

SONG CITIES AND MONGOL CONQUEST
THE SONG ECONOMIC REVOLUTION

In the previous lecture we had a glimpse of a Chinese city. In fact, the scroll contains a great deal of what we need to know about the Song dynasty. The Song dynasty started in 960 and was under continuous threat from its northern neighbours. By 1127 the Song lost their capital, Kaifeng, and were forced to retreat to the South. With a much reduced territory, the Southern Song established their capital at Hangzhou.

Now the Song was a state among a cluster of other states that it had to recognize as equal political entities, and to whom it even had to pay tribute. But the defining feature of the Song state was not its weakness. The scroll showed us a highly urbanized society, served by a complex transport network, with a thriving commercial life, and a prosperous and open society. In fact Song China was so rich, its fields yielded such plentiful harvests and its workshops produced such large quantities of products that it could easily pay the exorbitant sums of silver and silk rolls that its northern neighbours required annually. Far from being considered a fragile period in Chinese history, this is remembered as the heyday of Chinese civilization.

So, what made Song China the golden age of China? A series of interrelated innovative economic revolutions could provide an answer. In the first place, there was an agricultural revolution brought about by the early introduction of varieties of Champa rice that more than doubled the yields of the rice fields. And it didn't come along by chance, but, as was the case with many other economic activities, it was systematically fostered by the government. Let's look at an agricultural treatise, a lavishly illustrated text from the early 13th century, the Gengzhi tu, published to improve rice cultivation.

In the first slide we see a farmer with his water buffalo preparing the seedbed under the vigilant eye of a scholar. Printing, which came into widespread use with the Song, had allowed knowledge to spread further, and at a lower cost.

The scholar is supervising the correct application of new technologies to rice cultivation: local officials used handbooks on agricultural management. Embankments have been built around the field to protect it from flooding and to ensure that it is being correctly watered. To increase the agricultural output, the first step was to prepare the seedbeds for the seeds to be sown in. Once the seedlings are grown, they have to be uprooted, gathered in bundles and transplanted to the paddy fields, which stand near the river and are divided by dykes. There, manure and river mud will be applied as fertilizers. This amounts to a new technology that multiplies agricultural productivity.

The paddy fields yield two or three harvests per year and no fallow period is needed. The paddy fields need a very heavy investment in construction, maintenance and irrigation, and to cope with it, peasants tend to organize their labour communally. What is needed, however, is plenty of water, and there are a series of hydraulic devices to provide it. In the foreground the peasant is taking water from the river to throw into the paddy field, with the help of a counterweight, and while doing this he is protecting the dyke with a bamboo mat. The borders of the dykes are also protected with bamboo plants. Up on the left, three men are pedalling a treadle-wheel to lift water from the river and into the paddy fields.

Besides them, on the dyke, three cups and a pot, probably with rice water, together with a couple of straw hats, will give them comfort when it is time to rest. Up at the top, we see the polders that protect the paddy fields. Wet-field techniques required much more investment and much more labour than dry fields, because the pumps were expensive machines and required time-consuming labour. But the agricultural advances provided the Chinese with much more food than before, and a steady growth of population ensued.

By 1110, the Song population was twice what the Tang population had been, and reached 100 million, a rate of population growth without precedent in world history. For the first time in Chinese history, the south was more populated and wealthier than the north. This was even reflected in the fact that with the Song the majority of those that passed the exams came now from the south. To enable the agricultural surplus to flow to the flourishing city markets, a transport revolution came into being. The main road network was extended, and the routes in between great cities were paved. But most impressive was the growth of river and canal shipping through a network of integrated waterway systems that served a nationwide market.

Water transport was cheap, well organized and served by an impressive fleet. River traffic was always crowded with both cargo and passenger ships. That was especially true for the south, where the great rivers of China are. These ships underwent decisive technical innovations: watertight compartments, stern-post rudder, multiple masts and the mariner's compass, first mentioned in 1119, allowed them to take to the seas and ply the waters of South-East Asia and the Indian Ocean with their own boats. Marco Polo described them in great detail and with deep admiration. Shipbuilding was not the only industry to peak under the Song: so did mining and metallurgy.

The Song government sponsored the largest iron-smelting industry in the world, with a production similar to that of 19th century Europe. The advances in agriculture and transport in turn fostered the commercial and urban revolutions. With the Song, trade was no longer centered on the supply of luxuries but rather on the supply of basic needs. As we saw in the Qingming shanghe tu scroll, great cargoes of rice supplied the city, and peddlers were to be found everywhere. Here, for instance, the six levels of the peddler's two panniers offer an array of household and agricultural items that families were not producing any more: like the rake and the willow baskets. Some pieces have labels to identify them, pointing to widespread literacy, even in the countryside.

Here we see the labels for Shandong yellow rice wine, and even more especially, a label for wenzi, that means writing. Hanging around his neck, he also sells magical eyes to see the future.

Many places turned to specialized production and this ensured extremely large commodity flows between different economic regions.