides also enables me to establish an important point, namely that developmental cycles may be wholly unsynchronized as between regions.

We may pick up the Southeast Coast story in the eleventh century, at the stage in a developmental upswing when the cutting edge of growth was shifting to extraregional trade. Teas from the region's inland areas became famous throughout China, and the sugar and fruits of the coastal areas gained established markets not only in the neighboring regions of China but also overseas.⁹ By the eleventh century, shipbuilding had become a mainstay in the region's economy, and the growing junk trade brought industrial specialization as well to coastal areas. Textiles, porcelains, and iron pots and utensils all found an important place in the region's overseas trade (Shiba 1970:183–89; Rawski 1972:66–67). As Su Dongpo put it, with the poetic license to which he was entitled, "The entire province of Fujian makes its living by the practice of seaborne commerce."¹⁰

By the standards of the day, the economy of the Southeast Coast was highly commercialized in the twelfth century. With a population that had surpassed ten million as of the 1131 census,¹¹ the region as a whole was no longer self-sufficient in grain, and many localities specialized in the export of human talent—seafaring traders to Southeast Asia, merchant specialists to cities elsewhere in South China, even monks to Japan and adjacent coastal regions. The region led all others in the per-capita production not only of merchants but also of scholar-officials, and numerous localities developed into a fine art the strategy of sending forth talented young men to seek their fortunes elsewhere in anticipation of reaping the rewards of their subsequent success (Skinner 1976:348–50).

tance of epidemics in the depopulation of 1585–1650 (cf. Elvin 1973:310–11). Two major epidemics, climaxing in 1588 and 1641 respectively, have been identified from local gazetteers by Imura Kōzen (1936–1937) and analyzed in relation to drought and famine by Helen Dunstan (1975). Both catastrophes had their major impact in North China and the Lower Yangzi.

⁸ The most notable fleshed-out example is that of the Languedoc region of southern France. Le Roi Ladurie (1974) traces out two long-term agrarian cycles with approximate lower turning points in 1000, 1450, and 1750, and approximate upper turning points in 1330 and 1680. See also Abel 1980, Braudel and Spooner 1967, Margairaz 1984,

and Metz 1984.

⁹ Shiba 1970:183. See also the treatment of Fujian's specialties and trade as of ca. 1500 in Rawski 1972:61–67, which, however, does not distinguish between the period of decline after 1300 and the more prosperous era preceding it.

¹⁰ Quoted in Shiba 1970:187.

¹¹ The census recorded 1,330,000 households in Fujian alone (Elvin 1973:206). Through extrapolation from other censuses, I estimate at least 400,000 households in the Wenzhou, Chuzhou, and Taizhou areas of Zhejiang and 250,000 households in the Chaozhou and Jiayingzhou areas of Guangdong.

The developing interdependencies at the heyday of economic prosperity naturally depended on the coordinating functions of urban centers, most notably in this case seaports. In the Northern Song, the most important cities were Fuzhou and Wenzhou (see Map 2), the regional centers of the two northern subregions, whose timetable of development was most advanced.¹² During the eleventh century the advantage began shifting southward to the Zhangquan subregion. Its regional center, Quanzhou, was opened to foreign trade in 1087 and in less than a century grew to become the largest port in all of China, attracting traders from as far as the Middle East. Commercial exchange bound the ports of the region into an integrated urban system.¹³

The upper turning point of the cycle was reached around 1300, after which the vulnerability of an economy overheated by foreign trade became apparent. Throughout the upswing of the Southeast Coast cycle, government policy had effectively encouraged both the coastal and the overseas trade, although control was exercised to extract revenue and contain pirates. During the first decade of the fourteenth century, however, policy became more restrictive as the Court attempted to starve out Japanese and other pirates. Overseas trade by Chinese merchants was prohibited, and four of the seven superintendencies of foreign trade were permanently closed. The early Ming emperors, apparently bent on achieving self-sufficiency for the empire as a whole and denying goods of any strategic value to its neighbors, attempted to bring all foreign trade under the umbrella of the tribute system. In 1371 coastal traders were forbidden to go overseas, and in 1390 an edict forbade all trade with "outer barbarians" (Sakuma 1953:45). In the fifteenth century the ban was extended to coastal shipping as well. Pirate activity and developments in foreign countries that restricted markets and freedom of the seas also contributed to the absolute reduction in maritime trade that marked the declining phase of the Quanzhou cycle.

The effects of the decline were everywhere apparent, not the least of the problems being a shortage of acceptable currency (Atwell 1982). All the major seaports suffered, and Quanzhou, the regional metropolis in the thirteenth century, was by 1500 so depopulated that whole wards within its extensive walls had been abandoned. Rural markets that had opened during the heyday of the cycle were closed in some instances as agriculture saw a shift from cash-cropping to subsistence farming. Depression fell short of disaster in many localities only because of the illegal trade and smuggling that grew up, often relying on the protection and capital of the local gentry (Elvin 1973:221–23).¹⁴

The Quanzhou macrocycle, whose nadir was reached ca. 1500, was followed by another developmental cycle of much shorter duration.¹⁵ From the second decade of the sixteenth century, the coastal areas of Fujian were direct participants in a sudden

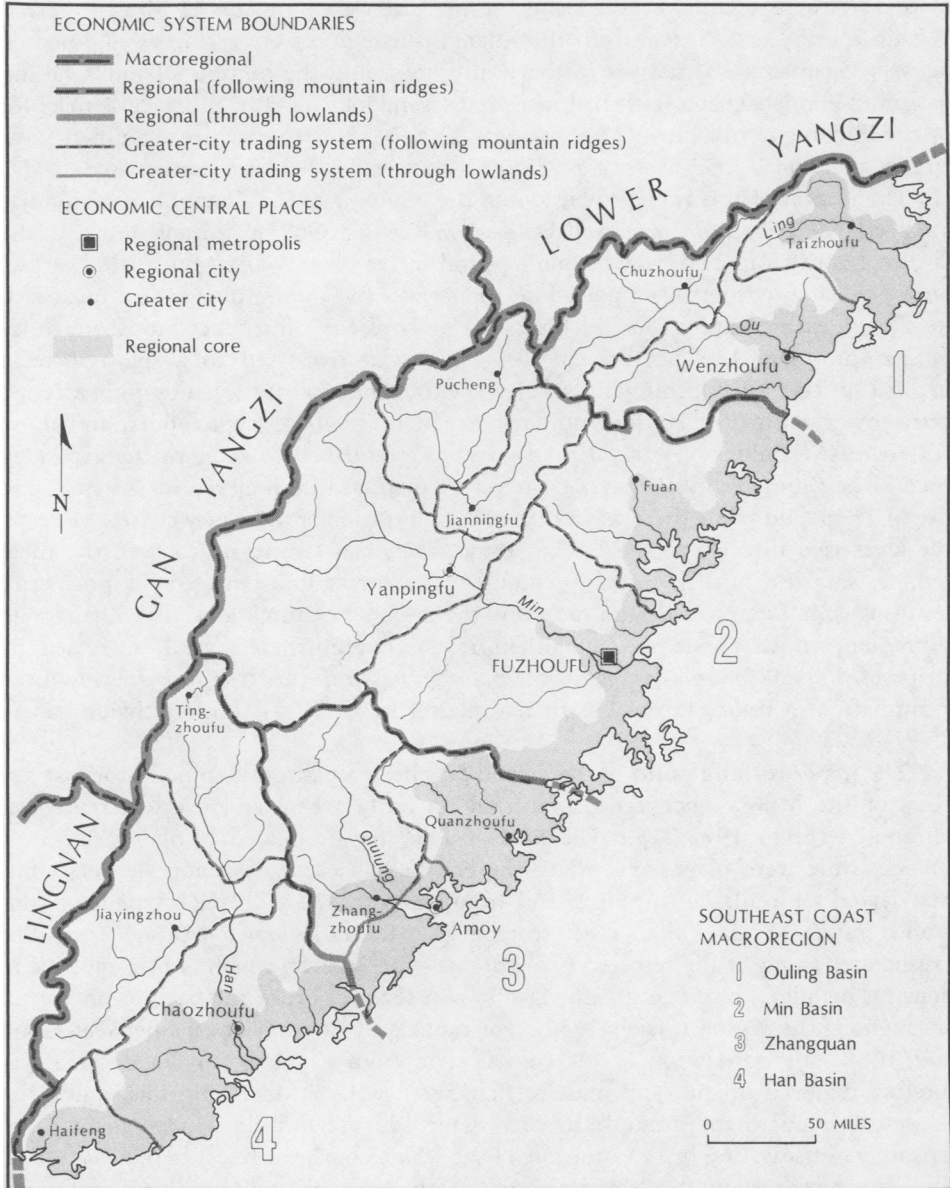
¹² In 1077, Fuzhou ranked seventeenth among the commercial cities of the empire in size of the annual commercial tax quota. Wenzhou ranked forty-sixth, with Taizhou (also in the Ouling region) not far behind (Ma 1971:166–69).

¹³ The shipbuilding industry throughout the macroregion relied on the iron nails exported from Fuzhou, and on the varnish, tung oil, and even timber exported from Wenzhou. Quanzhou shipped cotton cloth and tortoise-shell combs to Fuzhou, and Fuzhou shipped silks and porcelains to Quanzhou. Products imported to Quanzhou from Southeast Asia were transhipped to other Southeast Coast ports (Shiba 1970:183–84).

¹⁴ The demographic consequences of economic

decline are in this case difficult to assess because of the wholly unsatisfactory state of population statistics for Fujian during the Ming period (see the appendix, "Fujian's Population in the Ming Period," in Rawski 1972:167–81). If the census of 1393 could be taken at face value, the region's population would have been little more than eight million, down from the total of twelve million indicated by the Song census of 1208. While the Ming figure doubtless reflects a serious undercount, I am inclined to believe that depopulation in some degree occurred in the region as a whole, a reflection of outmigration as well as of high mortality.

¹⁵ My chief source for this second cycle is Rawski 1972:68–94.



Map 2. The Southeast Coast macroregion, ca. 1843, showing component regions, river systems, central places down to the level of greater cities, and the approximate limits of greater-city trading systems.

and rapid increase in maritime commerce. It started when the Portuguese, expelled from Guangzhou (Canton) in 1521–22, began holding markets on offshore islands near Zhangzhou. A triangular exchange arose after the Portuguese discovery of Japan in 1542. Meanwhile, an expanded trade with the Philippines followed the founding of Manila by the Spaniards in 1571 and the initiation of shipments of Mexican silver. Within a few years, traders from the Zhangquan region were acting as middlemen between Spaniards and natives in the Philippines, and the number of junks taking part in the Fujian-Luzon trade had increased several fold. Finally, in response to a plea by the Fujian government in 1567, the court's opposition to maritime commerce was largely abandoned, and overseas trading ventures expanded even further.

The impact of this trade expansion on the economy of the Zhangquan region has been ably described and analyzed by Evelyn Rawski. On the side of industry, she documents the import of new technology and increased specialization, including the processing and reexport of imported raw materials. Expanding markets led to a sharp increase in cash-cropping, in which tobacco, only recently introduced to Zhangzhou, figured prominently. The demand for commercial crops led to a sharp increase in land prices, the opening up of new fields, more complex cropping patterns, extra investments in irrigation and fertilizer, more intensive labor inputs, and above all, increased yields. New rural markets were established to cater to the expanded trade. Their number in Zhangzhou prefecture increased from eleven in 1491 to sixty five in 1628, and while there was a certain concentration of these new central places in the areas tied directly to the foreign trade, they also sprang up in even the most remote counties. Finally, Rawski demonstrates a direct link between the prosperity resulting from foreign trade and success in the imperial examinations. The Zhangquan subregion, which outstripped all others in the foreign-trade revival, increased its share of Fujian's *jinsbi* degrees (obtained by passing the triennial metropolitan examination in Peking) from less than a quarter in 1513–41 to more than a half in 1549–1601.

The upper turning point of the second Southeast Coast cycle came in the last few years of the Ming, when the prohibition on both coastal and overseas trade was reimposed (Elvin 1973:218). The final acts in the attenuated Ming resistance to Manchu rule were played out along the Southeast Coast. Resistance leaders commandeered all available shipping, and from 1646 to 1658 Zheng Chenggong controlled much of the Fujian coast from a base in the Xiamen (Amoy) area. The exasperated Qing finally resorted to a scorched-earth policy, which, while effective in denying mainland resources to Zheng's Taiwan regime, broke the back of prosperity throughout the region (Hsieh 1932). For periods of varying lengths between 1661 and 1683, the population of the coastal strip from Zhejiang to Guangdong was forcibly removed inland, and most settlements—villages, market towns, and cities—were burned to the ground. In 1717 Chinese were forbidden once again to go privately overseas, and in 1757 the fate of the whole Southeast Coast region was sealed for nearly a century by the designation of Guangzhou as the sole legal port for foreign trade.

The demographic record, murky though it may be in the case of the Southeast Coast, suggests that the upward swing of the second cycle of development had encouraged population growth that was disproportionate to the region's own resources. As a result, the decline of its regional economy during the seventeenth century and the later stagnation produced dramatic centrifugal effects. Millions emigrated permanently and tens of thousands left the region to spend their productive years elsewhere. The Chinese population of Taiwan, nearly three million in 1895, derived almost

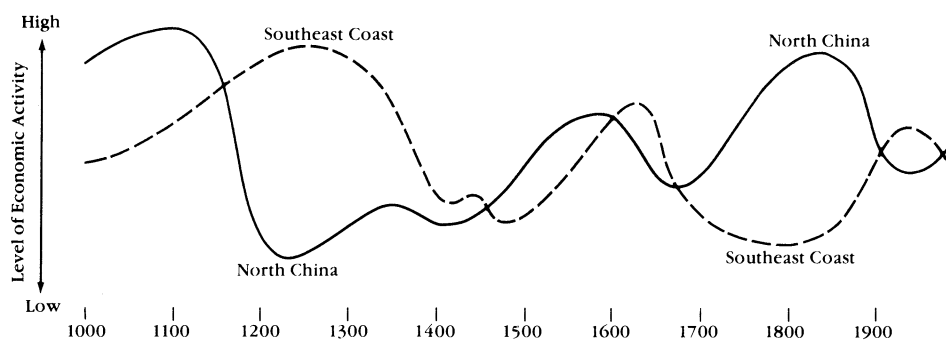


Figure 1. Regional Cycles of Development, North China and the Southeast Coast, 1000–1800. (The vertical axis should be thought of as a per capita index.)

entirely from natives of the Southeast Coast, most of whom emigrated during the Qing period. The Chinese population in Southeast Asia, which increased many times over through Qing-period migration, was likewise mainly of Southeast Coast origin.¹⁶ Migrants from throughout the region moved as settlers to the Middle and Upper Yangzi (Ho 1959:143–53; Averill 1983; Leong 1984). By 1800 Hakkas from the Han Basin subregion were settled in permanent enclaves in Sichuan, Taiwan, West Borneo, and Bangka, and merchants from the Zhangquan subregion were firmly established in great commercial centers throughout Southeast Asia and in every other macroregion of China.¹⁷

This dark age for the Southeast Coast was ended only in the 1840s, when Fuzhou and Xiamen were opened as treaty ports. In the subsequent developmental cycle, which got under way in an era when piracy had been laid to rest and steamships played an increasingly important role in the overseas trade, deep-water ports took on new importance, and a further restructuring of the region's urban system occurred.¹⁸ The long waves of the Southeast Coast are compared impressionistically with those of North China in Figure 1, where the almost total lack of synchronization is apparent.

North China and the Southeast Coast were but two of the ten macroregional economies that can be identified at the end of the imperial era (see Map 1). One of these, Manchuria, was merely emergent as late as the mid-nineteenth century and thus can have no premodern history of regionwide cycles. When one examines the economic histories of the remaining seven, however, they, too, manifest long waves comparable in duration and general dynamics to those I have just used as illustrations.¹⁹ Why should this be so? What are the causes of regional developmental

¹⁶ Approximately two-thirds of all Chinese in Southeast Asia in 1950 were natives of or descendants of migrants from the two southern subregions of the Southeast Coast—the Han basin and the Zhangquan region. In addition another 2–3 percent of overseas Chinese in Southeast Asia had their origins in the two northern subregions of the Southeast Coast (Skinner 1951:79–81).

¹⁷ I have carried out field research in all-Hakka enclaves in Szechwan, West Borneo, and Bangka; of the more extensive Hakka enclaves in Taiwan, the best known are those in Meinong and Xinzhu. These populations are all largely descended from migrants who originated in the upper reaches of the Han river system in Guangdong and Fujian. Zhangquan natives were dominant among overseas Chinese merchants in Korea and Japan as well as

throughout Southeast Asia prior to 1800. For a partial explanation of that dominance, see Skinner 1957:40. For the ubiquity of Zhangquan merchants in commercial cities of China proper, see the evidence on the geographic distribution of native-place associations in Chang 1958 and Ho 1966.

¹⁸ For a brief treatment of this transformation, see Skinner 1957:41–43.

¹⁹ For general arguments, see Hartwell 1982, Li 1982, and Skinner 1977a. For partial analyses of particular macroregional economies, see Leong 1983 (Lingnan and Gan Yangzi), Hartwell 1982 (Lingnan and Lower Yangzi), Miyazaki 1951 (Lower Yangzi), Shiba 1984 (Lower Yangzi), Will 1984 (Lower Yangzi), Will 1980b (Middle Yangzi), Rowe 1984 (Middle Yangzi), Entenmann 1982 (Upper Yangzi), and Lee 1982, 1984 (Yungui).

cycles? To approach an answer, it is necessary to look at the internal structure of these great economic systems.

A key fact is that each macroregional economy took shape in and was wholly contained within a physiographic macroregion that can be defined in terms of drainage basins.²⁰ Each was characterized by the concentration in a central area of resources of all kinds—above all, in an agrarian society, arable land, but also, of course, population and capital investments—and by the thinning out of resources toward the periphery. An indication of where regional resources were concentrated is given on Map 1; each macroregion's area of highest population density is shaded.

It will be noted that, with the exception of Yungui, these regional "cores" are river-valley lowlands. In a traditional agrarian society it is virtually axiomatic that population density is a close function of agricultural productivity per unit of area, and it follows that a higher proportion of land was arable in the cores of regions than in the peripheries and that arable land in the former was generally more fertile than it was in the latter. Ecological processes, such as the transfer of fertility through erosion and the use of fertilizer, boosted agricultural productivity in the lowland cores. The level of capital investment in drainage, reclamation, irrigation, and flood control was also far higher per unit of arable land in cores than in peripheries.

In addition, regional cores had major transport advantages vis-à-vis peripheral areas. Because of the low unit cost of water transport as against land transport, navigable waterways dominated traffic flows in all regions except Yungui and the Northwest; and even where rivers were unnavigable their valleys typically afforded the most efficient overland routes. Thus the transport network of each region climaxed in the lowland cores, where most of the transport nodes were situated. River systems aside, the less rugged terrain of the core areas made it relatively inexpensive to build roads and canals. Moreover, roads may be seen as a classic public good in the sense that the incremental cost for additional users is very low. The more users in a community, the lower the average cost per capita, with the result that a densely populated community is much more likely to find that benefits of road building exceed costs than is a sparsely populated community (Glover and Simon 1975). This logic, which holds for bridges and locks as well as roads and canals, helps account for the sharp difference between densely populated regional cores and their sparsely populated peripheries with respect to investment in transport infrastructure.

Finally, because of the relatively low cost of transport in cores and their denser transport net, the local economies of core areas were consistently more commercialized than those of peripheral areas, both in the sense that more commercial crops and handicrafts were produced for the market and in the sense that households were more dependent on the market for consumer goods.

Thus, it is hardly surprising that the major cities of each region grew up in the core areas or on major transport routes leading into them, and that all cities within a physiographic region developed hierarchical transaction patterns culminating in one or more cities in the regional core. Trade between the centrally located cities of one region and those of another was minimized by the high cost of unmechanized transport, the great distances involved, and the more rugged terrain that characterized most portions of the regional peripheries. For these various reasons, then, there developed in each of the major physiographic regions a reasonably discrete urban system, that is, a cluster of cities within which interurban transactions were concentrated and whose rural-urban transactions were largely confined within the region.

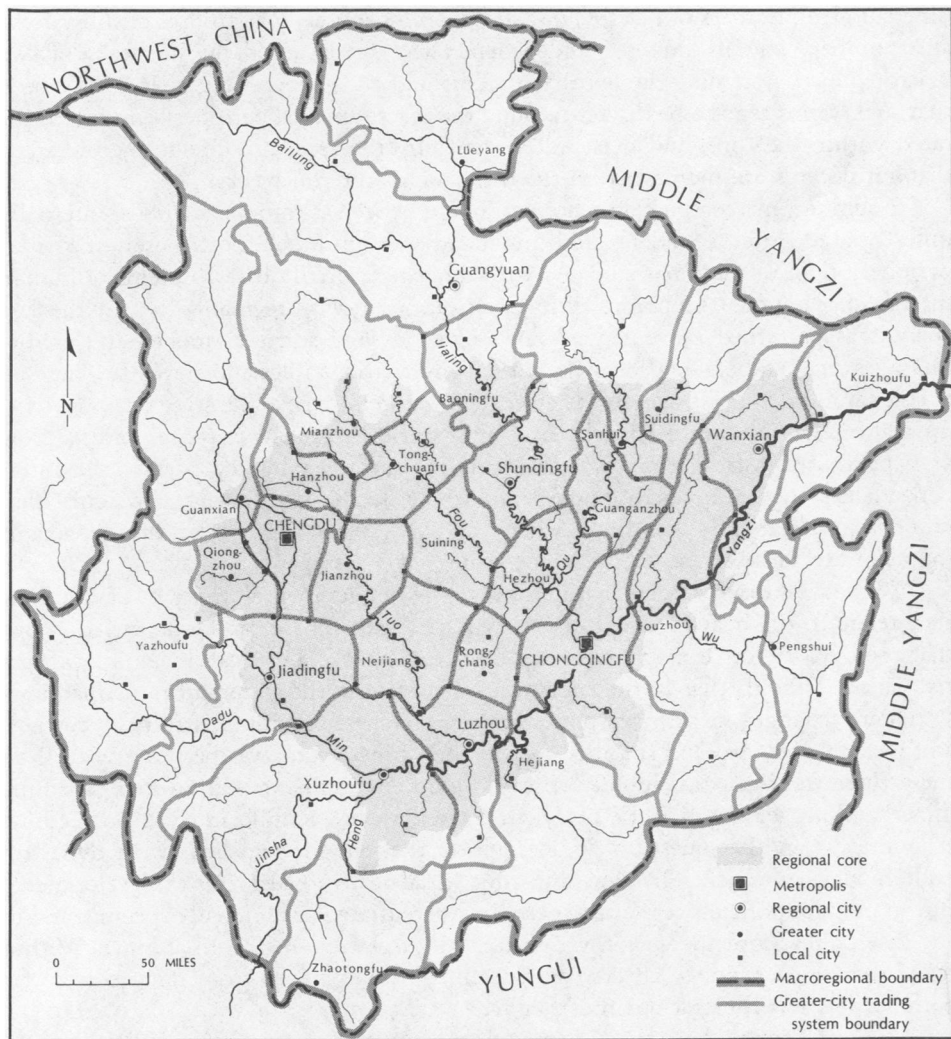
²⁰ The next several paragraphs recapitulate arguments expounded at greater length in Skinner 1977a:216–17 and Skinner 1977b:281–88.

In fact, these cities were but the higher levels of an integrated hierarchy of central places that extended down to the standard market town. I have shown elsewhere (Skinner 1977c) that economic central places at each ascending level served as the nodes of ever more extensive and complex economic systems. Such systems at any one level were articulated with those at the next higher level through an intricate overlapping network. This hierarchical structure of nested economic systems culminated in the macroregional economic systems on which I focused above. Thus, the differentiating features of macroregional economics are really attributes of subsystems at a number of levels. Maps 2 and 3 depict the top levels in the hierarchy of two macroregional systems—the Southeast Coast and the Upper Yangzi. It can be seen that subsystems tend to be discrete around the macroregional periphery and interdigitated within the core, and it is indeed generally the case throughout the hierarchy that subsystems are more open in the direction of the inner core.

To sum up, macroregional economies should be seen as complex *systems*—internally differentiated, interdependent, and integrated, though much more loosely in the far periphery than in the inner core. As with other territorially based systems of human interaction, regional economic systems at various levels are manifested in the last analysis as patterned movements—flows of goods and services, money and credit, messages and symbols, and persons in their multifarious roles and statuses. There is, of course, no such thing as a steady state in any system; rather one sees continual flux, mutual interaction, and feedback. And most critically for our purposes here, a blow or benefit, a catastrophe or favorable stimulus sustained by any part of the interdependent system ramifies throughout the whole. In the case of *regional* systems, that ramification is greatly amplified when the subsystems affected by the exogenous influence are those of the region's inner core.

We may approach an explanation of regional developmental cycles by asking how they relate to the hoary concept of the dynastic cycle. There can be no question but that the dynastic-cycle model captures, however crudely, a critical dynamic of imperial China. It holds that in the course of a dynastic era the state apparatus manifests systematic changes in military power and effectiveness, in administrative efficiency, and in fiscal strength and stability. When the Chinese state was performing well on these three fronts, it was in effect providing an environment that favored economic growth. Whether the dialectic of dynastic strength had a uniform effect on regional economies is another question. It does appear that the mechanisms of the dynastic-cycle model had a generally synchronizing effect on regional cycles of development. But in practice policies were often spatially differentiated or regionally specific, and in any case policy implementation varied radically from one region to another. Within regions, moreover, policy effectiveness declined as one moved from inner core to far periphery. A few illustrations must suffice.

According to the dynastic-cycle model, military strength and effectiveness are at a peak during the initial era of pacification, remaining high if a period of imperial expansion follows, but this generalization does not speak to the inevitable differences in resistance by region. In the seventeenth century, for instance, Qing pacification took a few years in the Middle and Lower Yangzi regions but dragged on for nearly four decades in the Southeast Coast and the Upper Yangzi. Thus, to focus on one pair of regions, the Qing pacification was but a perturbation in the upswing of the Suchou cycle that had begun a century earlier in the Lower Yangzi region, whereas in the Southeast Coast it was a major episode in the downswing of the second regional cycle already summarized above. As for the other two regions, both the Upper Yangzi and Middle Yangzi experienced a Qing cycle of development, but the two were out of synchronization by nearly half a century.



Map 3. The Upper Yangzi macroregion, ca. 1893, showing the river system, central places down to the level of local cities, the extent of the regional core, and the approximate limits of greater-city trading systems.

A similar point can be made about the breakdown of law and order in the later phases of dynastic decline and crisis. According to the dynastic-cycle model, the court's efforts to restore military effectiveness, in the wake of prolonged organizational decay and loss of martial skills, yield relatively personalistic, decentralized, and less than formidable armed forces. Military weakness invites invasion and rebellion. But *which* regions were at greatest risk? A review of middle and late imperial history indicates that the two macroregions bordering the Inner Asian steppes, North and Northwest China, were far more vulnerable to foreign invasion than others, and that the devastation associated with interdynastic warfare over the dragon throne was invariably great in the metropolitan macroregion. Other differences appear ad hoc. If in the seventeenth century rebellions devastated the Upper Yangzi but spared the Lower Yangzi, in the nineteenth century it was just the reverse. Such specifics cannot be deduced from the dynastic-cycle model, and yet they profoundly affected the temporal contours of regional development cycles.

Some dynastic-cycle theorists have perceived a generic pattern whereby imperial policies become more favorable toward foreign trade just past the upper turning point of the cycle. Fiscal constraints at once force an end to the military adventures that had disrupted trade routes and enhance the attractiveness of customs revenues. Whatever the validity of this generalization, it should be clear that such policy shifts are crucial for certain regional economies—the Southeast Coast being a prime example, as we have seen—but insignificant for others, such as the Upper Yangzi.

Or take administrative effectiveness. It is well understood that the role of bureaucratic government in maintaining and controlling waterworks can be important in flood prevention and control. With dynastic decline come bureaucratic breakdown and corruption, straitened finances, and a reduction of the magistrate's clout vis-à-vis the local elite, and so, it is argued, canals and dykes are neglected, leading to more and more disastrous flooding.²¹ True enough, but this sequence affects economic performance only in those regional cores that are physiographically vulnerable to flooding. This factor was a critical input to economic cycling in North China, the Middle Yangzi, Gan Yangzi, and the Lower Yangzi, but it was of little significance in Yungui, the Upper Yangzi, Northwest China, or the Southeast Coast.

A final example concerns famine relief. In the autumn and winter of 1743–44, a major drought afflicted an extensive portion of the North China core, resulting in a virtually complete crop failure. The famine-relief effort mounted by the court and carried out by ranked bureaucrats was, as Pierre-Etienne Will has shown (1980a), stunningly effective. Ever-normal and community granaries were generally found to be well stocked, and the huge resources of grain in Tongzhou and other depots were transported in time to key points throughout the stricken area. Networks of centers were quickly set up to distribute grain and cash, and soup kitchens were organized in every city to which refugees fled. In the following spring, seed grain and even oxen were distributed to afflicted farming households. As a result of this remarkable organizational and logistic feat, starvation was largely averted, and what might have been a major economic dislocation had negligible effect on the region's economic growth. Such impressive achievements, however, could be pulled off only during the heyday of dynasties and only in the core of the *metropolitan* region, that is, the region dominated by the imperial capital. The dynastic-cycle model calls attention to the

²¹ The argument is classically formulated with respect to the major river systems of the North China macroregion—those of the Hai He, Huang He (Yellow River), and Huai He (cf. Li 1979,

1982). For treatments of hydraulic cycles in the Middle and Lower Yangzi regions, see Will 1980b, Perdue 1982, and Will 1984.

first point but not to the second. I believe it can be shown that the quality of famine relief varied not only in structured time in accordance with the dynastic-cycle model but also in regional space, being highest in the metropolitan region and lowest in regions most distant from the imperial capital—and generally more effective in regional cores than in peripheral areas.

We may conclude, then, that in its impact on the economy and society, the dynastic cycle was *mediated* by regional developmental cycles. And it was normally the metropolitan region whose developmental cycle conformed most closely to the dynastic-cycle model.

Of course, not all actions of the court can be related to the dynastic cycle, and case studies have yielded many instances where critical decisions by the *imperial court* have induced or retarded cycles of *regional* rather than empirewide development. Among the most dramatic examples are the designation of new imperial capitals and new open ports. The shift of the Ming capital from Nanjing to Beijing in the 1420s affected economic growth negatively in the Lower Yangzi but positively in North China; this is one reason why developmental cycles of the two regions were poorly synchronized during much of the Ming-Qing era. The establishment of Quanzhou as an open port in 1087 was, as we have seen, a crucial development in the upswing of the first cycle of regional development in the Southeast Coast; but it broke Guangzhou's monopoly of foreign trade and thus depressed commerce in Lingnan. A reverse effect occurred when Guangzhou was designated the sole open port for foreign trade in 1757, a development that deepened the long-term depression in the Southeast Coast even as it accelerated economic growth in Lingnan. Even more dramatic in its effects, perhaps, was the tenth-century shift of the imperial capital from Changan to Kaifeng, which move marked the onset of devolutionary decline in the Northwest while it accelerated development in North China. Imperial decisions of this kind, affecting neighboring regions more often than not, ensured an *inverse* relationship between their cycles.

It should be amply clear that the timing of exogenous shocks to regional economies was critically important in shaping the temporal structure of their development. Thus another summary reason why regional developmental cycles were seldom synchronized is that the major catastrophes that have punctuated Chinese history were almost always limited in scope. Most epidemics were confined to one or two macroregions, and the most extensive on record appears to have affected only four. North and Northwest China were repeatedly laid waste by invasions from Inner Asia, whereas regions in the Yangzi Valley and farther south rarely suffered comparable depredations. Internal disturbances, too, seldom wreaked havoc in more than one or two regions at a time. Even the Taiping Rebellion, perhaps the most massive in late imperial times, caused major devastation only in two of the Yangzi macroregions.

A similar point can be made with respect to climate and the incidence of floods and droughts. A team of historical climatologists in China has recently published findings of a monumental project that recorded qualitative measures of seasonal weather in localities throughout China year by year for the half a millennium since 1470 (Wang and Zhao 1981). Their analysis shows that six patterns of wet and dry weather, which constitute in effect three pairs of mirror-image distributions, have accounted for most of the variability in the historical distribution of rainfall. Four of the six patterns show east-west zones of common weather, one corresponding roughly to our two northerly macroregions, one corresponding to the four Yangzi macroregions, and a southern zone corresponding roughly to our Yungui, Lingnan, and Southeast Coast macroregions. One pair of patterns has flood conditions in the southern zone

occurring together with drought conditions in the northern zone, with the Yangzi zone normal—and vice versa. A second pair has flood conditions in the Yangzi zone co-occurring with drought conditions in the northern *and* southern zones—and vice versa. This analysis also reveals several clear-cut periodicities in the distribution of these various patterns through historical time. Drought conditions in the northern zone, for instance, are distributed with a periodicity of eighty to one hundred years. These findings point to the likelihood that extreme climatic episodes would have clustered within particular zones during adjacent years, with all the potential that entails for economic disruption and demographic disaster. They also speak to the issue of synchronization in developmental cycles across regions, for they show that particular episodes of this kind would have affected only one or two groups of adjacent macroregions.

At a grander level, historical climatologists have established the existence of long-term fluctuations in atmospheric temperatures for the temperate zones of the northern hemisphere. These are synchronized with fluctuations in the level of solar energy and may well be caused by them.²² The coldest interlude of climate since A.D. 1000, sometimes called the “little ice age of Louis XIV,” corresponds to what solar physicists call the Maunder minimum, usually dated 1645–1715. And the next coldest interlude corresponds rather closely to the Spörer minimum of solar activity, usually dated 1450–1540. While this temperature cycle has been reconstructed largely from European records and observations, climatological data for China appear to be consistent. For instance, a study based on the dates at which Middle Yangzi lakes froze over (Zhu 1972) shows that one of the coldest periods in Chinese history occurred during the middle decades of the seventeenth century—near the nadir of the Maunder solar minimum.

The most critical of the putative links between climatic cycles and cycles of economic prosperity is, of course, agricultural productivity. On balance a cooling climate means shorter growing seasons, and implies some abandonment of marginally arable land, retreat in certain areas from double-cropping, and reduced yields of certain crops. In an agrarian society where agriculture accounts for the bulk of the national product, it is hardly unreasonable to suppose that a cooling climate could lead to economic distress and depress economic activity. By the same token a warming climate might well be a stimulus for economic growth. If these speculations and relationships are borne out by future research, then one can see how long-term cycles of solar activity could help “cause” long-term cycles of economic activity in China.

When I first broached the subject of regional developmental cycles in print (Skinner 1977a:27), I noted that the cyclical rhythms of China’s various macroregional systems, usually out of phase with one another, were in the early Ming “brought into extraordinary if deleterious synchrony.” I had reference to the fact that China’s regional economies generally stagnated during most of the fourteenth and fifteenth centuries. At the time (following Elvin 1973:chap. 14), I attributed the empire-wide depression to two factors: (1) the Mongol invasion, which had brought regional development to a halt in three macroregions and had had an adverse if less severe impact on all but two of the remainder; and (2) the official isolationism that had begun in late Yuan and had continued through the fifteenth century under the Ming. Alerted to the historical significance of climatic change, I would now add a third factor—namely, the spell of cold climate corresponding to the Spörer minimum. The Ming came to power as the

²² See, e.g., Eddy 1980. The literature treating climate and history is large. Important recent works include Wigley et al. 1981, Rotberg and Rabb 1981, Lamb 1982, and Libby 1983.

earth's climate was cooling, a trend that was decisively reversed only 120 years later. When this pattern is contrasted with Qing, a possible explanation for certain anomalies presents itself. The Qing came to power near the depths of the little ice age associated with the Maunder minimum, and a warming trend set in within a few decades. By conventional definition, the Spörer minimum is said to have ended in 1540—over 170 years after the founding of the Ming—and the Maunder minimum in 1715—only 77 years after the founding of the Qing. Thus, climatic long waves may be one reason why the Ming cycles of economic development and decline were in most regions considerably shorter than their Qing counterparts—and, incidentally, a reason why High Ming came so much later in the dynastic period than did High Qing.

In addition to these exogenous influences, we can be sure that dialectical processes endogenous to the regional system itself are implicated in developmental cycles. Favorable environmental circumstances were necessary but not sufficient conditions of economic growth, and upper turning points could and did come solely through the play of internal contradictions. In my view, relevant research on China is too skimpy to develop an empirically based model, but we might well turn to European economic historians for theoretical inspiration. I hinted earlier that medieval European “logistics” or long waves and the Chinese regional cycles identified here may well belong to the same “species” of phenomena, in which case developmental cycles with periodicities of a century or so may prove to be characteristic of agrarian economies dominated by commercial capitalism. Theoretical treatments of all longer-term economic cycles usually invoke technological innovation, productivity, prices, and money supply; to these factors discussions of the European medieval and early-modern long waves invariably add considerations of demography and land utilization.²³ These are likely to be the key elements in a dialectical theory of China's regional developmental cycles.

I have focused thus far on the *long waves* of *macroregional* systems for the simple reason that the historical importance of developments on such a grand scale can be readily appreciated. But shorter, less dramatic episodes may also be identified, epicycles, if you will, along the trajectory of the long waves. And, more directly to the point of my argument here, the historical rhythms of alternating good and bad times, of economic growth and decline, of social order and social breakdown were equally characteristic of lower-order regional economies—of regional-city trading systems within macroregions, and the greater-city trading systems at the next lower level. How did cycles at adjacent levels in the hierarchy relate? The developmental cycle in the Southeast Coast, whose upper turning point was in the 1630s, offers a clue. It essentially began in the Zhangquan subregion, and throughout the episode that region paced development elsewhere. A more discriminating analysis would treat the cyclical episode separately for each of the four subregions and trace the mechanisms that transmitted stimuli from Zhangquan to its neighboring subregions as well as the direct impact of exogenous factors in each subregion.

Let me suggest a few of the factors that lead to systematic differentiation at subsystem levels. Peripheral subregional systems are, because of their isolation, especially vulnerable to short-duration exogenous shocks, in particular harvest failures. By contrast, regional subsystems in the cores of macroregions are better able to absorb

²³ Research Working Group 1979:493. Kondratieff cycles, “logistics,” and other long waves are treated systematically in *Review* (Binghamton, N.Y.)

2, no. 4 (Spring 1979), a special issue that includes a useful selective annotated bibliography.

and contain such run-of-the-mill shocks because of their more developed economy, denser transport net, and elaborated infrastructural base. On the other hand, as suggested in my summary of the Kaifeng cycle, because of their very dependence on infrastructure and an elaborated division of labor, core subsystems are especially vulnerable to sustained major shocks. This distinction is given particular salience by the fact that important types of disasters appear to have their greatest impact on macroregional cores. Major large-scale floods afflict only riverine lowlands. Epidemics are more virulent in the densely populated settlements of core areas, which are also more prone to contamination of water supplies. Above all, the prizes sought by invading armies from the steppes and by rebellious armies led by imperial pretenders have been the great cities on the plain, and it is there that the battles and sieges have been largely concentrated and there that marauding and looting troops have done their worst. Thus it is that the relatively infrequent major catastrophes are particularly important in marking off the developmental cycles of core subsystems while *more* frequent but relatively *minor* catastrophes are likely to shape cyclical episodes in peripheral systems. In consequence, developmental cycles on average are of shorter pitch in peripheral than in core subsystems, and the subsystems whose economic cycles most closely resemble those of the macroregional economy as a whole are those of the inner core. The general point is that interrelation of temporal structures at different levels is shaped by the interrelation of regional systems.

It should by now be clear that I am encouraging you to think of Chinese history as having a hierarchical structure that parallels and expresses the on-the-ground hierarchy of local and regional systems. At every level from the standard marketing community to the macroregional economy, these nodal systems have characteristic rhythms and distinctive histories. They should be seen as spatial-cum-temporal systems of human interaction, their differentiated temporal structure being no less a manifestation of the system than is their differentiated spatial structure. I would go on to suggest that the basic temporal units in a hierarchically structured, regionally specific historiography are the cyclical or dialectical episodes intrinsic to the regional system in question. What is important is that the cyclical episode be analyzed in its entirety—from lower turning point to lower turning point—and properly situated in the more inclusive hierarchy.

To be sure, if we demarcate historical periods in accordance with the temporal structures that are inherent in the human interaction system under study, we may be forced to depart from the usual conventions of periodization. The great events of political history only occasionally mark the lower or upper turning points of developmental cycles, and fixed-origin arbitrary divisions of the temporal flow are still less relevant. Human beings do indeed have ten fingers and ten toes, and there can be no doubt that the invention of the decimal system was a momentous breakthrough in the history of mathematics. But it does not follow that the tides of human history can be orchestrated in the 10/10 time of decades and centuries. Let the Europeanists struggle on with their “long sixteenth centuries.” Chinese reign periods make a lot more sense, if only because they may be taken as successive phases in the dialectical episode that is a dynasty.

But those phases relate primarily to political history at the highest level of integration—the empire itself. And therein lies the rub. Economic developments no more conform to reign periods than regional economies do to the administrative units of the empire. In fact the analogy is quite close in operational terms. How do we ascertain the territorial extent of an economic system? We let the data themselves tell us—patterning in the movements to which I alluded earlier: the flows of goods and

services, money and credit, and the like. And how do we know the temporal extent of an era of economic history? We let the data themselves—the rise and fall of economic activity—speak. Then, just as we may look at the internal structure of our economic region and analyze it into zones expressing its core-periphery structure, so we may scrutinize the economic era and analyze it according to *its* inherent structure, as marked by upper and lower turning points, into periods that are in effect phases of an economic cycle. A counsel of perfection, no doubt, but it can do no harm to articulate the ideal.

Before moving to my conclusion, I must register a sweeping qualification. I have referred to regional systems almost exclusively as regional economies and characterized both long waves and short cyclical episodes in economic terms. But this is a gross simplification of the more inclusive reality I mean to be analyzing. In my work on marketing systems (Skinner 1964:32–43; Skinner 1977c:336–41), I have been at pains to show that they are at once social communities, parapolitical systems, and culture-bearing units. The constraints on human interaction that economic geographers quantify as cost-distance are, when transport is unmechanized, pervasive in shaping human affairs: they channel administrative and social interaction no less than economic transactions. In separate analyses (Skinner 1977c, 1979), I have shown that, despite the organizing framework of provinces, both field administration and military organization in the Qing period recapitulated and expressed China's macroregional structure. It can, I believe, also be shown that the developmental cycles described above were cycles not only of economic prosperity and depression but also of population growth and decline, of social development and devolution, of organizational expansion and contraction, and of peace and disorder. Moreover, the causes of cyclical episodes at whatever level were seldom narrowly economic. In short, although I have focused on the economic as an expository convenience, in addressing the structure of Chinese history I have reference to the political economy and society as a whole.

I have asked you to entertain the following conception of China's historical structure: (1) that it is an internested hierarchy of local and regional histories whose scope in each case is grounded in the spatial patterning of human interaction, and (2) that at each level the critical temporal structures of a particular regional system are successive cyclical episodes. Apart from boggling the mind, what can such a model, or, if you will, an historiographic vision, do for us?

First, it can help local historians, ethnographers, and others analyzing micro-processes to situate their studies meaningfully in the structure of Chinese history. Locating one's case study in the relevant hierarchy of differentiated histories serves to discipline interpretations. As it stands, every local historian is tempted to render his or her study significant by overgeneralizing findings to inappropriately inclusive units, whereas its true significance is revealed by specification within a meaningful whole. At the very least, this conception forces one to confront the problems of integrating micro- with macroanalysis, local with regional history, and discrete events with the appropriate structure of sequential activity.

Second, it calls attention to important units of analysis that are all but neglected in historical scholarship. In sheer existential terms, the alternations between conditions favorable to human life, social well-being, and economic growth, on the one hand, and those unfavorable, on the other, are among the most critical processes of any society. It can be argued, moreover, that whatever the substantive focus of research, a topic cannot be thoroughly understood unless it is observed through the phases of at least one such cycle. Some scholars, of course, will be intrigued by what

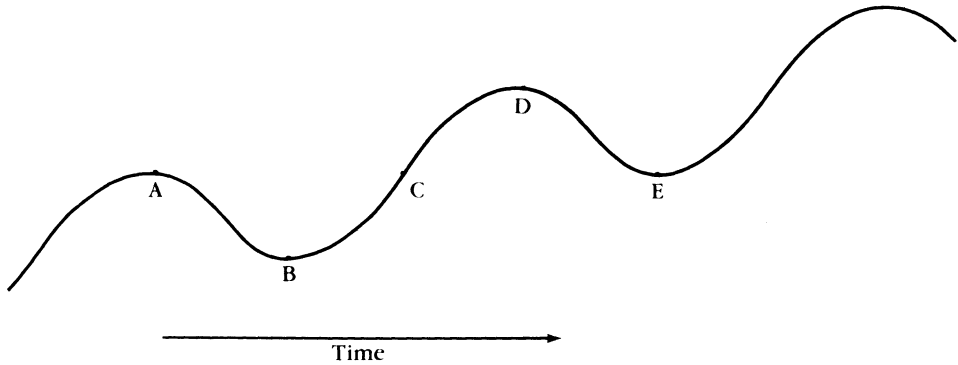


Figure 2. Secular Trend with Cycles: Possible Comparisons.

historical analysis can tell us about the cyclical properties of human interaction systems. Some will accept the dialectical challenge and attempt a formal analysis of cyclical episodes. In any case, the simple demonstration that the phenomenon of regional developmental cycles recurs, stirs the historical imagination and invites explanation.

Third, this view of China's historical structure can facilitate comparison and, in fact, introduce some rigor into the comparative method. The ups and downs of cyclical episodes afford a logically sound way to periodize the flow of events to yield comparable periods and eras. When one is dealing with spatial-cum-temporal systems, the comparative analysis of successive cycles in the same regional system is a rigorous procedure for getting at secular trends, just as the comparative analysis of contemporaneous cycles in adjacent regional systems would raise the study of geographic variation to a more sophisticated level.

Fourth, a recognition of the structural features I have emphasized enables the student of China's past to get on with whatever he or she wants to do without risk of methodological invalidation. Some may feel that the structure I have sketched out is in many ways beside the point, to wit, the *directionality* of Chinese history. But the fact is that cyclical analysis is methodologically prior to establishing secular or linear trends. In Figure 2, if a given system is changing in accordance with the ascending wave pattern shown, the long-term upward trend would be missed if, in ignorance of the cyclical rhythm, one compared period A with period B or period C with period E; the former comparison would lead to an erroneous finding of secular decline, the latter to an erroneous finding of stagnation. Only a comparison of A with D, that is, of the periods around the upper turning points of the two cycles (or of periods B and E, or any other pair of comparable cyclical phases) will reveal the underlying upward trend and provide a valid indication of the degree of slope. At the very least, the approach being advocated here calls into question the historiographic validity of conceptualizing change as successive generalized periods or internally homogenous stages.

Finally, this approach can point us toward a history of China as a whole that incorporates rather than glosses over regional differences. Recall, if you will, the two examples with which I began: North China and the Southeast Coast. As their divergent developmental trajectories attest, the integral wholeness of Chinese history cannot be approached by generalizing across diversity or by striking an average of the various regional systems. Rather, a history of the civilizational whole must rest on comprehension and reconciliation of the distinct but contingently interrelated histories of its component parts.

It is precisely the *structure* of Chinese history that renders critical the selection of appropriate units of analysis—territorial systems at the optimal level of the relevant hierarchy through a functionally suitable span of time. For if historical/temporal patterns are indeed systemic, then they may be reliably established—in fact, they can be discerned at all clearly—only when the analysis is focused on or specified for the pertinent system. In this sense, too, historical analysis is inseparable from regional analysis.

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