THE WATER KINGDOM

A Secret History of China

PHILIP BALL

Author of *Bright Earth*

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The Water Kingdom

A SECRET HISTORY OF CHINA

Philip Ball

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Contents

Introduction: Rain on the Summer Palace 1

1 The Great Rivers
Yangtze and Yellow: The Axes of China's Geography 12
2 Out of the Water
The Myths and Origins of Ancient China 44
3 Finding the Way
Water as Source and Metaphor in Daoism and Confucianism 68
4 Channels of Power
How China's Waterways Shaped its Political Landscape 96
5 Voyages of the Eunuch Admiral
How China Explored the World 131
6 Rise and Fall of the Hydraulic State
Taming the Waters by Bureaucracy 159
7 War on the Waters
Rivers and Lakes as Sites and Instruments of Conflict 188
8 Mao's Dams
The Technocratic Vision of a New China 218
9 The Fluid Art of Expression
How Water Infuses Chinese Painting and Literature 254
10 Water and China's Future
Threats, Promises and a New Dialogue 291

Acknowledgements 315
Picture Credits 316
Notes 317
Bibliography 327
Index 333

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Introduction: Rain on the Summer Palace

It was in Beijing during my first visit to China in 1992 that I was introduced to Dr Zhang. To my shame I never kept a record of his full name, and I can't hope to discover it now: you might as well seek a Dr Smith in London or a Dr Schmidt in Munich. I do know that Dr Zhang worked at the Beijing Institute of Electron Microscopy, and when we met I was relieved to find that his English was very good, because at that time my Chinese would not have taken me beyond a salutary *'Ni hao!'*

Doing scientific research in China in those days was fraught with mundane difficulties. As Dr Zhang showed me around his laboratory there was a power cut, and the graduate students filed out of the building with a mixture of exasperation and resignation. 'Won't it damage the microscopes?' I asked. 'Oh yes,' Dr Zhang replied nonchalantly.

When he wondered what else I had seen in Beijing, I confessed that my sightseeing had hitherto been almost non-existent. My days had been filled with visits, obligations and dauntingly copious meals with my academic hosts. Then we must go to the Summer Palace, Dr Zhang insisted. We hopped aboard an overcrowded bus that made its slow progress past fleets of bicycles – the only cars on the Beijing roads back then were state-owned taxis – to the outskirts of the city.

It was raining a little, which had the happy consequence that the Summer Palace was relatively quiet. I welcomed the rain for other reasons too. Dripping from the dragon-decorated porticos, it was emblematic of my romantic visions of China, which had otherwise taken something of a battering since my arrival. Little boys called out

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'Hello!' and tried to sell me cobs of roasted sweetcorn. 'That's their one word of English,' said Dr Zhang. 'That, and "one yuan". Every old lady knows those words.'

I was profoundly glad that I had a guide to take me around the Summer Palace, since otherwise I would have missed so much. It owes its present form, he told me, to the formidable Empress Dowager Cixi, who had it rebuilt in the late nineteenth century during the reign of her nephew the Guangxu Emperor – although she, as regent, should have spent the money instead on a navy or on healing the ailing Qing economy. The palace is a maze of symbols, obvious to the Chinese but invisible to Western eyes. Towers and pagodas are octagonal, Dr Zhang explained, because eight is a special number in China, indicating good fortune and 'old money'. Someone who has a good manner with all kinds of people is said to possess 'eight ways'. (I suspected Dr Zhang was one of these.) But the base is square, symbolizing the earth, and the top is round or has round designs painted on it, representing the sky.

We strolled along a covered wooden walkway, a pagoda-topped hill on one side and a lake on the other. It looked lovely, but there was more to the view than that. The hill indicates (if my diaries can be trusted) prosperity, the water means long life. A view of the two at once – hill and lake – is harmonious. I did not know it then, but the Chinese word for 'landscape' is simply the combination of the two: *shanshui*, mountains (*shan*) and water (*shui*).

We came to an impressive building that was used as a library of sorts, an attempt by the empress to show that the imperial family was cultured. On the front of the building was an inscription.

'This is . . .' said Dr Zhang, about to translate for me. Then he hesitated. 'Er, I don't know what you would say in English.'

I was surprised, since his English seemed so good. He eventually came up with something like 'Between mountains, water and sky one feels a concentration of harmony.' But he was evidently not very happy with this version.

'It is really like a feeling,' he said. 'It is like the way these trees are placed here – it conjures up an atmosphere or emotion.' Yes it did, in the soft rain, despite the groups of Chinese visitors posing for photographs behind us, flashing the ubiquitous splayed-finger 'V' imported from the West and apparently emptied of meaning.

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'Chinese paintings are the same,' he went on. 'They are about feeling, not about realism.' I was suddenly aware that my guide and host, who spent his days looking into microscopes and hoping the power didn't cut out, was a man with a finely developed aesthetic sense – one that, moreover, my own language and culture were ill-equipped to give to me.

Anyone from outside China who begins to learn the language and to wrestle with this rich and subtle culture comes sooner or later to realize that decoding the characters and tones is only a small part of the battle. There are of course limits to translation between any two cultures, but words in Chinese are not just semantic signifiers. They are distillates of Chinese thought, saturated with association and ambiguity, ready to unfold layers of meaning that differ according to context. That is why it is better in any case to call them characters, not words: their form and content are inextricably entwined. The little four-character sayings that Chinese people love to quote to the bafflement even of the foreign student who can decrypt the individual meanings are a kind of philosophical distillate: ideas, stories, legends, concentrated beyond reach of literal translation. I know now, as I didn't in 1992, why it was so hard for Dr Zhang to find the right words for what we saw at the Summer Palace. Recalling that damp afternoon reminds me too that an attempt by a *waiguoren*, a foreigner, to explain what a concept like water means within Chinese culture is doomed from the outset to all manner of oversights, failures of nuance and, saddest of all, failures of imagination.

What makes me attempt it nonetheless is precisely the fact that I am from the far-off lands long dismissed by the Chinese as the realm of barbarians. I suppose I have in my defence the hoary old quote attributed to the anthropologist Ralph Linton that 'the last thing a fish would ever notice would be water', except that this is not quite the right way to describe the situation of the Chinese people. It is precisely *because* they notice water in so many ways, with such sophistication and connotation, that it is perhaps harder for them to recognize how deeply and widely water has influenced and defined China. It's just too obvious.

Water, as Dr Zhang revealed to me that rainy summer day, is one of the most powerful vehicles for Chinese thought. At the same time, and for the same reasons, it has been one of the key determinants of Chinese

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civilization. It has governed the fates of emperors, shaped the contours of Chinese philosophy, and left its mark, quite literally, throughout the Chinese language. It is with water that heaven communicates its judgements to earth. Water pronounces on the right to govern. For these reasons, there is no better medium for conveying to the barbarians beyond the Wall what is special, astonishing, beautiful, and at times terrifying and maddening, about the land its inhabitants call Zhongguo, the 'Middle Kingdom' – which is in the end the Water Kingdom, too.

I hope that Chinese readers might also appreciate and enjoy this *waiguoren*'s glimpse at their culture. I even dare hope that Dr Zhang – if he is still peering into microscopes, if his eyes have not failed him – might recall that day too. I am grateful for it.

Opening a window on the Middle Kingdom

Here is the original *waiguoren* marvelling at China's extraordinary accomplishments – Marco Polo, in his contested *A Description of the World* (*c.*1300):

> I repeat that everything appertaining to this city is on so vast a scale, and the Great Khan's yearly revenues therefrom are so immense, that it is not easy even to put it in writing, and it seems past belief to one who merely hears it told.

As Marco Polo testified, the sheer magnitude of everything about China confounds the imagination of the outsider. If that was true in the thirteenth century, when the Venetian explorer might or might not (opinion remains divided) have witnessed at first hand the court of Khubilai Khan, the Mongolian first emperor of the Yuan dynasty, it is even more so today. One now has to try to comprehend not just the vastness of the country, the diversity of its population, geography and languages, and the antiquity of its culture, but also the scope and ambition of its global economic and political status and the scale of the consequent internal and external upheavals that generates. Countless books today offer to reveal 'how China works' or 'what China's future holds'. But anyone familiar with the country will recognize that not even the Chinese truly know these things, and that the answers you get depend – as they always do in China – on whom you ask.

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The purpose of *The Water Kingdom* is different. In exploring one of the most constant, significant and illuminating themes among the turbulent and often confusing currents of Chinese history and culture – that is to say, the role of water – it seeks to show how the nation's philosophy, history, politics, administration, economics and art are intimately connected to a degree unmatched anywhere else in the world. For this reason, it is not simply the case that all these facets of Chinese culture become easier to understand when the role of water is recognized. Rather, one must conclude that many of them are likely to remain strange, opaque or alien *unless* their connection with water is understood.

In this way, the grand journey that *The Water Kingdom* takes through China past and present opens a window through which one can begin to grasp the potentially overwhelming complexity and teeming energy of the country and its people. Water is a key that unlocks an extraordinary quantity of Chinese history and thought. One could tell the political and economic history of the nation largely through the medium of water, and indeed the historian Ch'ao-ting Chi (Ji Chaoding) has done so in his influential *Key Economic Areas in Chinese History* (1936). Chi's subtitle said it all: 'as revealed in the development of public works for water-control'. For Chi, shifts in the major economic areas of China throughout its imperial history depended on the state exploitation of waterways, both natural and artificial, for agriculture and military transportation.

Of course, there are limits to and blind spots in that approach. One could argue that political power, social stability and a cultural sense of place have been rooted more in notions of land than water: after all, water is ultimately a means to the end of growing and transporting the crops on which life in China has long depended. But the importance of water for agriculture, transport and social stability has made it a central element of political power, and has shaped the way that the country has been governed. Many of the challenges that water poses are much the same today as they were for the ancient Han emperors, so that, even with the opportunities that new technology provides, the Communist Party has not always been able to distance itself from China's imperial past. Indeed, the government is now finding that water is a useful vehicle for shrewd mobilization of that heritage. Water offers a language, universally understood within China, for

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asserting and articulating political legitimacy, expressed since ancient times in the form of engineering works on a scale that no other nation on the planet could have contemplated – for better and worse.

All this tells just one side of China's relationship with water, namely the hydraulic and hydrological foundations of state power. Yet while water serves as a central symbol to emperors, governors and party chairmen, it also has profound meanings for the ordinary people. It is all too easy to give the impression that China's population has been so many powerless individuals moved hither and thither by their leaders. It has sometimes felt that way for these people too. But the ubiquitous and ambivalent relationship that the Chinese people have had with water has made it a powerful and versatile metaphor for philosophical thought and artistic expression, and its political connotations can be subverted and manipulated in subtle ways for the purposes of protest and dissent. These meanings of water are more than metaphorical. Because the lives of everyday folk have always depended on water, the rivers and canals mediate their relationship to the state. Water – too much of it, or too little – has incited the people to rise up and overthrow their governments and emperors. Burgeoning economic growth now places unprecedented pressure on the integrity and sometimes even the very existence of China's waterways and lakes. Not only can China's leaders ill afford to ignore this potential brake on economic growth, but the environmental problems are leading to more political pluralism in a nominally one-party state.

To tell this tale, *The Water Kingdom* must offer a different kind of journey from that of Marco Polo, which still sets the tenor of many Western accounts in presenting China as a place of baffling size and strangeness. Our guides are instead often Chinese travellers and explorers, poets and painters, philosophers, bureaucrats and activists, who have themselves struggled to come to terms with what it means to live within a world so shaped and permeated by water. You do not need to take my word for it that water is so central to Chinese culture: you have theirs.

Finding your way

It starts with the Qin in the third century BC, and ends with the Qing at the close of the nineteenth century, and there already you have the problem for the non-Chinese non-expert, who will struggle even to

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hear the difference between these two dynastic names that bookend China's documented imperial history. On the way, one has to negotiate the states of Qi and Qu, not to mention more than one Jin, and to appreciate that the Han dynasty is not the same as the state of Han squashed between formidable Qin, Wei and Chu during the Warring States period, before the Qin unified the land. Names were recycled, sometimes to imply historical links that conferred status and legitimacy. And while the distinctions between lands blur into monosyllabic confusion, emperors become hard to keep in mind for the opposite reason that their names proliferate perplexingly (see below).

For the average Westerner, 'Ming' represents a porcelain vase of a historical provenance that is vague but distant enough so as to make the vase worth a few bucks. Meanwhile, Tang, Song and Sui are at best interchangeable designations of antiquity that conjure up little more than Tony Cheung and Jet Li crossing swords. I apologize at once both to those who have bothered to get a little (perhaps a lot) more acquainted with China's past, and to Chinese people for whom this Western ignorance of a vast and sophisticated heritage is rightly seen as nothing less than shameless insularity. In 1992 I was in the same place, standing in Tiananmen Square having managed to peruse (and not really absorb) little more than the primer at the beginning of the *Lonely Planet* guide.

I hope that *The Water Kingdom* will not, for novices to Chinese history, seem too often like another of these litanies of names that leaves the mind struggling to find purchase. I have at the very least a duty to try to give some orientation from the outset. A paragraph or two summarizing China's dynastic history is sure to be tragically crude, but might at least offer a reference point to which you can return if you have forgotten where Sui sits in relation to Song. It really does not take so long before these dynastic labels cease to be empty syllables and begin to acquire the kind of period flavour that for the English is conjured up by 'Plantagenet', 'Tudor' and 'Victorian', for the Americans by 'Washington', 'Lincoln' and 'Eisenhower', or for the Italians by 'Medici', 'Garibaldi' and 'Mussolini'.

Dynastic succession has traditionally supplied the schema by which Chinese historians of earlier times have told their country's past. It offers a framework, a kind of aide-memoire, on which to hang a narrative that is often every bit as artificial as the way the Renaissance historians invented the Dark and Middle Ages to exalt their own

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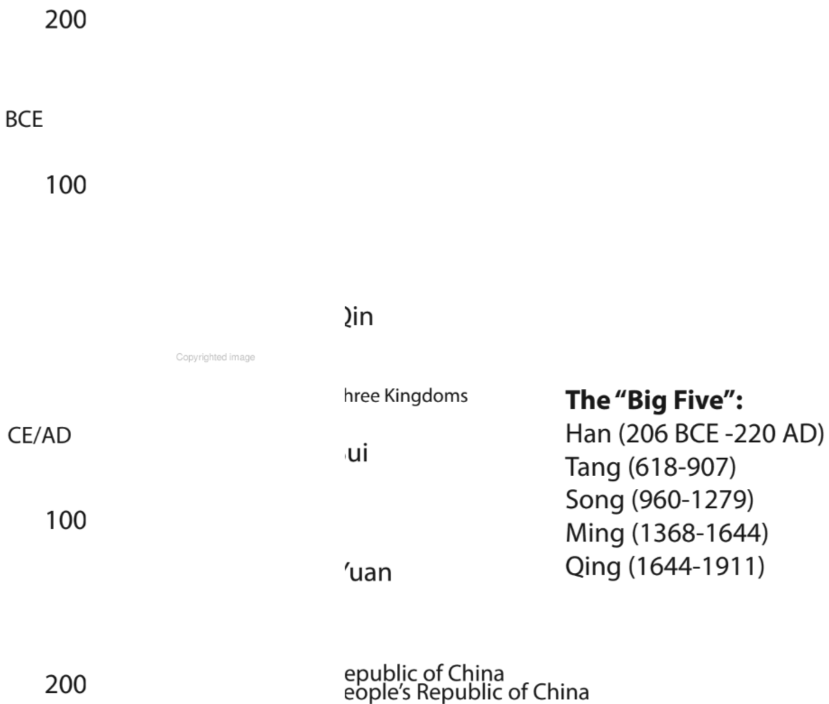
supposed links to classical antiquity. There was rarely if ever handing on of power with the relative smoothness of the transition from Tudor to Stuart, or from Stuart to Hanover. The edge of empire might shift significantly between dynasties, and in some instances a new dynasty (such as the Jin or the Yuan) was created by conquerors from outside of the Middle Kingdom. Some eras come with a dynastic label attached even though parallel designations confess to a time of disunity elsewhere in China – so that, say, the Eastern Jin dynasty more or less coincides in the fourth and fifth centuries with the Sixteen Kingdoms period. With these warnings in mind, here is the 'official picture':



Geographical orientation in the historical Middle Kingdom is also complicated, even more than it is in many other parts of the world, by the shifting boundaries of kingdoms and empires and the sometimes almost casual renaming of cities, which was among other things a way for the founder of a new dynasty to impose his authority. Occasionally, cities that grew and merged were awarded composite

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names, much in the manner of Budapest: the Yangtze conurbation of Wuhan is the archetypal case. In some instances I will indicate the old names of cities that have different labels today, with the proviso that the old and new are not necessarily coincident. But I make no claim or promise to be systematic about this: what I might sacrifice in clarity that way I hope to excuse as the avoidance of pedantry.

On language

Every Western book on China is obliged to include a prefatory note explaining the chosen scheme for romanization of the language. This one is no exception. These choices always have an arbitrary aspect to them. Advocates of the modern Pinyin system, like me, are liable to dismiss the older Wade–Giles system ('Mao Tse-tung' and so forth) on the basis that it accrues a confusing proliferation of accidentals while dishing out countless little phonetic insults. ('Peking' bears rather little resemblance to the way the current inhabitants of that city pronounce its name.) Others accuse Pinyin (with some justification) of seeming to make selections from the Roman alphabet almost as if to redeem the most neglected letters, while assigning them sounds barely related to those of Western use (so that *q* becomes *ch*, for example). In any event, Pinyin is what I shall mostly use; I hope that I will not upset too many sinologists by the inconsistency of retaining a few older romanizations that have become familiar to Western eyes, so that we have Yangtze instead of Yangzi, and Lao Tzu instead of Laozi.

For those unfamiliar with this system, here is a very rough guide to the most salient matters of pronunciation:

q: like *ch* in 'chat'
x: close to the German *sch*
zh: like *g* in 'gentle'
z: like *dds* in 'adds'
c: like *ts* in 'cats'
uo: not *oo-oh*, but more like *wo* in 'woke'
e, *en*, *eng*: like *uh, uhn, uhng*
o in *bo*, *mo,* etc.: more like *aw* in 'saw' than *oh* in 'so'

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ai: like 'aye'
ao: like *ow* in 'cow'
ei: like *ay* in 'way'
ui: like 'way'
iu: like *yo* in 'yo-yo'
i in *zhi*, *si*, *ci*, *ri*, *shi*: like *e* in 'the'
i in *ni*, *yi*, *bi*: like *ea* in 'tea'
ie: like *ere* in 'here'
j: always hard, as in 'jump' (even in *Beijing*!)

I must add a cautionary note on naming conventions. Even setting aside the complications of different romanization systems, the naming of Chinese emperors and officials is far from straightforward. There are often several alternative appellations to choose from. For example, the sage-king Yao, one of the semi-mythical Five Emperors, also has a clan name (Taotang) and a given name (Fangxun), and he may also be called Tang Yao. Emperors had a 'temple name' as well as a family name, and up to and including the Song dynasty they generally combined their temple name with the suffix *di* (simply meaning emperor or ruler), *zu* (generally used by the founder of a dynasty) or *zong*.

Emperors would also employ 'era names', which described the nature of particular phases of their rule; for example, the Han Emperor Wudi's first era name was Jianyuan, meaning 'establishing the first'. Until the Ming dynasty, emperors might change their era name several times during their reign (obliging calendars to be reset to Year One each time), which is why they are identified by their temple name. The Ming and Qing emperors, however, chose an era name that lasted for the duration of their rule, and so it is by this name that they are known. The peasant rebel Zhu Yuanzhang who founded the Ming dynasty in the fourteenth century, for example, became the Hongwu ('vastly martial') emperor, and also took the temple name Ming Taizi. Since era names are not exactly names in the usual sense, one should properly refer to them in this manner: the Hongwu and Qianlong emperors, say. In general I will observe that convention, but occasionally I will flout it for brevity.

It's not just for emperors that naming is complicated. Many Chinese people, even into the twentieth century, followed the widespread East

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Asian custom of adopting a 'courtesy name' when they reached adulthood: the poet Du Fu took the courtesy name Zimei, for example, while Mao Zedong was Runzhi, and Zhu Yuanzhang was Guorui. These names were respected: the twelfth-century official Lu You meticulously records the courtesy name of all the various dignitaries whom he encountered on his travels. I must regretfully omit that courtesy.

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1 The Great Rivers

Yangtze and Yellow: The Axes of China's Geography

> The wide, wide Yangtze, dragons in deep pools;
> Wave blossoms, purest white, leap to the sky.
>
> Lu You (1125–1209),
> 'The Merchant's Joy'

> The sun goes down behind the mountains;
> The Yellow River flows seaward.
> You can enjoy a grander sight
> By climbing up one floor.
>
> Wang Zhihuan (688–742),
> 'At Heron Lodge'

When Confucius described water as 'twisting around ten thousand times but always going eastward', he seemed to imply that the eastbound flow of rivers was tantamount to a law of nature, almost a moral precept. There is no clearer illustration of how a culture's geography may affect its world view. Why would anyone who had never stepped foot outside China have any reason to doubt that this was how the world was made?

In China the symmetry of east and west is broken by tectonic forces. Westwards lie the mountains, the great Tibetan plateau at the roof of the world, pushed upwards where the Indo-Australian plate crashes into and plunges beneath the Eurasian. Eastward lies the ocean:

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only Taiwan and Japan block the way to the Pacific's expanse, which might as well be endless. The flow, the pull, the tilt of the world, is from mountains to water, from *shan* to *shui*.

This is the direction of the mighty waterways that have dominated the country's topographic consciousness. 'A great man', wrote the Ming scholar and explorer Xu Xiake, 'should in the morning be at the blue sea, and in the evening at Mount Cangwu' (a sacred peak in southern Hunan province). To the perplexity of Western observers (not least when confronted with Chinese maps), the innate mental compass of the Chinese points not north–south, but east–west. The Chinese people articulate and imagine space differently from Westerners – and no wonder.

All of China's great rivers respect this axis. But two in particular are symbols of the nation and the keys to its fate: the Yangtze and the Yellow River. These great waterways orient China's efforts to comprehend itself, and they explain a great deal about the social, economic and geographical organization of its culture and trade. The rivers are where Confucius and Lao Tzu went to think, where poets like Li Bai and Du Fu went to find words to fit their melancholy, where painters discerned in the many moods of water a language of political commentary, where China's pivotal battles were fought, where rulers from the first Qin Emperor to Mao and his successors demonstrated their authority. They are where life happens, and there is really nothing much to be said about China that does not start with a river.

Search for the source

The great rivers drove some of the earliest stirrings of an impulse to explore and understand the world. The Yü Ji Tu ('Tracks of Yü' Map), carved in stone sometime before the twelfth century, shows how Chinese cartography was far ahead of anything in Christendom or classical Greece. In medieval maps of Europe the rivers are schematic ribbons, serpents' tails encroaching from the coast in rather random wiggles. But the Yü Ji Tu could almost be the work of a Victorian surveyor, depicting the known extent of the kingdom with extraordinary fidelity and measured on a very modern-looking grid. It is dominated by the traceries of river networks, with the Yellow River and the Yangtze given bold prominence. These are the 'tracks' defined by China's first

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The Yü Ji Tu, carved in stone probably in the eleventh century. The cartographic use of a grid system dates at least back to the Han dynasty in the second century AD, when the polymath Zhang Heng is said to have introduced it.

great water hero, the legendary emperor Yü who conquered the Great Flood (Chapter 2).

China has always been interested in – one might fairly say obsessed with – its rivers. The *Shui jing* (*Classic of the Waterways*) was the canonical text of hydrological geography, traditionally credited to Sang Qin of the Han dynasty, although later scholars have placed it in the third and fourth centuries AD (the Jin dynasty). We don't know quite what it contained, since it has been lost, but a commentary on the work, known as the *Shui jing zhu* by the scholar Li Daoyuan (427–527), ran to forty volumes and listed more than 1,200 rivers.

The impassioned searching for the source of the great rivers throughout Chinese history seems almost to betray a hope that it will reveal the occult wellspring of China itself, the fount of the country's spirit (*qi*). The source of the Yellow River was debated at least since the Tang dynasty of the seventh to the tenth century AD, and the Yuan emperor Khubilai Khan dispatched an expedition in 1280 that was supposed to clarify the matter. Yet the point was still being argued

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The Wei River as depicted in the fifth-century work *Shui jing zhu* (*Commentary on the Classic of the Waterways*).

seven centuries later, when the China Exploration and Research Society declared that the Yellow River springs from the icy, crystal-clear waters of lakes Gyaring and Ngoring in the Bayan Har Mountains of remote Qinghai.

The source of the Yangtze is disputed even now. An expedition in the 1970s identified it as the Tuotuo, the 'tearful' river in Qinghai, but several years later it was assigned to the Damqu instead. There's ultimately something arbitrary in conferring primacy on one of a river's several headwater sources, but for the Yangtze the symbolic significance of this choice is too strongly felt for the protagonists to brook any compromise. The classical answer, given in the *Yu gong* manuscript from the Warring States period of the fifth to the third century BC, was that the Yangtze begins as the Min River in Sichuan. But during the Ming era, iconoclastic Xu Xiake (1586–1641) argued otherwise. He found that the Jinsha River, which joins the Min in Sichuan, goes back much further than the Min: a full 2,000 kilometres,

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The Yellow and Yangtze rivers.

deep into the wilds of the Qinghai plateau. The Jinsha ('Golden Sand', referring to the alluvial gold that may be found in the river's sediment) itself stems from the Dangtian, whose tributaries in Qinghai vie as the ultimate source of the Yangtze, flowing from the glacier lakes of that high and inhospitable land.

No one better personifies the Chinese devotion to its great rivers than Xu Xiake, who wandered for thirty years into remote places, suffering robberies, sickness, hunger and all manner of hazards. 'He would travel', one contemporary account relates,

> with a servant, or sometimes with a monk and just a staff and cloth bundle, not worrying about carrying a travelling bag or supplies of food. He could endure hunger for several days, eating his fill when he found some food. He could keep walking for several hundred *li*,*

* The Chinese *li*, like the European foot, was a measure that varied between eras, but was approximately equal to between a third and a half of a kilometre.

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> ascending sheer cliffs, braving bamboo thickets, scrambling up and down, hanging over precipices on a rope, as nimble as an ape and as sturdy as an ox. He used towering crags for his bed, streams and gullies for refreshment, and found companionship among fairies, trolls, apes and baboons, with the result that he became unable to think logically and could not speak. However, as soon as we discussed mountain paths, investigated water sources or sought out superior geographical terrain, his mind suddenly became clear again.

From *shui* to *shan*: what more nourishment could the mind need? And to get there, Xu believed, one should not march like a soldier but wander like a poet.

In the person of Xu Xiake, Confucian rectitude meets Daoist instinctiveness and reverie. He was born in the city of Jiangyin, north-west of Shanghai on the Yangtze delta. For much of his travels Xu was attended by a long-suffering servant named Gu Xing. The pair often had to rely on the benevolence of local monasteries for food and shelter, where Xu might offer payment in kind by writing down the history of the institution. On one occasion they were attacked and robbed by bandits on the banks of the Xiang River in Hunan, left destitute but lucky to be alive. Perhaps we can forgive Gu for finally robbing and deserting his master.

Xu journeyed into snowy Sichuan and harsh, perilous Tibet, where rivers could freeze so fast that wandering cattle could get trapped and perish in the ice. He went deep into the steamy Yunnan jungle, then still a region alien, foreign and wild, to determine that the Mekong (called the Lancang in China), Salween (Nu) and Red (Lishe) rivers were separate entities along their entire courses. But although he diligently recorded the local geology and mineralogy, there is little that is systematic in his itinerary: he was wandering more or less without plan or destination.

Still he deserves to be called a geographer. His methods of surveying were crude, but they rejected the local superstitions that until then supplied the usual rationale for natural phenomena. His notes, according to the great scholar of Chinese science and technology Joseph Needham, 'read more like those of a twentieth-century field surveyor than of a seventeenth-century scholar'. And like his contemporaries in Europe, he was prepared to risk censure by preferring the

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testimony of experience over that of classical authorities. There had been whispers ever since the Han era that the true headwaters of the Yangtze were not, as the classics insisted, the Min, but instead the Jinsha flowing from the Kunlun Mountains of Qinghai. Xu, however, was the first to dare make the claim openly. For this he was denounced as despicable.

Ancient scholarly study of China's rivers and waters reveals how far ahead of the West Chinese theory and practice were, not only in cartography but in an understanding of natural phenomena. While the *Shan hai jing* (*Classic of Mountains and Seas*, probably written in the Warring States period) was content to ascribe the tides to the comings and goings of a massive leviathan-like creature in the oceans, the Han scholar Wang Chong argued in the first century AD that tides are related to the moon. 'The rise of the wave follows the waxing and waning moon,' he wrote, 'smaller and larger, fuller or lesser, never the same.' Wang Chong championed a rationalistic explanation of the world over the rather superstitious Daoism and formulaic Confucianism of his time, and his meteorological and astronomical observations were particularly astute. He described the essence of the hydrological cycle (even if his belief in the link between the moon and water extended to a lunar influence on rainfall): 'Clouds and rain are really the same thing. Water evaporating upwards becomes clouds, which condense into rain, or still further into dew.' Wang Chong perceived the same correspondences between the movements and forms of river water and of blood circulation that were noted by Leonardo da Vinci a millennium and a half later. He wrote:

> Now the rivers in the earth are like the pulsating blood vessels of a man. As the blood flows through them they throb or are still in accordance with their own times and measures. So it is with the rivers. Their rise and fall, their going and coming are like human respiration, like breath coming in and out.

The value of such beliefs, as many historians of science have noted, is not so much a matter of whether or not they are true, as of their capacity to stimulate further observation and to explain the world in naturalistic terms. The importance of the waterways created an

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imperative for such speculations, just as it drove the development of technologies and systems for making careful measurements and records, for example so that water levels could be determined during dredging operations. Cartography was so far advanced in China from the Han to the Ming eras partly because water management was accorded such priority.

China's Sorrow

What a strange journey the Yellow River, China's 'mother river' (*muqin he*), makes from mountain lake to Yellow Sea. Pouring down from the western highlands, around the city of Lanzhou in Gansu province it departs from its eastwards flow and travels north towards Inner Mongolia, then executes another bend to turn south along the border of Sha'anxi and Shanxi provinces. Finally, sluggish with silt and descending the shallowest of gradients, it turns abruptly east when joined by the Wei River near the border of Sha'anxi and Henan. It cuts north-east across the North China Plain, through Henan and Shandong, before emptying at the coast. The 4,632-kilometre journey makes the Yellow River the fourth longest in the world. The flow is not so massive compared with the Amazon or the Mississippi, but it varies hugely between the dry and wet (June–September) seasons. That is partly what makes the Yellow River so hard to manage – but the key problem is the silt.

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The course of the Yellow River.

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It is in the denuded and rugged landscapes of Ningxia, Sha'anxi and Shanxi that the river gets it hue. This region is a vast plateau of loose sandy soil called loess, hundreds of metres thick, blown there from the Gobi desert just to the north in Mongolia. The soil is powdery and virtually free from grit, so that it crumbles to an ochre smear under your fingers. This is China's famous 'yellow earth' (*huangtu*). Loess is easily eroded, and winds blow it in blinding clouds as far east as Beijing. While the capital's now infamous dust storms have been aggravated by desertification in the north-west, they have been apt for centuries to descend and leave everything – houses, trees, animals, people – coated a dirty yellow.

The great river fills with sediment as it carves its course through this landscape, loading the waters with a higher density of solids than is found in almost any other river in the world. From each kilogram of Yellow River water you can extract as much as 300 grams of sediment, making it tantamount to liquid mud. By the time the river turns eastwards again at the threefold meeting of Sha'anxi, Shanxi and Henan, it is a reddish-golden colour.

This sediment gives the Yellow River the Janus nature in which it both nourishes and devastates the nation. The loess-rich water deposits fertile soils in the middle and lower reaches – the North China Plain – where there are great fields of wheat and sorghum, millet, maize and sweet potato, the latter two imported from the New World. Half of China's wheat is grown here, and a third of its maize and cotton. A quarter of the country's population live on these plains, and one estimate maintains that over time more than a trillion people have lived and died here, fed by the rich alluvium. The archaeological remains of agricultural villages have been found from around the eighth millennium BC, which is when millet was first domesticated in China.

The river has been engineered for over two millennia so that it might swell the bounty from farmland. Irrigation here dates back at least to the Warring States period from the fifth century BC, when the feudal system emerged. While anthropologist Jared Diamond's suggestion that agriculture was 'the worst mistake in the history of the human race' shoulders all the burdens of counterfactual histories, there is hardly a better example than the Yellow River to advance his argument. The story of the river basin has been one of interactions

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between human civilization and nature that constantly raised the stakes while at the same time creating an artificial ecosystem of vast scale and perilous fragility: a landscape almost wholly shaped by human agency, yet nonetheless still massively vulnerable to nature's whims.

For, although most major rivers are prone to flood, the Yellow River valley has suffered from it in a manner both extreme in extent and seemingly intractable in cause. As the river flows east, some of the sediment settles onto the bed, raising it higher. The waters then become increasingly likely to overrun the banks when the flood season arrives with the rains and the melting of snow at the headwaters in summer. To combat flooding, for millennia the Chinese built dykes along the river: huge ramparts of mud, reinforced with sacks of rocks, woven reed mats and clumps of vegetation. But this method of flood control is unsustainable. As the riverbed rose, so did the dykes, until the river itself flowed as if along a semi-natural aqueduct up to fifteen metres above the level of the surrounding floodplain. When a breach in the dykes occurred – and it always did eventually – the result was all the more catastrophic. Kilometres of dykes, having been laboriously built and maintained for years, might be swept away in a matter of hours, and the river water pooled into immense lakes and inland seas. As the flow was diverted, it slowed down and silt was deposited at a greater rate, choking up the old bed and making it extremely hard to return the river to its course.

Yet it was precisely because of the river's fertile sediments that the floodplain was so attractive to farmers, accumulating a rural population at constant hazard of disaster. At the same time, intensive agriculture exacerbated the danger. The demand for cultivable land, as well as for timber to use as fuel and in construction, led to clearance of the forests that once covered the loess plains. The bleak, barren badlands of today, riven by chasms and gorges, are largely a human construct, for the forest cover on the loess plateau is thought to have declined over the past four millennia from more than 50% of the land area to just 8%. Lacking the protection of forest canopy and root systems, the exposed soil is more readily eroded by rain, which not only destroys farmland but also boosts the sediment load in the river, making the problem of silt deposition still more grave.

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The effects of land clearance were already felt in the Qin and Han periods two millennia ago, and deforestation was condemned in some ancient texts. The problem worsened considerably during the Tang dynasty, when agriculture intensified to provide food for China's army as the empire expanded its borders and maintained large garrisons against the threat of invasion. It was in Tang times that the river's sediment load earned it the name 'Yellow'.

Increased erosion made the river meander more dramatically, so that farmers could never be sure how long their fields would survive. Moreover, the climate was relatively dry at this time, which increased the pressure on irrigation. That was never done efficiently: fields were simply waterlogged, which meant that mineral salts deeper within the soil were dissolved and carried to the surface. There they accumulated when the water evaporated, producing saline soil with low fertility. (This process of salinization remains a blight of over-irrigation globally today.) Deforested land was sometimes over-farmed and quickly depleted in nutrients, whereupon it was abandoned and yet more land cleared. In this way, what was once farmland became barren ground and eventually desert. With the loess exposed, the river began to meander widely as it cut into and shifted the sandy deposits, creating the other-worldly terrain of ravines and gorges that distinguishes Shanxi today. The American journalist Edgar Snow gave a compelling account of these landforms in the 1930s:

> an infinite variety of queer, embattled shapes – hills, like great castles, like ranges torn by some giant hand, leaving behind the imprint of angry fingers. Fantastic, incredible and sometimes frightening shapes, a world configurated [*sic*] by a mad God – and sometimes a world also of strange surrealist beauty.

Floods of unimaginable proportions have ravaged the Yellow River valley since ancient times. As the Han historian Sima Qian noted, 'Inconceivably great are the benefits and the destruction which water can produce.' Until modern times there were, on average, two breaches of the dykes every three years, although floods have somewhat increased in both frequency and severity over time. The great flood of 1917 elicited a starkly symbolic image: the waters exhumed wooden

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Some of the characteristic loess formations of Sha'anxi province.

coffins from their shallow burial mounds and set them floating for many kilometres.

With the Yellow River designated the cradle of the nation's civilization in early Chinese historiography, its moods were linked to the fate of the nation. The massive dam that stands today at Sanmenxia, just after the final eastward turn – one of the earliest modern attempts at flood control on the lower reaches – bears an inscription attributed to the Great Yü, who conquered the Great Flood, that presents something of a glass-half-full perspective: 'When the Yellow River is at Peace, the Nation is at Peace.' The unspoken corollary is that if the river is not at peace, then the nation may rupture too. China's mother river is also China's Sorrow.

There are many other nicknames attesting to the river's unruly nature: the Ungovernable, the Scourge of the Sons of Han. Some calamitous floods redrew the map. When it breaches its banks, the Yellow River might never find its way back between them: the inland sea that results from a major flood can find a new route to the coast. Since 600 BC there have been dozens of such shifts, eight of them classified as 'major', meaning that the outflow into the ocean may be hundreds of kilometres from its earlier location.

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Major shifts in the course of the Yellow River over the ages.

Life on the Yellow River floodplain was not so much precarious as predictably disastrous, and it is hard to imagine how anyone, let alone millions, endured it routinely. Even in the modern era the floods could be terrible beyond imagining: a breach in the autumn of 1887 created a lake 26,000 square kilometres in extent, leaving people stranded on rooftops as the bitter northern winter closed in. Between 1 million and 2.5 million people perished by drowning or subsequently by starvation, through epidemic diseases such as typhoid, or from exposure. The hole in the dykes was not plugged until early 1889.

The problems created by the sediment that the Yellow River acquires on its looping northward detour are so great that, as early as the first century BC, emperors were considering whether to circumvent this diversion entirely – to cut a channel east–west that linked the bends across 300 miles. It is hard to imagine how anyone at that time could have considered it feasible. But the Han engineer Yan Nian, who made this bold proposal, argued that not only would it make the river easier to control by reducing its silt load, but it would also offer a better barrier against the encroachment of the 'Huns' (the Xiong Nu) of Mongolia. The emperor rejected the idea not because it was impractical but because it seemed sacrilege to change the course allegedly designated by the Great Yü, who solved the Flood by carving out new

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channels for China's rivers. Yü, the emperor declared, had acted with 'divine perspicacity . . . for the benefit of ten thousand generations'.

The Long River

One seems to have little choice but to retain the outmoded name for the Yangtze when discussing it in English; the modern Pinyin transliteration Yangzi feels somehow pedantically perverse. The name is in any event only a local one, derived from the ancient and now mostly forgotten fiefdom of Yang and strictly applying only to the last 300 kilometres. This was the entire 'Yangtze' to the first Western travellers, since they rarely got much further upriver.

The Chinese people do not use those names. There are local names for each stretch of the river, but the full channel, cutting the country in half geographically, climatically and culturally, is simply the Chang Jiang (长江), the Long River. It is the longest in all of China, 6,380 kilometres from the source in a glacier lake to the great delta on the coast beyond Shanghai, where the alluvium pushes out into the sea and adds steadily to China's vast surface area.

'A China without such an immense torrent at its heart is almost impossible to contemplate', says the writer Simon Winchester. Even this understates the matter. Without the Yangtze, China would not be the nation it is today. Time and again, the river has determined the nation's fate, whether that is by presenting a barrier to barbarian conquest, or a transport network, or a conduit for foreign invasion, or a source of fertility, flood and revolutionary fervour. Many pivotal battles in Chinese history took place on the middle reaches. The Yangtze cliffs provide the backdrop to the classic *Sanguo yanyi* (*Romance of the Three Kingdoms*) from the early Ming period, one of Mao Zedong's favourite books, in which the river hosts allegedly the biggest naval battle in history. The Yangtze was the artery of conquest and dominance when the British gunships humiliated the Qing emperor in the mid-nineteenth century, and again when the Japanese invaded in the 1930s: steadily pushing upriver from Shanghai to Nanjing and then Wuhan, they forced Chiang Kai-shek's Nationalists to relocate the government right back beyond the Three Gorges in Chongqing.

China is cloven in two by the Long River, and the two halves could seem like separate nations: the north cold and dry, the south

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hot and wet. In the north you eat wheat noodles; in the south, rice. Northerners, it is said, are tall and haughty, whether eastern Manchurian stock or Islamic Uyghurs to the west. The southerners, in contrast, are earthy, pragmatic, always on the make, a patchwork of minority races and mutually incomprehensible dialects. That division – decreed by nature, patrolled by the Yangtze – establishes the defining tension within the nation, in which the question is how unity can persist in the face of such a disparity of the most fundamental resource, water. Such stereotypical polarities do scant justice to the bewildering variety of China, of course, but they serve as crude shorthand for the contrasts that you find once you cross the Yangtze.

For the mixed blessing of the Yangtze, with a valley rich in farmland yet also suffering enormous floods, the Chinese again credit the Great Yü. From its source the river flows south, parallel to the Mekong and the Salween as the three great torrents plunge down gorges like giant sword-strikes through the mountains of Tibet and Yunnan, heading out of China in short order. But then at a place called Shigu in Yunnan, the Yangtze leaves the trio as it takes a remarkable bend, seeming almost to bounce off a modest little mountain called Yun Ling (Cloud Mountain) to execute an abrupt about-turn and then find its way east instead. Yü is said to have set down Cloud Mountain; no other legendary figure could be entrusted with the task of defining the course of China's central artery.

In Sichuan province the Yangtze is swollen by tributary rivers running south from the Qinghai highlands, in particular the Min,

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The great bend in the Yangtze at Shigu.

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Yalong, Dadu, Fu and Jialing.* It has descended 90% of its source altitude even before it passes through the bustling, steep-laned citadel of Chongqing, the epitome of China's frenetic enterprise (and, some say, the birthplace of Yü). Then it wanders through Hubei to the vigorous trading port of Wuhan, a conglomeration of the former cities of Wuchang, Hankou and Hanyang, where the Yangtze intersects the Han River. This political and economic hub of central China was the origin of the Wuchang uprising that ended the Qing empire in the early twentieth century and gave birth to Sun Yat-sen's Republic. The river then courses majestically across the eastern plains of Anhui and Jiangsu, through the southern metropolis of Nanjing with its long tally of bitter memories, before spilling out past Shanghai into the East China Sea.

While the Yellow River was commandeered in the early days of the Republic for the active construction of a national identity-myth, it is the Yangtze that today defines China's self-image. To travel the river from source to sea is to sail down the currents of history. In the upper reaches of the Qinghai plateau one can find a way of life, often close to destitution, that has changed little for centuries (apart from the ubiquitous cheap mobile phones), while Shanghai, that promiscuous old harlot on the Huangpu tributary in the great estuary, exemplifies the brash, confident, almost unstoppable spirit of modern China. Along the route one will find some of the country's most spectacular scenery, its most astonishing and controversial feats of hydraulic engineering, its greatest lakes, ancient cities like Jingzhou, Yangzhou and Nanjing, bleak and despondent industrial centres, dynamic river ports still bearing the traces of colonialism, sites of momentous struggles. There are rice paddies knee-deep in river water, temples and pavilions where poets sat and wove watery metaphors, there are mythical mountains and filth-belching factories. Even the bustle of commerce that has always intruded on the navigable reaches does not wholly dim the beauty that the Song administrator Lu You rhapsodized about in the twelfth century:

* It is often said that Sichuan derives its name from four of these tributaries, since the name means simply 'Four Rivers'. But that isn't quite right: *chuan* (川) does mean 'river', but the provincial name is shortened from *chuanxia silu* (川峡四路), the 'four circuits of rivers and gorges', referring to the Song dynasty administrative division of a 'circuit' (*lu*).

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The Caiyuanba Bridge over the Yangtze in Chongqing.

> All the solitary hills in the midst of the River, such as Golden Mount, Jiao's Hill, Fallen Star and the like, are famed throughout the world, but for dizzy heights and elegant beauty none can match the Lesser Lone Hill. Seen from a dozen or so miles away, its bluish peak rising abruptly all alone, its top touching the high heavens, it already seems beyond compare with other hills; and the nearer you approach the more elegant it is. In winter or summer, in clear skies or rain, it presents a myriad different moods. It is truly a marvel of Creation.

In some ways, life along the Yangtze has changed little since Lu You described it: his 'crowds of young lads along the water's edge selling caltrops and lotus roots' are still there, although they might equally be selling fake branded goods and pirated DVDs. In the lower reaches of the Yangtze, entire villages once floated on the waters. Lu You describes them:

> As we tacked along the Great River we came across a wooden raft of one hundred feet or more in breadth and over five hundred feet long. There were thirty or forty households on it, with a full complement of wives and children, chickens and dogs, pestles and mortars. It was criss-crossed with paths and alleys, and even had a shrine to a

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> deity. I've never set eyes on such a thing before, but the boatman said that this was still one of the small ones. The large ones have soil spread on the raft for vegetable allotments, and some have wine shops built on them.

These floating villages were common even up to the middle of the twentieth century.

However much writers and artists might romanticize it, the Yangtze most aptly symbolizes the Chinese nation insofar as it serves as a trade thoroughfare. More than three-quarters of China's rice is now produced in the paddy fields of the lower reaches, and for centuries transport of this grain to the power centres of the north was one of the emperors' key priorities. The colonialist struggles of the nineteenth century focused on control of the Yangtze ports, and the river has long been engineered to push westward the limits of navigability. Even in the Han dynasty, Sima Qian labelled the lower Yangtze the 'land of fish and rice', where the people were so easily fed that they became lazy. The river once yielded half of China's fish, although that proportion has now declined because of pollution and near depletion of stocks (commercial fishing is now highly regulated). The lower reaches were also a key region of silk production, which found its way into the wide world not by caravan along the Silk Road in the north but eastwards by ship over the East China Sea.

The Yangtze is literally shaping China. It carries along 500 million tonnes of alluvial silt each year – nowhere near the heavy load of the Yellow River, but enough to push back the coastline by about a kilometre and a half every seventy years as the deposits settle in the delta, leaving the cities of Ningbo and Hangzhou tens of kilometres from the sea when once they were ports. The intrepid English Victorian explorer Isabella Bird offered a quaintly precise estimate of the annual sediment load – 182,044,996 cubic metres – but also a vivid description of the material that turns the Yellow Sea yellow: 'The rich wash of scarcely explored Central Asian mountain ranges, the red loam of the "Red Basin" of Sze Chuan, and the grey and yellow alluvium of the Central Provinces of China.' The great sandbar in the mouth of the Yangtze was dredged in 1905 by the European colonialists who prevailed over the fatally weakened Qing empire, literally opening the way for Shanghai to become the playground of Western merchants until disaster fell upon it (and upon all of China) when the Japanese invaded.

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The Yangtze is quite capable of arranging disasters of its own making. Its floods are no less devastating than those of the Yellow River, nor any less regular. Those in 1931, coming after a summer of particularly heavy rains, are thought to have killed up to 4 million people and inundated an area almost the size of Great Britain. A description of another massive flood in 1887 by the Englishman William Percival paints a terrifying picture of what the locals faced. A great wave could be seen coming down the river, he writes,

> carrying with it numbers of junks, boats, houses, trees, cattle, and I should be afraid to say how many human beings, all mixed up in the most inextricable confusion . . . Houses floated past with people clinging to them, some hanging on to the branches of trees, while scores of corpses and the bodies of cattle seemed all over the river. Everything not drowned, everything living, both human and animal, were yelling, roaring, and screeching. All this, combined with the grating and crashing of houses, the sullen rush of water, the howling of the wind, and the swish, swish of the blinding rain, made such a pandemonium that I hope never to see again.

While flooding on the Yellow River seems to have been brought somewhat under control in recent decades, the Yangtze remains deadly. There were floods throughout the 1980s and 90s; a particularly serious inundation in 1991 affected 230 million people and forced the Chinese government to swallow its pride and ask for international relief (it received rather little). The Yangtze struck again in 1998, when floods killed around 3,500 people and caused damage of the order of $20 billion. Human activity seems to have worsened the risks. Reclamation of lakes along the river for farmland has removed natural flood reservoirs. And erosion in the upper Yangtze valley, which has raised the riverbed in the middle reaches by siltation, has been exacerbated by extensive deforestation of western Sichuan since the 1950s for timber, prompting speculation that the Yangtze might come to rival the Yellow in its high load of silt.

Pearl S. Buck, the Nobel laureate chronicler of early twentieth-century China, attested how, during one flood, 'I stood on Purple Mountain in Nanking [Nanjing], many miles distant from the river, and it was a great island, and lapping at its base, fifty feet deep over

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farmhouses and fields, were yellow Yangtze waves.' 'There is no other river', she added, 'to equal it for beauty and cruelty.'

Petrified witches

The most celebrated stretch of the Yangtze is in the middle reaches between Chongqing and Yichang. Here the waters surge through the Three Gorges: Xiling, Wu and Qutang. Tightly focused into a fast-flowing torrent by the precipitous limestone slopes and cliffs that stretch, with intermittent breaks, for almost 200 kilometres, the river here is legendary for its beauty and its perils. The plunge from clifftop to turbid water is a little shorter today than it was in the past, and the waterway a little wider, for the river has become a long, narrow reservoir confined behind the mighty wall of the Three Gorges Dam.

It is this stretch of the Yangtze that is most heavily mythologized: every rock and mountain, it seems, warrants a name and a story that explains its presence and shape. In general the stories tell of some great battle that pitted benevolent gods, demigods or heroes against raging, chaotic nature, often personified (like the river itself) as a dragon. They are tales of taming and the creation of order from the wildness of the waters and the elements. Like many myths, they enabled the tellers to dream of what might be possible, even if it was beyond their capabilities.

Presiding over the entrance to the Wu Gorge – so steep that direct sunlight reaches the water only for a short time even in summer – are twelve peaks, said to be the petrified bodies of the witch-goddess (or fairy) Yao Ji and her sisters, who reputedly overcame twelve mighty river-dragons that were bringing misery to the local people. The slain dragons, however, became great boulders, damming the Yangtze and creating a terrible flood.

Then the flood-master Yü arrived to put things in order. At first he was dumbfounded by the situation, but Yao Ji calmed his despairing sighs and ordered lightning and thunder to break apart the rocks and drain the water. Near the region of Wushan (Wu Mountain), Yao Ji and her sister spirits helped Yü to construct a tunnel through the mountain. The Qutang Gorge was an even greater challenge, for a jade dragon who dwelt in a small tributary called the Daixi at the eastern end of the gorge was causing mischief. He became so angry after getting lost visiting relatives (even dragons in China observe their

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The Three Gorges region on the Yangtze River.

familial obligations) that he threw his body at the mountainside, creating a landslide and flood. Yao Ji chained the dragon to a pillar so that Yü could cut off its head. The flood-master then opened a new channel for the river. Two great black rocks in the Suokai (Unlocked Gates) Gorge downriver are now named the Binding Dragon Pillar (Suolong Zhu) and Beheading Dragon Platform (Zhanglong Tai).

Yao Ji and her assistants stayed in the region to help the people: blessing their harvests, tending their sick, and watching over riverboats. But they found the Wu Gorge so beautiful that, standing every day on the cliffs gazing at the river, all twelve of them were turned to stones that now preside almost 300 metres above the water. Perhaps, some say, they still act as sentinels for the boatmen braving the rapids. A temple to Yao Ji and Yü on Gaoqiu Mountain near Wushan commemorates their efforts, and on 'Goddess Day' offerings are made at her shrines.

Yao Ji embodied the old association of goddesses with water: she was said to control the rain over the gorge. As a Tang dynasty monk put it:

> Witch mountain is high
> The witch is uncanny,
> As rain, she brings the sunset,
> Oh! As cloud, she brings the dawn.

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Goddess (Shennu) Peak, the most prominent of the twelve peaks on Wu Gorge, said to be the petrified body of the spirit Yao Ji.

The scenery was irresistible. On an outcrop near Qutang – now an island because of the raised water level behind the Three Gorges Dam – stands an ancient temple complex called Baidicheng (White Emperor City), which the Tang poet Li Bai eulogized ('engulfed by vibrant clouds') as he sailed down the Yangtze. Li Bai's friend Du Fu, who is widely considered China's greatest poet, spent two or three years in the nearby city of Kuizhou (now Fengjie), and would come often to Baidicheng and sit alone up on the mountain – he composed a quarter of his entire *oeuvre* here in those few years. In the Song period Lu You travelled up the Yangtze to Kuizhou and was awed by these peaks and cliffs, 'some vying one with another, others soaring solitary'. 'I cannot fully describe their wondrous strangeness', he averred.

Westerners arriving in the nineteenth century had seen nothing like this, even in the Alps or Scandinavia. Isabella Bird gives a vivid account of her passage through Yichang Gorge:

> We were then on what looked like a mountain lake. No outlet was visible; mountains rose clear and grim against a grey sky. Snowflakes fell sparsely and gently in a perfectly still atmosphere. We cast off from the shore; the oars were plied to a wild chorus; what looked like a cleft in the rock

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> appeared, and making an abrupt turn around a high rocky point in all the thrill of novelty and expectation, we were in the Ichang Gorge, the first and one of the grandest of those gigantic clefts through which the Great River, at times a mile in breadth, there compressed into a limit of from 400 to 150 yards, has carved a passage through the mountains.

There are caves here where ancient fossils have been found that rewrote the standard accounts of human origins (see page 51). They are full too of fossil animal bones, once harvested by peasants and sold for medicinal use as dragons' bones and teeth. Perhaps the most wondrous and strange sight in the gorges are the 'hanging coffins' placed on wooden pegs inserted into the sheer cliff face by an ancient, legendary minority called the Ba. Some of the coffins, made from waterproof, durable *nanmu* wood, are around 2,000 years old. They can be found all along the gorges and some of its tributaries. How they were elevated is still unclear, although it seems likely that ropes were used to haul them up. Why they are there is another matter. Were they a perpetual reminder to revere your ancestors? (There's nothing more guaranteed to do that than having them literally looming overhead.) Did they bear the spirits of the departed to the land of the dead, or back into nature, in a kind of celestial boat? Did they ward off demons? Making them so inaccessible has certainly been effective in warding off grave-plunderers hoping that the rumours of great riches inside the caskets are true, not to mention the worst destructive excesses of the Cultural Revolution's Red Guards (who nevertheless managed a little vandalism). The few coffins that have been examined since archaeologists first reached them in 1971 contain bronze and pottery artefacts, along with the skeletons of the dead.

Until the late nineteenth century, Yichang at the eastern mouth of the Xiling Gorge was the last stop navigable by large vessels, and as a result it became a city of more consequence than its rather down-at-heel appearance today would suggest. British companies set up trading posts there, and they levied duties on all goods that passed through, of which opium was one of the most lucrative. To get any further upriver was a perilous affair. Li Bai claimed that his hair was turned white by the terror of passing through Wu Gorge, while White Bone Pagoda on the notorious Xintan rapids in Xiling Gorge was said to house the bones of boatmen drowned there. Lu You records that

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