

# Introduction

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A good singer makes people follow his notes.  
A skilled builder inspires others to take up his work.  
Fitting the wheel of a cart requires a trained apprentice.  
Zhou's perfections were the artifact of Zhougong's efforts.

夫善歌者使人續其聲。  
善作者使人紹其功。  
推/椎車之蟬攫，負子之教也。  
周道之成，周公之力也。

*Yantie lun, juan 2, pian 7*

For more than a decade now, we two editors of this volume have been teaching our students at the University of California at Berkeley about the more technical aspects of the *Shiji* and *Hanshu*, not to mention how those Han histories relate in turn to the fifth-century *Hou Hanshu* and Liu Zhiji's assessment in the early eighth century, in an attempt to correlate our readings in the standard histories with the growing body of archaeological evidence at hand (much of it not yet adequately tabulated, let alone parsed). Too often, essays about history, religion, and literature still cleave to a handful of famous chapters in the two official histories, relying heavily, for example, on the assassin-retainer chapter of the *Shiji*, or the economic and legal treatises of the *Hanshu*, or the so-called "Letter to Ren An," where serviceable, if occasionally outdated, translations exist.<sup>1</sup>

Determined to push ourselves and our students out of the usual comfort zones, we decided to try to frame a set of more systematic responses to the technical arts for those interested in early China, in the twin beliefs, first, that responsible historians must delve into every aspect of the universe of discourse that the subjects of their research knew superbly well; and, second, that our counterparts in Classics and the history of science were pushing to find comparative materials they could “think with.” Moreover, in a vital sense, everything worth in-depth study in early China was “technical” (see below), and the range of topics subsumed under these two rubrics of the “techniques” (*shu* 術) and “arts” (*yi* 藝) reflects the high value placed on forms of expertise that typically required a special vocabulary and set of disciplined practices. This is the broad sense in which the present volume is dedicated to the “technical arts,” building upon an earlier volume titled *China’s Early Empires: A Reappraisal* (2010), intended as a supplement to the somewhat outdated *Cambridge History of China, vol. 1*, and a recently published volume from Paris devoted to the technical monographs in the *Suishu*, which were modeled on the *Hanshu* treatises.

During the Han, a wide variety of *shu* spoke to the arts of governing in both theoretical and practical terms, whether the *shu* were used individually or combined as means to “govern the realm and achieve peace” 治國致平之術, “order the people” 治民之術, or “face south, as does the ruler of the people” 君人南面之術. And while the English term “technical arts” comes closest to the range of Han practices that sometimes take *shu* as the second graph in a binomial expression (terms such as *dao shu* 道術), we caution against a cross-cultural comparison that is already too widely in use, drawing a careless equivalence between sets of culturally-bound terms, leading some to mistakenly conclude that *shu* is an exact counterpart of the earlier Greek *technē* (τέχνη).<sup>2</sup>

A related sense of the term “technical arts” that we are resisting is the backward projection of the modern categories of science and technology. To see an example of this projection, we need go no further than the current ICS Concordance Series (CHANT) website, which sorts all Han and pre-Han writings into a series of rubrics, in which the “Science and Technology” (*Kexue jishu* 科學技術) category occupies a different segment of the website than those allotted to the Classics, Masterworks, Literary Studies, or Histories. Separating out early historical, philosophical, or literary texts from technical learning, we would argue, seriously impedes moderns’ ability to understand the rhetorical patterns and bodies of specialized knowledge that informed them all. Similarly, lumping together pre-Han and Han materials

in a single database, without offering at least some informed speculation about dating, may seem a minor design choice, but this feature comes with two unfortunate, momentous effects: (a) reifying the unwarranted assumption that dynastic rises and falls correlate neatly with cultural changes; and (b) lumping together Western and Eastern Han, when the two dynasties operated on starkly different sociopolitical, economic, and cultural bases. In consequence, the present website's classification system reinforces anachronistic and misleading divisions that many scholars had hoped to lay to rest decades ago.<sup>3</sup>

Surveying the breadth of materials, what is strikingly obvious is the sheer quantity of technical knowledge implicated in the attainment of high cultural literacy—the ability to recite, read, and compose elegant phrases—required of nearly all who aspired to serve the upper ranks of the two Han ruling houses.<sup>4</sup> Men and women of cultivation commanded the technical arts as part of their stock-in-trade, for, lacking such knowledge, they could not begin to grasp the arguments for and against specific innovations and alterations at court, in the provinces, or even on their estates. Simply to project a commanding presence was not enough. This integration of such facility into other areas of life that moderns tend to view as separate is one important dimension of the “technical arts” in the Western and Eastern Han.

The dynamic nature and changing status of classical and technical learning during the four centuries under review pose challenges to any simple generalization about the social applications of different fields of knowledge. As readers may recall, while the Western Han, especially through Xuandi's reign (74–48 BCE), aimed at a high degree of political centralization, the Eastern Han rulers from the beginning were, perforce, accustomed to oligarchic rule by a small group of leading families, which gave the capital elites and provincial magnates considerably more power. So far as we know, the Eastern Han never managed to carry out a successful empire-wide cadastral survey, although local surveys must have been conducted for tax purposes.<sup>5</sup> While the Western Han, until the reigns of Yuandi and Chengdi (r. 48–33, 33–7 BCE), paid less lip service to the authority of the Classics, its courts being understandably proud of their “new” form of rule, the weaker Eastern Han was determined to shore up the legitimacy of its “restored” dynasty by frequent references to its warm embrace of the “antique Way” of Confucius, the Duke of Zhou, and even the legendary sage-rulers Yao and Shun. The court also expended considerable energy managing the interpretation of omens and portents, linking the Classics to both an evolving symbolic vocabulary and to rearticulations of the theory of Tianming 天命 such as

that of Ban Biao (d. 54) early in Eastern Han.<sup>6</sup> And whereas the Xiongnu semi-nomadic groups were a significant worry for the Western Han courts, groups of them had been so far domesticated before Eastern Han, with their confederacies severed,<sup>7</sup> that they served as the frontier forces for the “restored” Eastern Han dynasty, fighting against other newly powerful groups, such as the Qiang and Xianbei. One of the few “constants” that remained in place throughout the four hundred-odd years of the two Han dynasties, then, was the acceptance of the administrative structures inherited from Qin, as well as the dynastic pretensions to extend *jiaohua* 教化 (civilizing influences) to the local subject populations (as the Qin did before them)<sup>8</sup> and to rule, whenever possible, by *wuwei* 無為 (nonintervention, delegation of authority). (In Han sources, *wuwei* is an administrative or social strategy, rarely if ever “nonaction” or “effortless action.”)<sup>9</sup>

Both Western and Eastern Han, like Qin before it, offered court positions to men and women of learning, in the realization that neither the laws nor the usual administrative rules could suffice to answer every need.<sup>10</sup> This structural continuity created the conditions for the development of a set of categories in the *Shiji* and *Hanshu*, providing us with a descriptive taxonomy of the technical arts in the Han administrations. It would have been possible, and valuable in a different way, to address this topic using redescriptive categories like those on the spines of the volumes of *Science and Civilization in China*. The present book instead draws attention to ways that Han authors tried to make sense of the various *shu* by linking their past legacies to their present deployment in a culture buffeted by sociopolitical ebbs and flows.

Given the complexity of these developments over time, as well as the paucity of work devoted to the *Hanshu*, the editors invited a group of well-respected Early China experts drawn from disparate communities in Europe, the United States, and the Chinese-speaking world to weigh in on the very sort of technical problems presented by the *Shiji* and *Hanshu* that frequently present major obstacles to modern readers. The result has been this interdisciplinary venture, in which each contributor explicates one very difficult topic for the edification of present and future scholars. Mindful of the extraordinary debt we owe to such earlier giants writing in English as Ho Peng Yoke and Joseph Needham, William Hung and Yang Lien-sheng, Nancy Lee Swann and A. F. P. Hulsewé, not to mention the savants of previous generations writing in Chinese, Japanese, French, and German (too numerous to mention here), this group of contributors in the present generation of scholars hopes, by their concerted efforts, to add to the fund

of accumulated knowledge provided by the earlier generations.<sup>11</sup> Hence this dip into still largely uncharted waters.

Some of the topics explained here may, at first glance, strike readers as utterly abstruse, with the volume a virtual “Chinese encyclopedia” in the style of Borges. However, each chapter explores a major preoccupation of the courts during the early empires, such as landholdings or medical cures, sacrifices and omen-readings, the crucial relations pertaining between the heavens above and the earth below, predilections when reading and writing in manuscript culture, and the precise methods for accurate calculations. Throughout, the chapters in this volume ground these seemingly disparate topics firmly in a range of sources that describe them, attending especially to the standard histories of the *Shiji* and *Hanshu*, so as to analyze the different rhetorical patterns and cultural concerns that accompanied discussions of early technical knowledge.

Absent a better sense of these disparate pieces of highly crafted rhetoric, it is hard to believe that students of early China will not be misled when piecing together even a rudimentary picture of the early empires. Greg Anderson, in his bracing *The Realness of Things Past* (2018), has already shown how often the reigning experts on the early empires in classical Greece have trafficked, wittingly or unwittingly, in a panoply of shopworn concepts borrowed straight from the grand “systems” theories of the early modern eras.<sup>12</sup> Increasingly in other fields, those theories have drawn fire in cutting-edge studies, but sometimes students of early China still seem to be in their thrall. Due attention has therefore been paid by the editors to the underlying assumptions that inform the chapters in this book, and the precise vocabulary we contributors intend to introduce. But more simply, as the editors themselves have learned so much from reading this collection of chapters, they believe that other students of Chinese culture may profit from these pages, too, regardless of their respective stances on modern and postmodern theories.

## I. On the “Technical Arts” (*shu* 術) and “Ordering” (*zhi* 治)

While *zhi* 治 most often means to govern or administer, it also is the main verb meaning “to heal” and “to make orderly,” as when working farmland or healing a body.<sup>13</sup> In a volume devoted the technical arts, its multivalence proves of immense significance, insofar as *zhi* is indisputably the general thrust

of treatments of the “technical arts” in the chapters ahead, as it is in many chapters of the *Shiji* and *Hanshu*. Order is the aim of *shu* in these contexts in two precise senses: first, the technical arts all aim to induce or maintain order, where disorder threatens; and, second, the arts of governing are the crown of the various technical arts, each of whose contribution conduces to an orderly empire.<sup>14</sup> In consequence, the ruling metaphor *zhi* is as likely to intrigue generalists interested in the construction of the sociopolitical discourse in the early empires in China as it is good “to think with” for historians of science. The latter group will doubtless pick up on the narrower construction of “technical arts” supplied by the *Hanshu* bibliographic category, the “technical and computational arts” (*shu shu* 術數),<sup>15</sup> or the still looser definition of *shu* 術 as any skill that requires “know-how” to achieve the goal.<sup>16</sup> Notably the broader and narrower uses of the term “technical arts” often cannot be separated in the surviving literature from Zhanguo and Qin, Western and Eastern Han, where the phrase “techniques of the Way” (*dao shu* 道術)<sup>17</sup> implies cultivation of the person and also bringing civilization to the realm. To reiterate, the “technical arts” are paired with “governing” in root metaphors whose ramifications rippled throughout society, and the preoccupations of the members of the governing elite anxious to maintain their prerogatives and standing make this evident.

In the end, it was the degree to which the dynasty and its upper echelon of officials could legitimate themselves by their creation or maintenance of stable orders that became the standard used to assess the current occupant of the throne and his representatives. For that reason, ambitious would-be and actual officials sought mastery of one or more specialties subsumed in that narrower category of the technical arts, insofar as a special expertise would allow them relatively quick entry into the higher divisions of the administration via participation in the court conferences convened to devise solutions for current crises and to advance the court’s “civilizing influence” inside and outside the capital. Most expected to practice only a subset of the technical arts (for example, omen prediction or jurisprudence), given how many technical fields there were, and it was only the highest-ranking ministers and chancellors who sought to model mastery of the entire range of the technical arts of governing, including “harmonizing the cosmic forces of yin and yang *qi*”<sup>18</sup> and arguing policy decisions from the standpoint of the “Great Way” or the “sages’ intent.”<sup>19</sup> As the images and patterns on which human society is modeled were there for all to see, the special ability of the good ruler or administrator depended upon his ability to “distinguish” (*bian* 辨) and “infer from categories” (*tui lei* 推類), sifting through the shifting

phenomenal experience to ascertain the essential underlying significance. A sage, by definition, through long practice perceives the constant patterns underlying disparate phenomena (seemingly incommensurate, irregular, and ungovernable), so that he can act decisively and well in a bewildering array of situations. In the language of the day, he has attained “comprehensive insight” (*da tong* 大通).<sup>20</sup> Indeed, his miraculous virtuosity makes him seem “like unto the gods” (*rushen* 如神)<sup>21</sup> to mere onlookers lacking the same level of exquisite discernment. Practice and perspicacity go hand-in-hand with all the technical arts, for constant practice affords greater insights, whose rewards prompt still greater devotion to practice of the arts and so on.

Looking more closely at the specific methods involved, the relevance of order and the technical arts to governance are often obvious. Taxing land, devising redistributive mechanisms, and water control efforts are among the most basic functions of the early empires throughout the antique world, even in countries lacking the uniquely massive administrative infrastructure that was dedicated to good governance in early China.<sup>22</sup> Making war is another basic function, and while military texts fall outside the *Hanshu* bibliographic category of the “technical and computational arts,” conceivably because there were far too many military classics to cram in under the heading, outside the bibliographical treatise it was usually assigned to the technical and the computational rubric, proving that bibliographic categories do not reflect sociopolitical theories, let alone realities on the ground.<sup>23</sup> It was meanwhile the duty and privilege of the capital regimes to issue the calendars and almanacs that fixed the proper times for rituals and for planting and harvesting, and to generate the sorts of tables, registers, and genealogical lists to which several of our authors refer.<sup>24</sup> The palace bureaus issued the maps and charts—literary, mathematical, and visual—for use by the civil and military officers.<sup>25</sup> But even to make a living (*zhi sheng* 治生) demanded special sorts of sociability, with alliances and patron-client relations signaled by elaborate ritual acts and sealed, as often as not, by contracts in writing.<sup>26</sup> Meanwhile, the primary sign of good governance, as the *Documents* classic made abundantly plain, was that legitimate regimes consult widely with different constituencies, both living and dead. Hence the necessity to divine and to consult omen experts regarding any irregular signs in the sky or on the earth as potential messages sent to warn. This brings the wide variety of methods for contacting the unseen spirit powers securely into the realm of the technical arts used in governing.

For that reason, the need to keep all three registers of *zhi* in play, from the most theoretical to the most mundane, is vital to full understanding of

the chapters collected in this volume, particularly in relation to the healing arts, to philosophical approaches to life, and to manuscript production and repair.<sup>27</sup> Regarding the first, “Perfect bodies . . . required perfect politics,” as Nathan Sivin noted.<sup>28</sup> The healing arts were designed to heal (*zhi*) a single body, members of a family or a larger community or even the body politic, and those who governed an area well, like healers, diviners, and purveyors of immortality recipes, assumed a powerful spiritual dimension that on occasion could rival, challenge, or supplant those of the imperial courts.<sup>29</sup> (We should not forget that good administrators like Li Bing 李冰, governor of Shu, were offered cult during their own lifetimes.) Classicists who laid claim to lineage transmissions from the antique sages could also parlay the sages’ perfect insights into positions of power, although there were always doubters.<sup>30</sup> And in text learning, the same ruling metaphor of governing was applied once again: one had to “put it in order,” or even “heal” or “cure” a manuscript (*zhi shu* 治書), when the strings for the bamboo slips rotted or the worms had nibbled away at the silk. Massive efforts directed toward remedying (also *zhi* 治) the flaws in hand-copied manuscripts led editors in the late Western Han palace libraries to try to devise more reliable methods for evaluating competing variants and editions, with the result that those same editors became ever more self-conscious authors, ever more intent upon imposing order on the transmission and circulation of texts.<sup>31</sup> There was a technique for every undertaking, apparently, even techniques for “ordering the soul” by finding a balance in the first, chaotic reactions (*zhi xin* 治心). And just when it seemed there was too much to know, another technical art, with its own special vocabulary and disciplined practices, came into being: the art of learning to embrace the Mystery 玄.<sup>32</sup>

An important point we editors seek to register here: during the two Han dynasties, those who trained in any number of professional capacities (including the classically trained) were never hired for “pure” scholarship.<sup>33</sup> There were pragmatic needs to be fulfilled urgently by men with the requisite expertise, even the entertainers and classicists.<sup>34</sup> Exponential growth in the numbers of students (or, more likely, clients of powerful people) at the Imperial Academy (Taixue 太學) did not signal, then, exponentially heightened interest in Five Classics learning per se.<sup>35</sup> The court classicists—and nearly all high officials borrowed some classical learning, whether or not they followed the teachings of Confucius<sup>36</sup>—styled themselves as men of action wielding the “great tool” that was the empire.<sup>37</sup> By the *Shiji* and *Hanshu* accounts, the leading classicists devised and carried out such initiatives as getting rid of poll taxes for children; reducing outlays for the



imperial palaces and parks; and redistributing funds to the poor troubled by floods, famines, and bandits. At the same time, of course, they were to know when attractive policy proposals would prove counterproductive, or worse. They would have to “manage to unify it [policy] by reference to the inherent patterns” of the problem 統之以理.<sup>38</sup> And no one who had truly mastered an art would deny the real complexities at hand. Interestingly, Ban Gu 班固, chief compiler of the *Hanshu*—usually a proponent of classical learning and of the Ru (construed not as a discrete social group but plainly as an epithet for those claiming expertise in ritual practices and historical precedents), if ever there were one—names the classicists as but one of twelve sorts of technical experts needed to contribute to good governance (water-control engineers, legal experts, calendrical experts, military leaders, judges of men’s fitness for office, etc.). For Ban, the classicists figure in this particular list primarily as “elegant” theorists and performers of the ritual proprieties,<sup>39</sup> with the “constant arts” 經術 simply the arts of governing.<sup>40</sup> This underscored the importance of using history as a mirror to discern which policies are workable and which are not.<sup>41</sup> Xunzi, as usual, put it succinctly when he insisted that there were but three major arts to bringing people together in a common project (the use of charismatic example, the use of brute force, and the use of wealth), but only the first could keep them harnessed to a common purpose for very long.<sup>42</sup>

To the men of high cultural learning in the early empires, there were no neat disciplinary lines dividing the poets from the healers, the administrators from the “harmonizers of yin and yang *qi*,” the estate managers from the musicians. Though modern academics often find it hard to see beyond their respective fields, the ideals and practices of the governing elite in antiquity clearly envisioned worlds in ways we do not. The contributors to this volume, noting some of the manifest disadvantages of our current ways of slicing pies, urge students of early China, as best they can, to immerse themselves in the broad-ranging thinking of the polymaths whom they study so diligently.

## II. On the *Shiji* and *Hanshu* Projects

Nearly all surveys of history writing in early China begin with the terse chronicle of middle Zhou period interstate and intrastate affairs called the *Annals* (*Chunqiu* 春秋, traditionally ascribed to Confucius), and proceed swiftly to the two first standard histories for the imperial period, the *Shiji*

by Sima Qian 司馬遷 (originally *Taishi gong shu* 太史公書) and *Hanshu* by Ban Gu and other members of his family, noting that the *Shiji* and *Hanshu* share a hybrid Basic Annals-Biographies format. Surveys typically pay little attention to the other sections in these two standard histories, but we contend that their contents are vital to any deep understanding of the *Shiji* and *Hanshu* projects. These additional sections—three in *Shiji* and two in *Hanshu* (one fewer because the *Shiji*'s third section devoted to the history of the major pre-unification kingdoms is omitted from the *Hanshu*, as the unified history of a single centralized empire)—show specific contributions from technical fields interwoven into larger arguments about the techniques of good governance. But they do far more, in that they inform us about ways of thinking in early Chinese historiography. In this section, we focus on the structure of the two shared sections we are calling the “Tables” and “Treatises,” because they are less familiar to non-specialist readers, and nearly all of the contributors to this volume refer to them constantly.

The *Shiji*'s five-part structure begins with twelve chronicles in the Basic Annals (*benji* 本紀) section, which together narrate a history spanning more than three millennia, the time between the legendary primeval emperors and Sima Qian's own ruler, Emperor Wu 武 of the Han. To compile this section (like the others), Sima Qian drew on whatever records existed in the palace archives, but supplemented them with local lore and hearsay. His second section comprised of ten Tables (*biao* 表) he compiled while correlating diverse names and events (more on this below); for example, the “Yearly Table of the Twelve Lords” covers the Chunqiu period treated by the *Annals* classic, from 841 to 477 BCE. Sima Qian's third section consists of eight Treatises (*shu* 書, or “monographs”), explored at greater length below.<sup>43</sup> Thirty chapters follow, called the Hereditary Houses (*shijia* 世家), which mainly supply the histories of the noble houses in pre-unification times (e.g., the “Hereditary House of the State of Zhao”), with two noteworthy exceptions: one Hereditary House focuses on Confucius, the “uncrowned king,” whose disciples down through the ages are configured as his “descendants”; and one Hereditary House is allotted to Chen She, the rebel upstart who began the process of bringing down the short-lived empire of Qin.<sup>44</sup> (As noted above, the Hereditary Houses section does not appear in the *Hanshu*.) A fifth and final section, which receives by far the most attention today, is the Biographies (*liezhuan* 列傳) section, which collects memorable accounts of the lives of noteworthy individuals or groups, such as the biographies for the wandering knights.

Some historians have found the word *shu* 書 (here translated as “treatise”) to be significant, thinking that Sima Qian intends to relate the

contents of this section to the *Documents* classic (aka *Venerable Documents* or *Shangshu* 尚書). One should note, perhaps, that some of the contents (e.g., those related to the *feng* and *shan*) can be traced back to that classic, but the connections remain rather tenuous. Certainly Sima Qian had multiple writings (also *shu* 書) about ancient political and legal methods in mind when he created this section, and perhaps we can say that, like those hallowed writings, he emphasized ritual and music, and then punishments and war, in that order. He did not foreground his own expertise in calendrical calculations, which is interesting, because some legends had culture heroes inventing the calendar long before ritual and music.<sup>45</sup> Scholarly attention has focused on his last three treatises, in large part because of the fundamental importance of the *feng* and *shan* sacrifices to notions of legitimate rule and ever-present worries over water control and economic measures in budgetary matters.

Here are capsule synopses of the eight *Shiji* Treatises:

1. Treatise on Ritual (*Li shu* 禮書): A brief overview of the historical attitudes of Qin and Han rulers to classical ritual forms, followed by a discussion of the function of ritual in society along with illustrations of the symbolic aspects of particular rites. The treatise extensively quotes from and expands on the *Xunzi*'s "Discussion of Ritual" (*Li lun* 禮論) chapter.
2. Treatise on Music (*Yue shu* 樂書): Following a brief comparison of Qin and Han theories of music's cosmic resonances, the bulk of the treatise concerns the psychology of music and its effect on people's states of mind and heart, providing rich parallels to the *Xunzi* and other Han-period ritual texts. It then turns to a discussion, framed as a set of dialogues, concerned with music's social functions.
3. Treatise on Pitch Pipes (*Lü shu* 律書): The twelve notes of the pitch pipe are of interest to Sima Qian mainly insofar as a sophisticated understanding of their theoretical and practical potentials depends on the ability to explore *qi* theory (yin/yang) in relation to the eight directional "winds" (both human and heavenly) and the Five Constants (*wuchang* 五常) that order human relations.<sup>46</sup> That theoretical understanding, in turn, allows a practical benefit: a master can then deploy the pitch pipes to diagnose or predict a range of present and future

situations correctly. Aptly, then, this treatise begins with a set of anecdotes, arranged by chronology, designed to situate the military applications of the pitch pipes within the broader discussions pertaining to the social roles of war. Two brief technical sections follow: the first, composed of paragraphs that detail the eight types of resonances that correspond to the directional winds, and the second, some specifications for a pitch pipe designed to produce the twelve tones with their perfect proportions.

4. Treatise on the Calendar (*Li shu* 歷書): The first part of this treatise traces the development of the ancient calendars in relation to political legitimacy, ending with the “Grand Inception” (*Taichu*) reforms of 104 BCE, in which Sima Qian played a role.<sup>47</sup> The chapter ends with a technical section providing annual calendrical information for the years between 104 and 29 BCE, which clearly was a section “continued” long after the death of Sima Qian.
5. Treatise on the Celestial Offices (*Tianguan shu* 天官書): This lengthy treatise begins by enumerating and describing key asterisms and starry apparitions assigned to the five offices governing the sectors of the sky (the four directions plus the center). It moves on to the movement of the Five Planets and secondary celestial phenomena, often correlating the location of the “sign” with different events transforming human society. It finally turns to identifying past techniques related to such phenomena, establishing a strong link between good rule and favorable celestial omens.<sup>48</sup>
6. Treatise on the *Feng* and *Shan* Sacrificial Tours (*Fengshan shu* 封禪書): An elaborate historical survey of imperial sacrifices and tours from legendary times to the Qin and Han empires, this treatise focuses on the divergent precedents presented to the emperors as models for their own practices. The treatise pays particular attention to Emperor Wu’s ritual reforms, ending with his performance of the *Feng* and *Shan* sacrifice on Mount Tai.<sup>49</sup>
7. Treatise on the Yellow River and Canals (*Hequ shu* 河渠書): This treatise is a historical survey from earliest times of the

main transportation and communication lines that allowed circulation between the major economic regions of the North China Plain, ending with Han Wudi's flurry of new roads and canals, designed to reduce serious flooding, better provision the capital at Chang'an, and irrigate more farming tracts.<sup>50</sup>

8. Treatise on Fair Standards (*Pingzhun shu* 平準書): This treatise supplies a fine-grained historical overview of economic activities that starts and ends with the Western Han period. Topics include quality controls for currency, the two separate budgets for the operations of empire (with the first designated for the ritual obligations of the imperial house, and the other for general administrative purposes), innovations in taxes and expenditures, and the regulations for the domestic economy and for foreign trade.<sup>51</sup>

Naturally, the eight *Shiji* Treatises differ somewhat in structure and tone, because each is rooted in a distinct form of technical expertise related to statecraft. The first pair of chapters is devoted to discussions of *li* 禮 and *yue* 樂 (ritual and music), drawing on the *Odes* classic, as well as *Xunzi*, *Han Fei*, and Han-period ritual texts, to explain how ritual and music can affect personal cultivation in socially efficacious ways. The second pair of treatises treats *lü* 律 and *li* 歷 (pitch pipes and calendars), two closely related technical fields incorporating harmonics and astronomy.<sup>52</sup> The fifth treatise represents an exhaustive verbal map of the night sky, linking celestial changes with terrestrial phenomena. The last three treatises are structurally similar, perhaps because each essentially is a chronological record of the particular responsibilities and prerogatives of empire: the imperial progresses designed to secure the local gods' support for the imperial person and his patrilineal line, vast construction projects to improve agricultural production, and measures taken for the control of coinage and the imperial finances. While criticism of Emperor Wu is sometimes muted, Sima Qian's disdain for his ruler's excesses and intolerance for corruption is clearest in these last three treatises, which focus more on Sima Qian's times (which may in itself say something about legitimate rule).

Despite the title change in the Treatises section,<sup>53</sup> Ban Gu's basic reliance on Sima Qian's model in composing the *Hanshu* 漢書 is readily apparent, not just in his decision to adapt the four relevant sections in the *Shiji* structure, but equally in his choices of what materials to assign to each section. Given

the *Hanshu* focus on Western Han, the twelve Annals (*ji* 紀) begin with the Han founder, however, not with the legendary culture heroes of remote antiquity. The Bans' second section is also composed of ten Tables (*biao* 表) (see below), and the third, of their ten Treatises. Omitting the Hereditary Houses section, Ban Gu then ends the compilation with seventy Biographies (*lie zhuan* 列傳, literally "arrayed traditions"). The individual and collective biographies in this section include border nations, imperial consorts, and a lengthy, three-part biography of Wang Mang 王莽 (45 BCE–23 CE), clearly denying the "usurper" Wang the status of divinely-elected emperor.

Ban Gu introduced several innovations to the Treatise section. The most obvious change is that he expanded their number from eight to ten, even as he merged the first four *Shiji* treatises into two chapters, the first devoted to ritual and music and the second to the pitch pipes and calendar, and then gave primacy to the eternal pitch pipes and calendars by moving them before the transitory rites and music. The remaining four *Shiji* topics were basically preserved, even as they were given new titles, and four new topics were then added (nos. 3, 7, 8, and 10 in the list below). The ten treatises of the *Hanshu* are as follows:

1. Treatise on Pitch Pipes and the Calendar (*Lülü zhi* 律曆志): While this two-part chapter corresponds to the third and fourth *Shiji* treatises, it covers several areas of concern not found in the *Shiji* treatises. For example, the first part expands the numerological correlations provided by the *Shiji* discussion of the musical pitches, adding new sections on standardized measures, capacities, and weights. This first half concludes with a chronological survey of revisions to the calendar leading up to Liu Xin's 劉歆 (d. 23 CE) Triple Concordance (Santong lipu 三統曆譜), which embeds the annual calendar in several interlocking sets of macro-calendrical cycles. The second half begins with a list of explanations of key constants used in the Triple Concordance calculations, followed by material from Liu Xin's *Classic of the Ages* (*Shijing* 世經), tying historical events to the Triple Concordance system<sup>54</sup> and underscoring Ban Gu's dependence on Liu Xin's work.
2. Treatise on Ritual and Music (*Liyue zhi* 禮樂志): This chapter combines the topics of the first two *Shiji* treatises,

adapting segments of its prose and quotations from ritual texts, while developing a more didactic tone. Meanwhile, Ban Gu ties the benefits of ritual and music more closely to their performances at court, to their imperial sponsorship, and to their goals, education and acculturation. Both the first section on ritual and the second on music contain sets of chronologically arranged anecdotes and quotations. The latter includes the lyrics for two sets of songs used by Emperor Wu for making offerings at his ancestral temple.<sup>55</sup>

3. Treatise on Punishments and Law (*Xingfa zhi* 刑法志): Beginning with two chronological surveys devoted to general treatments of the role of punitive campaigns in good governance, and to the prevailing attitudes toward the laws, the treatise dwells on the mutilating punishments (how much is too much punishment, in relation to competing notions of justice and deterrence), providing a fascinating set of case studies and anecdotes about legal thinking during the Han. The treatise ends with a prose essay on punishment that makes liberal use of the *Analects* and especially the *Xunzi*, to condemn excessive punishment and excessive leniency equally.<sup>56</sup>
4. Treatise on Food and Wealth (*Shihuo zhi* 食貨志): This two-part chapter begins with an essay on general terms and principles in farming and the realm's interest in maximizing agricultural production, key issues because both social structure and imperial revenues depended on abundant annual harvests. Then, expanding on the *Shiji's* Treatise on Fair Standards and the *Shiji* 129 "biography" of assets accumulating,<sup>57</sup> which offer brief surveys of relevant early Western Han events, the treatise continues with a chronological survey of successive courts' interventions in economic policies, including price controls, regulating coinage, and imposing taxes. The second part of the chapter treats trade and currency, reaching back into pre-imperial times before moving to the Qin and Han.<sup>58</sup>
5. Treatise on the Suburban Sacrifices (*Jiaosi zhi* 郊祀志): In 4 BCE, Wang Mang moved many of the imperial sacrifices

from their local cult sites to altars erected in the suburbs of the capital, disrupting the long-standing pattern of stately imperial progresses conducted all around the empire to worship the full range of the deities, including Heaven and Earth, the Five Emperors, and the most famous mountains and rivers. This treatise's very detailed survey of imperial sacrifices and their cult objects leads up to this change, even as the long treatment divides into two parts, at the point where Gongsun Qing 公孫卿 proposes sacrificial reforms. The *Shiji* "Treatise on the *Feng* and *Shan*" had described the excesses of Emperor Wu in light of the ideals ascribed to antiquity, and Ban Gu ends on a similar note, describing the excessive disruptions he attributes to Wang Mang, who revised the sacrificial liturgies when consolidating his power before proclaiming himself emperor.<sup>59</sup> (Tian Tian's chapter engages this treatise.)

6. Treatise on Celestial Patterns (*Tianwen zhi* 天文志): Completed by Ban Gu's sister Ban Zhao 班昭 (b. 49 CE) and Ma Xu 馬續 (fl. 111 CE), we think, this treatise begins with a list of celestial phenomena that cleaves closely to the structure and language of its *Shiji* counterpart, the Treatise on the Celestial Offices. The following section, a chronicle of celestial anomalies and their interpretations, is unique to the *Hanshu*. (Jesse Chapman's chapter in this volume focuses on this treatise.)
7. Treatise on the *Wuxing* (*Wuxing zhi* 五行志): Drawing primarily on the view that anomalies reveal disruptions of the cyclical alternations of the cosmic phases, and arranged with reference to the "Great Plan" chapter of the *Documents*, this lengthy, five-part chapter begins with a list of famous omen experts who posited schemes of natural cycles, only to move on to confront readers with the discrepant readings of baleful events by such eminent Han authorities as Dong Zhongshu 董仲舒, Jing Fang 京房, Liu Xiang 劉向, and Liu Xin 劉歆, when reading the floods and fires mentioned in the *Annals* classic or the Han irregularities.<sup>60</sup> (Nylan's chapter in this volume examines this treatise and explains why it is best not to call it "Treatise on the Five Phases.")<sup>61</sup>



8. Treatise on Geography (*Dili zhi* 地理志): Traditionally divided into two parts, the Treatise on Geography begins with an explicit quotation of the “Tribute of Yu” (Yu gong 禹貢) chapter of the *Documents* classic and recapitulates that chapter’s descriptions of Yu’s circuit of the Nine Provinces (*jiuzhou* 九州).<sup>62</sup> The second part lists the Qin and Han reconfigurations of the early spaces into the commanderies and counties (*jun xian* 郡縣) belonging to the early empires, enumerating the households and population of each commandery as well as their constitutive counties. It concludes with a survey, region by region, of the local cultures and customs, and their astronomical correlations, sometimes connecting these to particular historical or geographical features. (This is the subject with which Lee Chi-hsiang engages.)
9. Treatise on [Irrigation] Ditches and Canals (*Gouxu zhi* 溝洫志): Following the initial twelve segments that roughly match the counterpart passages of the *Shiji* Treatise on the Yellow River and Canals, the next seventeen segments cover discrete events from 111 BCE to 4 CE that were important to flood control and large-scale waterway improvements. (This treatise is central to Luke Habberstad’s chapter.)
10. Treatise on the Classics and Writings (*Yiwen zhi* 藝文志): By its own internal count, this treatise preserves titles, length and format, and brief notes for 596 works totaling more than 13,000 *juan* (scrolls). This treatise, which clearly preserves elements of Liu Xiang’s *Seven Summaries* and Liu Xin’s *Separate Record*, two catalogues prepared for the palace libraries and archives,<sup>63</sup> arranges titles under six main headings: the Six Classics (*Liuyi* 六藝), Many Masters (*Zhuzi* 諸子), Poetry and *fu* (*Shifu* 詩賦), Military Writings (*Bingshu* 兵書), Calculations and Techniques (*Shushu* 數術), and Methods and Skills (*Fangji* 方技), under which headings there appear thirty-eight subdivisions.<sup>64</sup> (This treatise is the main focus of the essay by Mark Csikszentmihalyi and Zheng Yifan.)

While the section title and some of the topics of the *Shiji* treatises connect to the *Documents* classic, Ban Gu makes his connections to the

same classic explicit in the *Hanshu*. The *Hanshu* Treatise on the Pitch Pipes and Calendar opens with a quotation from the Han-era “Canon of Yao” of the *Documents* classic; likewise, the Treatise on Geography with an explicit quotation of the “Tribute of Yu” chapter from the *Documents*. Two additional treatises (Treatise on Punishments and Laws and the Treatise on the *Wuxing*) continually refer to the *Documents*, and two more (Treatise on the Suburban Sacrifices and Treatise on Food and Wealth) begin by quoting the “Great Plan” chapter of the *Documents*. Even the title of the fourth *Hanshu* treatise echoes the first of the eight policy concerns (*ba zheng* 八政) in the “Plan.” Thus, it becomes even clearer in the *Hanshu* that the treatises would situate themselves in what the compiler believed to be a set of hallowed traditions whereby the sages applied technical mastery to the diverse spheres of imperial administration.

What is curious, however, and deserving of a monograph in its own right are the subtle differences between Sima Qian and Ban Gu, even where their topics and treatments at first glance seem to coincide. To single out a significant discrepancy, the class and status distinctions between classicist and functionary play a prominent role in Ban Gu’s treatise on ritual and music, whereas they are absent from Sima Qian’s analysis. Both treatises discuss a number of proposed ritual reforms, in light of the many failed attempts to emend the imperial rites during each reign, so as to attain perfection and completeness (*bei* 備). Unlike Sima Qian, Ban Gu repeatedly blames this failure on “vulgar functionaries” (*su li* 俗吏) whose objections hamstrung the well-meaning classicists. For Wendi’s reign, for instance, Ban Gu includes a memorial by Jia Yi, which states that “Now clearly, changing prevailing customs and seeing to it that the hearts and minds of those throughout the realm incline towards the correct Way is not the sort of thing that a vulgar functionary can accomplish.”<sup>65</sup>

If the Treatises of *Shiji* and *Hanshu* are seldom read (and seldom translated), the Tables seem to have been almost entirely overlooked, except when readers need to verify a date for an enfeoffment or official appointment.<sup>66</sup> And yet Sima Qian’s contemporaries and near-contemporaries singled out his Tables out for particular praise, and it is easy to see why.<sup>67</sup> Particularly with the Tables he devoted to the long pre-unification period, but even with the Tables for early Western Han, he had to wrestle with multiple competing calendars, as each kingdom had generated its own, and correlate historical records compiled by the rival courts, each touting the achievements of its own ruling house, sometimes to the point of falsifying facts.<sup>68</sup> Thus Sima Qian’s achievement is comparable, if not greater than that faced by Caesar

when he created his unified calendar.<sup>69</sup> While some of the earliest records we have for China are king lists and family registers, Sima Qian, so far as we know, had to invent the Tables format *de novo*, leaving Ban Gu with the huge problem of how to adapt the format to Ban's different project. As Sima Qian plainly states, he was searching for larger cyclical patterns and key nodal points of conjunction that had shaped historical evolution over the *longue durée*, trends not captured by a single list or even a set of lists.<sup>70</sup> Add to this that the main theater of action prior to unification in 221 BCE often shifted rapidly from one court or region to another, so that Sima Qian had to find a graphically complex visual layout to magnify and minimize affairs of the kingdoms by radically expanding or collapsing columns, depending on the number of state actors involved. Anyone who has wrestled with unwieldy Excel spreadsheets can begin to imagine the technical difficulties of devising the proper formats to encompass all of time and space in the known world for millennia.

The graph for Table (*biao* 表) as a verb means "to lay out clearly."<sup>71</sup> The first observation that one can make when surveying the following list of Tables for *Shiji* and *Hanshu* is that time is presented as irreducibly socio-political, and not "natural." Second, while much of pre-unification "history" was culled from anecdotes whose ethical messages and didactic import often undercut the personal significance of the purported protagonist (so much so that the same story is ascribed to multiple agents, depending on their local utility in political persuasions), chronological Tables required specially devised dating formulae, probably under the impetus of the *Annals* classic, except with the unique, anomalous *Hanshu* Table of Figures. But more on that below.<sup>72</sup>

It may be useful to examine the two sets of Tables given below.

*Shiji* Tables, from remote antiquity to Sima Qian's day

1. Table of the Three Dynasties, by era
2. Table of the Twelve Local Lords [*Chunqiu*], by year<sup>73</sup>
3. Table of the Qin-Chu transition, by month
4. Table of Gaozu's Meritorious Offices, by year
5. Local Lords under Four Reigns, Huidi to Jingdi, by year
6. Local Lords under Wudi, by year

7. Princes under Wudi, by year
8. Generals, Chancellors, and Famous Officials in Western Han, by year

*Hanshu* Tables, devoted to Western Han only

1. Table of the Nobles and King, excluding those of the Liu clan [under Gaozu]
2. Table of the Local Lords
3. Table of the Imperial Princes
4. Table of Meritorious Officials for Three Reigns, Huidi, Dowager Empress Lü, Wendi
5. Table of Meritorious Officials for Six Reigns, Jingdi to Chengdi
6. Table of the Consort Clan Marquises
7. Table of High-ranking Officials
8. Table of Figures, Past and Present<sup>74</sup>

Often neglected as “mere sequence,” the Tables underscore many of the underlying themes found in the two histories, sometimes to dramatic effect. Far from eliciting bored yawns, the Tables, along with their carefully crafted introductory and concluding paragraphs that occasionally, as paratexts, direct us to their proper interpretations, make for exciting reading, if only one makes the effort to plunge in. What astounds is this: that all the narrative strategies that make for memorable drama (juxtaposition; prefiguration and repetition; contrast and reversal; and integration of verbal portraits) are there, in spades, in the Tables, where stripped of excess verbiage, their impact can be all the stronger. Still more importantly, if the Ancients constructed their worlds in ways deeply unfamiliar to us, only acquaintance with the Tables affords moderns an unmediated view of the intense scrutiny Han scholars brought to the issues of timing, timely opportunities, and conjunctions of events (both predictable and irregular), as well as the “subtle words” the two first historians of unified empire saw fit to circle around. For that reason, the Tables direct our attention away from Sima Qian’s castration (and our fascination with that story) and toward the problems that kept him writing.