

THE UNIVERSITY OF CHICAGO

MECHANICAL METAPHORS IN EARLY CHINESE THOUGHT

A DISSERTATION SUBMITTED TO

THE FACULTY OF THE DIVISION OF THE HUMANITIES

IN CANDIDACY FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY

DEPARTMENT OF EAST ASIAN LANGUAGES AND CIVILIZATIONS

BY

BOQUN ZHOU

CHICAGO, ILLINOIS

AUGUST 2019

I've heard from my teacher, "When there are mechanical devices, there are bound to be mechanical affairs. When there are mechanical affairs, there are bound to be mechanical minds. With a mechanical mind in your breast, you've spoiled the pure whiteness; and without the pure whiteness, spirit and life will be unsettled. That in which spirit and life are not settled is where the Way does not place itself."

*Zhuangzi, "Heaven and Earth"*

For as the poet Antiphon wrote, this is true: "We by skill gain mastery over things in which we are conquered by nature." Of this kind are those in which the less master the greater, and things possessing little weight move heavy weights, and all similar devices which we term mechanical problems.

Unknown Aristotelian author, *Mechanical Problems*

# CONTENTS

LIST OF TABLES .....	v
ACKNOWLEDGMENTS .....	vi
ABSTRACT.....	viii
CONVENTIONS .....	x
INTRODUCTION.....	1
1 THEORIES OF METAPHOR .....	9
1.1 From Pepper's Root Metaphor to Blumenberg's Metaphorology .....	10
1.1.1 Pepper's Root Metaphor Theory .....	10
1.1.2 Blumenberg's Historical Metaphorology .....	12
1.2 Conceptual Metaphor Theory .....	14
1.2.1 Linguistic and Conceptual Metaphor .....	15
1.2.2 Image Schemas.....	17
1.2.3 Cross-Domain Mappings.....	18
1.3 Sinological Debates on Metaphor .....	20
1.4 The Archery Schema in Early China .....	23
1.5 Charioteering: Metaphorical Divergence and Convergence .....	32
2 THE MEANING OF MACHINE .....	43
2.1 Machine, Mechanical Metaphor, and Mechanistic Worldview .....	43
2.2 The Meaning of Machine in Early China .....	51
3 THE LEVER SCHEMA .....	59
3.1 <i>Quan</i> 權 .....	61
3.2 <i>Ji</i> 機.....	74
3.3 <i>Shi</i> 勢.....	88
3.4 The Complete Lever Schema .....	98

4	BALANCE.....	99
	4.1 Mengzi on Weighing.....	101
	4.1.1 The Dilemma of Virtue and Desire .....	103
	4.1.2 The Dilemma of Virtues .....	114
	4.2 Xunzi on Weighing .....	119
	4.2.1 The Mind's Approval .....	120
	4.2.2 The Mind's Technique .....	127
5	LEVERAGE .....	134
	5.1 Sunzi on Leverage.....	138
	5.1.1 Weighing Military Strength.....	139
	5.1.2 Strategic Leverage.....	142
	5.2 Shen Dao on Leverage .....	153
	5.2.1 The Outnumbered Ruler.....	156
	5.2.2 The Watercraft Analogy .....	161
	5.2.3 Mobilizing the Political Machine.....	166
	CONCLUSION.....	172
	BIBLIOGRAPHY .....	176

## LIST OF TABLES

1.1	The analogy between archery and warfare in the “Bing qing” 兵情 .....	25
1.2	Bow and bolt design in the <i>Kao gong ji</i> 考工記.....	29
1.3	The analogy between archery and moral cultivation in the <i>Mengzi</i> .....	31
1.4	The analogy between charioteering and statecraft in the “Sheng de” 盛德 .....	35
1.5	Charioteering and statecraft in the “Sheng de” .....	36
1.6	Archery, charioteering, and governance .....	40
1.7	Archery, charioteering, state, and the self.....	41
3.1	The structure of <i>Mohist Canon</i> B25b.....	71
3.2	The partial lever schema .....	72
3.3	The partial lever schema continued .....	74
3.4	The complete lever schema.....	88
3.5	The complete lever schema with linguistic expressions .....	98
4.1	One-sided weighing in the <i>Mengzi</i> .....	109
5.1	Metaphors of leverage in the <i>Sunzi</i> .....	148
5.2	Shen Dao’s watercraft analogy .....	171

## ACKNOWLEDGMENTS

This project could not have been completed without the generous support and warm encouragement from professors, colleagues, and friends. I am deeply indebted to my advisor, Professor Edward Shaughnessy, and other members of my dissertation committee, Professor Donald Harper and Professor Brook Ziporyn, for their invaluable guidance and inspiration during my years as a doctoral student at the University of Chicago. Professors Shaughnessy and Harper brought me to the study of excavated manuscripts that has profoundly reshaped my scholarly interests. Their comments on my translation of classical Chinese texts have always been full of insights and philological rigor. Professor Ziporyn opened my eyes to the potential of doing comparative thought, as well as new perspectives on classical Chinese philosophy. I am also grateful for the helpful suggestions from Professors Haun Saussy and Li Yung-ti at different stages of my research.

The Center for East Asian Studies and the Division of Humanities at the University of Chicago provided me with the financial support to finish the dissertation in the last two years, without which I could not have devoted the whole time to musing on this project. I have also benefited tremendously from conversations with my friends and colleagues at the University of Chicago and elsewhere: David Hogue, Ji Yu, Jiang Chenxin, Jiang Wen, Ju Tong, Thomas Kelly, David Lebovitz, Li Weiqun, Li Yuchen, Ling Biying, Mikawa Kyohei, Daniel Morgan, Jeffery Tharsen, Leon Wash, Zeng Yukun, Zheng Yiren, and many others. Among them, special thanks go to Ji Yu and Zeng Yukun, with whom I organized the interdisciplinary lecture series, Leon Wash, who introduced me to the works of Hans Blumenberg, and Ju Tong and Zheng Yiren, with whom I had some of the most intellectually stimulating discussions in the past seven years. I can never forget the memorable moments I shared with these amazing minds.

I would also like to thank my family for their unconditional support of my academic career: my grandparents, Cheng Xianyong and Ji Fei, my parents, Zhou Haiyan and Cheng Nan, as well as my uncle Cheng Dong, whose teachings motivated me to choose the life of a scholar.

Lastly, special thanks go to Tian Yuan, for her love and company in the final years of my stay in Chicago. You make the gloomy winters of Hyde Park shine with laughter and the most delicious food.

## ABSTRACT

It is well known that Chinese philosophers in the Warring States period (475–221 BCE) were enamored with metaphors and analogies in their philosophical discussion. Imageries of plants, tools, and bodily skills abounded in debates over morality, politics, language, and human nature. While previous scholarship on ancient metaphors tends to focus on organic and spiritual ones such as plant and water, I argue that the Warring States period witnessed the emergence of a group of mechanical metaphors, and the metaphorical interest in machines is as ancient as it is cross-cultural. These metaphors started with the Mohist mechanics and the advent of the crossbow around the sixth to the fifth century BCE, gradually making their way into the standard vocabulary of morality and politics. They were all based on the lever (*quan* 權), a simple device widely used in technologies of weighing and weight-lifting. Lever machines, such as the balance, the well sweep, the crossbow trigger, and the trebuchet, provided metaphorical models for conceptualizing balance and imbalance in various kinds of human relationships. Whereas the function of weighing became a metaphor for decision-making in Confucian ethics, the function of weighing-lifting became a metaphor for strategic or positional advantage in military and political craft. The two functions correspond to two opposite kinds of rationality – value rationality that seeks to find moral balance in a dilemma and instrumental rationality that seeks to create strategic imbalance in power dynamics (that is, how the few could defeat or control the many). Due to the double function of the lever itself, the classical *quan* acquired the paradoxical meaning of “weighing” (as in *quanheng* 權衡) and “leverage” (as in *quanshi* 權勢), both of which survived well into modern Chinese but lost the mechanical association.

This dissertation is divided into five chapters. Chapter 1 defines an analytic framework by incorporating the conceptual metaphor theory in cognitive linguistics (with emphasis on the

idea of “embodied schema”) and Hans Blumenberg’s historical metaphorology. Chapter 2 defines the ancient Chinese concept of “machine” and compares it with the Greek *mechane* in the Aristotelian corpus. Chapter 3 describes the embodied schema of the lever’s mechanical functions based on the *Mohist Canon* with philological analysis of its linguistic expressions. Chapter 4 analyzes the weighing metaphor in the moral philosophy of Mengzi and Xunzi. Lastly, Chapter 5 examines the leverage metaphor in the military philosophy of Sunzi and the political philosophy of Shen Dao.

## CONVENTIONS

Classical texts will be cited by their index number in the ICS Ancient Chinese Text Concordance Series edited by D.C. Lau, Ho Che Wah, and Chen Fong Ching, with the following exceptions:

1. The *Analects* and the *Mengzi* will be cited by their standard chapter numbers, such as *Analects* 1.2 or *Mengzi* 1B3. The *Shenzi* 慎子 will be cited by the fragment numbers in P. M. Thompson's critical edition *The Shen Tzu Fragments* (New York: Oxford University Press, 1979). The *Mohist Canon* will be cited by the entry numbers in A. C. Graham's *Later Mohist Logic, Ethics and Science* (Hong Kong: Chinese University Press, 1978).
2. The *Thirteen Classics* will be cited by the volume and page numbers in the Ruan Yuan 阮元 (1764–1849) woodblock edition of the *Shisanjing zhushu* 十三經注疏 (Taipei: Yiwen yinshuguan, 2001).
3. Oracle bone and bronze inscriptions will be cited numbers in the *Jiaguwen heji* 甲骨文合集 (13 vols. Beijing: Zhonghua shuju, 1982), *Xiaotun nandi jiagu* 小屯南地甲骨 (Beijing: Zhonghua shuju, 1980), and *Yin Zhou jinwen jicheng (xiuding zengben)* 殷周金文集成(修訂增補本) (8 vols. Beijing: Zhonghua shuju, 2007). I use the following abbreviations for these works: HJ=*Jiaguwen heji*; TN=*Xiaotun nandi jiagu*; JC=*Yin Zhou jinwen jicheng*. Therefore, HJ1356 means the piece numbered 1356 in the *Jiaguwen heji*.
4. Excavated bamboo manuscripts will be cited by the pages numbers of their official publications. If the title of a manuscript is given by the editor, it will be preceded by an asterisk \*.

5. Phonological reconstruction of Old Chinese is taken from William H. Baxter and Laurent Sagart, *Old Chinese: A New Reconstruction* (Oxford: Oxford University Press, 2014). I will make occasional references to other reconstructions when necessary.

6. For translations of classical Chinese texts, I have consulted the following works:

Cook, Scott. *The Bamboo Texts of Guodian: A Study and Complete Translation*. 2 vols. Ithaca, N.Y.: East Asia Program, Cornell University, 2012.

Harris, Eirik Lang. *The Shenzi Fragments: A Philosophical Analysis and Translation*. New York: Columbia University Press, 2016.

Hutton, Eric L., trans. *Xunzi: The Complete Text*. Princeton, N.J.: Princeton University Press, 2014.

Knoblock, John. *Xunzi: A Translation and Study of the Complete Works*. 3 vols. Stanford: Stanford University Press, 1988.

Knoblock John, and Jeffrey Riegel. *The Annals of Lü Buwei: A Complete Translation and Study*. Stanford: Stanford University Press, 2000.

Lau, D. C., and Roger T. Ames, trans. *Sun Bin, the Art of Warfare: A Translation of the Classic Chinese Work of Philosophy and Strategy*. Albany: State University of New York Press, 2003.

Mair, Victor H., trans. *The Art of War: Sun Zi's Military Methods*. New York: Columbia University Press, 2007.

Meyer, Andrew Seth. *The Dao of the Military: Liu An's Art of War*. New York: Columbia University Press, 2012.

## INTRODUCTION

Because we do not understand the brain very well we are constantly tempted to use the latest technology as a model for trying to understand it. In my childhood we were always assured that the brain was a telephone switchboard. ('What else could it be?') I was amused to see that Sherrington, the great British neuroscientist, thought that the brain worked like a telegraph system. Freud often compared the brain to hydraulic and electro-magnetic systems. Leibniz compared it to a mill, and I am told some of the ancient Greeks thought the brain functions like a catapult. At present, obviously, the metaphor is the digital computer.

John Searle, *Minds, Brains and Science*

A politician, to do great things, looks for a power, what our workmen call a purchase; and if he finds that power, in politics as in mechanics he cannot be at a loss to apply it.

Edmund Burke, *Reflections on the Revolution in France* (1790)

When the human mind looks at itself, the closest and yet the most elusive object of inquiry, it is perennially puzzled by how little it resembles the clear, stable contours of the physical world. To cope with this unpleasant self-ignorance, the mind often borrows metaphors from the latest technology to guide its self-perception. If the banality of everyday encounters can never qualify as the metaphorical source for something as extraordinary as the mind, then new technology, which expands the material horizons of human life, must undertake the task. The mind's tendency to understand itself in terms of its most accomplished product, says Searle, is not peculiar to the modern world of technological ingenuity, but goes back all the way to ancient times. Throughout history, human beings have been amazed by what machines can do, and the amazement lends intuitive credence to the analogy between the miraculous machine and the miraculous mind. As technology becomes ever more advanced, the mind's self-image changes with it.

Yet if this tendency is as ancient as it is modern, we should ask whether it is also cross-cultural. Ancient Chinese thought, which seems temporally and culturally remote to an accelerating world of unprecedented innovation, has often been viewed, quite reasonably, as the opposite of technological ideas. We have, on the one hand, nature-loving and spiritually charged Daoism and, on the other hand, moralist and humanitarian Confucianism, none of which pays much attention to the mechanical inventions of their age. While we do have the scientifically and technologically gifted Mozi exerting his influence in the Warring States period (475–221 BCE), the school founded by him was consigned to virtual oblivion after the Han (206 BCE–220 CE), and even during the Warring States period it was by and large Mozi’s ethical doctrines that provoked debates among rival intellectuals. To speak of a “mechanical mind” in ancient China is not likely to invoke any meaningful association.

The present study argues that this picture of ancient Chinese thought is not the whole story. It is true that we can hardly find any technological theory in ancient Chinese thought other than those in the *Mozi*; however, there is plentiful evidence of technological *metaphors* widely shared by thinkers with disparate views. Mozi’s legacy lies not only in his ethical and political doctrines, but also in the introduction of tool metaphors into standard philosophical language. Philosophers learn from technology not in the form of direct theoretical engagement, but through indirect metaphorical mappings akin to those described by Searle. While previous studies of technological metaphors largely focus on tool and craft metaphors, I argue that the Warring States period witnessed the emergence of a group of specialized mechanical metaphors in ethical, military, and political philosophy. Unlike generic tool metaphors such as “compass and square” (*guiju* 規矩), these new metaphors were based on the mechanical functions of the lever, a simple device widely used in various sorts of weighing and weight-lifting machines – the balance, the well-sweep, the crossbow, the trebuchet, and so forth. They provided alternative cognitive models for understanding the

unstable structure of social experience in a transformative age. Inspired by the mechanical device, Warring States philosophers developed new conceptual tools for analyzing complex social phenomena in their time, such as moral dilemmas in personal life and power dynamics in social interactions.

The historical conditions of the Warring States period were particularly conducive to the use of mechanical metaphors, not only because new types of machines, especially military engines, were being invented and put to use, but also because a series of political reforms were instituted in the territorial states to bring about more efficient and bureaucratic forms of government.<sup>1</sup> Towards the end of the Spring and Autumn period, bronze casting came to be carried out on an industrial level with a more mechanized system of manufacturing, as we see in the bronze foundry complex found in Houma 侯馬, Shanxi. The Houma artisans developed sophisticated techniques based on reusable modules to increase the volume and speed of production, combined with a specialized division of labor in the workplace.<sup>2</sup> In the intellectual realm, Mozi, the craftsman philosopher, criticized the Confucian conception of fate and placed much emphasis on the efficacy of human action.<sup>3</sup> Contrary to the popular image of ancient China as a predominantly ethical and spiritual culture, the social atmosphere of the Warring States period was better characterized by

---

<sup>1</sup> See Mark Edward Lewis, “Warring States Political History,” in Edward Shaughnessy and Michael Loewe eds., *The Cambridge History of Ancient China* (Cambridge: Cambridge University Press, 1999), 587–650; Robin S. Yates, “The Mohists on Warfare: Technology, Technique, and Justification,” *Journal of the American Academy of Religion* 47, no. 3 (1980): 549–603.

<sup>2</sup> See Barbara W. Keyser, “Decor Replication in Two Late Chou Bronze Chien,” *Ars Orientalis* 11 (1979): 127–162; Su Rongyu 蘇榮譽, Hua Jueming 華覺明, Li Kemin 李克敏, and Lu Benshan 盧本珊, *Zhongguo shanggu jinshu jishu* 中國上古金屬技術 (Jinan: Shandong kexue jishu shubanshe, 1995), 179; Robert W. Bagley, “What the Bronzes from Hunyuan Tell Us about the Foundry at Houma,” *Orientalis* 26, no. 1 (1995): 46–54; Zhu Fenghan 朱鳳瀚, *Zhongguo qingtongqi zonglun* 中國青銅器綜論 (Shanghai: Shanghai guji chubanshe, 2009), 774.

<sup>3</sup> Franklin Perkins, *Heaven and Earth Are Not Humane: The Problem of Evil in Classical Chinese Philosophy* (Bloomington, IN: Indiana University Press, 2014), 45–81; Chris Fraser, *The Philosophy of the Mòzǐ: The First Consequentialists* (New York: Columbia University Press, 2016), 40–48.

intense political struggle, growing utilitarianism, and the rapid development of cunning wisdom, against which spiritual reclusion might have been a reaction. The appeal of new mechanical technology to social theorists looking for the blueprint of a new regime should not escape the notice of intellectual historians.

Among all the tool metaphors in early China, the lever metaphor is arguably the most complicated and philosophically interesting. As we shall see in chapter 3, there are three words used for this metaphor in classical Chinese, the most important of which is *quan* 權. In its original meaning, *quan* probably refers only to the material lever itself, yet as early as in the mid-Warring States it acquires the double meaning of “weighing” and “political power.” The abstract meanings can be inferred from the functions of the material lever: when used as a balance, the lever performs the function of weighing; when used as a lifting machine, it brings mechanical leverage, which is analogous to political power. The modern English “leverage” is essentially the same metaphor, though it does not have the “weighing” meaning at the same time.<sup>4</sup> The two classical meanings of *quan* survive well into modern Chinese, and yet the metaphorical association with the lever has been lost. In both classical and modern Chinese, *quan* is the word for “weighing” and “leverage,” which makes it an irreducible conceptual metaphor without a more basic layer of “literal” meanings.

A defining feature of the early Chinese lever metaphor is that it is never used as a theoretical model for natural entities or processes but rather as pragmatic guidance on human action. If we speak of a “mechanical mind” in early Chinese thought, then this “mind” should

---

<sup>4</sup> According to OED, the first documented use of “leverage” in the metaphorical sense is found in W. E. Gladstone’s (1809–1898) *Studies on Homer and the Homeric Age* (1858), in the context “The leverage of this straightforward speech...produces an initial movement towards concession on the part of the great hero.” But this conceptual metaphor appeared earlier, with a different word “purchase,” in Edmund Burke’s (1730–1797) *Reflections on the Revolution in France* (1790): “A politician, to do great things, looks for a power, what our workmen call a purchase; and if he finds that power, in politics as in mechanics he cannot be at a loss to apply it.” Burke’s use of “purchase” provides a great point of comparison with the classical Chinese *quan*. It is interesting to note that both Burke and Gladstone were statesmen themselves.

not be taken as a natural thing to be explained but the source of human agency.<sup>5</sup> Whereas the main categories for analyzing natural processes are cause and effect, those for analyzing human action are intention, desire, and motivation on the one hand and efficacy and consequence on the other. Therefore, we find that Chinese lever metaphors have little to do with automatic causal chains but deal with problems of the internal states and external consequences of social action and interaction. The focus is usually on how to act in a given situation rather than what action is or how to distinguish action from mere natural processes.

Now there are two basic problems of human action in Warring States practical philosophy. Following Weber's terminology, I call them the value problem and the instrumental problem.<sup>6</sup> The value problem concerns the correct end in moral choice and decision-making; the instrumental problem concerns the most effective means to achieve a goal that is taken for granted. These are urgent problems in an age full of crisis, conflict, and confusion, for the human subject constantly finds itself at moral crossroads (such as the dilemma of choosing between the Confucian cardinal virtues) or in unfavorable positions (such as being outnumbered on the battlefield). The lever metaphor, correspondingly, provides conceptual paradigms for ethical and instrumental guidance. In the case of weighing moral alternatives, it provides a model for conceptualizing balance, and in the case of obtaining political and military leverage, a model for conceptualizing imbalance. The polysemy of *quan*, as a result, is paradoxical, because the lever itself is a paradoxical device used for finding balance and creating imbalance.

---

<sup>5</sup> It has become a convention to translate *xin* as heart-mind in order to include both cognitive and emotive faculties. The term literally refers to the physical heart, understood by ancient Chinese as where thinking and feeling take place. I find the compound word a bit clumsy and prefer the "mind" translation throughout this dissertation, for my focus is on the cognitive aspect of *xin*.

<sup>6</sup> Max Weber, *Economy and Society: An Outline of Interpretive Sociology* (Berkeley: University of California Press, 1978), 24–26.

In the following chapters, we shall see the complex dynamics of these meanings in early Chinese thought. Chapter 1 discusses a number of 20<sup>th</sup> century theories of metaphor to lay the methodological foundation for the following chapters. Drawing on the works of Stephen Pepper, Hans Blumenberg, George Lakoff, Mark Johnson, Edward Slingerland, and others, I will develop a cognitive approach to metaphor that defines a metaphor not as a rhetorical device but as a cognitive faculty of conceptualizing one domain of experience in terms of another. The cognitive view of metaphor describes a metaphor as a systematic “mapping” of structured meanings from a “source” domain to a “target” domain. The source domain is usually rooted in our embodied experience of the physical world, while the target domain is constituted by relatively abstract kinds of experience. Despite its embodied nature, a source domain is not a biological entity, but a culturally and historically conditioned set of meanings that must be analyzed in context. To illustrate the cognitive view of metaphors, I will examine a number of archery and charioteering analogies in early Chinese texts. These analogies will show that a single source domain often has divergent metaphorical meanings, while several distinct source domains may converge on a single conceptual paradigm. The divergence and convergence of metaphors will be a recurrent theme in the next few chapters.

Chapter 2 defines the meaning of machine in the early China. Since the source domain of a metaphor is essentially historical, we must place the meaning of machine in context before we can examine mechanical metaphors. I will show that in early China, the “mechanical” is not the antithesis of the organic or teleological but refers to devices that can increase the efficacy of a given input. A machine is customarily described as a device that requires little effort but produces great result. Its philosophical meaning usually foregrounds this labor-saving power in practice as opposed to a metaphysical understanding of the world. This concept of machine will also be compared to its Greek counterpart in the Aristotelian *Mechanical Problems*, which contains a similar definition of the mechanical.

Chapter 3 identifies three particular words in classical Chinese that can be used for the lever metaphor: *quan*, *shi* 勢 “setup, configuration, strategic advantage, momentum,” and *ji* 機 “machine, crossbow trigger, or trigger mechanism.” Only after such an identification can we pin down this nebulous conceptual metaphor to specific passages in historical sources for further elaboration. As can be seen from the long list of their possible translations, each of these words is multivalent, covering a range of interrelated meanings. In early Chinese texts, they often appear in the same context, combine to form compounds, or in some cases are used interchangeably with one another. To clarify the difference and overlap between them, I will conduct etymological and semantic analysis to show how they came to be associated with the lever metaphor in their respective ways, incorporating both transmitted and paleographic evidence.

The analysis of these words will reveal the structure of the source domain of early Chinese lever metaphors, which I call the “lever schema.” The lever schema has four components, two related to weighing and two related to weight-manipulation. The weighing group can be divided into one-sided or static weighing, which determines the relative weight of two objects objectively, and balanced or dynamic weighing, which achieves balance between objects of various weights. In a similar vein, the weight-manipulation group can be divided into static manipulation, or lifting objects, and dynamic manipulation, or hurling projectiles. The meanings of *quan*, *shi*, and *ji* overlap with these functions in a systematic way.

The next two chapters, in contrast to the extensive philological discussions in chapter 3, offer close readings of four thinkers to reveal how the lever metaphor is embedded in philosophical works. Chapter 4 examines the ethical use of the lever metaphor in Mengzi and Xunzi, or the meaning of *quan* as in the compound *quanheng* 權衡 “weighing.” Both Mengzi

and Xunzi use the weighing metaphor to conceptualize methods for making moral choice. The two alternatives are like the objects being measured, their values like weight, and the act of choosing like the act of weighing. Since weighing can be either one-sided or balanced, the act of choosing has two corresponding subtypes – one can make either a one-sided choice or a balanced one. Mengzi uses both forms of weighing, while Xunzi only uses the second. For both, the balanced weighing metaphor provides a model for conceptualizing a flexible middle point between two extremes that may appear to be one-sided but is actually balanced. It also provides the conceptual possibility of a paradoxical combination of two opposites, such as movement and stillness.

Chapter 5 examines the instrumental use of the lever metaphor in Sunzi and Shen Dao, or the meaning of *quan* as in the compound *quanshi* 權勢 “leverage.” Since the application of a lever enables a person to lift a weight beyond the capacity of his own force, the use of the lever metaphor gives rise to a double conception of human weakness and strength: the amazing efficacy of the mechanical device makes a person realize his physical incompetence while at the same time serving as its remedy. The mechanical amplification of effect is metaphorically mapped onto the target domains of military tactics and statecraft. In these fields, *quan* comes to represent different kinds of manipulative strategies for obtaining leverage in social interactions, whether through appropriating the inherent power of the situation, deceptive maneuvers, standardized systems of reward and punishment, or rigid divisions of labor. It ultimately comes to stand for an indirect mode of action in which one distrusts one’s own ability and relies on external conditions for optimal effect.

## CHAPTER ONE

### THEORIES OF METAPHOR

This chapter discusses a number of 20<sup>th</sup> century metaphor theories to lay the methodological foundation for the following chapters. The core idea of these theories is a distinction between cognitive and literary metaphors: literary metaphors are creative expressions with rhetorical effects, while cognitive metaphors are means of conceptualizing unfamiliar subjects. Since the mechanical metaphors in the following chapters are all cognitive ones, their difference must be clarified beforehand. Given that the subject of metaphor has attracted long-standing interests in a variety of fields including philosophy, literary criticism, rhetoric, linguistics, and cognitive science, it is impossible to survey the field comprehensively.<sup>1</sup> Instead, I shall focus on four representative theories that foreground the cognitive aspect of metaphors: Stephen Pepper's root metaphor theory, Hans Blumenberg's historical metaphorology, the conceptual metaphor theory (CMT) in cognitive linguistics, and finally Edward Slingerland's attempt to integrate cognitive linguistics and sinology.<sup>2</sup> Pepper and Blumenberg in particular have discussed Western mechanical metaphors in some detail. They will be mentioned again in chapter 2 when I turn to the meaning of machine. My purpose is not to provide any generalized account of the "nature" of metaphors or their universal cognitive mechanism, but

---

<sup>1</sup> Some 20<sup>th</sup> century works deserving serious attention but not included here are listed as follows: I. A. Richards, *The Philosophy of Rhetoric* (New York: Oxford University Press, 1965), 89–138; Kenneth Burke, *A Grammar of Motives* (Berkeley: University of California Press, 1969), 503–517; Max Black, "Metaphor," *Proceedings of the Aristotelian Society* 55 (1954): 273–294; "More about Metaphor," *Dialectica* 31, no. 3/4 (1977): 431–457; Roman Jakobson and Morris Halle, *Fundamentals of Language* (The Hague: Mouton, 1980); Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis: Bobbs-Merrill, 1968); Donald Davidson, "What Metaphors Mean," *Critical Inquiry* 5, no. 1 (1978): 31–47; Paul Ricoeur, *The Rule of Metaphor: The Creation of Meaning in Language*, trans. Robert Czerny, Kathleen McLaughlin, and John Costello (New York: Routledge, 2003).

<sup>2</sup> A few other sinologists have argued for the relevance of these theories to early Chinese thought. See, for example, Sarah Allen, *The Way of Water and Sprouts of Virtue* (Albany: State University of New York Press, 1997), 10–17; Tobias Benedikt Zürn, "Overgrown Courtyards and Tilled Fields: Image-Based Debates on Governance and Body Politics in the *Mengzi*, *Zhuangzi*, and *Huainanzi*," *Early China* 41 (2018): 297–332.

simply to define an analytic framework for understanding a specific kind of metaphors in early Chinese texts.

The theoretical discussions will be illustrated with some early Chinese technical metaphors based on archery and charioteering. They are not, strictly speaking, mechanical metaphors, but their meanings often overlap with the mechanical metaphors studied in later chapters. Moreover, these metaphors will give a preliminary idea of what I call metaphorical divergence and convergence. Metaphorical divergence is the phenomenon that a single source domain may have divergent and even polarized meanings. Metaphorical convergence is the phenomenon that several distinct images often convergence on a single metaphorical paradigm. The divergence and convergence of metaphors will be a recurrent theme throughout the rest of this study.

## **1.1 From Pepper’s Root Metaphor to Blumenberg’s Metaphorology**

### 1.1.1 Pepper’s Root Metaphor Theory

Pepper’s root metaphor theory is part of his world hypothesis theory that aims at a critique of dogmatism and a justification of the method of hypothesis.<sup>3</sup> For him, knowledge does not begin with “self-evident” first principles or “indubitable” facts, for the claim of self-evidence or unconditioned certainty is often dogmatism in disguise. It rather begins with hypotheses formed on the basis of dubitable common sense, which must be refined through the mutual corroboration of collected facts. A hypothesis itself is not an observed fact, but rather a symbolic arrangement of facts. When such a hypothesis keeps incorporating new evidence until it reaches an unlimited scope, it becomes a world hypothesis, a systematic conjecture of

---

<sup>3</sup> Stephen C. Pepper, *World Hypotheses: A Study in Evidence* (Berkeley and Los Angeles: University of California press, 1942).

how all facts in the world hang together. As to the source of a world hypothesis, Pepper says:

The problem then arises as to what are the sources of world hypotheses. The suggestion is that world hypotheses get started like any man's everyday hypothesis framed to solve some puzzling practical problem. The man looks back over his past experience for some analogous situation which might be applicable to his present problem. Similarly, a philosopher, puzzled about the nature of the universe, looks about for some pregnant experience that appears to be a good sample of the nature of things. This is his root metaphor.<sup>4</sup>

This simple account of metaphor or analogy anticipates much of what cognitive linguists argue in the eighties. Pepper understands a metaphor to be a method of cognizing the unfamiliar in terms of the familiar rather than a mere semantic embellishment. The kind of metaphors that he talks about would later be called conceptual metaphors in cognitive linguistics. One significant difference, however, is that Pepper is more interested in paradigmatic metaphors responsible for shaping philosophical worldviews, not conventionalized metaphors in our everyday language. It is obvious that not all metaphors created by the human mind can ever be elevated to the status of a world hypothesis, but only those that have survived the test of factual corroboration. Therefore, while our world hypotheses come from metaphors, only a very small set of metaphors have actually become root metaphors in the history of philosophy. A root metaphor, with its all-encompassing scope, provides the underlying structure that governs a philosopher's most fundamental assumptions about the world. It is not only a legitimate way of knowing but also a necessary step towards the formation of a worldview, though the use of metaphor itself by no means guarantees the truth of that worldview.

Among all the root metaphors that philosophers have proposed through the ages, starting from Thales's "All things are water," Pepper names only four as relatively adequate

---

<sup>4</sup> Stephen C. Pepper, "Introduction: Metaphor in Philosophy," *The Journal of Mind and Behavior* 3, no. 3/4 (1982): 197–205

ones: formism, contextualism, mechanism, and organicism. Pepper makes an effort to organize the root metaphors into a structural system by defining them as neat pairs. To give just a very simple sketch of their meanings: formism is Platonic idealism; contextualism is American pragmatism; mechanism is what other philosophers generally call materialism or naturalism; organicism is basically German idealism. Pepper's discussion of these metaphorical worldviews, as well as his arbitrary classification of philosophical theories, are full of sweeping generalizations, and will not concern us here. But the "mechanism" root metaphor will be helpful when we consider the meaning of machine in chapter 2.

### 1.1.2 Blumenberg's Historical Metaphorology

In Blumenberg's *Paradigms for a Metaphorology*, we encounter a more radical vision of metaphors in philosophy that emphasizes the historical dimension of root metaphors.<sup>5</sup> The context of Blumenberg's writing is the young discipline of conceptual history in Germany. The treatise, originally published in the *Archive for the History of Concepts* (*Archiv für Begriffsgeschichte*) founded by Erich Rothacker, is meant to be a critique of the methodological assumptions of the journal. For Blumenberg, conceptual history adopts the Cartesian ideal of a "terminal state" of philosophy, which corresponds to "the perfection of a terminology designed to capture the presence and precision of the matter at hand in well-defined concepts."<sup>6</sup> The teleological nature of this ideal would conceal the history of conceptual formation which lies in nothing but metaphors. According to Blumenberg, metaphors would even be a more proper subject for conceptual history than well-defined concepts, because they stand half way in the development from *mythos* to *logos*, from the

---

<sup>5</sup> Hans Blumenberg, *Paradigms for a Metaphorology*, trans. Robert Savage (Ithaca: Cornell University Press, 2010).

<sup>6</sup> Blumenberg, *Paradigms for a Metaphorology*, 1.

life-world of concrete experience to the logical world of regimented definitions. Yet they are not undesirable and provisional elements to be eliminated at the end, but “foundational elements of philosophical language” and “a catalytic sphere from which the universe of concepts continually renews itself, without thereby converting and exhausting this founding reserve.”<sup>7</sup>

Blumenberg calls the metaphors that can never be fully converted into the literal language of the Cartesian ideal “absolute metaphors.” Absolute metaphors are “absolute” only in the sense that they always resist being translated into precise definitions, not in the sense that their meanings cannot be changed. They function as the background ideas of an age that provide substructures for the possibilities and limitations of thought. Since absolute metaphors have not been cut off from their connection to the life world, they are better viewed as historically conditioned ways of seeing and acting. Adopting a particular metaphor of truth means adopting a set of attitudes and pragmatic orientations towards truth. The metaphor of “mighty truth” in classical times, for example, makes the human intellect a passive receptor overwhelmed by truth that forcefully reveals itself, whereas the modern world turns this metaphor upside down with the Baconian metaphor “knowledge is power,” through which the mind toils at hypothesis and experimentation, testing theoretical models of its own design against nature. In other words, our truth metaphor predisposes us to a particular style of truth-seeking. If a metaphor of truth determines how truth is to be pursued, then the truth of *that* metaphor is undecidable, at least not within the conceptual system determined by the very same metaphor. For this reason, a truth metaphor is not a reflective theory about what truth is, but a historical testimony to the truth-perception of an age.

Blumenberg’s absolute metaphor overlaps with Pepper’s root metaphor in that both

---

<sup>7</sup> Blumenberg, *Paradigms for a Metaphorology*, 3–4.

are paradigmatic conceptual substrate ultimately grounded in our life experience. The difference between them can be best revealed by considering their views on the nature of metaphorically informed hypotheses. For Pepper, a world hypothesis, determined by a root metaphor, still needs to be tested against as much empirical evidence as possible for its adequacy. The root metaphor theory only accounts for the origin of a world hypothesis but does not vouch for its validity. For Blumenberg, however, the very concept of “hypothesis” is a *product* of the Baconian truth metaphor that comes into being only at a certain historical moment. The problem of adequacy is unanswerable *within* that metaphorical scheme, because the epistemological assumptions behind the hypothetical method already presuppose the metaphor of a mighty intellect. This consideration drives Blumenberg to the radical claim that if we delve into the historical depth of absolute metaphors, we would find them “already posed in the ground of our existence.”<sup>8</sup>

## 1.2 Conceptual Metaphor Theory

The conceptual metaphor theory developed by George Lakoff and Mark Johnson in the early eighties is one of the most influential theories in cognitive linguistics. The theory was first outlined in Lakoff and Johnson’s *Metaphors We Live By* (1980) and has undergone substantial revisions since then.<sup>9</sup> Since CMT involves a set of interrelated assumptions debated and modified over the course of its development, we need to be clear about which particular version of CMT is being discussed here. Based on Lakoff’s own summary, I

---

<sup>8</sup> Blumenberg, *Paradigms for a Metaphorology*, 14.

<sup>9</sup> George Lakoff and Mark Johnson, *Metaphors We Live By* (Chicago: The University of Chicago Press, 1980); George Lakoff, “The Contemporary Theory of Metaphor,” in *Metaphor and Thought*, ed. Andrew Ortony (Cambridge: Cambridge University Press, 1993), 202–251; Lakoff and Johnson, *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* (New York: Basic Books, 1999), 3–132. Another classic formulation of this theory is Raymond W. Gibbs, *The Poetics of Mind: Figurative Thought, Language, and Understanding* (Cambridge: Cambridge University Press, 1994).

highlight three aspects about the nature, source, and structure of conceptual metaphor.<sup>10</sup>

### 1.2.1 Linguistic and Conceptual Metaphor

The starting point of CMT is an assumption about the nature of metaphor. In the traditional account stemming from Aristotle's *Poetics* (21 1457b ff.) and *Rhetoric* (3.2 1404b–1505b, 3.4 1406b–1407a, 3.10–11 1410b–1413b), metaphor is viewed as a distinctive figure of speech that substitutes one word for another based on resemblance for rhetorical purposes.<sup>11</sup>

This view can be called the linguistic view of metaphor, for it understands metaphor to be primarily a phenomenon of our language.<sup>12</sup> Closely related to the linguistic view are three interrelated assumptions: 1) the ornamental assumption that a metaphor, aiming at the effect of language rather than truth, performs only an expressive function; 2) the temporary assumption that a metaphorical substitution is not a conventional part of human language but a poetic flash of some genius mind; 3) the individualist assumption that a metaphor is but an isolated case of word substitution without any systematicity. These assumptions together give rise to the distinction between the literal and metaphorical meaning of a metaphor, as well as the judgment that metaphors are not suitable for serious scientific and philosophical research.

Cognitive linguists have challenged all of these assumptions and argued that metaphors are fundamentally conceptual in nature. To call a metaphor conceptual is to regard

---

<sup>10</sup> Lakoff, "The Contemporary Theory of Metaphor," 244–246.

<sup>11</sup> For a discussion of the "substitution" and "comparison" view of metaphor, see also Black, "Metaphor," 278–285. Olaf Jäkel has shown convincingly that the main tenets of cognitive linguistics have indeed been anticipated by many predecessors, but are largely overlooked in Lakoff and Johnson's oversimplification of the "traditional account." In doing so, Jäkel has also provided a helpful summary of Blumenberg's metaphorology, arguing that Blumenberg's analysis is not limited to philosophical language but applies to language in general. See Olaf Jäkel, "Kant, Blumenberg, Weinrich: Some Forgotten Contributions to the Cognitive Theory of Metaphor," in *Metaphor in Cognitive Linguistics*, ed. Raymond W. Gibbs Jr. and Gerard J. Steen (Amsterdam: John Benjamins Publishing Company, 1999), 1–27.

<sup>12</sup> See also Zoltán Kövecses, *Metaphor: A Practical Introduction* (New York: Oxford University Press, 2010), 4–14.

it as a way of conceptualizing one domain of experience in terms of another. In other words, metaphor is no mere linguistic substitution, but a basic cognitive faculty of the human mind. In place of the three assumptions mentioned above, CMT proposes its own: 1) in many cases the supposed “literal meaning” of a metaphor is nowhere to be found, because the metaphor *is* the concept by which we think about a particular subject. 2) Our everyday language is replete with conventional and yet unrecognized conceptual metaphors. 3) These conceptual metaphors are systematic, cross-domain projections of meaningful experience, not an individual case of substitution.<sup>13</sup> CMT foregrounds the cognitive value of metaphors, claiming that metaphorical thinking plays no less important a role in philosophy and science.

To give just one example of systematic metaphorical mappings, consider how our subjective experience of morality is conceptualized in spatial terms. The following passage is quoted from Lakoff and Johnson (with their original italics):

He is *high*-minded. She has *high* standards. She is *upright*. She is an *upstanding* citizen. That was a *low* trick. Don't be *underhanded*. I wouldn't *stoop* to that. That would be *beneath* me. He *fell* into the *abyss* of depravity. That was a *low-down* thing to do.<sup>14</sup>

Expressions like this are part of our conventional language and belong to what Lakoff and Johnson call the VIRTUE IS UP; DEPRATVITY IS DOWN metaphor. In this example, the bodily experience of space serves as the basis for structuring the more abstract domain of moral experience.

---

<sup>13</sup> A more detailed structure-mapping model of metaphor and analogy can be found in Dedre Gentner, “Structure–mapping: A theoretical framework for analogy,” *Cognitive Science* 7 (1983): 155–170; Dedre Gentner and A. B. Markman, “Splitting the differences: A structural alignment view of similarity,” *Journal of Memory and Language* 32 (1993): 517–535.

<sup>14</sup> Lakoff and Johnson, *Metaphors We Live By*, 16–17.

### 1.2.2 Image Schemas

The example given in the last section shows that the source of our metaphorical mappings is often the concrete experience rooted in physical engagements with the world. The theory that accounts for the bodily origin of conceptual metaphors is known as the image schema theory (IST). First proposed by Mark Johnson in 1987, IST seeks to explain how abstract meaning can arise from recurring patterns of our embodied, sensorimotor experience.<sup>15</sup> These recurring structural patterns are called “image schemas” in the sense that they are both imagistic (that is, pre-conceptual and non-propositional) and schematic (that is, they are recurrent and structural regularities in our on-going actions and perceptions). According to Beate Hampe, image schemas have the following characteristics:<sup>16</sup>

- a) They are directly meaningful structures grounded in recurrent bodily interactions with the world.
- b) They capture the structural contours of sensory-motor experience, integrating information from multiple modalities.
- c) They exist as continuous patterns beneath conscious awareness, prior to and independently of other concepts.
- d) They are both internally structured and highly flexible, subject to numerous transformations in various experiential contexts.

A main concern of IST is to distinguish image schemas from introspective experience such as feelings, emotions, or mental images.<sup>17</sup> An image schema is an abstract contour of concrete

---

<sup>15</sup> Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason* (Chicago: The University of Chicago Press, 1990). More recent discussions of IST can be found in Beate Hampe, ed., *From Perception to Meaning: Image Schemas in Cognitive Linguistics* (Berlin: Mouton de Gruyter, 2005).

<sup>16</sup> Beate Hampe, “Image schemas in Cognitive Linguistics: Introduction,” in *From Perception to Meaning: Image Schemas in Cognitive Linguistics*, ed. Beate Hampe (Berlin: Mouton de Gruyter, 2005), 1–14.

<sup>17</sup> Vyvyan Evans and Melanie Green: *Cognitive Linguistics: An Introduction* (Edinburgh: Edinburgh University Press, 2006), 176–179.

experience, not a concrete image itself. It is precisely for this reason that cognitive linguists believe that image schemas can work as the bridge between embodied experience and abstract concepts. In the example given above, the up-down vertical axis is an image schema based on the vertical asymmetry of the human body. For image-schema theorists, people tend to associate value judgments with spatial concepts such as up and down because the erect position of the human body predisposes us to such metaphors.

Among these characteristics, (d) deserves particular attention, for it is a potential point of connection with Blumenberg's metaphorology. The flexibility of image schemas means that they are not *a priori* structures with absolute stability. Despite their regularity and "schematic" nature, image schemas can be dynamic, historical processes of meaning construction.

### 1.2.3 Cross-Domain Mappings

A third aspect of CMT concerns the structure of metaphorical mappings, typically described with the two-domain model and unidirectional, systematic projection. The two domains are known as the source domain and the target domain. In the classic model, the source domain is constituted by embodied image schemas, and the target domain is located on the more abstract end of the experiential spectrum. As Kövecses notes, common source domains are the human body, plants and animals, buildings and construction, machines and tools, games and sport, heat and cold, light and darkness, forces, as well as movement and direction, whereas common target domains are emotion, desire, morality, thought, society, politics, human relationships, time, and religion.<sup>18</sup> Unidirectionality means that metaphorical mappings generally move from embodied schemas to abstract thought rather than the other

---

<sup>18</sup> Kövecses, *Metaphor*, 17–31.

way round. Such mappings exist on a large scale, as different elements or aspects of the source domain are systematically mapped onto the corresponding target domain. Therefore, the classic CMT model describes how embodied experience helps to conceptually organize the less clearly structured domains of human experience such as morality and social relationships.

The classic two-domain model has been challenged and modified since its publication.<sup>19</sup> One difficulty, for example, pertains to how one defines “concrete” and “abstract.” Concreteness is not necessarily a matter of materiality. It may also be characterized as the degree of familiarity. A philosophy professor who has been working on Kantian ethics for decades may find the idea of “categorical imperative” concrete enough to be used as a metaphorical source for something else. The more time we spend on an abstract subject, the more concrete it becomes for us. That said, criticisms of classic CMT are largely motivated by a dissatisfaction with the classic model as a *general* theory of metaphors. For my purpose, classical CMT still qualifies as an adequate framework for understanding the particular set of mechanical metaphors in early Chinese text, because these metaphors are mostly based on embodied experience of the lever’s mechanical functions. Therefore, I will keep using the terminologies of the classic model, while pointing out its limitations whenever problems arise.

---

<sup>19</sup> See, for example, Gregory Murphy, ‘On metaphoric representation,’ *Cognition* 60 (1996): 173–204; Joseph Grady, “THEORIES ARE BUILDINGS revisited,” *Cognitive Linguistics* 8, no. 4 (1997): 267–290. Another influential model in cognitive linguistics is the conceptual blending theory (CBT) developed by Gilles Fauconnier and Mark Turner. See Gilles Fauconnier, *Mappings in Thought and Language* (Cambridge: Cambridge University Press, 1997); Gilles Fauconnier and Mark Turner, “Conceptual integration networks,” *Cognitive Science* 22, no. 2 (1998): 33–187; Fauconnier and Turner, *The Way We Think: Conceptual Blending and the Mind’s Hidden Complexities* (New York: Basic Books, 2002). The main differences between CMT and CBT are discussed in Joseph Grady, Todd Oakley and Seana Coulson, “Blending and Metaphor,” in *Metaphor in Cognitive Linguistics*, 101–124.

### 1.3 Sinological Debates on Metaphor

In sinology, metaphor has recently become a new focal point in the perennial debate over cultural essentialism and the universality of human cognition. The most prominent proponent of CMT in sinology is Edward Slingerland. In a series of books and articles, Slingerland argues forcefully that CMT can be applied productively to sinology and comparative cultural studies.<sup>20</sup> If human cognition is fundamentally metaphorical, and if metaphorical meaning ultimately comes from the image schemas of embodied experience, then we should take metaphor systems as a more proper subject for comparison than individual words or theories. The reason is twofold (in Slingerland's own words): 1) "The structure of conceptual metaphors is more general than any individual linguistic sign but also more basic than a theory, and cognitive linguists argue that it is at this intermediate level of conceptualization that most of our reasoning patterns are based."<sup>21</sup> 2) "The most basic overall repertoire of motions and physical interactions possessed by a modern American is not terribly different from that possessed by, say, a Chinese person in the fifth century B.C.E."<sup>22</sup> The first reason suggests that to understand what a thinker really thinks about a concept, we should look at the metaphors he uses for the concept rather than the explicit theories formulated about it. The second reason tells us that the metaphorical meanings derived from embodied schemas are not as culturally relative as words and conscious theories are.

Slingerland's argument has triggered a number of critical responses. Most critics feel that Slingerland overstates the embodied commonality between different cultures to the point

---

<sup>20</sup> Edward Slingerland, *Effortless Action: Wu-wei as Conceptual Metaphor and Spiritual Ideal in Early China* (New York: Oxford University Press, 2003); "Conceptual Metaphor Theory as Methodology for Comparative Religion," *Journal of the American Academy of Religion* 72, no. 1 (2004): 1–31; *What Science Offers the Humanities: Integrating Body and Culture* (Cambridge: Cambridge University Press, 2008); "Metaphor and Meaning in Early China," *Dao* 10, no. 1 (2011): 1–30.

<sup>21</sup> Slingerland, "Conceptual Metaphor Theory as Methodology for Comparative Religion," 13.

<sup>22</sup> Slingerland, "Conceptual Metaphor Theory as Methodology for Comparative Religion," 16.

of sacrificing culturally specific context of metaphorical meaning. The critics, on the other hand, choose to focus on the distinct meanings of a single image (such as archery or the mirror) in Western and Chinese cultures.<sup>23</sup> Yet in a later reply, Slingerland points out that these criticisms are based on an outdated or even inaccurate understanding of his own view. He specifically quotes an entire passage in his 2008 book where he emphasizes the cultural dimension of image schemas:

There is considerable evidence from cross-cultural psychology that ... various [cultural] practices, and the environments that these practices create, can result in distinct schemas at fairly early stages of development.... It is thus important to balance the exploration of human universals ... with the recognition that human cognitive fluidity, ratcheted up over time by cultural entrenchment, can shape human perceptions and desires in quite novel and idiosyncratic ways, from the subtle Japanese aesthetic sentiment of *mono no aware* (lit. “the sorrow of things”) to the sort of “cultivated needs,” such as a taste for fine wines or luxury automobiles, explored in such depth by Pierre Bourdieu.<sup>24</sup>

Early on in his 2004 article, Slingerland has already noted the flexibility of image schemas (recall the fourth characteristic defined by Hampe) by relating them not to cultural diversity but to the advent of new technologies:

Of course, because these image patterns arise through the interactions of our embodied minds with our environment, we would also expect that dramatic changes in environment would be reflected in the creation of novel conceptual metaphors. We see this happen constantly with the creation of new technologies.<sup>25</sup>

This theme of technological reorientation of embodied schemas comes out more expressly in a discussion of “perceptual and motor plasticity” in the 2008 book:

---

<sup>23</sup> Erin Cline, “Mirrors, Minds, and Metaphors,” *Philosophy East & West* 58, no. 3 (2008): 337–357; Rina Marie Camus, “Comparison by Metaphor: Archery in Confucius and Aristotle,” *Dao* 16, no. 2 (2017): 165–185; Joshua Mason, “Generalizations, Cultural Essentialism, and Metaphorical Gulfs,” *Dao* 17, no. 4 (2018): 479–497.

<sup>24</sup> Edward Slingerland, “Metaphor, Blending, and Cultural Variation: A Reply to Camus,” *Dao* 16, no. 3 (2017): 431–435; *What Science Offers the Humanities: Integrating Body and Culture*, 151.

<sup>25</sup> Slingerland, “Conceptual Metaphor Theory as Methodology for Comparative Religion,” 15.

One aspect of the development of new motor programs is a reorganization of one's body schema to incorporate the specific tools involved: downhill skiing or rolling a kayak can be mastered only when the artificial bodily extensions involved – skis and poles, paddle and boat – have been fully integrated into one's bodily self-representation.<sup>26</sup>

From these quotations, it seems clear that Slingerland does not simply endorse context-independent, biological image schemas as cognitive universals. He does recognize the impact of technology and culture on embodied schemas. The human body in a civilized society is almost always enveloped in technological media, and technological advancement may result in radically new forms of embodied experience.

How, then, do we reconcile these passages with Slingerland's insistence on the "human body-mind as universal decoding key" and on grounding cultural variation in embodied schemas? In the debates about metaphors in cross-cultural comparison, there seems to be a recurrent terminological confusion between what is "common" and what is "commensurable." A shared metaphor by no means guarantees a common set of meanings or beliefs, but rather works as a *common ground* on which similarities and differences can be compared, a common denominator against which different values can be measured. In other words, a metaphor is, to put it metaphorically, a forum. When a metaphorical association has been established between a source and a target domain, we often see thinkers of opposite views debating about what particular aspects of the source domain should be mapped onto the target domain. Controversies of this type are not limited to thinkers from different cultures, but can also occur among thinkers within the same culture. This is exactly what we see in the famous debates between Mengzi and Gaozi in *Mengzi* 6A, in which Mengzi disagrees with Gaozi's water and cup-making analogies by picking out different aspects of the source

---

<sup>26</sup> Slingerland, *What Science Offers the Humanities*, 209–211.

domain.<sup>27</sup> The meaning of the source domain, in principle, can be approached from a variety of perspectives, and a shared source domain helps to reveal even more about the differences between those perspectives. If Slingerland’s insistence on commonality is more accurately phrased as commensurability, then there seems to be no real difference between him and his critics.

#### 1.4 The Archery Schema in Early China

Let us now consider how the sensorimotor experience in archery serves as the source domain of two archery analogies in early China. Although some of the examples examined below are analogies rather than metaphors, the difference between them is only a matter of linguistic form. From a cognitive linguistic point of view, metaphors and analogies share the same cognitive mechanism as structured projections of meaningful experience. The first analogy comes from the “Bing qing” 兵情 (The Nature of Military Affairs) manuscript of an anonymous author found in Yinqueshan, Shandong in 1972. Most scholars believe that it is part of the lost the *\*Sun Bin bingfa* 孫臏兵法 (Master Sun Bin’s Art of War), supposedly attributed to the legendary Warring States commander Sun Bin 孫臏 (fl. 4<sup>th</sup> century BCE).<sup>28</sup> The manuscript contains an extended, carefully constructed analogy between the crossbow and military affairs:

---

<sup>27</sup> See Slingerland, “Metaphor and Meaning in Early China,” 18–22 for an extended metaphorical analysis of these debates.

<sup>28</sup> The naming of the *\*Sun Bin bingfa* is not without controversy. In the initial transcription published in 1975, the editors divide the 31 manuscripts that came to be known as the *\*Sun Bin bingfa* into two groups, calling the second group *\*Yishu cong can* 佚書叢殘 (Fragmented Collection of Lost Books). They argue that there is not enough evidence to identify them as part of the *Sun Bin*. For discussions of this problem, see Yinqueshan Hanmu zhujian zhengli xiaozu 銀雀山漢墓竹簡整理小組, ed., *Yinqueshan Hanmu zhujian Vol.1* 銀雀山漢墓竹簡(壹) (Beijing: Wenwu chubanshe, 1985), 8; *Yinqueshan Hanmu zhujian Vol.2* 銀雀山漢墓竹簡(貳) (Beijing: Wenwu chubanshe, 2010), 1.

孫子曰：“若欲知兵之請，弩矢亅法也。矢，卒也。弩，將也。發者，主也。”

Master Sun said, “If one desires to know the reality of the military, the crossbow and bolt are its model. The bolt is the army, the crossbow is the commander, and the archer is the ruler.

“矢：金在前，羽在後，故犀而善走。前[重而]後輕，故正而聽人。今治卒則後重而前輕。陳之則辨。趣之適則不聽人。治卒不法矢也。

“Since the bolt has metal in front and feathers in the back, it is sharp and yet travels fast. Since it is heavy in front and light in the back, it is correct and listens to the archer. Now if in deploying the army the rear is heavy and the front is light, in arraying them they will be differentiated, and in driving them forward they will not listen to the commander. This is because the deployment of the army is not modeled on the bolt.

“弩者，將也。弩張棟不正，偏強偏弱而不和，亅兩洋之送矢也不壹。矢唯輕重得，前後適，猷不中[招也]…將之用心不和…[卒之前後雖]得，猶不勝適也。

“The crossbow is the commander. If the crosspiece of the crossbow fails to draw straight, either too strong or too weak without being harmonious, the two shoulders of the crosspiece in delivering the bolt are not in concert. Even when the weight of the bolt itself has been properly distributed and the front and back have been suitably adjusted, it will still not hit [the mark]...If the commander has failed to employ his mind harmoniously...[even when the front and rear of the army are] appropriately deployed, he will still be unable to defeat his enemy.

“矢輕重得，前[後]適，而弩張正，亅送矢壹，發者非也，猶不中昭也。卒輕重得，前後適，而將唯於…兵…猶不勝適也。

“Even when the weight of the bolt has been properly distributed and the front [and back] have been suitably adjusted, and when the crosspiece of the crossbow is straight so the delivery of the bolt is in concert, if the archer is incorrect, he will still not hit the mark. Even when the weight of the army is properly distributed and the front and rear have been appropriately deployed, and the commander...army...will still be unable to defeat the enemy.

故曰弩之中穀合於四：兵有功…將也，卒也，□也。故曰兵勝適也，不異於弩之中召也。此兵之道也。”

“Therefore it is said, for the crossbow to hit the mark, it must satisfy these four conditions. The military operations are successful... commander, army, and... Therefore it is said: the army’s defeating the enemy is no different from the crossbow’s hitting the mark. This is the way of warfare.”<sup>29</sup>

In this large-scale analogy, the technical experience in archery serves as the “model” of warfare. Aspects of archery, including the material crossbow and the technique of shooting, are systematically mapped onto a complex range of military experience, from the structure of battle formation to the mental state of the commander.<sup>30</sup> The fragmented condition of the manuscript leaves one puzzling inconsistency: while the beginning specifies three pairs of corresponding elements between archery and warfare, the conclusion mentions “four conditions” for successful military actions. It is unclear what the fourth condition is. The following table shows the structure of this analogy based on the remaining portions:

Source: Archery	Target: Warfare
Target	Enemy
Hitting	Winning
Bolt	Army
Crossbow	Commander
Archer	Ruler

Table 1.1: The analogy between archery and warfare in the “Bing qing”

The purpose of establishing such an analogy is to transfer technical skills in bolt making and shooting to the more abstract domain of military leadership. The author seems to have a self-conscious understanding of the analogical method as a kind of pragmatic guidance. He also

<sup>29</sup> *Yinqueshan Hanmu zhujian Vol.1*, 64–65.

<sup>30</sup> For a discussion of the crossbow and archery in early China, see Robin S. Yates and Edward McEwen, “Projectile Weapons,” in *Military Technology: Missiles and Sieges*, part VI of *Science and Civilization in China, Vol.5: Chemistry and Chemical Technology*, edited by Joseph Needham (Cambridge, Cambridge University Press, 1994), 120–183. The archery analogy has attracted much scholarly attention, but the majority of articles on this topic focus on the moral dimension of archery. See Lisa Raphals, “Craft Analogies in Chinese and Greek Argumentation,” in *Literature, Religion, and East/West Comparison: Essays in Honor of Anthony C. Yu*, ed. Eric Ziolkowski (Newark: University of Delaware Press, 2005), 181–201; Griet Vankeerberghen, *The Huainanzi and Liu An’s Claim to Moral Authority* (Albany: State University of New York Press, 2001), 83–86; James Behuniak Jr., “Hitting the Mark: Archery and Ethics in Early Confucianism,” *Journal of Chinese Philosophy* 37, no. 4 (2010): 588–604.; Camus, “Comparison by Metaphor: Archery in Confucius and Aristotle,” 165–185.

shows a keen interest in making his analogy systematic.

In this analogy, the complexity of the source domain is of particular interest, for it consists of two distinct kinds of technical knowledge: the material structure of the bolt and the embodied skill of shooting. It is worth noting that both have been documented elsewhere in early Chinese texts. In the *Kao gong ji* 考工記 (Records of the Examination of Craftsmen), a late Warring States manual of craft production included in the *Zhouli* 周禮, we find a detailed explanation of bolt-making techniques in the “Shi ren” 矢人 (Bolt Makers) section:

矢人為矢，鏃矢參分，莠矢參分，一在前，二在後。兵矢、田矢五分，二在前，三在後。殺矢七分，三在前，四在後。

Bolt makers make bolts. The targeting bolt is divided into three parts. The cutting bolt is divided into three parts. One part in the front and two parts in the back [are of the same weight.] The bolt for war and the bolt for the hunt are divided into five parts. Two parts in the front and three parts in the back [are of the same weight.] The lethal bolt is divided into seven parts. Three parts in the front and four parts in the back [are of the same weight.]<sup>31</sup>

This passage defines several kinds of bolts used for different purposes and gives the mathematical proportion of front weight to back weight. If 1/3 in the front is of equal weight to 2/3 in the back, this means that the front is heavier than the back. The 1:2 ratio of the

---

<sup>31</sup> *Zhouli zhushu* 周禮注疏 (Yiwen ed.), 41.9b–10a. The translation of technical terms follows Zheng Xuan’s 鄭玄 (127–200) commentary on the *Zhouli*. Zheng Xuan notes that in the *Kao gong ji* text the place of the cutting bolt and the lethal bolt is reversed, for the targeting bolt and the lethal bolt belong to the same functional pair. The names of these bolt types appear also in the “Si gong shi” 司弓矢 section of the *Zhouli* with some variations. See *Zhouli zhushu* (Yiwen ed.), 32.6a–9b. In the “Si gong shi,” there are eight bolt types classified into four functional pairs, only three of which match the names given here (the *hou* 鏃 “targeting,” the *fu* 莠 “cutting,” and the *sha* 殺 “lethal”). According to Zheng Xuan, the function of the bolt is determined by the front to back weight ratio. The heavier the front is, the shorter it travels, but the more penetrating it is. Therefore, the targeting and lethal bolts, with the heaviest front, are used in short-distance shooting to penetrate hard objects. The cutting bolt, with the lightest front, is used for shooting down birds. See Sun Yirang 孫詒讓 (1848–1908), *Zhouli zheng yi* 周禮正義 (Beijing: Zhonghua shuju, 2013), 2558–2564, 3357–3360. See also Cheng Yaotian 程瑤田 (1725–1814), “Shi ren wei shi kao” 矢人為矢考, in Vol.2 of *Cheng Yaotian quanji* 程瑤田全集 (Hefei: Huangshan shushe, 2008), 212–215; Wen Renjun 聞人軍, *Kao gong ji yi zhu* 考工記譯註 (Shanghai: Shanghai guji chubanshe, 2007), 89.

targeting and lethal bolts also produces a heavier front than the 2:3 ratio of the bolts for war and for the hunt. Whatever the ratio is, the front is always made heavier than the back to give the bolt momentum in its flight. According to the “Bing qing,” if a commander wants his troops to gain momentum in a charge, he should deploy the soldiers in a way that resembles the weight distribution of the bolt, putting heavily equipped soldiers at the front. Otherwise, the army will be “differentiated” in a charge, which seems to mean that the heavy troops will lag behind and the battle formation will fall apart. While the “Bing qing” recommends this style of deployment to commanders with the bolt analogy, another military treatise sees weakness in the exact same deployment:

夫齊性剛，其國富，君臣驕奢而簡於細民，其政寬而祿不均。一陳兩心，前重後輕，故重而不堅。

As for Qi, the nature [of its people] is stubborn; the state is wealthy; the ruler and ministers, being arrogant and extravagant, slight the petty people; the government is lenient but the official salary is uneven. [The soldiers in] one battle formation are in two minds, with a heavy front and a light rear. Therefore, it is heavy but not firm.<sup>32</sup>

This passage notes in particular that the heavy-front light-rear style is a characteristic of the Qi formation, which is consistent with the fact that the “Bing qing” is discovered in the modern day Shandong where Qi was located. It should also be mentioned that the *Kao gong ji* is often held to be a Qi text for it contains distinctive words in the Qi dialect.<sup>33</sup> There is no evidence that the author of the “Bing qing” has read the *Kao gong ji* itself, yet he could have been familiar with this particular piece of technical knowledge and found it useful for his

---

<sup>32</sup> *Wuzi* 吳子, C2/37/28–29.

<sup>33</sup> This view was suggested as early as in the 13<sup>th</sup> century by Lin Xiyi 林希逸 (1193–1271) in his *Kao gong ji jie* 考工記解 and popularized in the 20<sup>th</sup> century by Guo Moruo 郭沫若 (1892–1978). See Guo Moruo, “Kao gong ji de niandai yu guobie” 《考工記》的年代與國別, in *Tiandi xuanhuang* 天地玄黃 (Shanghai: Dafu chuban gongsi, 1947), 601–605. See Wen Renjun, *Kao gong ji yi zhu*, 159–188 (appendix) for a collection of scholarly opinions on this problem. But this identification is contested by Liu Hongtao 劉洪濤, “Kao gong ji bushi Qiguo guanshu” 《考工記》不是齊國官書, *Ziran kexueshi yanjiu* 3, no. 4 (1984): 359–365.

analogical argument.

The second kind of technical knowledge is the embodied skill of shooting, or aiming in particular.<sup>34</sup> For the crossbow to hit the mark, the two shoulders of the crosspiece need to be adjusted without tilting toward either side. If the weight of the front and rear is proportionally distributed, the bolt will gain enough force and speed to reach the target, but without accuracy it will still miss the bull's eye. The two kinds of technical knowledge in fact correspond to two kinds of competency in archery: force and accuracy. Although the first technical knowledge involves only the material object, the bolt design is meant to facilitate the archer's strength in shooting. The two forms of competence appear elsewhere in the *Kao gong ji* in a section about bow-making:

凡為弓，各因其君之躬志慮血氣。豐肉而短，寬緩以荼，若是者為之危弓。危弓為之安矢。骨直以立，忿執以奔，若是者為之安弓。安弓為之危矢。其人安，其弓安，其矢安，則莫能以速中，且不深。其人危，其弓危，其矢危，則莫能以愿中。

In general, the making of bows accords with the body type, will, thought, and temperament of the archer. For a fleshy, short, slow, and patient person, make a dangerous bow and peaceful bolts. For a bony, tall, quick, and restless person, make a peaceful bow and dangerous bolts. If the person, bow, and bolt are all peaceful, then it will lack the speed to hit the target, and the penetration will not be deep. If the person, bow, and bolt are all dangerous, then it will lack the caution to hit the target.<sup>35</sup>

Here the bow and bolt design together should match the physical and mental dispositions of the archer. To say that a person is “dangerous” in this context amounts to saying that the person is strong but rash. On the contrary, the “peaceful” type is relatively weak but cautious. While the rash person lacks accuracy, the weak person lacks force. To remedy their respective

---

<sup>34</sup> A discussion of aiming technology on the Chinese crossbow can be found in Yates and McEwen, “Projectile Weapons,” 146–154.

<sup>35</sup> *Zhouli zhushu* (Yiwen ed.), 42.23a–b. Sun Yirang, *Zhouli zhengyi*, 3561–3562; Wen Renjun, *Kao gong ji yi zhu*, 148–152. The translation of *yuan* 愿 as *que* 慤 “caution” follows Zheng Xuan's 鄭玄 (127–200) gloss of the word.

shortcomings, the *Kao gong ji* proposes a compensatory design system, as shown in the following table:

Personality	Bow	Bolt
Dangerous (strong but rash)	Peaceful	Dangerous
Peaceful (weak but cautious)	Dangerous	Peaceful

Table 1.2: Bow and bolt design in the *Kao gong ji*

This design table is conceptually structured around the two kinds of competence in archery. Each type is perceived as being overly competent in one aspect and less so in the other. The *Kao gong ji* integrates the bow design and the bolt design with the kinesthetic awareness of shooting a bolt, and the conceptual structure revealed by such a design system seems to be just what cognitive linguists would call an image schema. They are based on imagistic experience of the human body, but at the same time are abstract enough to provide a conceptual frame for the less structured domain of military experience in the “Bing qing.”

Let me call this image schema the *archery schema*. The technological experience of the archery schema is documented implicitly in an early Chinese specialist manual, and the “Bing qing” bears witness to its metaphorical significance. Unlike the schemas discussed in Lakoff and Johnson’s works, the archery schema embodies a technical form of kinesthetic awareness different from the routine experience of daily life. In the next analogy we are going to consider, the archery schema is projected onto a target domain of moral experience as opposed to military strategy. This analogy comes from the famous *Mengzi* 5B1, where Mengzi explains the achievements of four sages by comparison with the archer’s skill:

孟子曰：“伯夷，聖之清者也。伊尹，聖之任者也。柳下惠，聖之和者也。孔子，聖之時者也。孔子之謂集大成。集大成也者，金聲而玉振之也。金聲也者，始條理也。玉振之也者，終條理也。始條理者，智之事也。終條理者，聖之事也。智，譬則巧也。聖，譬則力也。由射於百步之外也，其至爾力也，其中非爾力也。”

Mengzi said, “Boyi was a sage of purity; Yi Yin was a sage of responsibility; Liuxia Hui was a sage of harmony. Confucius was a sage of timeliness. Confucius is what is called a great completion. A great completion is one in which the bells announce the beginning, and then the jade chimes bring it to a close. What begins the patterns is the bells sounding; what brings them to a close is the jade chimes. To begin the patterns is the task of wisdom. To end the patterns is the task of sagacity. Wisdom may be compared to skillfulness. Sagacity may be compared to strength. It is like shooting a bolt from beyond a hundred paces: its arrival is due to your strength, but its hitting the target is not due to your strength.” (5B1)

In this complicated example, Mengzi skillfully combines two metaphors to convey his moral message. The moral achievement of sages is indeed an elusive subject lacking clear a conceptual contour, and the function of the archery schema here is to provide a structure. To see how the schema works, we need to take a brief look at these figures. Boyi, the sage of “purity,” sticks firmly to his moral standards and never makes any compromise. He has virtually no tolerance for whoever fails to meet those standards and avoids them as much as possible (Mengzi shows a similar attitude in 7A41). Yi Yin, the sage of “responsibility,” takes promoting his moral standards as his great responsibility and carries it out as much as possible. He has no tolerance, not of the lack of good, but of his inability to bring good to the world (Mengzi shows a similar attitude in 4B7). Liuxia Hui, the sage of “harmony,” remains unaffected by the corruptions of the world. He simply maintains his moral principles in whatever situation he encounters without trying to promote them. These three sages are Mengzi’s stock examples of moral achievements, but he gives contradictory evaluations of them elsewhere. In 7B15, Mengzi praises Boyi and Liuxia Hui for the same characters as described here. In 2A9, however, he criticizes both also for the same characters, saying that Boyi was too narrow-minded and Liuxia Hui was not dignified enough. In 6B6, he offers yet another evaluation, saying that Boyi, Yi Yin, and Liuxia Hui were the same despite their different behaviors, because they all held to benevolence. In 2A2, he makes a similar comparison of Boyi, Yi Yin, and Confucius as that in 5B1, ranking Confucius above the other

two.

How is Confucius different from the others? Mengzi says that Confucius is not only able to begin the “patterns” (*tiaoli* 條理) of moral conduct but also able to complete them. To speak of the “beginning” and “end” of moral cultivation is to compare it to a journey, and here the journey is the flight of a bolt. When that metaphorical association is established, Mengzi matches the two kinds of competence in archery with the two kinds of competence in moral cultivation: wisdom and sagacity. Wisdom, like accuracy in aiming, is associated with the beginning, whereas sagacity, like the strength of pulling the bow, is associated with reaching the target:

Source: Archery	Target: Moral Cultivation
Beginning	People in their natural state
Skillfulness (Accuracy)	Wisdom (Knowing what the goal is)
Target	The sage
Strength (Force)	Sagacity (Being able to achieve the goal)

Table 1.3: The analogy between archery and moral cultivation in the *Mengzi*

The message of 5B1 is slightly ambiguous in that we are not so sure whether it was wisdom or sagacity that Confucius had and the others lacked. I agree with Zhu Xi’s 朱熹 (1130-1200) interpretation that Confucius alone has wisdom while all of them have sagacity, especially because the last sentence makes hitting the target a more important skill than simply reaching it.<sup>36</sup> Moreover, one cannot say that Yi Yin lacks strength, for he is a Mozi type of sage who always overstretches himself.

One thing left unsolved in the metaphorical paradigm is what the true “target” of moral cultivation actually is. Mengzi calls it “timeliness,” which, like “appropriateness” or

---

<sup>36</sup> Zhu Xi 朱熹 (1130–1200), *Sishu zhangju jizhu* 四書章句集註 (Beijing: zhonghua shuju, 1983), 314–316. For a discussion of the ambiguity of this passage, see Jiao Xun 焦循 (1763–1820), *Mengzi zhengyi* 孟子正義 (Beijing: zhonghua shuju, 1987), 672–675.

“adaptability,” is as empty a characterization as can be. In fact, the motivation for using the archery metaphor seems to lie precisely in the difficulty of characterizing the goal. Timeliness is a concept that essentially has no content – to assign it any particular foolproof definition that works in every situation is to defeat the purpose of using this concept. The sage of timeliness cannot stick to a particular mode of moral behavior as the other sages do, for achieving timeliness is a matter of fine-tuning one’s behavior by being sensitive to the complexity of the situation. It is in this sense that one has to approach it as one does in aiming. While Mengzi cannot explain timeliness accurately, he nonetheless makes it more intelligible with the archery analogy.

In these examples, we see how a culturally, historically, and technologically developed embodied schema provides metaphorical guidance on ethical and military knowledge. Archery appears to be a particularly meaningful skill for understanding less physical kinds of human action in the social world. The archery schema is never explicitly defined in early texts but, in the two analogies above, lurks in the background as a reservoir of metaphorical inspiration. The same source domain is approached from two different, and indeed opposite, angles. Whereas the target domain in the “Bing qing” is military action, in the *Mengzi* it is moral action. Military action is concerned about effective means; moral action is concerned about right ends. Therefore, the metaphorical projection of the archery schema is *polarized*, probably because in early China the practice of archery itself was both an established ritual and a technique for killing. We shall see more examples of this kind of polarization below.

### **1.5 Charioteering: Metaphorical Divergence and Convergence**

The archery analogies have given us a sense of what I mean by metaphorical divergence: the

same source domain lends itself to different metaphorical interpretations. In this section, I shall look at several charioteering analogies to explore the idea in more detail and give some examples of metaphorical convergence. Both archery and charioteering were a regular part of aristocratic education in early China; both had ritual and military significance at the same time.<sup>37</sup> If the educated elites shared a basic familiarity with the kinesthetic perception of archery and charioteering, then analogies based on the two skills may have had an intuitive appeal for them. Unlike the archery analogies, the charioteering analogies in this section have one single target domain: statecraft. The analogy between charioteering and statecraft was so widespread in early China that the verb *yu* 御/馭/禦 “to drive (chariots),” “to handle (horses)” became a conventional metaphor for political governance and took *min* 民 “people” (especially the people of a lower social class) as the object. Given the prevalence of this analogy, it is beyond the scope of this section to consider it comprehensively. I will limit myself to a few representative examples.

The first example, from the “Sheng de” 盛德 (Abundant Virtue) chapter of the *Da Dai li ji* 大戴禮記, is a systematic analogy embedded in a discussion of ideal government.<sup>38</sup> The whole analogy is too long to be quoted here without omission. I include only the skeleton of this analogy in the following four passages:

德法者，御民之銜[勒]也。吏者，轡也。刑者，筴也。天子，御者。內

---

<sup>37</sup> For a discussion of the ritual significance of the chariot in ancient Chinese culture, see Wu Hsiao-yun *Chariots in Early China: Origins, Cultural Interaction, and Identity* (Oxford: Archaeopress, 2013), 115–122.

<sup>38</sup> This analogy also gets quoted in the “Zhi pei” 執轡 (Holding the Reins) chapter of the *Kongzi jia yu* 孔子家語 with some textual variations. See *Kongzi jia yu*, 25.1/47/11–27. It is difficult to say which one reflects an earlier edition, because both contain mistakes not seen in the other. In the first passage quoted here, for example, the character *le* 勒 is omitted (reinserted here in [ ]). The *Kong zi jia yu* chapter has this character, and from the context we know that it should not be omitted. On the other hand, the character *ru* 入 (income) in the fourth passage here is written as *ren* 仁 (benevolence) in the *Kongzi jia yu* chapter, which does not make any sense. Obviously *ru* 入 was mistakenly copied as *ren* 人 (person/human) at some point and then written as the cognate *ren* 仁. Generally speaking, the redaction of the *Kong zi jia yu* is supposed to be later than the *Da Dai li ji*. For a study of the textual variants between the two chapters, see Wu Kejing 鄔可晶, “*Kongzi jia yu*” *cheng shu kao* 《孔子家語》成書考 (Shanghai: Zhongxi shuju, 2015), 326–328.

史、太史，左右手也。

Virtue and law are the bit and harness for driving the people. The officials are the reins. Punishment is the whip. The Son of Heaven is the charioteer. The Inner Scribe and the Grand Scribe are the left and right hands.<sup>39</sup>

善御馬者，正銜勒，齊轡筴，均馬力，和馬心。故口無聲，手不搖，筴不用，而馬為行也。善御民者，正其德法，飭其官，而均民力，和民心。故聽言不出於口，刑不用而民治。

One who is good at driving horses corrects the bit and harness, makes even the reins and the whip, balances the strength of the horses and harmonizes their will. Therefore, his mouth doesn't make a sound, his hands don't shake, and the whip isn't used, but the horses go. One who is good at governing people corrects virtue and law, manages the officials, balances the strength of people and harmonizes their will. Therefore, people behave properly without his having to issue orders and use punishment.<sup>40</sup>

不能御民者，棄其德法，[專用刑辟]。譬猶御馬，棄[其]轡勒而專以筴御馬。馬必傷，車必敗。無德法而專以刑法御民，民心<sup>41</sup>走，國必亡。

Those who fail to govern people abandon virtue and law and use only punishments. This is like, in driving horses, if one abandons the reins and harness and uses only the whip to govern horses, surely the horses will get hurt and the chariot will be destroyed. If one has no virtue and law and governs people only with punishment, surely they will flee and the state will get destroyed.<sup>42</sup>

古之御政以治天下者，冢宰之官以成道，司徒之官以成德，宗伯之官以成仁，司馬之官以成聖，司寇之官以成義，司空之官以成禮。故六官以為轡，司會均入以為軌。故御四馬，執六轡。御天地與人與事者，亦有六政。

As for those who brought order to the world by their governance in ancient times, they accomplished the Way by the Grand Governor, virtue by the Minister of Land, benevolence by the Minister of Rites, sagacity by the Minister of War, propriety by the Minister of Justice, and ritual by the Minister

---

<sup>39</sup> *Da Dai liji*, 8.2/48/21–22.

<sup>40</sup> *Da Dai liji*, 8.2/48/23–25.

<sup>41</sup> The character *xin* 心 “mind” is obviously a graphic mistake for *bi* 必 “surely.”

<sup>42</sup> *Da Dai liji*, 8.2/49/1–3.

of Works. The six officials were the reins. The Accountant calculated tax evenly as income. Therefore one who governs four horses holds on to the six reins; one who governs heaven, earth, people, and affairs has the six offices.<sup>43</sup>

The first passage, with great patience, establishes a systematic one to one correspondence between charioteering and governance, very much like the beginning of the “Bing qing”:

	Charioteering	Statecraft	
1	Horses	People	The ruled
2	Harness and bit	Virtue and Law	The ruling regime (positive/negative)
3	Reins	Officials	
4	Whip	Punishment	
5	Hands	The two scribes	The ruler
6	Ruler	Charioteer	

Table 1.4: The analogy between charioteering and statecraft in the “Sheng de”

The most important part of table 1.4 is the middle four rows from the “harness and bit” to the “hands,” representing the intermediary regimes with which the ruler governs the people and the charioteer controls the horses. In the second and the third passages, the author distinguishes positive ruling techniques relying on virtue and officials from negative ones relying on law and punishment. We may consider this analogy as a development of, or an argument for, Confucius’ brief remarks in the *Analects* 2.3, 12.13, 12.19 and 13.18 about the desirability and effectiveness of ruling with virtue rather than punishment. If in the *Analects* the priority of positive regimes over negative ones is still a vague and general idea, the “Sheng de” fleshes it out with an extended analogical model drawn from the charioteer’s skill of controlling horses without inflicting pain on them. The intuitive appeal of the analogy may have lent it some corporeal credence in the eyes of aristocratic readers. We should not view the analogy only as a piece of rhetorical eloquence, for the author seems to have taken it very seriously. In the fourth passage, he makes a great fuss about matching the number of officials with the number of reins:

---

<sup>43</sup> *Da Dai liji*, 8.2/49/8–10.

Charioteering	Statecraft
Two hands	Two scribes
Six reins	Six officials
Four horses	Heaven, earth, people, affairs

Table 1.5: Charioteering and statecraft in the “Sheng de”

The author goes to great lengths, even at the risk of being far-fetched, to make the comparison as literal as possible. The analogy in table 1.4 and 1.5 has many problems. There is no reason why the “four horses” in table 1.5 should be “heaven, earth, people, and affairs” rather than the traditional division of “intellectuals, farmers, artisans, and businessmen” (*shi* 士, *nong* 農, *gong* 工, *shang* 商). The former version contradicts the correspondence in table 1.4 between the horses and the people.<sup>44</sup> Moreover, row 5 of table 1.4, the match between the two hands and the two scribes, plays no role in explicating the main point of the analogy, namely the priority of virtue over punishment. It is not contradictory but redundant. The reason for such problematic elements may be explained by the author’s concern with the systematicity of analogical mappings. The initial inspiration for the analogical idea may have been just the similarity between the positive/negative political regimes and the physical rein/whip (row 2-4 in table 1.4). Yet for this single comparison to work, the author felt compelled to map as many elements as possible from the source to the target domain. The two scribes were mentioned for no other reason than to make the analogical tie more solid so that it could better support the author’s main point.

Whatever the initial motivation for drawing the analogy may have been, once drawn it is open to further exploitation. If in the “Sheng de” the main claim is the priority of virtue over punishment, in the “Shen fen” 審分 (Examining Divisions of Responsibility) chapter of

---

<sup>44</sup> It is highly likely that the fourth passage was not part of the analogy originally and got copied with the other passages because of their thematic affinity. It reads very much like an analogy on its own, the point of which is not about positive and negative ruling techniques. However, this is no evidence for this view because even the “Zhi pei” quotes both of them as a textual unit.

the *Lüshi chunqiu* 呂氏春秋 the charioteering analogy is used to claim something different:

凡為善難，任善易。奚以知之？人與驥俱走，則人不勝驥矣。居於車上而任驥，則驥不勝人矣。人主好治人官之事，則是與驥俱走也，必多所不及矣。

Generally speaking, being expert at something is difficult, but it is easy to rely on those who are expert. How do I know this is so? If a man were to race against the thoroughbred horse Ji, he could not win; but were he to ride in a chariot pulled by Ji, then Ji could not beat the man. A ruler who is devoted to managing the affairs of his officials is racing with Ji; surely he will fail to catch up with it.<sup>45</sup>

王良之所以使馬者，約審之以控其轡，而四馬莫敢不盡力。有道之主，其所以使群臣者亦有轡。其轡何如？正名審分，是治之轡已。

That by which Wang Liang drove his horses was to bind them tightly and have firm control over their reins; thus, none of the team dared not expend all of its energy. That by which a lord who possesses the Way employs his servants also involves “reins.” What are these “reins”? The reins of good government are the rectification of names and investigation of divisions of responsibility.<sup>46</sup>

Here the point of the analogy becomes the correct political division of labor. The ruler should not meddle with the particular tasks of the officials but should hold in hand the “reins” of overseeing these officials, which are nothing but the regimes of maintaining the correct division of labor. By implication, the correct division of labor is a labor-saving mechanism that “speeds up” the political system as in chariot-racing. We do not have ethical claims such as the condemnation of punishment anymore; instead, the concern about efficiency here is entirely utilitarian. In the *Hanfeizi*, the utilitarian use of the charioteering analogy is pushed to a Machiavellian extreme:

造父御四馬，馳驟周旋而恣欲於馬。恣欲於馬者，擅轡策之制也。然馬驚於出彘，而造父不能禁制者，非轡策之嚴不足也，威分於出彘也。王

---

<sup>45</sup> *Lüshi chunqiu*, 17.1/99/9–10.

<sup>46</sup> *Lüshi chunqiu*, 17.1/99/16–17.

子於期<sup>47</sup>為駙駕，轡策不用而擇欲於馬，擅芻水之利也。然馬過於圃池而駙駕敗者，非芻水之利不足也，德分於圃池也。故王良、造父，天下之善御者也，然而使王良操左革而叱吒之，使造父操右革而鞭笞之，馬不能行十里，共故也。

Zaofu drove four horses as fast as possible and around everywhere as he pleased. That he could drive the horses as he pleased is because he monopolized the control over the reins and the whip. However, the reason why the horses were frightened by a fleeing pig and Zaofu couldn't stop and control them is not because the reins and the whip were not severe enough but because the power was divided by the fleeing pig. Wang Yuqi [i.e. Wang Liang] harnessed an extra horse alongside his chariot and drove the horses as he pleased without using the reins and the whip. This is because he monopolized the benefit of the fodder and the water. However, the reason why the extra horse broke away when running past the garden pool is not because the benefit of the fodder and the water was not enough but because the reward was divided by the garden pool. Therefore, even though Wang Liang and Zaofu were expert charioteers in the world, they could not drive horses for even ten *li* by Wang Liang holding the left rein and yelling and Zaofu holding the right rein and whipping. This would be because they were holding the reins together<sup>48</sup>

夫以王良、造父之巧，共轡而御不能使馬。人主安能與其臣共權以為治？

Even with Wang Liang and Zaofu's dexterity they could not drive horses by holding the reins together, how can a ruler govern by holding leverage together with his ministers?<sup>49</sup>

The charioteer is not cautioned against the use of the whip anymore but encouraged to monopolize it. Likewise, if the ruler wants to maintain control over the state, he must never

---

<sup>47</sup> This personal name should not be Wangzi Yuqi but rather Wang Yuqi 王於期, which is another name of the Wang Liang 王良 below. The character *zi* 子 was mistakenly inserted because it looks similar to *yu* 于, the variant form of *yu* 於. For this textual problem and the identity of Wang Yuqi, see Chen Qiyou 陳奇猷, *Hanfeizi xinjiaozhu* 韓非子新校注 (Shanghai: Shanghai guji chubanshe, 2000), 454.

<sup>48</sup> *Hanfeizi*, 35/107/5–9.

<sup>49</sup> *Hanfeizi*, 35/107/10–11.

share his political purchase with the ministers.<sup>50</sup>

While the above analogies all place some emphasis on holding the reins, the next example from the “Xing shi jie” 形勢解 (Explanation of the “Form and Setup” Chapter) chapter of the *Guanzi* 管子 says that Zaofu’s skill has little to do with the reins:

造父，善馭馬者也。善視其馬，節其飲食，度量馬力，審其足走，故能取遠道而馬不罷。明主猶造父也。善治其民，度量其力，審其技能，故立功而民不困傷。故術者，造父之所以取遠道也，主之所以立功名也。馭者，操轡也。故曰：“造父之術非馭也。”

Zaofu was an excellent charioteer. He was good at evaluating his horses by sight, and was regular in watering and feeding them. He measured the horses’ strength and judged their pace. Therefore he was able to take distant roads without tiring his horses. The enlightened ruler is like Zaofu. He is good at governing his people. He measures their strength and estimates their capabilities. Therefore he has achievements without distressing or injuring the people. The skill is that by which Zaofu took distant roads and the enlightened ruler has achievement and fame. Charioteering is just a matter of handling the reins. Therefore it is said, “Zaofu’s skill did not lie in charioteering.”<sup>51</sup>

Horsemanship is not so much about the actual technique of handling the reins as about the overall management of the horses’ life; reining technique is but a small part of it. Likewise, governance is not just ruling in the narrow sense but is to look after the people’s livelihood without driving them to the point of exhaustion.

In all these analogies, the structural parallel between charioteering and statecraft is simply assumed, although the perspective from which one views the source domain varies a great deal. Everyone agrees that the ruler should learn from Zaofu’s skill in governing the state, but they disagree over what Zaofu’s secret actually is. In the first analogy, it is to refrain from using the whip; in the second, to stay in the correct reining position without being

---

<sup>50</sup> There is an interesting analogical convergence between the chariot and the lever at the end of this passage, where holding the reins to control the strong horses is compared, albeit implicitly, to holding the lever to lift up heavy objects. The reason for translating *quan* 權 as “leverage” will be explained in chapter 3.

<sup>51</sup> *Guanzi*, 20.1/142/19–21.

meddlesome; in the third, to monopolize the horse gear; in the fourth, to calibrate the amount of work so that it matches the capability of the horses. The same source domain has four divergent meanings.

Up to this point, we have only seen the divergence of archery and charioteering analogies. The convergence of distinct source domains can only be revealed by considering these analogies together.<sup>52</sup> If we read the “Bing qing” in parallel with the “Sheng de,” we will discover that a common metaphorical structure exists across the two domains:

Archery	Charioteering	Governance
Bolt	Horse	The ruled
Crossbow	Harness, Reins Whip, Hands	The ruling regime
Archer	Charioteer	The ruler

Table 1.6: Archery, Charioteering, and Governance

Not all analogies based on archery and charioteering have the same relational structure, but many, if not most, do.<sup>53</sup> Moreover, the target domain sometimes extends beyond the political body to encompass the human body, such as in the “Xin shu shang” 心術上 (The Technique of the Mind A) chapter of the *Guanzi*:

心之在體，君之位也。九竅之有職，官之分也。心處其道，九竅循理。嗜欲充盈，目不見色，耳不聞聲。故曰：“上離其道，下失其事。”毋代馬走，使盡其力。毋代鳥飛，使弊其羽翼。毋先物動，以觀其則。動則失位，靜乃自得。

The mind’s being in the body occupies the position of the lord. The nine apertures’ having their tasks is the division of officials. If the mind dwells in the Way, the nine apertures will be in order. Should obsessive desires occupy it

<sup>52</sup> Reding uses the term “convergence” in a similar sense when talking about metaphorical mappings. For him, the convergence of distinction domains has ontological significance in early Chinese thought. I use the word without the ontological significance. See Jean-Paul Reding, “Light and the Mirror in Greece and Ancient China: Elements of Comparative Metaphorology,” in *Comparative Essays in Early Greek and Chinese Rational Thinking* (Burlington: Ashgate Publishing Company, 2004), 135–140.

<sup>53</sup> The passage from the “Xing shi jie” chapter, for example, is an exception. That said, it is still coupled with an archery analogy that makes the same point in that chapter. The analogy between the charioteering analogy and the archery analogy still remains, albeit in a totally different way.

to the full, the eyes will not see colors, and the ears will not hear sounds. Therefore it is said, “If the person on high departs from the Way, those below will be lax in their work.” Do not attempt to run in place of horses; let them exhaust their strength. Do not attempt to fly in place of birds; let them wear out their wings. Do not move before things so that you may observe their patterns. If you move, you will lose your position; if you remain quiet, you will retain it spontaneously.<sup>54</sup>

Unlike the chariot analogy in Plato’s *Phaedrus* (246a–254e), which serves as a tripartite model for the soul, this one serves as a tripartite model for the mind-body relationship. The technical experience to be borrowed is basically the same as that in the “Shen fen”: the mind should no more interfere with the task of the bodily organs (“Do not attempt to run in place of horses”) than the ruler should interfere with the official duties of his ministers. What is preserved in this analogy between self-cultivation and statecraft is the relational structure of mind-nine apertures-body and ruler-officials-people. To bring all of these analogies together in a single table:

Source		Target	
Archery	Charioteering	State	Self
Bolt	Horse	The ruled	Body
Crossbow	Harness, Reins Whip, Hands	The ruling regime	Apertures, or the sense organs
Archer	Charioteer	The ruler	Mind

Table 1.7: Archery, charioteering, state, and the self

This table illustrates clearly what I mean by metaphorical convergence.<sup>55</sup> The qualitative difference between these domains does not stop them from sharing the same three-part

---

<sup>54</sup> *Guanzi*, 13.1/95/25–27.

<sup>55</sup> Metaphorical convergence can be conveniently explained by the conceptual blending model in cognitive linguistics (see note 17 above). In conceptual blending, CMT’s source and target domains are replaced by the concept of “input spaces,” which are temporary conceptual domains constructed in the mind. In a blending, two or even more mental spaces, constrained by a “generic space” containing information about the structural commonality among all the input spaces, give rise to a new “blended space” in which meanings in these separate input spaces can interact with each other. I do not choose to use the formal diagrammatic representation of CBT for it is unnecessarily complex. But the insights of this theory does apply. In my table, “archery,” “charioteering,” “governance,” and “human body” are four input spaces. The structural pattern of “ruler-ruling regime-ruled” is the generic space. The blended spaces are the political strategies informed by charioteering techniques. For details of this model, see the citations in note 17.

relational structure, an underlying thought pattern that organizes the meaningful experience in these fields. It is difficult to say which field is the primary source of the relational structure. From the classic CMT's point of view, the projection of the structure should be unidirectional, that is, from concrete domains like archery and charioteering to abstract domains like self and state. But in what sense is the state an "abstract" domain? Political subordination is as much a concrete fact in ancient life as archery and charioteering, and the ruler-ruling regime-ruled structure seems more natural in the political domain than the rest. In this case, it may be more helpful to talk about the convergence of several metaphorical domains than a unidirectional projection. Whatever the direction is, it is clear that the metaphorical connection is a vehicle for transporting technical knowledge from one field to another, and the transportation of technical knowledge certainly is unidirectional – archery and charioteering skills are transferred to statecraft and self-cultivation rather than the other way around. It is in this sense that we may still call them source and target.

## CHAPTER TWO

### THE MEANING OF MACHINE

An important lesson to be drawn from the methodological discussion in chapter 1 is that the meaning of a source domain is not a stable entity. I have shown how the same source domain can be approached from different perspectives, but have not shown how it changes with time. If the sensorimotor experience that constitutes the source domain is grounded in a historical setting, then we need to reconstruct the culturally specific embodied schemas based on historical sources. The goal of this chapter is not to reconstruct the whole schema of mechanical experience, but to consider how the ancient Chinese themselves conceptualized the machine and how that concept differs from its modern counterpart. I shall also make some preliminary comparisons between the Chinese concept of machine and Greek mechanics and mechanical analogies in the Aristotelian corpus.

#### **2.1 Machine, Mechanical Metaphor, and Mechanistic Worldview**

Let me begin by distinguishing three stages in the formation of machine-informed ideas. First, there are mechanical devices; then, there are metaphors and analogies based on those devices; finally, there are mechanistic ideas about the world or ourselves based on those mechanical metaphors. It seems natural to assume that all mechanistic ideas originate from actual mechanical tools, for otherwise they would not have been named so. That being said, we still have to distinguish a highly generalized mechanistic worldview from particular mechanical metaphors based on actual machines. The generalized mechanistic worldview emerged with the scientific revolution in the 17<sup>th</sup> century and culminated in Newtonian mechanics. This worldview takes natural processes as automatic causal chains based on direct

contact of physical bodies, leaving no room for divine intervention, teleological principles, or supernatural powers capable of acting across a distance. At a more advanced level, it understands natural processes in terms of mathematical structures, thereby being basically equivalent to modern physics.<sup>1</sup> The generalized mechanistic worldview certainly had its history, but in the most abstract version it had successfully detached itself from any association with particular types of machines.

This form of mechanistic worldview greatly influenced Pepper's account of "mechanism" (also regarded as "materialism" or "naturalism") as one of his four relatively adequate world hypotheses.<sup>2</sup> Associating mechanism with philosophers like Democritus, Descartes, Locke, and Hume, Pepper defines this root metaphor on the basis of a Lockean distinction between primary and secondary qualities. Primary qualities are those existing "out there" in objective reality and described mathematically in physics (size, shape, mass...); secondary qualities are subjective qualities perceived by the human mind (color, texture, smell...). Accordingly, he outlines six mechanistic categories classified in two groups. Group one are the primary categories of 1) field of location, 2) primary qualities, and 3) laws holding for the configuration of primary qualities in the field. Group two are the secondary categories of 4) secondary qualities, 5) a principle for connecting secondary qualities with the three primary categories, and finally 6) laws for regularities among secondary qualities. The six categories together constitute the mechanistic world theory developed from the root metaphor of machine.

Since the mechanistic world theory, however abstract, is still a root metaphor, Pepper

---

<sup>1</sup> The classic account of the formation of this worldview is in E. J. Dijksterhuis, *The Mechanization of the World Picture* (Oxford: Clarendon Press, 1961), 287–492. For a summary of some candidate definitions of the "mechanistic," see Sylvia Berryman, *The Mechanical Hypothesis in Ancient Greek Natural Philosophy* (Cambridge: Cambridge University Press, 2009), 15–20.

<sup>2</sup> Pepper, *World Hypotheses*, 186–231.

is obliged to derive all six categories from the function of an actual machine – the lever is chosen as the archetype. It is at this point that an unavoidable tension in Pepper’s theory emerges. On the one hand, Pepper’s definition of the mechanical metaphor, based on Newtonian physics, is essentially ahistorical. He has little interest in how new mechanical technology may give rise to new mechanical metaphors and different versions of the mechanistic worldview.<sup>3</sup> On the other hand, the mechanistic world theory, as a metaphor, still needs to be linked to a concrete source domain, and the lever must be seen as the source of the six categories. The result of this tension is a forced analysis of the lever itself, in which meanings already understood in the target domain (Newtonian physics) are projected back onto the source domain. The six categories come from a highly generalized version of the mechanistic worldview that is far removed from its metaphorical origin. As Dijksterhuis has shown, the distinction between primary and secondary qualities came to be seen as self-evident only in the 17<sup>th</sup> century.<sup>4</sup> An ancient Greek simply could not have grasped such a complicated set of categories just by looking at the lever as a post-Enlightenment philosopher could. If, from a cognitive linguistic point of view, the metaphorical mapping from source to target is meant to provide the target domain with new structural meanings, then Pepper’s analysis of the lever is the reverse of that process, because he already assumes the meanings to be projected.

In contrast to Pepper’s ahistorical analysis, Blumenberg develops a much more nuanced reading of mechanical metaphors in history. While in Pepper’s system of root metaphors mechanism is defined as the opposite of organicism, Blumenberg urges us to “ask

---

<sup>3</sup> Pepper does mention very briefly a transition from “discrete mechanism” to “consolidated mechanism” that was taking place at his time. The source domain of discrete mechanism is the lever, while that of consolidated mechanism is the electromagnetic field. Therefore he recognizes that “Species of mechanism develop on the basis of the type of machine that is regarded as fundamental.” Yet he quickly drops the subject and never picks it up again. See Pepper, *World Hypotheses*, 186–187.

<sup>4</sup> Dijksterhuis, *The Mechanization of the World Picture*, 431–433, 495–501.

ourselves to what extent this dualism reflects our own historically conditioned perspective.”<sup>5</sup>

He goes on to contrast the ancient and medieval concept of machine to the modern one in a passage worth quoting in its entirety:

When, for example, we come across the term *machina* (or one of its cognates, *machine*, *macchina*, and so forth) in a historical text, it can be very difficult for us to avoid superimposing our modern understanding of what a ‘machine’ is on the far less specific content signified by the older word. When, moreover, we first encounter the expression *machina mundi* in an author like Lucretius, our initial association seems to have been fully confirmed. But *machina* is a “machine” only in part and among other things. It refers more broadly to a contrivance that is both complex and purposeful, without that purpose being immediately transparent to the uninitiated eye; likewise to an occurrence of this kind: a cunning maneuver or “machination,” a deceitful trick, a startling effect. Machines in the narrower sense (for transporting goods and laying siege) fall into this category by virtue of their ability to astonish the unknowing spectator; that is why the expression has accrued so much of its history in the theater, where the effect on the spectator is no longer incidental. So far as I am aware, there is no precedent in Greek of the composite term *machina mundi*. Indeed, it is difficult to see how “cosmos” could be assimilated to this semantic field: as *machina*, the world is “artfully contrived” rather than “cosmic,” and the expression *machina mundi* pertains to a theology which either – as Lucretius – is directed against the Stoic metaphysics of providence (*pronoia*) or in which God hides behind his work rather than manifesting himself in it... We get a sense of just how little our “machine” has in common with the meaning of *machina* when we recall that the Middle Ages could isolate precisely these “mechanical” components in *ingenium*, the basis for the corresponding early forms in the Romance languages (Spanish: *engenno*; French: *engin*). Even in classical French, the meaning of “universe” predominates in *machina*, whereas what we now call “machine” goes by the name of *engin*.<sup>6</sup>

In a similar vein, Sylvia Berryman more recently argues that the term “mechanistic” is a

---

<sup>5</sup> Blumenberg, *Paradigms for a Metaphorology*, 63.

<sup>6</sup> Blumenberg, *Paradigms for a Metaphorology*, 63–64. A detailed philological discussion of *mēchanē* and related words in ancient Greek can be found in Everett L. Wheeler, *Stratagem and the Vocabulary of Military Trickery* (Leiden: Brill, 1988), 1–49. For a discussion of the meaning of *machina mundi* in historical texts, see Jürgen Mittelstrass, “Nature and Science in the Renaissance” in *Metaphysics and Philosophy of Science in the Seventeenth and Eighteenth Centuries*, ed. R.S. Woolhouse (Dordrecht: Kluwer Academic Publishers, 1988), 17–44.

changing concept, and its open-ended list of meanings comes from different ways of picking out meaningful features from the source domain of mechanical technology, which itself evolves historically. She notes:

There is, I suggest, a good reason why the term [i.e. the “mechanical”] both lends itself to so many distinct analyses and also gives rise to these open-ended lists. Thinkers inspired by a governing analogy to another field pick out different features of the point of reference: to describe a system of thought as “psychologistic” or “legalistic,” for example, allows for a certain open-endedness and fluctuation in that characterization, as notions of psychology or law differ or evolve.<sup>7</sup>

These critiques demonstrate the importance of understanding ancient mechanical metaphors based on a roughly contemporaneous source domain, that is, actual mechanical knowledge in antiquity. Such a task would involve looking at both the construction and use of mechanical devices and mechanics as a theoretical discipline, the latter of which is more important for the purpose of historical metaphorology. At this point, it may be helpful to take a brief look at ancient Greek mechanics and mechanical metaphors in the Aristotelian corpus as a classic point of reference. At the beginning of the *Mechanical Problems*, supposedly written by one of Aristotle’s students, the author says:

Remarkable (θαυμάζεται) things occur in accordance with nature, the cause of which is unknown, and others occur contrary to nature, which are produced by skill for the benefit of mankind. For in many cases nature produces effects against our advantage; for nature always acts consistently and simply, but our advantage changes in many ways. When, then, we have to produce an effect contrary to nature, we are at a loss, because of the difficulty, and require skill. Therefore we call that part of skill which assists such difficulties, a device (μηχανή). For as the poet Antiphon wrote, this is true: "We by skill gain mastery over things in which we are conquered by nature." Of this kind are those in which the less master the greater, and things possessing little weight move heavy weights, and all similar devices which we term mechanical problems.<sup>8</sup>

---

<sup>7</sup> Berryman, *The Mechanical Hypothesis in Ancient Greek Natural Philosophy*, 19.

<sup>8</sup> *Mechanical Problems*, 847a.

This is a dense passage that lends itself to competing interpretations. In what sense does the mechanical device produce effects “contrary to nature” (*para physin*) and how this understanding of mechanics fits into the general picture of the Aristotelian natural philosophy have stimulated continuing debates.<sup>9</sup> Most important of all, the author provides a definition of machine as a device (the Greek word translated as “device” here is *mechane*) that assists in producing effects *para physin*, specified, in the context, as “those in which the less master the greater.” The text quickly identifies the lever as the archetype of machine, through which we “gain mastery over things in which we are conquered by nature”:

Among the problems included in this class are those concerned with the lever. For it is strange that a great weight can be moved by a small force, and that, too, when a greater weight is involved. For the very same weight, which a man cannot move without a lever, he quickly moves by applying the weight of the lever.<sup>10</sup>

The aim of the *Mechanical Problems* is to explain why this “effect contrary to nature” is possible. The answer that it provides rests on a series of reductions: 1) the reduction of all mechanical problems to the function of the lever, 2) the reduction of the function of the lever to the function of the balance, and 3) the reduction of the function of the balance to the geometric feature of the circle:

Therefore, as has been said before, there is nothing strange in the circle being the first of all marvels (θαυμάτων). The facts about the balance depend upon the circle, and those about the lever upon the balance, while nearly all the other problems of mechanical movement can depend upon the lever. Again, no two points on one line drawn as a radius from the center travel at the same pace, but that which is further from the fixed center travels more rapidly; it is due to this that many of the remarkable (θαυμαζομένων) properties in the movement of circles arise; concerning which there will be a demonstration in

---

<sup>9</sup> The translation of the Greek *para physin* as “contrary to nature” is contested by Schiefsky, who argues that the effects produced by mechanical arts, though they go beyond nature, are not necessarily against nature. Mark J. Schiefsky, “Art and Nature in Ancient Mechanics,” in *The Artificial and the Natural: An Evolving Polarity*, ed. Bernadette Bensaude-Vincent and William R. Newman (Cambridge: MIT Press, 2007), 67–108.

<sup>10</sup> *Mechanical Problems*, 847b.

what follows.<sup>11</sup>

As Schiefsky points out, what the *Mechanical Problems* offers is a geometric solution to a mechanical mystery.<sup>12</sup> A lever in operation rotates around a motionless point, which makes it the radius of a circle. The reason why the lever can move a greater weight with small force is because the further a point is from the motionless center the more distance it covers in a given amount of time. De Groot calls this the “moving radius principle” and identifies its various formulations in classical texts, such as rotating concentric circles.<sup>13</sup> Consider, then, how this understanding of mechanical problems works as the source domain of a mechanical analogy in Aristotle’s *Movement of Animals*. The following passage from Book 7 of the *Movement of Animals* offers an explanation of how subtle changes located in the human heart, such as sensations and ideas, can produce much greater effects on the human body:

Sensations are obviously a form of change of quality, and imagination and conception have the same effect as the objects so imagined and conceived. For in a measure the form conceived be it of hot or cold or pleasant or fearful is like what the actual objects would be, and so we shudder and are frightened at a mere idea. Now all these affections involve changes of quality, and with those changes some parts of the body enlarge, others grow smaller. And it is not hard to see that a small change occurring at the center makes great and numerous changes at the circumference, just as by shifting the rudder a hair's breadth you get a wide deviation at the prow. And further, when by reason of heat or cold or some kindred affection a change is set up in the region of the heart, even in an imperceptibly small part of the heart, it produces a vast difference in the periphery of the body,- blushing, let us say, or turning white, goose-skin and shivers and their opposites.<sup>14</sup>

---

<sup>11</sup> *Mechanical Problems*, 848a.

<sup>12</sup> Mark J. Schiefsky, “Structures of Argument and Concepts of Force in the Aristotelian Mechanical Problems,” *Early Science and Medicine* 14 (2009): 43–69.

<sup>13</sup> Jean De Groot, *Aristotle's Empiricism: Experience and Mechanics in the Fourth Century BC* (Las Vegas: Parmenides Publishing, 2014), 21–51.

<sup>14</sup> *Movement of Animals*, 701b15–30. In 701b1–14, Aristotle compares the movement of animals to an automatic puppet or a child’s toy wagon with wheels of unequal sizes. There are some controversies over the exact meaning of these two analogies. Nussbaum, Furley, and Berryman believe that the point of the analogy is how an initial force can set off a series of involuntary motions of various kinds without further external stimulus. Their emphasis is on the machine as automatic causal chains based on physical contact. De Groot, on

The whole explanation has a metaphorical structure rooted in the geometric understanding of mechanical problems. Mental states are located near the “center,” while bodily reactions are on the “circumference.” The relationship between them is vividly illustrated by the workings of the rudder. Back to the *Mechanical Problems*, we find a more specific analysis of the rudder:

Why does the rudder, which is small and at the end of the vessel, have so great power that it is able to move the huge mass of the ship, though it is moved by a smaller tiller and by the strength of but one man, and then without violent exertion? Is it because the rudder is a bar, and the helmsman works a lever? The point at which it is attached to the ship is the fulcrum, the whole rudder is the bar, the sea is the water, and the helmsman is the motive force.<sup>15</sup>

If Aristotle’s explanation of animal movements can be called a mechanistic one, then it is only mechanistic in the sense defined in the *Mechanical Problems* as the amplifying function. This is not to say that this single definition applies universally to ancient mechanical analogies, but it supports Blumenberg’s argument that we cannot operate on a modern conception of machine unreflectively. What the Greek authors picked from the mechanical source domain is the remarkable effect of moving greater weight with small force. It was this disproportionality of input and output forces that proves to have metaphorical and explanatory power in Aristotle’s biology.

One final point worth noting is that in the *Mechanical Problems*, the author keeps

---

the other hand, argues that the emphasis is rather on the amplification of the initial force, which makes it an example of the moving radius principle. The difficulty is that the first interpretation works better for the first analogy and the second interpretation the second, for the puppet functions by the pegs and strings striking one another, while the toy wagon leaves traces of concentric circles on the ground. I find De Groot’s reading more plausible in the context of book 7, for in the puppet analogy Aristotle does make it clear that the complex movements of the puppet are set off by a *tiny* initial movement. Yet in either case the answer is not conclusive. See David J. Furley, *Two Studies in the Greek Atomists* (Princeton: Princeton University Press, 1967), 216; Martha Nussbaum, *Aristotle’s De Motu Animalium: Text With Translation, Commentary, and Interpretive Essays* (Princeton: Princeton University Press, 1985), 347; Sylvia Berryman, “Ancient Automata and Mechanical Explanation,” *Phronesis* 48, no. 4 (2003): 344–369. De Groot, *Aristotle’s Empiricism*, 113–124.

<sup>15</sup> *Mechanical Problems*, 850b.

calling the mechanical arts and the circle on which they rely “remarkable” or “marvelous” (both translate the Greek *thaumastos* or its verbal form *thaumazo*, “to marvel”). This brings us back to Blumenberg’s point about the relationship between *mechane* and theater.

Mechanical arts have a startling effect on the uninitiated spectator, for they introduce ruptures into our routine experience. Accordingly, a mechanical metaphor has a *dramatic* quality to itself, because it is rooted in an astonishing kind of sensorimotor schema made possible only by new technology. A lever challenges the normal perceptual experience that a heavy object can only be moved by a great force, thereby arousing a sense of wonder and amazement.

This, I believe, is a large part of the reason why mechanical metaphors have so much intellectual appeal and rhetorical power. An additional link between *mechane* and theater is seen in the term *deus ex machina* (in Greek, ἀπὸ μηχανῆς θεός), a plot device that introduces an abrupt divine intervention to resolve an unsolvable problem. The term literally means “god from the machine,” for the savior usually comes down from the air upon some form of crane. In the theatrical setting, therefore, *mechane* came to be associated with an unexpected turn of events or a contrived, “unnatural” dramatic setup.

## 2.2 The Meaning of Machine in Early China

In early Chinese texts, we do find two words that may be conveniently translated as “machine” and are continuously used in the same sense in modern Chinese: *ji* 機 and *xie* 械. A mere translation, however, does not reveal much about their classical connotations, in the same way that the formal similarity between “machine” and the ancient *mechane* disguises the underlying differences. It is necessary to consider how the ancient Chinese understood the machine in context. The best place to begin with is an anecdote in the “Outer Chapters” of the *Zhuangzi* about Confucius’ disciple Zigong and an old gardener:

子貢南遊於楚。反於晉，過漢陰，見一丈人方將為圃畦。鑿隧而入井，抱甕而出灌，搨搨然用力甚多而見功寡。子貢曰：“有械於此，一日浸百畦，用力甚寡而見功多。夫子不欲乎？”為圃者印而視之曰：“柰何？”曰：“鑿木為機，後重前輕。挈水若抽，數如沃湯。其名為槩。”為圃者忿然作色而笑曰：“吾聞之吾師，‘有機械者，必有機事。有機事者，必有機心。機心存於胸中，則純白不備。純白不備，則神生不定。神生不定者，道之所不載也。’吾非不知，羞而不為也。”

Zigong travelled south to Chu. On his way back to Jin, as he passed along the south bank of the Han River, he saw that an old man was about to plant his fields. Digging a tunnel, he entered the well, and holding a jar came out to pour it out. Straining himself, he used a great deal of force but produced little result. “There is a machine for this sort of thing,” said Zigong. “In one day it can water a hundred fields. You will use little force but produce many results. Wouldn’t you, my sir, like one?” The gardener raised his head and looked at Zigong. “What is it like?” “You chisel wood to make a machine. The back end is heavy and the front end light. It lifts up water as if it were pulling up, so fast as if the water were boiling right over. It’s called a well sweep.” The gardener flushed with anger and then said with a laugh, “I’ve heard from my teacher, ‘When there are mechanical devices, there are bound to be mechanical affairs. When there are mechanical affairs, there are bound to be mechanical minds. With a mechanical mind in your breast, you’ve spoiled the pure whiteness; and without the pure whiteness, spirit and life will be unsettled. That in which spirit and life are not settled is where the Way does not place itself.’ It’s not that I am ignorant, but that I would be ashamed to do it.”<sup>16</sup>

The passage uses *ji* and *xie* interchangeably for a device called *jiegao* 桔槔 (well sweep), depicted as a lever with a heavy object attached to its back end as counterweight. The same device is known elsewhere as simply *gao* 槔 or *qiao* 橋 (\*gaw), the latter of which may have been a phonological contraction of *jie* (\*kit) and *gao* (\*k<sup>u</sup>).<sup>17</sup> Zigong’s characterization

---

<sup>16</sup> *Zhuangzi*, 12/32/1–6. A different and much abridged version of this anecdote appears in the “Fan zhi” 反質 (Retuning to Simplicity) chapter of the *Shuoyuan* 說苑, where Zigong is replaced by Deng Xi 鄧析 (fl. 6<sup>th</sup> century BCE), a famous intellectual and political figure in the state of Zheng 鄭. Well known for his talent in rhetoric and logical paradoxes, Deng Xi was often depicted as a figure who excelled at trickery. In this sense he was quite like Zigong, a shrewd businessman. See *Shuoyuan*, 20.5/174/5–9.

<sup>17</sup> For a discussion of the actual machine, see Joseph Needham and Wang Ling, *Mechanical Engineering*, part II of *Science and Civilization in China, Vol.4: Physics and Physical Technology*, edited by Joseph Needham (Cambridge, Cambridge University Press, 1965), 331–335.

of the machine is very similar to that in the *Mechanical Problems*: the well sweep demands little effort but produces great result, enabling the gardener to water many more fields in a day. Yet Zigong's enthusiasm for technological efficiency was greeted with anger and derision. The gardener's rejection of mechanical advantage was not a result of his ignorance, but of a heightened awareness of the machine's double effect: it brings as much, if not more, spiritual disadvantage as material advantage. It is obvious that the "mechanical mind" in this anecdote does not refer to a mind that works like a machine in the modern sense, but rather refers to a mind good at playing tricks, a crafty mind of machination and contrivance. In this sense, the classical Chinese *ji* has a similar connotation to the Greek *mechane*.

Daoist philosophy aside, let us focus on this characterization of the machine that foregrounds its labor-saving capacity in facilitating human undertakings. There is evidence that such a characterization is not unique to the *Zhuangzi*, but instead represents how the machine was understood generally in antiquity. Consider the following passages quoted from a variety of early Chinese texts:

古者剡耜而耕，摩蜃而耨，木鉤而樵，抱甕而汲，民勞而利薄。後世為之耒耜耨鋤，斧柯而樵，桔槔而汲，民逸而利多焉。

In ancient times, people sharpened sticks to plow, polished clam shells to weed, cut firewood to make fuel, and hauled jars to draw water. People labored, but their benefits were few. Later generations made them plows, plowshares and hoes; axes for cutting firewood; and well sweeps for drawing water. People were at ease, and their benefits multiplied.<sup>18</sup>

古之民未知為舟車時，重任不移，遠道不至。故聖王作為舟車，以便民之事。其為舟車也，全固輕利，可以任重致遠。其為用財少，而為利多，是以民樂而利之。

When ancient people had not known [how to] make boats and chariots, they could neither carry a heavy load nor travel a great distance. Therefore the sage-kings invented and made for them boats and chariots to facilitate the

---

<sup>18</sup> *Huainanzi*, 13/120/10–11.

people's undertakings. They made the boats and chariots firm, durable, light, and convenient so that they could carry heavy loads and travel far distances. Such an undertaking costs little but produces many benefits. Therefore, people found it agreeable and took it as beneficial.<sup>19</sup>

明於權計，審於地形、舟車、機械之利。用力少致功大。則入多。

Be clear about the strategies of leverage and examine the advantages of terrain, boats, chariots, and machines. Exert little effort but achieve great results. Then the income will be abundant.<sup>20</sup>

行海者坐而至越，有舟也。行陸者立而至秦，有車也。秦越遠途也。安坐而至者，械也。

Those who travel by sea can sit and reach the state of Yue, because there is a boat. Those who travel by land can stand and reach the state of Qin, because there is a chariot. Qin and Yue are far away. That by which one reaches there by sitting peacefully is the machine.<sup>21</sup>

In this series of quotations (the last two of which use *ji* and *xie*), the machine is consistently described as a device that costs little but brings great advantage, and the typical examples are the well sweep (passage 1), the boat, and the chariot (passage 2, 3, and 4). The three machines are not chosen randomly, for they are most helpful in overcoming the natural difficulties summarized in the first passage: “carrying heavy loads and travelling far distances” (*ren zhong zhi yuan* 任重致遠). As the *Mechanical Problem* says, machines help us “gain mastery over things in which we are conquered by nature.” In early China, such natural obstacles are customarily depicted as the vertical task of weight-lifting and the horizontal task of travelling afar. The “Xi ci” 繫辭 (Attached Words) commentary to the *Zhouyi*, for example, uses a slightly different phrase, “draw heavy things and travel far distances” (*yin zhong zhi yuan* 引重致遠), to describe the domestication of animals as power

---

<sup>19</sup> *Mozi*, 1.6/7/24–25.

<sup>20</sup> *Hanfeizi*, 37/120/18–19.

<sup>21</sup> *The Shen Tzu Fragments*, T119. See chapter 5 for a detailed discussion of this fragment.

source for traffic vehicles:

服牛乘馬，引重致遠，以利天下，蓋取諸“隨”。

[They] trained oxen and yoked horses to draw heavy things and travel far distances. In doing so they benefited the world, for they learned these from the hexagram “Sui”.<sup>22</sup>

It is also interesting to note that the two natural difficulties can serve as a metaphor for difficulties in moral cultivation. In the *Analects* 8.7, Zeng Shen 曾參 makes the famous remark that in practicing benevolence “the burden is heavy and the way is long” (*ren zhong er dao yuan* 任重而道遠). Moreover, in the *Liji* 禮記, benevolence is directly referred to as a heavy “vessel” that one has to carry to a far place:

子曰：“仁之為器重，其為道遠。舉者莫能勝也，行者莫能致也…”

The master said, “Benevolence as a vessel is heavy, and as a way is long. None of those who try to lift it up can succeed. None of those who travel its way can make it to the end…”<sup>23</sup>

All these seem to suggest that weight and distance were commonly perceived as the two major forms of physical hardship in early China, and to conquer them one needs the help of the lever and the wheel, two of the five simple machines defined by Heron of Alexandria.

Not surprisingly, the lever and wheel were among the most meaningful metaphors in early Chinese thought. Since the lever will be examined in the next few chapters, let us consider the wheel metaphor just briefly here (it will show up again in chapter 5). Classical philosophers were greatly intrigued by the paradoxical coexistence of the wheel’s motionless center and restless circumference.<sup>24</sup> The paradoxical feature became the basis for the potter’s

---

<sup>22</sup> *Zhouyi Zhengyi* 周易正義 (Yiwen ed.), 8.7a.

<sup>23</sup> *Liji zhushu* 禮記注疏 (Yiwen ed.), 54.7b–8a.

<sup>24</sup> The author of the *Mechanical Problems* also shows considerable interest in the circle as a paradoxical object. He identifies three combinations of opposites in it: 1) the stationary center and the moving circumference, 2)

wheel (*jun* 鈞) metaphor in chapter 2 of the *Zhuangzi* and the hub metaphor in chapter 11 of the *Laozi*. In the *Zhuangzi*, the fully cultivated human mind responds to things like a rotating wheel, remaining tranquil at the center while adapting quickly to the changing environment. This mode of action is captured by two other phrases, “walking both ways” (*liangxing* 兩行) and “axle of Dao” (*daoshu* 道樞).<sup>25</sup> In the *Laozi*, the same metaphorical structure is used to explain the metaphysical relationship between being and non-being.<sup>26</sup> While it is the substantial being of the spokes and rim that brings advantage, it is the emptiness inside the hub that actually makes it possible for the wheel to function by rotating around the axle. The useless empty center thus makes the substantial circumference useful. In ethical and political discourse, the term *fuou* 輻輳 “the spokes converging at the hub” generally indicates the attractive force of the ruler’s charismatic virtue, as well as the social cohesion achieved effortlessly through virtuous government.<sup>27</sup> The wheel as a source domain lends itself to these variegated metaphorical extensions.

Recall that in the *Mechanical Problems*, the lever’s marvelous function is explained by a geometric principle of the rotating circle. Indeed, when a lever functions, it rotates around a motionless fulcrum just like a moving radius; it is very natural to associate it with the circle. Do we, then, have any evidence for the same kind of association in early China? While I am not able to find any pre-imperial textual record, there is a passage in the “Lü li zhi” 律歷志 chapter of the *Han shu* 漢書 that links the two:

---

concave and convex, and 3) simultaneous movements forward and backward. See *Mechanical Problems*, 847b17–848a11.

<sup>25</sup> *Zhuangzi*, 2/4/20, 2/5/5. For an analysis of this metaphor, see Wim De Reu, “How to Throw a Pot: The Centrality of the Potter’s Wheel in the *Zhuangzi*,” *Asian Philosophy* 20, no. 1 (2010): 43–66.

<sup>26</sup> *Laozi*, 11A/4/6–7.

<sup>27</sup> The classic expression of this, of course, is in the *Analecets* 2.1, although the analogy there is based on the rotating firmament rather than the wheel.

權與物鈞而生衡，衡運生規，規圓生矩，矩方生繩，繩直生準，準正則平衡而鈞權矣。是為五則。

When the [weight of the] counterpoise is equal to the thing [being weighed], it gives rise to the balanced beam. The balanced beam rotates and gives rise to the compass. The compass has a round shape and gives rise to the square. The square has a square shape and gives rise to the marking cord. The marking cord is straight and gives rise to the level. If the level is correct, then it balances the beam and makes the counterpoise even with the thing [being weighed]. Such are the five standards.<sup>28</sup>

We may compare this model of the five standards to the geometric explanation in Aristotelian mechanics. The *Hanshu* model relies not on linear reduction but on a closed system of circular generation; the author obviously had the five-agent theory in mind when writing down this passage. Therefore, the circle is not the ultimate cause on which the lever and all other mechanical effects depend, but only one of the five standards that give rise to each other. Moreover, the context of this model has nothing to do with theoretical mechanics as a discipline but is part of a grand correlative cosmology. Despite all these differences, it still shows that the lever, at least in this one case, was associated with the circle in an attempt to integrate the five tools into a generative system.

In summary, we have seen that the machine in early China was understood as a device that optimizes human efficacy in overcoming weight and distance. The archetypes of machines, accordingly, were lifting machines made of the lever and transportation vehicles made of the wheel, both of which were pregnant with metaphorical meanings. Although the concept itself is very similar to that in the *Mechanical Problems*, the implications are entirely different: the main concern of the *Mechanical Problems* is theoretical, whereas the early Chinese examples show only an interest in the practical role of mechanical advantage in

---

<sup>28</sup> The word *quan* in the context of the “Lü li zhi” means “counterpoise” rather than “lever” as it does in most other cases. See chapter 3 for more discussion of the historical development of the word. The “Lü li zhi” is a rather late text composed in the 1<sup>st</sup> century CE, but probably includes materials from earlier sources. It is uncertain how early this association between the lever and the spinning circle can be.

human life. If we compare the rotating circle metaphors in Aristotle and Zhuangzi, the difference between the Greek and Chinese concepts of machine will become more obvious. In the *Movement of Animals*, the rotating circle helps to explain bodily reactions to sensory input, while in the *Zhuangzi*, the potter's wheel is a model for cultivated human action. They share a similar metaphorical structure that places the mind at the center and action on the circumference. However, in Aristotle such movements are natural *happenings* on the human body, whereas in Zhuangzi they are essentially human *doings*. To be sure, we cannot generalize from a single comparison, but at least in the Chinese case, mechanical metaphors are used for practical guidance on human action rather than theoretical explanations of natural processes. The majority of the mechanical metaphors in the upcoming chapters concern actions with purposes in one's mind and consequences on other people, not mere events taking place in a biological organism.

## CHAPTER THREE

### THE LEVER SCHEMA

In chapter 1, I have shown how metaphorical meanings arise from regular patterns of embodied experience, known as embodied schemas. Embodied schemas are stable in comparison to the variability of perceptual experience, but they can also be modified by technological artifacts. In chapter 2, I have sketched the general meaning of machine in early China with a brief discussion of the two archetypes, the wheel and the lever. This chapter delves into the details of lever metaphors by reconstructing the embodied schema of its source domain based on historical sources. The lever schema, as I would call it, is a meaningful structure of the physical experience of the lever's mechanical function. It provides a range of meanings from which philosophers could choose as their metaphorical base. The lever metaphors in the next two chapters all depend on one or more of the meanings defined in the lever schema.

The lever schema does not exhaust all possible meanings of lever metaphors in early Chinese texts. The scope of its meaning can be revealed by a distinction between generic and specialized lever metaphors. In a generic lever metaphor, a lever is just a tool like the carpenter's compass and square, and its metaphorical meaning does not come from the "mechanical" (in the sense defined in chapter 2) functions. A lever metaphor of this kind is basically the same as *guiju* 規矩 "rule" "standard" (literally "compass and square tool") and is seen pervasively in ancient texts.<sup>1</sup> A specialized lever metaphor, on the other hand, takes its

---

<sup>1</sup> The meaning of a generic tool metaphor can also be very complex. For an analysis of tool metaphors in early China and especially in the *Huainanzi*, see John S. Major, "Tool Metaphors in the *Huainanzi* and Other Early Texts," in *The Huainanzi and Textual Production in Early China*, eds. Sarah A. Queen and Michael J. Puett (Leiden: Brill, 2014), 153–198.

meaning from the lever's mechanical functions. The lever schema defines only the specialized meanings.

The specialized lever metaphor can be conveyed by three words in classical Chinese: *quan* 權 “balance, leverage, weighing, political power,” *ji* 機 “crossbow trigger, machine, mechanism, subtle, dangerous,” and *shi* 勢 “setup, circumstantial conditions, leverage, momentum, strategic advantage.” The majority of this chapter will be devoted to historical-semantic analyses of these terms. In early Chinese texts, they are often combined into compounds or used interchangeably. Despite the semantic proximity, these words have never been studied as a group of mechanical metaphors before, the result of which is a lack of understanding of how their long lists of possible translations relate to each other. When there is no apparent connection between two meanings of a word, such as *ji*'s “subtle” and “dangerous,” they may be interpreted as homonyms – unrelated meanings just happening to share the same sound and written sign, such as “left” (past tense of “leave”) and “left” (the opposite of right) in English. However, a main argument of this chapter is that the seemingly unrelated meanings listed above are all polysemous, that is, they can all be derived from the lever schema if treated as mechanical metaphors. These meanings do not come under the same sign by chance, but through semantic derivation recoverable only by association with the lever.

In the following three sections, I shall deal with the three words respectively. The style and scope of my historical-semantic analyses are conditioned by the type of evidence available. With paleographic evidence, I will be able to consider the problem of origin; without paleographic evidence, I can only look at common usages in later times (that is, from Eastern Zhou onwards). Since all of the received texts were heavily edited in the process of transmission, the problem of etymology can only be solved by relying on paleographic sources. In the case of *shi*, we are fortunate enough that archaeology has produced the earliest

documented evidence in oracle bone inscriptions. But we are not so lucky when it comes to *quan* and *ji*, and my analyses of them are limited to their occurrences in the transmitted texts of the Warring States, Qin, and Western Han. In such a case, I will speak of the date of texts only in terms of general periods, without further historical specificity that is often beyond what reliable dating can offer. A historically sound analysis can only be carried out when we have enough excavated evidence in hand.

### 3.1 *Quan* 權

*Quan* is a word whose etymology is largely unknown. Its first appearance in paleographic texts is in the Shuihudi 睡虎地 Qin bamboo manuscripts, much later than the earliest occurrence in transmitted texts (see below).<sup>2</sup> The *Shuowen* defines it as a kind of tree with yellow flowers (*huanghua mu* 黃華木), probably based on two duplicate entries from the *Erya* 爾雅 in which *quan* is defined as *huanghua* 黃華 or *huangying* 黃英, both meaning “yellow flower.”<sup>3</sup> The earliest occurrence of *quan* in transmitted texts is in the *Shijing* as part of a compound *quanyu* 權輿, glossed by all commentators as “beginning” or “to begin.”<sup>4</sup>

This meaning could potentially be related to the *Shuowen* definition, for we do have phrases

---

<sup>2</sup> In the Shuihudi manuscripts, *quan* appears in the “Jing si” 經死 section (slips 64–67) of the *Feng zhen shi* 封診式 (Models for Sealing and Investigating). The editors suspect that this *quan* (\*Cə.gror) should be read as *chuan* 椽 (\*Iron) “rafter.” This seems a reasonable suggestion, so the example in the “Jing si” may not really be *quan* at all. The compound *quanheng* 權衡 “weighing” does show up once in the *Wei li zhi dao* 為吏之道 as a metaphor for weighing benefits. See Wuhan daxue jianbo yanjiu zhongxin 武漢大學簡帛研究中心 et al., eds., *Shuihudi qinmu jiandu* 睡虎地秦墓簡牘, vol. 1 of *Qin jiandu heji* 秦簡牘合集 (Wuhan: Wuhan daxue chubanshe, 2014), 309–310, 327.

<sup>3</sup> Duan Yucan 段玉裁 (1735–1815), *Shuowen jiezi zhu* 說文解字注 (Shanghai guji chubanshe), 6a.16a; *Erya zhushu* 爾雅註疏 (Yiwen ed.), 8.15a, 9.3b.

<sup>4</sup> *Maoshi zhengyi* 毛詩正義 (Yiwen ed.), 6/4.11b–12a.

like “the hundred plants sprout” (*baicao quanyu* 百草權輿) in the *Da Dai liji*.<sup>5</sup> Yet the relationship between *quanyu* and “yellow flower” is tenuous; there is no solid paleographic evidence that *quan* was originally a flower name. Even if it did have that meaning, we should exclude it from our consideration because it was but a homonym totally separated from *quan*’s commonest meanings in later times, namely “weighing” or “political power.”

Aside from the *Shuowen*, completed in 100 CE, there are two other theories about *quan*’s etymology. The first one comes from the slightly later Zheng Xuan 鄭玄 (127–200). In his commentary to the *Liji*, Zheng defines *quan* as the counterpoise on a steelyard.<sup>6</sup> Earlier than Zheng and Xu, Ban Gu 班固 (32–92) had already used *quan* in the sense of “counterpoise” in the “Lü li zhi” 律歷志 (Treatise on Law and the Calendar) chapter of the *Hanshu* 漢書.<sup>7</sup> However, as Qian Baocong 錢寶琮 and Griet Vankeerberghen have pointed out, this definition, despite its popularity among later scholars, cannot be identified in pre-Qin texts.<sup>8</sup> As we shall see below, the earliest extant usages of this word all refer to the whole weighing machine rather than a part of it. *Quan* became a special name for the counterpoise only at a much later date, probably after the Qin unification.

The second theory is proposed by a few late Qing and early Republican philologists, Ma Ruichen 馬瑞辰 (1782–1853), Chen Huan 陳奐 (1786–1863), and Zhang Binglin 章炳麟

---

<sup>5</sup> *Da Dai liji*, 9.4/58/20. See also Wang Xianqian 王先謙, *Shisanjia yi jishu* 詩三家義集疏 (Beijing: Zhonghua shuju, 1987), 461.

<sup>6</sup> *Liji zhushu*, 15.5a–b.

<sup>7</sup> Ban Gu 班固 (32–92), *Hanshu* 漢書 (Beijing: Zhonghua shuju, 1962), 969. Ban Gu defines *quan* in terms of the measurement units for weight (*quan zhe, zhu, liang, jin, jun, dan ye* 權者, 銖, 兩, 斤, 鈞, 石也).

<sup>8</sup> Qian Baocong 錢寶琮, “Mojing lixue jin shi” 墨經力學今釋, *Kexueshi jikan* 8 (1965): 65–72; Griet Vankeerberghen, “Choosing Balance: Weighing (*quan* 權) as a Metaphor for Action in Early Chinese Texts,” *Early China* 30 (2005–6): 47–90.

(1868–1936), and later developed by Zhao Jibin 趙紀彬.<sup>9</sup> According to this theory, *quan* 權 (\*Cə.gror) is a phonetic loan for *quan* 捲 (\*g<sup>w</sup>ren), glossed in the *Shuowen* as “the momentum of *qi*” (*qishi ye* 氣勢也). In addition to 權 and 捲, the same word can also be written as 拳 (\*N-kron), 攏, and 鬃 (\*g<sup>w</sup>ren) and is often combined with *yong* 勇 “courage” to form the synonymous compound *quanyong* 拳勇 “strong and brave.” The “hand” signific 扌 or 手 shows that its literal meaning is probably “fist” or “to clench one’s fist,” from which the metaphorical meaning of “courage” or “the momentum of *qi*” are derived. Zhao carries this line of argument even further by suggesting that the meaning of “counterpoise” is in turn derived from “fist,” because the shape of early counterpoises resembled that of the human fist. Working from the assumption that ancient tools were extensions of the human bodily organs, he compares the beam of a scale to arms and the counterpoises to fists. While Zhao’s pictographic analogy is too speculative, if not far-fetched, the Qing scholars’ interpretation does have some credibility and textual support. However, their argument is based on an abuse of phonetic loans. The fact that *quan* 權 in early texts is occasionally used as a phonetic loan or textual variant of *quan* 捲 by no means proves that the original meaning of *quan* 權 itself is “fist.” In fact, the meaning that should be associated with the phonetic series of 卷 (\*kror?) should be “bent” rather than “courage,” because many words that have 卷 as the phonetic have something to do with being bent: *quan* 拳 “fist” or “clenching hand,” *quan* 捲 “round wooden cup,” *quan* 鬃 “curly hair,” and *quan* 蹠 “to bend.” In general, if A and B are used as phonetic loans for each other, and B is glossed as C in an early dictionary, this does not necessarily establish any semantic connection between A and C. This is because C might be

---

<sup>9</sup> For a summary of these arguments, see Zhao Jibin, “Shi quan” 釋權, in *Kun zhi er lu* 困知二錄 (Beijing: Zhonghua shuju, 1991), 250–262.

one of the many meanings of B, and what happens to be shared by A and B in common through phonetic borrowing might be B's other meanings.

In any case, we do not have a satisfactory theory of *quan*'s etymology yet; nor am I able to figure it out in the absence of paleographic evidence. What I intend to do is to focus just on the two commonest meanings of *quan* – “weighing” and “leverage” – in Eastern Zhou transmitted texts. The earliest occurrence of the “weighing” meaning is in the “Lü xing” 呂刑, a legal text included in the *Shang shu* and dated to the Spring and Autumn period.<sup>10</sup> In the “Lü xing,” *quan* is used as a metaphor for legal judgments:

上下比罪。無僭亂辭。勿用不行。惟察惟法，其審克之。上刑適輕，下服。下刑適重，上服。輕重諸罰有權。刑罰世輕世重。

Compare a crime with higher and lower crimes. Do not be misled by confusing words. Do not practice what does not work. With scrutiny and model, examine it with caution. When a high punishment meets light [i.e. extenuating] conditions, serve a lower sentence. When a low punishment meets heavy [i.e. aggravating] conditions, serve a higher sentence. In determining the lightness and heaviness of all fines, there is weighing. Punishments and fines are light in some periods and heavy in others.<sup>11</sup>

The passage is about the necessity of matching the severity of a punishment to the particular conditions of a crime. In a legal judgment, the judge first needs to make a qualitative judgment about the crime's kind, followed by a quantitative adjustment based on aggravating or extenuating conditions. The weighing metaphor is used for the second step of quantitative adjustment. As Vankeerberghen notes, as early as in the “Lü xing,” *quan* already appears as a metaphor in an abstract sense. If such is the case, then ideally we would like to see an earlier

---

<sup>10</sup> Edward L. Shaughnessy, “Shang Shu 尚書 (Shu ching 書經),” in *Early Chinese Texts: A Bibliographical Guide*, ed. Michael Loewe (Berkeley: Society for the Study of Early China and Institute of East Asian Studies, University of California, 1993), 376–389. The passage is also discussed briefly in Vankeerberghen, “Choosing Balance,” 54–55.

<sup>11</sup> *Shangshu zhengyi* 尚書正義 (Yiwen ed.), 19.30a–b.

concrete usage of *quan* as the name of some weighing device. Unfortunately, this kind of evidence is not available.

The earliest occurrence of the “leverage” meaning appears in the mechanics section of the *Mohist Canon*. The *Mohist Canon* is so notoriously corrupted as to be almost incomprehensible at many places. Thanks to the effort of generations of scholars, the most important entry on *quan* (B25b in A. C. Graham’s numbering system) has been reconstructed.

The reconstructed text runs as follows:

Canon: ...天而必缶說在得

...~~large but necessarily upright~~. Explained by: gaining.

Explanation: 衡加重於其一旁必垂權重相若也相衡則本短標長兩加焉重相若則標必下標得權也

The balanced beam: [If you] add a weight to its [i.e. the beam’s] one side [this side] will necessarily hang down. [This is due to] the *quan* and the weight matching each other. Level [both sides] up with each other, then the base is short and the tip is long. Add to both sides, the weights being equal, then the tip will necessarily go down. [This is due to] the tip having gained *quan*.<sup>12</sup>

This passage explains the workings of the lever with three steps of operation. Starting from the initial balanced state of equal weight and equal length of arms on both sides, the operator first adds weight to one side so that it hangs down, then repositions the fulcrum so that the beam reverts to balance, and finally adds equal weight to both side so that one end hangs down again. In conclusion, the passage explains that the reason why one side hangs down

---

<sup>12</sup> I follow Graham and treat this piece in the *Explanation* as a standalone entry, the corresponding *Canon* of which has either been lost or at least severely corrupted. Graham separates the seven characters 天而必缶說在得 that many other commentators take to be a single entry into two parts (i.e. 天而必缶 and 說在得), attributing the first four characters to the end of a set of misplaced entries on optics (22-24a). The result is that the first four characters now immediately follow 24a and are numbered 24b in Graham’s system. What remains uncertain after this emendation is where to put the last three characters. Noticing their terminological similarity to the *Explanation* of 25b (i.e. the technical term 得 “gain”), Graham argues that they should be the corrupted *Canon* of 25b. Graham’s argument is based on an earlier study by Luan Tiaofu 樂調甫. See Luan Tiaofu, *Mozi yanjiu lunwenji* 墨子研究論文集 (Beijing: Renmin chubanshe, 1957), 15–16; A. C. Graham, *Later Mohist Logic, Ethics and Science* (Hong Kong: Chinese University Press, 1978), 88, 387–388.

again in the last step is because it has gained *quan*.<sup>13</sup> In this context, *quan* refers to the mechanical leverage that the tip has “gained,” an abstract quality that the author of this entry describes neither in mathematical terms nor as the unequal length of the arms.<sup>14</sup> As Qian Baocong suggests, the political meaning of *quan* is a conceptual metaphor based on its mechanical sense in the *Mohist Canon*.<sup>15</sup> The following passage from the *Zhanguo ce* is a good example of the political metaphor:

三晉已破智氏，將分其地。段規謂韓王曰：“分地必取成皋。”韓王曰：“成皋，石溜之地也，寡人無所用。”段規曰：“不然。臣聞一里之厚而動千里之權者，地利也。萬人之眾而破三軍者，不意也。王用臣言，則韓必取鄭矣。”王曰：“善。”果取成皋。至韓之取鄭也，果從成皋。

The three Jin states had already shattered the Zhi clan and were about to divide their land. Duan Gui said to the king of Han: “When dividing the land, your majesty must take Chenggao.” The king of Han said: “Chenggao is a territory covered by rivers and rocks. It is of no use to me.” Duan Gui said: “That’s not true. Your servant has heard that the advantage of earth means a land of only one *li* can tip the balance of a thousand *li* of land. That an army of ten thousand can defeat all the armies of a state is because [its strategy is] unexpected. If Your Majesty takes my advice, Han will surely take Zheng.” The king said: “Excellent!” As a result he took Chenggao. Later when Han took over Zheng, it was from Chenggao that the conquest started.<sup>16</sup>

---

<sup>13</sup> In treating “gaining *quan*” as the conclusion or even the main topic of this explanation, am I contradicting the “head character” (known in Chinese as the *biao die zi* 標牒字) of this entry, which is *heng* 衡 “beam”? The problem arises only when we take the head character as a topic marker; yet in section B of the *Canon*, made up of propositions rather than definitions, the head characters are often just indexes helping the reader to locate the corresponding explanation of an entry in the *Canon*. These indexes can be as meaningless as the book titles in the *Analects*. Moreover, we do not even have conclusive evidence that “beam” is actually the head character since the first part of 25b’s *Canon* is lost. Strictly speaking, we do not have any formal indication of what the topic of 25b is. It has to be determined based on our understanding of the content.

<sup>14</sup> It is true that *quan* can be readily visualized as the length of arms, but B25b never makes that observation. It remains fairly abstract throughout. This is evident from the phrasing of the conclusion: instead of saying “this is because the length of the arms is unequal,” the conclusion says “[This is due to] the tip having gained *quan*.” As the object of “gain,” *quan* is treated as an abstract quality that accounts for the lever’s mechanical power.

<sup>15</sup> Qian Baocong, “Mojing lixue jin shi,” 67–68.

<sup>16</sup> *Zhanguo ce* 戰國策, 344A/172/3–6.

This geopolitical analysis of the strategic importance of Chenggao, located near the modern day Xingyang 滎陽, Henan, uses *quan* as a metaphor to conceptualize the topographical advantage of the city. The event supposedly took place at the beginning of the Warring States period right after the partition of Jin. The king of Han, one of the states that divided Jin, hesitated over the territory that he should take. Considering only the fertility of the land, he failed to recognize that whoever occupied Chenggao had control over the narrow passage between the Wei river valley and the vast eastern plains. Duan Gui, his political counselor, persuaded him by comparing the topographical advantage of Chenggao to mechanical leverage.

What is particularly interesting about the first documented usages of *quan*'s two common meanings is that they are both abstract metaphors already; there is no earlier evidence of *quan* as the name of a device. If that is the case, do we even have any warrant for calling it a metaphor? I think there are at least two reasons why *quan* should be understood as a lever metaphor. Despite the lack of earlier evidence, there are plenty of examples in Warring States texts that use *quanheng* 權衡 to refer to the material balance, as well as rare cases in which *quan* stands for some kind of crane. As for these rare cases, philologists have noted that the term *guanhuo* 燿火 “lifted fire” in the *Lüshi chunqiu* probably refers to a machine for lifting beacon fires.<sup>17</sup> The term *quanhuo* 權火 appears in the *Shiji* 史記, for which Zhang Yan's 張晏 (fl. 3<sup>rd</sup> century CE) commentary provides a clear explanation:

權火，烽火也。狀若井絜臯矣。其法類稱，故謂之權。

---

<sup>17</sup> Gao You's 高誘 (fl. 3<sup>rd</sup> century CE) commentary on this term reads *guan* 燿 as *quan* 權. See Xu Weiyu 許維通, *Lüshi chunqiu jishi* 呂氏春秋集釋 (Beijing: Zhonghua shuju, 2009), 312. For discussions of this phrase, see Duan Yucui's commentary on *guan* 燿 in the *Shuowen jiezi zhu*, 10a.52b–53a; Qian Baocong, “Mojing lixue jin shi,” 67; Liu Caonan 劉操南, “Shi quan, heng, ji, shu, qiao” 釋權, 衡, 機, 樞, 橋, *Dongyue luncong* 2 (1982): 109–112.

“Lifted fire (*quanhuo*)” means the beacon fire. [The lifting machine] looks like the well sweep. The way it works resembles the balance. Thus it is called *quan*.<sup>18</sup>

The beacon fire is lifted by a machine like the well sweep (*qiegao* 繫臯) mentioned in the *Zhuangzi*. The commentary itself is late, and the term *quanhuo* shows up only in the late Warring States *Lüshi chunqiu*. The scarcity of evidence does not allow us to generalize from it. That being said, it is still more conceivable that the abstract meanings come from concrete ones rather than the other way round, even if documented usages do not provide absolute proof. Moreover, the two meanings of *quan* as “making calculative judgments” and “leverage” correspond so neatly to the weighing and weight-lifting functions of the lever that the best way to understand them is by taking *quan* as a mechanical metaphor.

In fact, both functions are explained in the *Mohist Canon* B25b. As the earliest and the only extant discussion of the lever’s mechanical principles in ancient China, B25b is crucial for understanding the source domain of lever metaphors, and the lever schema can be defined by examining its logical structure. Before doing that, it is worth noting that the context of the mechanics section in the *Mohist Canon* is meaningful. Located in the second part of the *Canon*, the mechanics section immediately follows the optics section. As Michael Nylan points out, in Mohism optics “was an integral part of ethics. For the classical thinkers, a person’s ultimate view of moral issues relied upon serious choices about what and how to thoroughly examine (*guan* 觀) among the myriad sorts of things in phenomenal existence, no less than upon improving the techniques used in seeing.”<sup>19</sup> Whether Mohist optics was an “integral” part of ethics may be open to doubt, but it seems beyond doubt that the study of

---

<sup>18</sup> Sima Qian 司馬遷 (145–86 BCE), *Shiji* (Beijing: Zhonghua shuju, 1959), 1377.

<sup>19</sup> Michael Nylan, “Beliefs about Seeing: Optics and Moral Technologies in Early China,” in *Asia Major, Third Series* 21, no.1 (2008): 89–132. See also Jean-Paul Reding, “Light and the Mirror in Greece and Ancient China: Elements of Comparative Metaphorology,” in *Comparative Essays in Early Greek and Chinese Rational Thinking* (Burlington: Ashgate Publishing Company, 2004), 127–166.

light was not a disinterested quest for facts about the world independent of any ethical or social concern. In A3–6 of the *Mohist Canon*, knowing is systematically compared to seeing, and aspects of the cognitive process are matched with aspects of visual perception. The “capability for knowing” (*zhi* 知) is like “eyesight” (*ming* 明); “thinking” (*lü* 慮) is like “looking sideways” (*ni* 睨);<sup>20</sup> “knowing” (*zhi* 知), as mind making contact with the world, is like “seeing” (*jian* 見); “wisdom” (*zhi* 恕) is like “clarity of vision” (*ming* 明).<sup>21</sup> In fact, optics and mechanics are the only two types of natural scientific knowledge (excluding geometry and economics) included in the *Mohist Canon*. This, I believe, is no random selection, because metaphorically speaking they correspond to human knowledge and action. In A22, “being alive” (*sheng* 生) is defined as “the body dwelling with the capacity for knowing” (*xing yu zhi chu ye* 刑與知處也), neatly summarizing the target domains of mechanical and optical metaphors. In the preceding A21, “power” (*li* 力) is defined and explained as that “by which the body is lifted” (*xing zhi suoyi fen ye* 刑之所以奮也).<sup>22</sup> Not surprisingly, almost all propositions in the mechanics section have something to do with weight-lifting. Moreover, the two most important objects in Mohist optics and mechanics – the mirror and the lever – both have considerable metaphorical significance in early Chinese thought. In the following three examples from Shen Buhai 申不害 (fl. 4<sup>th</sup> century BCE), Han Fei 韓非 (?–233 BCE) and Jia Yi 賈誼 (200–168 BCE), we even see a metaphorical convergence between them:

---

<sup>20</sup> Thinking is compared to looking sideways probably because the principal form of thinking for Mohists is ethical thinking that makes one-sided judgments. For a discussion of thinking in this narrow sense in the *Mengzi*, see section 4.1.1.

<sup>21</sup> Graham, *Later Mohist Logic*, 266; Reding, “Light and the Mirror in Greece and Ancient China,” 146–149.

<sup>22</sup> While *fen* 奮 usually means “to arouse” or “to exert oneself,” the explanation of this Canon defines it in the more technical sense of “to lift weight” (*juzhong* 舉重). See Graham, *Later Mohist Logic*, 279.

境設精，無為而美惡自備。衡設平，無為而輕重自得。

The setup of the mirror is pure. It does nothing and yet beauty and ugliness present themselves. The setup of the scale is balanced. It does nothing and yet lightness and heaviness discover themselves.<sup>23</sup>

故鏡執<sup>24</sup>清而無事，美惡從而比焉。衡執正而無事，輕重從而載焉。

Therefore, the setup of the mirror is pure and not meddlesome; beauty and ugliness can be compared by it. The setup of the balance is correct and not meddlesome; lightness and heaviness can be carried by it.<sup>25</sup>

鏡義而居，無執不臧。美惡畢至，各得其當。衡虛無私，平靜而處。輕重畢懸，各得其所。明主者，南面而正，清虛而靜。令名自命，令物自定。如鑑之應，如衡之稱。

A mirror correctly occupies its place; it sets up nothing and stores up nothing. Beauty and ugliness both arrive; each thing attains its proper position. A scale is in an empty and selfless state; it dwells in calmness and tranquility. The light and the heavy are both suspended; each thing attains its proper place. An enlightened ruler facing south will be upright, pure, empty, and tranquil. He allows names to order themselves and things to settle themselves. He is like the reflection of the rays in a mirror, and the setting of the marks on a scale.<sup>26</sup>

In these passages, the metaphorical parallel between the lever and mirror is made explicit by the rhetorical symmetry. It is very likely that the Mohists themselves saw beyond the literal function of these objects, though probably not in Daoist terms like emptiness and tranquility.

---

<sup>23</sup> Herrlee G. Creel, *Shen Pu-hai: A Chinese Political Philosopher of the Fourth Century B.C.* (Chicago: The University of Chicago Press, 1974), 351–352.

<sup>24</sup> This *zhi* 執 is a graphic mistake for *shi* 執, which is phonetically close to *she* 設 in the *Shenzi* 申子 passage. The next passage contains the same graphic mistake. For more discussion of the relationship between *shi*, and *she*, see section 3.3 below.

<sup>25</sup> *Hanfeizi*, 19/33/13.

<sup>26</sup> *Jiayi Xinshu* 賈誼新書, 8.3/56/12–13. See also Rune Svarverud, *Methods of the Way: Early Chinese Ethical Thought* (Leiden: Brill, 1998), 157–161. Svarverud translates the phrase *wu zhi bu cang* 無執不臧 as “it holds onto nothing and conceals nothing,” quoting a sentence from the *Laozi* in support of his translation. Nevertheless, it is now clear that the character *zhi* 執 is a graphic mistake for *shi* 執, which means “to set up.” Moreover, *cang* 臧(藏) does not mean “to conceal” but means “to store up,” because the very same passage has a compound *shezhu* 設諸 (*Jiayi Xinshu* 8.3/56/10) that is obviously a phonetic loan for *shechu* 執儲 “to set up and store up.” The idea is that the mirror-like mind neither sets up things in advance nor stores them up afterwards. See section 3.3 for more philological discussion.

Now let us consider the logic of B25b itself. A widely held opinion is that this entry essentially states the Archimedean law of the lever.<sup>27</sup> But this view has been contested more recently by Jürgen Renn and Matthias Schemmel, who argue that B25b is not a discussion of the law of lever, but rather parallels the pseudo-Aristotelian *Mechanical Problems* as a theoretical reflection on the practical knowledge of the lever rooted in a context of disputation.<sup>28</sup> Graham also notes that B25b lacks the necessary component of the Archimedean law of lever: the mathematical equation of inverse ratio.<sup>29</sup> Indeed, in B25b there is no trace of mathematics and no ground for the claim that the Mohists were in possession of that knowledge. Rather, the explanation of B25b is *operational*, assuming a subject who is not an onlooker of a phenomenon but a participant of an experiment. It reads more like a theoretically structured report of the craftsman’s embodied experience of working with the lever, and all of the explanations in the mechanics section are in fact written in this operational style. Therefore we must find an alternative way of formalizing the logic of B25b without imposing mathematical ratios on it. The following table shows the structure of B25b’s operational logic:

	Weight	<i>Quan</i>	Beam
Initial State	Equal	Equal	(□) Balance
Step 1	Unequal	Equal	□ Imbalance
Step 2	Unequal	Unequal	(◇) Balance
Step 3	Equal	Unequal	□ Imbalance

Table 3.1: The structure of *Mohist Canon B25b*

<sup>27</sup> See, for example, Joseph Needham and Wang Ling, *Science and Civilization in China Vol. 4: Physics and Physical Technology, Part I: Physics* (Cambridge, Cambridge University Press, 1962), 22–23.

<sup>28</sup> Jürgen Renn and Matthias Schemmel, “Mechanics in the Mohist Canon and its European Counterparts,” in *Zhongguo keji dianji yanjiu: di san jie Zhongguo keji dianji guoji huiyi lunwenji* 中國科技典籍研究: 第三屆中國科技典籍國際會議論文集, ed. Hans Ulrich Vogel, Moll-Murata Christine, and Gao Xuan (Zhengzhou: Daxiang chubanshe, 2006), 24–31.

<sup>29</sup> Graham, *Later Mohist Logic*, 389.

Table 3.1 has four steps and three parameters – weight, *quan*, and the beam.<sup>30</sup> Weight and *quan* are the input parameters; the state of the beam is the output. While weight and the beam are both concrete, *quan*, the explanandum of B25b, is conceptualized as an abstract quality that the weight can “gain” so as to increase its own effectiveness. All the values assigned to these parameters are binary, like the truth function table in elementary logic. This table shows clearly that the explanation relies on the method of *controlling variables* in scientific experimentation. Starting from the initial state of equal weight and equal *quan*, the operator manipulates only one variable each time, observing the behavior of the first two parameters in relation to the outcome. In the end, the operator exhausts all possible combinations of values and fully defines the functions of the lever, as well as the meaning of *quan*.

This logical structure of B25b gives what I call the *partial lever schema*. The partial lever schema describes the structure of the embodied experience of the lever’s mechanical functions in three steps. Each step of operation corresponds to a particular function of the lever and a metaphorical meaning:

Step	Function	Explanation	Metaphor
1	One-sided weighing	In one-sided weighing, the operator seeks to determine the relative weight of two objects. The fulcrum remains fixed in the middle.	One-sided value judgments

Table 3.2: The partial lever schema

---

<sup>30</sup> I borrow symbols from modal logic to represent the modal operators; hence  $\square$ =necessarily and  $\diamond$ =possibly. When in parenthesis, the modal operators are not mentioned in the explanation but should be there for the sake of clarity. Therefore, the initial state, with equal weights and equal *quan*, is necessarily balanced, even though the explanation never says so. The modal operator  $\square$  is indeed explicitly mentioned in step 1 and step 3 by the word *bi* 必 (necessarily). The logic of step 2 is more complicated. It is in this step that the mathematical law of lever is required, if we were to change the parenthesized operator  $\diamond$  into  $\square$ . In other words, without an understanding of the proportions of weights and *quan* in continuous quantity, we cannot necessarily revert the lever to the balanced state. Without specifying that the ratio of the unequal weights is the inverse of the ratio of the unequal *quan*, the balance remains only a possibility. Thus the grammar of step 2 differs from that of step 1 and step 3, for the outcome, “level [both sides] up with each other,” now is the operation and the value of the parameter *quan*, “the base is short and the tip is long” (i.e. unequal), is the observed result, whereas in 1 and 3 that order is reversed.

2	Balanced weighing	In balanced weighing, the operator seeks to find the balance between two objects by adjusting the position of the fulcrum on the beam.	Balanced value judgments
3	Weight-lifting	In weight-lifting, the operator seeks to minimize the input force required for lifting up a heavy object.	Cost-effective strategies

Table 3.2: The partial lever schema (continued)

There are two sets of distinctions in table 3.2. Function 1 and 2 are both acts of weighing, but they do it in opposite ways. The main difference between balanced weighing and one-sided weighing is whether the fulcrum is movable on the beam.<sup>31</sup> In one-sided weighing, the fulcrum *must not* move, but in balanced weighing, the fulcrum *must* move: both are a matter of necessity.<sup>32</sup> On the other hand, function 1 and 3 are both imbalanced, but they perform opposite functions and have totally different metaphors thereby. The function of weighing serves as a metaphor for value rationality, or the capacity to reason about right ends; the function of weight-manipulation serves as a metaphor for instrumental rationality, or the capacity to reason about effective means. In the former case, the problem is where value lies (such as whether seeking power is the true value of human life), and in the latter case, how to increase value (such as how to gain as much power as possible). Not surprisingly, metaphors of weighing show up more frequently in ethical philosophy, while metaphors of weight-manipulation are a main feature of political and military thought. Therefore, the target domains of the lever schema reflect the same kind of polarization as we saw in the archery

---

<sup>31</sup> My distinction between one-sided weighing and balanced weighing corresponds roughly to Vankeerberghen's *quan* B (deciding by comparative weighing) and C (achieving balance). See Vankeerberghen, "Choosing Balance," 65–88.

<sup>32</sup> The "expediency" meaning of *quan* common in later times must have come from the dynamic nature of balanced weighing. In this sense, *quan* is often coupled with *bian* 變 "change" to form the compound *quanbian* 權變.

and chariotteering analogies. Table 3.3 is a slightly different description of the partial lever schema:

Step	Length of Arms	Position of the Fulcrum	Function	Mentality
1	Equal	Fixed In the middle	Static weighing	Value rationality
2	Equal or unequal	Flexible	Dynamic weighing	
3	Unequal	Fixed One-sided	Weight-lifting	Instrumental rationality

Table 3.3: The partial lever schema continued

Table 3.2 and 3.3 are only the partial lever schema because they leave out the fourth important function of the lever: hurling projectiles on ballistic devices such as the crossbow and trebuchet. The complete lever schema has four components in two groups: two forms of weighing and two forms of weight-manipulation. In addition to weight-lifting, or static weight-manipulation, we should add weight-throwing, or dynamic weight-manipulation. As a result, in the complete schema there will be four items cross-listed under two sets of categories: static and dynamic weighing versus static and dynamic weight-manipulation. Yet the fourth function lies beyond the semantic scope of *quan*. To analyze this meaning, we need to turn to the second word *ji*.

### 3.2 *Ji* 機

In chapter 2, I have discussed the general meaning of *ji* and its synonymous *xie* as “machine.” In classical Chinese, this word also refers more specifically to two kinds of machines, the crossbow trigger and the loom. It is uncertain which one is the primordial meaning of this character, for there is no pre-Qin paleographic evidence of it. Its definition in the *Shuowen*, as an object that “governs the shoot” (*zhufa* 主發), seems to relate it obviously to the crossbow

trigger.<sup>33</sup> However, as Duan Yucai points out, the three characters that immediately follow *ji* in the *Shuowen* are all names for components of the loom, and their definitions all use *ji* as the name of the loom.<sup>34</sup> Zhu Junsheng 朱駿聲 (1788–1858) makes the same point, but also notes that the word is never glossed as “loom” in early commentaries to classical texts.<sup>35</sup> The earliest philological gloss of *ji* as “loom” seems to come from the 11<sup>th</sup> century phonological dictionary *Jiyun* 集韻, so late that it cannot be relied on. It is difficult to reconcile *Shuowen*’s definition of *ji* with the lexicographical context in which it appears.

Another clue as to *ji*’s meaning can be found in *Shuowen*’s definition of its cognate *ji* 幾 (\*kəjʔ), written without the “wood” (*mu* 木) signfic and often used interchangeably with *ji* 機 (\*kəj) in early texts. The *Shuowen* gives two abstract definitions of *ji* 幾, “subtle” (*wei* 微) and “dangerous” (*dai* 殆), explaining that the “dangerous” meaning comes from the character’s two semantic constituents, “silk” 𦃟 and “to fortify” 戍.<sup>36</sup> The definitions themselves can be supported by a large number of documented usages in ancient texts, although the etymological theory is tenuous. Unlike *ji* 機, the graphic form of *ji* 幾 can be found as early as on late Shang and Western Zhou bronze vessels:



Unfortunately, none of these bronze inscriptions allows us to figure out what the character originally means, because they are all names. The earliest example A is a clan symbol on a

<sup>33</sup> Duan Yucai, *Shuowen jiezi zhu*, 6a.48b–49a.

<sup>34</sup> For example, the *Shuowen* defines *zhu* 杼, the second character after *ji*, as “that which holds the weft on the loom” (*ji chi wei zhe* 機持緯者). See Duan Yucai, *Shuowen jiezi zhu*, 6a.49a.

<sup>35</sup> Zhu Junsheng, *Shuowen tongxun dingsheng* 說文通訓定聲 (Beijing: Zhonghua shuju, 1984), 12.39b.

<sup>36</sup> Duan Yucai, *Shuowen jiezi zhu*, 4b.3a.

late Shang bronze cup; B and C are both personal names on Western Zhou bronze vessels. Ji Xusheng 季旭昇, who first relates A to *ji* 幾, analyzes it into three semantic constituents – “mother” 母, “silk” 纟, and “dagger axe” 戈, arguing that it confirms the *Shuowen* definition. According to him, the graphic form depicts a dangerous situation in which the silk cords that suspend a person are about to be cut by a dagger axe.<sup>37</sup> In B and C, the dagger axe moves up to the human head, while everything else remains unchanged. Although Ji’s theory remains the only etymology based on paleographic evidence, it is always risky to infer the original meaning of a character from its intrinsically ambiguous graphic form. Moreover, neither the *Shuowen* nor Ji explains how the “subtle” meaning can be derived from the combination of silk cords and dagger axes.

A different line of argument, which I find more convincing, is to take the abstract meanings of *ji* 幾 as metaphors derived from the concrete meaning of *ji* 機 as a lever rotating around an axle, of which the crossbow trigger is an archetype. In two excellent studies, Jiang Liangfu 姜亮夫 and Li Zhichao 李志超 cite extensive textual evidence that *ji* 機 refers generally to a mechanical device based on a rotating lever and particularly a crossbow trigger.<sup>38</sup> An early Chinese machine differs from an ordinary tool just by having a lever-axle assembly as its component, without which it cannot perform the essential function of “producing great result with small effort.” The polysemy (rather than homonymy) of *ji* 幾 can be well explained by treating it as a metaphor based on the function of the crossbow trigger: The movement of a trigger itself is small, but it produces a great and dangerous effect of

---

<sup>37</sup> Ji Xusheng, *Shuowen xinzheng* 說文新證 (Fuzhou: Fujian renmin chubanshe, 2010), 323–324.

<sup>38</sup> Jiang Liangfu, *Chuci tonggu* 楚辭通故, vol. 3 of *Jiang Liangfu quanji* 姜亮夫全集 (Kunming: Yunnan renmin chubanshe, 2002), 102–105; Li Zhichao, “Jifa lun – youwei de kexue guan” 機發論-有為的科學觀, *Ziran kexueshi yanjiu* 9, no .1 (1990): 1–8.

killing someone at a distance. The clearest description of this function comes from the military manuscript “Shi bei” 執備 (Setting Up Defense) found at Yinqueshan (probably part of the *Sun Bin bingfa*):

何以知弓弩之為執也？發於肩應之間，殺人百步之外，不識所道至。  
故曰：“弓弩，執也。”

How does one know that bows and crossbows are *shi*? Shot out between shoulders and chest, they kill people a hundred steps away, without [the killed] knowing the way by which they arrive. Therefore it is said: bows and crossbows are *shi*.<sup>39</sup>

This passage introduces a technical terminology, *shi*, which will be analyzed in section 3.3 below. It does not use the word *ji* directly, but describes the crossbow’s subtle and dangerous mechanism. It must be noted that the concrete meaning of *ji* as “crossbow trigger” cannot predate the invention or introduction of this object around the late 6<sup>th</sup> or early 5<sup>th</sup> century BCE (late Spring and Autumn).<sup>40</sup> That being said, the metaphorical explanation is not an etymological theory based on the graphic form. It only shows that the various meanings of *ji* came to stand in a metaphorical relationship around (or slightly after) the 5<sup>th</sup> century BCE, roughly contemporaneous with Mozi’s life. The “loom” meaning does not fit into this picture

---

<sup>39</sup> The editors of the bamboo manuscript point out that the “Shi bei” and the “Bing qing” (which contains the archery analogy studied in the first chapter) could have been the same text because of their similar logic and calligraphic style. See *Yinqueshan Hanmu zhujian Vol.1*, 62–64; D.C. Lau and Roger T. Ames, *Sun Bin, the Art of Warfare: A Translation of the Classic Chinese Work of Philosophy and Strategy* (Albany: State University of New York Press, 2003), 118–120.

<sup>40</sup> For archaeological studies of the crossbow trigger, see Gao Zhixi 高至喜, “Ji Changsha, Changde chutu nuji de Zhanguo mu – jiantan youguan nuji gongshi de jige wenti” 记长沙, 常德出土弩机的战国墓-兼谈有关弩机, 弓矢的几个问题, *Wenwu* 6 (1964): 33–45; K. P. Mayer, “On Variations in the Shapes of the Components of the Chinese nu-chi (Crossbow Latch),” *T’oung Pao* 52, Livr. 1/3 (1965): 1–7; Joseph Needham and Robin S. Yates, *Science and Civilization in China Vol. 5 Chemistry and Chemical Technology, Part VI Military Technology: Missiles and Sieges* (Cambridge: Cambridge University Press, 1994), 126–135; Mao Ying 毛穎, “Nuji gailun” 弩機概論, *Dongnan wenhua* 3 (1998): 109–117. Jerry Norman and Tsu-lin Mei, based on their phonological study of *nu* 弩 “crossbow,” argue that the crossbow was introduced into China from the south. See Jerry Norman and Tsu-lin Mei, “The Austroasiatics in Ancient South China: Some Lexical Evidence,” *Monumenta Serica* 32, no. 1 (1976): 274–301.

and seems to have been introduced at a later stage.<sup>41</sup> The compound *jizhu* 機杼 “loom and shuttle,” where *ji* evidently refers to the loom, appears only in Han texts.<sup>42</sup>

In the rest of this section, I will leave aside the problem of etymology and focus on the trigger metaphor. We shall see that all of the trigger metaphors below reflect at least one of the two essential components of *ji*'s meanings: a) the disproportional relationship between a small input and a great outcome; b) rotation around a motionless center. The first set of examples compares the tongue or uttered words with the trigger:

口，關也。舌，幾也。一堵失言，四馬弗能追也。

The mouth is a latch, the tongue is a trigger. Once one makes an indiscreet remark, four horses cannot catch it.<sup>43</sup>

子曰：“君子居其室，出其言善，則千里之外應之，況其邇者乎？居其室，出其言不善，則千里之外違之，況其邇者乎？言出乎身，加乎民。行發乎邇，見乎遠。言行，君子之樞機。樞機之發，榮辱之主也。言行，君子之所以動天地也。可不慎乎？”

The Master said, “If the gentleman stays in his room and utters his words well, then those who are a thousand *li* away respond to them, let alone those who are near. Staying in his room, he sends out mean words, then those who are a thousand *li* away defy them, let alone those who are near. Words start out from oneself and act on common people. Deeds start out near and are manifest in distant places. Words and deeds are the axle-trigger of the gentleman. The shooting of the axle-trigger is the lord of honor and disgrace. Words and deeds are that by which the gentleman moves heaven and earth. How can one not be careful?”<sup>44</sup>

口者，關也。舌者，機也。出言不當，四馬不能追也。口者，關也。舌者，兵也。出言不當，反自傷也。言出於己，不可止於人。行發於邇，不可止於遠。夫言

---

<sup>41</sup> Jiang Liangfu's argument is mixed on this point, for he believes that *ji* originally refers to the loom but later comes to mean the rotating lever. His theory is motivated by the “silk” signfic in the graph. See Jiang Liangfu, *Chuci tonggu*, 103.

<sup>42</sup> See, for example, *Huainanzi*, 13/120/9.

<sup>43</sup> Wuhan daxue jianbo yanjiu zhongxin et al., eds., *Shuihudi qinmu jiandu*, 347.

<sup>44</sup> *Zhouyi zhushu*, 7.17b–18a.

行者君子之樞機。樞機之發，榮辱之本也，可不慎乎？故蒯子羽曰：“言猶射也。栝既離弦，雖有所悔焉，不可從而追已。”

The mouth is like a latch, the tongue is like a trigger. If uttered words are not appropriate, even four horses cannot catch them. The mouth is like a pass, the tongue is like a weapon. If uttered words are not appropriate, they return and hurt oneself. Words come out from oneself, but they cannot be stopped by others. Deeds come out from what is close, but they cannot be stopped at distant places. Words and deeds are the axle and trigger of the gentleman. The shooting of the axle and trigger is the root of honor and disgrace. How can one not be careful? Therefore Master Kuai Yu said, “Speaking is like shooting. Once the end of the arrow has left the string, one cannot pursue and catch it even though one regrets.”<sup>45</sup>

The three passages are quoted from sources of distinct nature – the *Wei li zhi dao* 為吏之道 (The Way of Being an Official) manuscript found in Shuihudi, the “Xi ci” commentary to the *Zhouyi*, and the “Tan cong” 談叢 (Thickets of Sayings) chapter of the *Shuoyuan*. All of them use the trigger metaphor to teach a moral lesson. The first metaphor compares the mouth to a latch (a meaningful object to be discussed below) and the tongue to the crossbow trigger; the idea behind the comparison seems to be that the tongue governs the “shooting” of words and the mouth can “lock” them up. By implication, the uttered words are like arrows capable of inflicting pains on others; they travel so irrevocably fast that even someone driving a chariot led by four horses cannot catch up with them. Although the passage does not use words like “subtle” and “dangerous,” it obviously chooses the trigger as the source domain because of its subtle and dangerous effect. In the second metaphor, implicit meanings of the trigger mechanism come to the fore. To the source domain is added the axle (*shu* 樞, another meaningful object discussed below), and to the target domain is added the gentleman’s behavior. The words and deeds of the gentleman are easy to accomplish in themselves; yet through some unspecified mechanism the range of their influence reaches heaven and earth. It

---

<sup>45</sup> *Shuoyuan*, 16.169/135/7–11.

is never explained why words and deeds can have such a butterfly effect. The point of the metaphor is not such an explanation but to alert the gentleman to the incorrigible and potentially harmful effect of his language and action on others. The third passage blends the first two slightly different metaphors with probably a few others from unknown sources, making an explicit comparison between speaking and shooting arrows by quoting a certain Master Kuai Yu. The latest of this group, it comes from the *Shuoyuan*, a 1<sup>st</sup> century BCE collection of sayings and anecdotes from other ancient sources. The editor Liu Xiang 劉向 (77–6 BCE) must have made a deliberate attempt to put together various metaphors of similar meanings.

The trigger metaphor not only applies to words and deeds, but also to minds capable of “shooting out” judgments at others. We find this metaphor in the works of two classical philosophers, Zhuangzi and Xunzi:

其寐也魂交，其覺也形開。與接為構，日以心鬪。縵者。害者。密者。小恐惴惴，大恐縵縵。其發若機括，其司是非之謂也。

When sleeping, the souls cross their paths. When awake, the body opens. Reaching out and making contacts, each day we use our mind for strife. The calm ones. The deep ones. The subtle ones. Petty fears intimidate; great fears calm. It shoots like the trigger releasing the string on the notch, which is to say that it oversees right and wrong.<sup>46</sup>

故《道經》曰：“人心之危，道心之微。”危微之幾，惟明君子而後能知之。

Therefore the *Classic of the Way* says: “The mind of man is dangerous; the mind of the Way is subtle.” Only by being an enlightened gentleman can one understand the trigger mechanism of the dangerous and the subtle.<sup>47</sup>

The first passage offers a vivid description of the strife-loaded human life constantly disturbed by judgments about right and wrong. The mind responsible for “shooting” these

---

<sup>46</sup> *Zhuangzi*, 2/3/26–28.

<sup>47</sup> *Xunzi*, 21/105/4–5.

judgments works like a trigger that “oversees” (*si* 司, a synonym of *zhu* 主 “to govern” in the *Shuowen* definition) right and wrong. In the second passage, Xunzi quotes an unknown *Classic of the Way* as part of a larger argument about mind, or rather how to employ the mind in political affairs.<sup>48</sup> The context of this metaphor is indeed opaque, and whether Xunzi’s interpretation of the quoted line is accurate remains open to doubt. Yet one thing is certain: the ambiguity of *ji* becomes literal and evident in the phrase *wei wei zhi ji* 危微之幾 “the trigger mechanism of the dangerous and the subtle.”<sup>49</sup> The metaphor is not in the quoted text but belongs to Xunzi’s metaphorical reading of the *Classic of the Way*. Xunzi’s metaphor has a complicated structure because of its distinction between the “mind of man” and the “mind of the Way.” The difference, it seems to me, is not between two kinds of mind, but between two ways of employing the mind. There is only one kind of mind – the human mind – that operates like a trigger, but only the mind of the Way is able to grasp the subtleties of the human mind and avoid its dangerous consequences; it is in this sense that the mind of the Way is “subtle” and the mind of man is “dangerous.”

These trigger metaphors about language, action, and mind bear the hallmark of their age. In the intense political struggle of the Warring States period, a debate was often not a harmless academic dispute but a matter of life and death. One can get a visceral sense of the horrifying consequences of inappropriate speech at court by reading two chapters in the *Hanfeizi*: “Nan yan” 難言 (The Difficulty of Speaking) and “Shuo nan” 說難 (The Difficulty of Persuasion). Han Fei does not use the trigger metaphor to conceptualize the social impact

---

<sup>48</sup> This line is also seen in the “Da Yu mo” 大禹謨 chapter of the *Shang shu*, but the authenticity of “Da Yu mo,” as part of the “ancient text,” has been seriously questioned by modern critical scholarship. We cannot take it as the source of Xunzi’s quotation. See *Shangshu zhengyi*, 4.8b.

<sup>49</sup> Zhang Shunhui 張舜徽 offers a lengthy discussion of this phrase in the context of statecraft without relating it to the trigger metaphor. See Zhang Shunhui, *Zhouqin daolun fawei/ Shixue sanshu pingyi* 周秦道論發微/史學三書平議 (Wuhan: Huazhong shifan daxue chubanshe, 2005), 40–62.

of language, but he conveys a deep insecurity about choosing the correct rhetorical style. If he had used the trigger metaphor, the point of his metaphor would have been different from the moral teachings of the above passages, because he cared less about the harmful effect of speech on others than on himself. In other words, it would not have been about self-cultivation, but about self-preservation.

The trigger metaphor is not only used for language and mind but also for the state.

Compare the next two passages:

一家仁，一國興仁。一家讓，一國興讓。一人貪戾，一國作亂。其機如此。

If one family is benevolent, benevolence will rise in the entire state. If one family yields, yielding behaviors will rise in the entire state. If one person is greedy and perverse, turmoil will be produced in the entire state. Such is what their trigger mechanism is like.<sup>50</sup>

明君治國，三寸之機運而天下定，方寸之基正而天下治。故一言正而天下定，一言倚而天下靡。

When the enlightened ruler governs the state, he rotates a trigger of three inches and the world is settled, squares a foundation of a square inch and the world is in order. Thus if his single word is upright, the world is settled; if his single word is perverse, the world topples.<sup>51</sup>

The meanings of these metaphors are fairly straightforward and do not require much hermeneutical work. What deserves attention is how the same metaphor conveys different meanings in the first passage from the Confucian “Da xue” 大學 (Great Learning) and the second passage from the legalist thinker Shen Buhai. Both passages use the trigger metaphor

---

<sup>50</sup> *Liji zhushu*, 60.8b.

<sup>51</sup> *Shenzi* 申子, 1/1/3. See also Creel, *Shen Pu-hai*, 354–355. There is a textual variant for *ji* in the *Yi lin* 意林 quotation of this passage, which has *qie* 篋 “bamboo basket” in the same place. I agree with Creel that “bamboo basket” does not make sense in the context, and yet I do not think *ji* must refer to the door pivot as Creel suggests. In classical Chinese, the pivot is usually called *shu* 樞 rather than *ji* (see below). Here, *ji* seems to refer more generally to an axle-trigger assembly that functions by rotating.

to promote their political agenda. The target of their persuasion, in both cases, is the ruler.<sup>52</sup> Both compare the ruler's political influence over the state to the trigger effect. Despite all these similarities, they nonetheless demonstrate the same polarity of value rationality and instrumental rationality. The point of the Confucian metaphor, as in the examples quoted above, is that the ruler must be cautious about his own actions because of their huge political fallout. The point of the legalist metaphor, on the other hand, is that the ruler should rely on a labor-saving political regime to run the state efficiently. The Confucian metaphor takes the trigger mechanism as a given fact and uses it to encourage the ruler's moral reflection, whereas in the legalist metaphor establishing such a mechanism is precisely the task that the ruler should undertake. Note that Shen Buhai uses the word "rotate" (*yun* 運) to describe the workings of the trigger, providing evidence for the "rotation" connotation of the trigger metaphor.

The next group of examples pertains to the epistemological importance of *ji* as the barely detectable embryo of a thing. It is well known that in the divination theory of the "Xi ci," *ji* refers to the subtle omen of an event before it grows into beneficial and disastrous outcomes (*dong zhi wei, ji xiong zhi xian jian zhe ye* 動之微, 吉凶之先見者也).<sup>53</sup> These embryos are difficult to see but easy to remove. A gentleman who perceives the embryo of a situation takes timely precautions and prevents future catastrophes. The following anecdote from the "Cha wei" 察微 (Scrutiny of the Subtle) chapter of the *Lüshi chunqiu* uses the trigger metaphor in this sense:

鄭公子歸生率師伐宋。宋華元率師應之大棘，羊斟御。明日將戰，華元殺羊饗士，羊斟不與焉。明日戰，怨謂華元曰：“昨日之事，子為制；

---

<sup>52</sup> This may not be readily apparent in the first passage, but "one person" undoubtedly refers to the ruler himself, and "one family" certainly means the royal family.

<sup>53</sup> *Zhouyi zhushu*, 8.13a–b.

今日之事，我為制。”遂驅入於鄭師。宋師敗績，華元虜。夫弩機差以米則不發。戰，大機也。饗士而忘其御也，將以此敗而為虜，豈不宜哉？故凡戰必悉熟備，知彼知己，然後可也。

Prince Guisheng of Zheng led an army to attack Song. Hua Yuan of Song led an army to meet the enemy at Daji, with Yang Zhen serving as his charioteer. The next morning, as the battle was impending, Hua Yuan slaughtered a lamb to feed his knights but did not share any with Yang Zhen. As the battle began on the next day, Yang Zhen angrily said to him, “In yesterday’s matter, you were in charge; in today’s task I am in charge.” He then drove the chariot into the middle of the Zheng army, leading to the disastrous defeat of the Song army and Hua Yuan’s capture. When the trigger mechanism of a crossbow is off by the length of a single grain of millet, it cannot shoot. A battle is a giant crossbow trigger. Hua Yuan fed his knights but forgot his charioteer; the outcome was the defeat of his army and his own capture. In this not fitting? Thus, as a general principle, in battle everything should be thoroughly considered and fully prepared; only when you know both the enemy and yourself may you proceed.<sup>54</sup>

The narrative of the anecdote reads contrived and fabricated, but the metaphor is clear. It compares Hua Yuan’s small negligence with the crossbow’s being off by the length of a single grain of millet, and the defeat of the Song army with the shooting (or hitting the target for that matter). The structure of this metaphor reminds us of the archery analogy in the “Bing qing,” but here it foregrounds the epistemological significance of *ji*. In fact, the entire “Cha wei” is about the importance of knowing *ji*, though only this passage uses the trigger metaphor explicitly.

What we see in all these examples of the trigger metaphor is not just a concrete imagery, but an abstract metaphorical structure linking a subtle cause with a far-reaching and usually devastating consequence. The crossbow trigger is not the only object used for this structure. In early Chinese texts, there are at least four other objects that play a similar metaphorical role: the axle (*shu* 樞, which can be either the door pivot or the hub of the

---

<sup>54</sup> *Lüshi chunqiu*, 16.6/96/13–16.

wheel), the latch or bolt (*guan* 關 or *jian* 鍵), the main line of the fish net (*gang* 綱), and the chariot pin (*ni* 輓). We have already seen examples of the axle and the latch above. There is an obvious metaphorical convergence between the three functionally similar objects, because both *shuji* 樞機 “axle-trigger” and *jiguan* 機關 “trigger-latch” are compound terms in late Warring States to early Han texts. The latch metaphor, however, is slightly different from the trigger and axle metaphor. Unlike the door hinge that governs the rotation of the door, the door latch governs the entering and exiting through the door. The subtle difference is already reflected in the comparison of the tongue to the trigger and the mouth to the latch. And we must not forget that the city of Chenggao in the *Zhanguo ce* would exactly have been regarded as a “latch” that guards the entrance into the Wei river valley. Consider another example from the “Zhu shu” 主術 (The Art of Rulership) chapter of the *Huainanzi*:

攝權勢之柄，其於化民易矣。衛君役子路，權重也。景、桓臣管、晏，位尊也。怯服勇而愚制智，其所託勢者勝也。故枝不得大於榦，末不得強於本。言輕重大小有以相制也。若五指之屬於臂也，搏援攫捷，莫不如志，言以小屬於大也。是故得勢之利者，所持甚小，所任甚大。所守甚約，所制甚廣。是故十圍之木，持千鈞之屋。五寸之鍵，制開闔之門。豈其材之巨小足哉？所居要也。

Holding the handle of leverage makes it easy to transform the people. That the ruler of Wey took into service Zilu was because [the ruler’s] leverage was heavy. That Dukes Jing and Huan of Qi made ministers of Guan Zhong and Yan Ying was because [the rulers’] position was exalted. That the cowardly can subdue the brave and the foolish can control the wise is because the *shi* on which they rely prevails. Therefore that the limbs of a tree cannot be larger than its trunk and that the branches cannot be stronger than the root means that light and heavy, large and small, have that by which they control each other. It is like the way the five fingers are attached to the arm. They can grasp, extend, snatch, or grab, and nothing happens other than as we intend it. This is to say, the small are appendages of the large. Thus to have the advantage of *shi* means what one holds is very small, but what one manages is very large; what one guards is very compact, but what one controls is vast. Thus a tree trunk ten hand spans in circumference can support a roof weighing a thousand *jun*, and a bolt five inches long can

control the opening and closing of a door. How can this be just a matter of the size of the materials? The position they occupy is crucial.<sup>55</sup>

The “Zhu shu” constructs a large-scale metaphorical convergence between the lever, the door latch, the tree, the beam, and the arm. A single metaphorical structure binds together these distinct source domains, which otherwise could not possibly have come together. It seems to me that the mechanical metaphors are primordial in this convergence – it is the lever and the door latch that first give rise to this structure, which is then projected onto the other source domains. In the case of the tree and the arm the metaphorical projection seems rather forced, for they only state the plain fact that the strong controls the weak without the astonishing mechanical trick that reverses the two. They do not fit so well into this metaphorical field.

As for the main line of the fish net and the chariot pin, consider the next two passages from the *Hanfeizi*:

搖木者一一攝其葉，則勞而不徧。左右拊其本，而葉遍搖矣。臨淵而搖木，鳥驚而高，魚恐而下。善張網者引其綱。若一一攝萬目而後得，則是勞而難。引其綱而魚已囊矣。故吏者，民之本綱者也。故聖人治吏不治民。

If someone who wants to shake a tree pulls each leaf one after another, he works hard yet cannot shake the whole tree. If he shakes the stem back and forth, all the leaves will be shaken. If one shakes the tree by an abyss, birds will be scared and fly up and the fish will be scared and swim down. One who is skillful in spreading a net draws the main line of the fish net. If he pulls each mesh one after another so as to get the net, he works hard and meets difficulties. If he draws in the net by the main line, the fish will have been trapped. Therefore, officials are the stem and fish net line of the people. Therefore the sage governs the officials but not the people.<sup>56</sup>

墨子為木鳶，三年而成，蜚一日而敗。弟子曰：“先生之巧至，能使木鳶飛。”墨子曰：“吾不如為車輓者巧也。用咫尺之木，不費一朝之

---

<sup>55</sup> *Huainanzi*, 9/77/17–22.

<sup>56</sup> *Hanfeizi*, 35/111/1–3.

事，而引三十石之任。致遠力多，久於歲數。今我為鳶，三年成，蜚一日而敗。” 惠子聞之曰：“墨子大巧。巧為輓，拙為鳶。”

Mozi once made a wooden kite, which took him three years to finish, After flying for one day it broke. His disciple said: “The master’s skill is supreme. He can make the wooden kite fly.” Mozi said: “I’m not as skillful as the maker of the chariot pin. He uses a piece of wood eight inches long, not wasting a single morning and yet pulling a load of thirty *shi*. It endures long distance, and lasts for many years. Now I spent three years on making the wooden kite which broke after flying for one day.” Huizi heard this and said: “Mozi was exceedingly skillful, [for he] regards the making of the chariot pin as skillful and the making of the wooden kite as clumsy.”<sup>57</sup>

As the first passage shows, *gang* originally refers to the main line of the fish net for pulling it up. With this labor-saving mechanism, the fisherman controls all the meshes without having to manage them one after another. Han Fei compares the ruler to the fisherman, the officials to the main line of the fish net, and the people to the meshes or fish. The structure of this metaphor is exactly the same as the ruler-ruling regime-ruled structure analyzed in chapter 1, and Han Fei blends it with yet another metaphor of shaking the stem of a tree to get its leaves. The meaning of *gang* in modern Chinese, “outline,” is also a conceptual metaphor based on the function of the fish net line. The idea is that one controls all the details of an argument (the “meshes”) with an outline of its main points, although the metaphorical association has been lost. The chariot linchpin in the second passage is a tiny piece of wood that pins the vertical chariot pole to the horizontal bar mounted on the horse neck. It is the single object on the chariot that connects the vehicle to its power source. Mozi was amazed by the small size of the linchpin and its efficacy, describing it as a durable object able to carry heavy loads and travelling far distances. In the *Analects* 2.22, Confucius uses the linchpin as a metaphor for trustworthiness (*xin* 信), saying that a person cannot get along in the world without trustworthiness just like a chariot cannot function without a linchpin.

---

<sup>57</sup> *Hanfeizi*, 32/81/7–10.

With the trigger metaphor, we are now in a position to define the *complete lever schema*. The fourth function of the lever, in addition to one-sided weighing, balanced weighing, and weight-lifting, is hurling projectiles:

	Function	Metaphor
Static weighing	Determining the relative weight of two objects	One-sided value judgments
Dynamic weighing	Finding the balance between two objects	Balanced value judgments
Static weight-manipulation	Lifting up heavy objects	Static leverage
Dynamic weight-manipulation	Throwing projectiles at the enemy	Dynamic leverage

Table 3.4: The complete lever schema

It is not clear from this table what the difference between static leverage and dynamic leverage is. The difference will be explained by considering the polysemy of *shi* in the next section.

### 3.3 *Shi* 勢

Unlike *quan* and *ji*, *shi* is, strictly speaking, not a metaphor, for it never refers to a specific type of machines in classical Chinese. However, in Warring States texts, its meaning came to be so intimately connected to *quan* and *ji* that we have to treat them as a group of words belonging to the same semantic field. Since many texts use *shi* instead of *quan* and *ji* to mean roughly the same thing, we need to understand how these concepts differ and overlap.

Of all the studies on the meaning of *shi*, the most important are Qiu Xigui's 裘錫圭 etymological analysis of its earliest paleographic form, Roger Ames' conceptual-historical analysis of its development in Eastern Zhou texts, and François Jullien's philosophical analysis. Qiu Xigui has demonstrated convincingly that *shi* appears as early as in oracle bone

inscriptions, and its original meaning is “to set up.”<sup>58</sup> Roger Ames proposes a three-stage model to trace the conceptual history of *shi* in the Eastern Zhou. He argues that *shi* was first appropriated by the militarists in the 6<sup>th</sup> century BCE to represent a specific military situation, then taken over by legalist theorists, and finally incorporated into Confucianism.<sup>59</sup> Jullien notes that *shi* combines a dynamic notion of potential force with a static notion of configuration in an ambivalent conception of “potentiality at work in configuration,” which is related to the image of a drawn crossbow.<sup>60</sup> Ames’ historical reconstruction is by and large convincing when applied to transmitted texts; however, writing at a time when Qiu Xigui had not made the etymological discovery, Ames was unaware of *shi*’s earlier history in oracle bone and bronze inscriptions. On the other hand, Qiu Xigui, focusing on etymological reconstruction alone, does not provide an account of the semantic derivation of *shi* in Eastern Zhou philosophy. It is now time to combine the three convincing but partial theories and draw a full picture of the development of *shi* in archaic Chinese. Drawing on Qiu, Ames, and Jullien, I argue that *shi* acquired the meaning of “momentum” and “positional advantage” around the beginning of the Warring States period by being associated with mechanical setup, especially the crossbow trigger invented or introduced around the same time. The static and dynamic aspects of its meaning correspond to the static and dynamic aspects of the lever’s function of weight manipulation. As a result of this development, an originally plain word

---

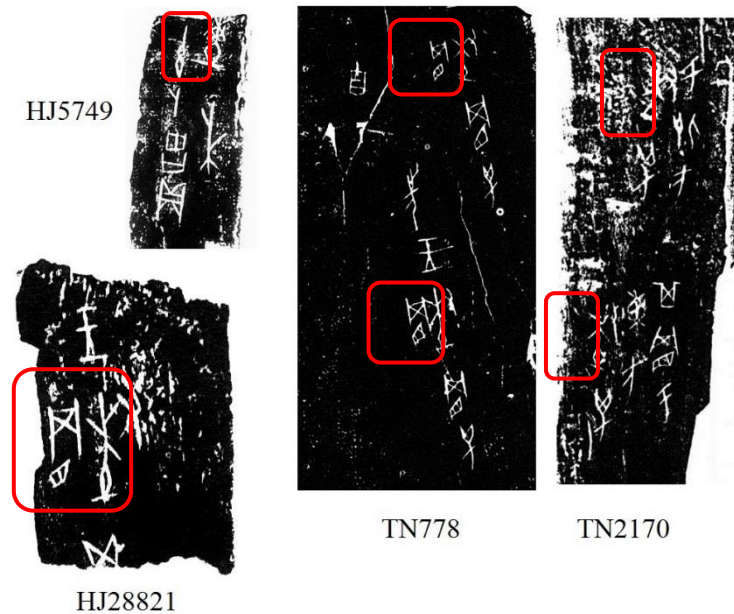
<sup>58</sup> Qiu Xigui, “Shi yinxu jiaguwen li de ‘yuan’ ‘er’ ji youguan zhuzi” 釋殷墟甲骨文裏的“遠”“邇”及有關諸字, in Vol.1 of *Qiu Xigui xueshu wenji* 裘錫圭學術文集 (Shanghai: Fudan daxue chubanshe, 2012), 167–176; “Guwenxian zhong duwei ‘she’ de ‘shi’ ji qi yu ‘zhi’ hu e zhi li” 古文獻中讀為“設”的“執”及其與“執”互訛之例, in Vol.4 of *Qiu Xigui xueshu wenji* (Shanghai: Fudan daxue chubanshe, 2012), 451–460; “Zai tan guwenxian yi ‘shi’ biao ‘she’” 再談古文獻以“執”表“設”, in Vol.4 of *Qiu Xigui xueshu wenji* 裘錫圭學術文集 (Shanghai: Fudan daxue chubanshe, 2012), 484–495.

<sup>59</sup> Roger T. Ames, *The Art of Rulership: A Study in Ancient Chinese Political Thought* (Honolulu: University of Hawaii Press, 1983), 65–107. On page 72 of his work, Ames mentions very briefly the mechanical analogy of the fulcrum.

<sup>60</sup> François Jullien, *La Propension Des Choses: Pour Une Histoire De L'efficacité En Chine* (Paris: Seuil, 1992), 11–36.

became philosophically significant, and the philosophical meanings later replaced the “setup” meaning as the standard meanings of *shi*. The three words – *quan*, *ji*, and *shi* – gradually converged in a semantic field that included machine, leverage, trigger mechanism, political purchase, positional advantage, momentum, and so forth. This section only touches on the philological side of that development, leaving the rest to chapter 5.

To begin with, the modern character *shi* 勢 was originally written without the *li* 力 (force/power) signfic underneath as 執, thereby being indistinguishable from the middle part of *yi* 藝 “to plant,” “to cultivate,” “art.” Indeed, both 勢 and 藝 were originally written as 執, from which they are derived and distinguished. The *Shuowen* defines 執’s original meaning as “to plant” (*zhong ye* 種也).<sup>61</sup> This meaning can be confirmed by the following oracle bone inscriptions:





HJ5749: □午卜古貞□𠄎木

Crack on day ...*wu*, Gu tested. ...plant trees.

TN2170: (1) 其冒于東方𠄎𠄎 (2) 于北方𠄎𠄎

<sup>61</sup> Duan Yucai, *Shuowen jiezi zhu*, 3b.14b.

(1) Planted a net in the east. Caught. (2) In the north. Caught.

HJ28821: 王 



The king planted [a net]. Caught.





TN778: (1) 王  (2) 先王 

(1) The king planted a net. Caught. (2) Planted a net before the king. Caught.

According to Qiu, these inscriptions provide solid evidence for the earliest extant forms of 執 because of both the character form and the context. The characters in question (marked by red boxes) appear in three different forms:



I agree with Qiu that A and B are just two ways of writing the same character, which is made up of a hand (or two hands in the case of B), a tree, and the character for “earth” (tu 土). The structure suggests quite straightforwardly that it means “to plant,” and the context of HJ5749, in which it is followed by an object “tree,” confirms the graphic meaning. In TN2170, the object of this character becomes *gu* 罟 “net,” a kind of trap used for catching animals. In this sense,  is better translated more generally as “to set up” rather than “to plant.” It is not always clear whether , a much more commonly seen character in oracle bone inscriptions, is, as some scholars believe, the same as A and B, because it lacks the “earth” signfic underneath the tree.<sup>62</sup> In any case, for our purpose, suffice it to say that A and B are the early forms of 執 as defined in the *Shuowen*.

<sup>62</sup> For discussions of this controversial graphic form, see Chen Zhaorong 陳昭容, “Shuo ‘re’” 說‘’, *Zhongguo Wenzhi* (New) 中國文字 18 (1994): 139–172. Shen Pei 沈培, “Shuo Yinxiu jiagu buci de ‘su’” 說殷墟甲骨卜辭的, *Yuan xue* 原學 3 (1995): 75–110. Both argue that  and  are different characters.

The slightly different C is an interesting example of Shang Chinese morphology. It is a compound character made up of the 𠂇 and 罾 in TN2170, or to be more precise, it is a compound of compounds. We can distinguish five components in it: a hand, a tree, the earth, a net, and an (perhaps animal) eye; together they mean the whole phrase “to set up a net for catching animals.” Where TN2170 uses two characters, HJ28821 uses only one. Yet in TN778, we find C followed by a redundant object “net,” which is already included in C itself. There can be two explanations for this redundancy. It could be that the scribe who inscribed C on TN778 failed to grasp the flexibility of Shang Chinese morphology and took a somewhat improvised character to be a standard one that means “to set up.” Or it could also be that the signfic 罾 is intentionally kept to distinguish C from its usual form A or B, because it means “to set up” (nets, traps, or other manmade devices) rather than to “plant” (trees or crops).

This meaning, “to plant” or “to set up,” is well documented in Western bronze inscriptions and Warring States bamboo manuscripts. The phrase *shi ju* 執屺, which means “to set up a dwelling palace,” appears in the *Zhong yan* 中鬲 (JC949) and the *Zhong fangding* 中方鼎 (JC2751). In the *Li fangyi* 盞方彝 (JC9899) and *Li fangzun* 盞方尊 (JC6013), Li 盞 received order from the king to “take charge of setting up the camps of the Six Armies and the Eight Armies” (*si liushi da bashi shi* 鬲六師眾八師執), in which the camps of the armies are called by the nominalized *shi*, “something that is set up.”



Warring States manuscripts also bear witness to this meaning of *shi*. To give just a few examples, consider the following texts from the Guodian corpus:

故為政者或倫之或養之或繇中出或執之外倫隸其類

Thus those who govern at times assess and at times nurture, at times expressing from within at times set up on the outside. Each type [of method] falls into its proper category.<sup>63</sup>

好惡嘗也所好所惡物也善不[善嘗也]所善所不善執也

Liking and disliking belong to [human] nature; what is liked and what is disliked are things. Approval and disapproval belong to [human] nature; what is approved and what is disapproved are the setup.<sup>64</sup>

出嘗者執也

What brings [human] nature forth is the setup.<sup>65</sup>

物之執者之謂執

Things that [people] set up are referred to as the setup.<sup>66</sup>

Some scholars argue that the *shi* in these sentences should be translated as “to cultivate” instead.<sup>67</sup> Etymologically speaking, we do not have to draw a definite line between *shi* as “set up” and *shi* as “cultivate,” because they have the common root. The phrase “to set up on the outside” in the first example seems to refer to social norms and institutions, which are established by “those who govern.” In this sense, *shi* acquires the connotation of “something external.” In examples 2 and 3, *shi* “brings forth” human nature and becomes the object of approval and disapproval. They are distinguished from mere things in example 4 because of their artificial nature. In the Guodian manuscripts, *shi* appears consistently as external norms and institutions established by the governor to bring forth inherent human dispositions.

---

<sup>63</sup> Jingmei shi bowuguan 荊門市博物館, ed., *Guodian chumu zhujian* 郭店楚墓竹簡 (Beijing: Wenwu chubanshe, 1998), 174 (slip 30).

<sup>64</sup> Jingmei shi bowuguan, ed., *Guodian chumu zhujian*, 179 (slips 4–5).

<sup>65</sup> Jingmei shi bowuguan, ed., *Guodian chumu zhujian*, 179 (slips 11).

<sup>66</sup> Jingmei shi bowuguan, ed., *Guodian chumu zhujian*, 179 (slips 12–13)..

<sup>67</sup> For a summary of various interpretations, see Scott Cook, *The Bamboo Texts of Guodian: A Study and Complete Translation* (Ithaca, N.Y.: East Asia Program, Cornell University, 2012), 699–707 (n.30, 70, 76).

In fact, in pre-Eastern Zhou inscriptions *shi* never means “momentum” or “positional advantage,” but always means “to set up” or “setup.” It must have undergone a systematic semantic change from the Eastern Zhou onwards, because the “setup” meaning was completely lost during the Han. According to Qiu Xigui, the reason why it lost that meaning is because a separate character, *she* 設, took it over. I suspect that the reason for this change is because the derived meanings of *shi* became so influential in military and political philosophy that they somewhat obscured the original meaning. From Han onwards, the original meaning “to set up” came to be expressed by *she* alone, while *shi* retained only the two derived meanings. The process of transferring *shi*’s original meaning to *she* is well documented in the *Huainanzi* where *shi* and *she* are used interchangeably in some cases:

且夫精神滑淖纖微，倏忽變化。與物推移，雲蒸風行，在所設施。

Moreover, the quintessential spirit is saturating and soaking, subtle and fine. Suddenly and quickly it alters and transforms; in accordance with things it moves and shifts. Like clouds rising and the winds drifting, it resides in what it sets up.<sup>68</sup>

易則用車，險則用騎。涉水多弓，隘則用弩。晝則多旌，夜則多火，晦冥多鼓。此善為設施者也。

When on easy terrain, use chariots. When on obstructed terrain, use mounted horsemen. When crossing water, use bowmen. When in a narrow pass, use crossbowmen. When in daylight, use more flags. When at night, use more fires. When at dusk, use more drums. These are to be good at making use of setup.<sup>69</sup>

今有六尺之席，臥而越之，下材弗難。植而踰之，上材弗易。勢施異也。

With a mat six feet long, if you lay it flat to be stepped over, even an inept person could do it; if you stand it on end to be jumped over, even a highly

---

<sup>68</sup> *Huainanzi*, 19/206/23.

<sup>69</sup> *Huainanzi*, 15/152/24–25.

talented person would not find it easy. This is because the setup has been changed.<sup>70</sup>

輪員輿方。輶从衡橫。勢施便也。

Wheels are round; chariot boxes are square; their shafts are vertical; their axles are horizontal – the setup is convenient.<sup>71</sup>

It is obvious that the *sheshi* 設施 in the first two passages is just the *shishi* 勢施 in the last two passages. As for the nature of this interchangeability, Qiu makes a brief note that the two words are roughly homophonous. Baxter and Sagart, in their most recent reconstruction of Old Chinese, argue that it is in fact a morphological derivation rather than a phonetic loan: *shi* 勢 (\*ŋet-s) is derived from *she* 設 (\*ŋet) by adding the nominalization suffix \*-s.<sup>72</sup>

Schuessler provides a similar reconstruction (*she* 設 \*ŋhets; *shi* 勢 \*ŋhet) without relying on paleographic evidence.<sup>73</sup> However, in a critical review of Baxter and Sagart's reconstruction, Harbsmeier raises a number of objections against the morphological derivation theory.<sup>74</sup>

Whatever the nature of their interchangeability is, Qiu's philological analysis is sound. We can be certain that *shi* originally has only one straightforward meaning "to set up."

How, then, does it get so complicated in Warring States philosophy? Some details of this process will be examined in chapter 5; here I will only give a very brief account without citing textual evidence. Although the plethora of *shi*'s translations may appear random and chaotic at first sight, they can be classified into four semantic groups:

---

<sup>70</sup> *Huainanzi*, 17.118/176/21–22.

<sup>71</sup> *Huainanzi*, 20/214/9.

<sup>72</sup> William H. Baxter, "'Yi,' 'shi,' 'she,' deng zi de gouni he zhonggu sy- (shumu=shen san) de lai yuan" "藝," "勢," "設," 等字的構擬和中古 sy- (書母=審三)的來源, *Jianbo* 5 (2010): 161–178; William H. Baxter and Laurent Sagart, *Old Chinese: A New Reconstruction* (Oxford: Oxford University Press, 2014), 29–30.

<sup>73</sup> Alex Schuessler, *ABC Etymological Dictionary of Old Chinese* (Honolulu: University of Hawai'i Press, 2007), 570–751.

<sup>74</sup> Christoph Harbsmeier, "Irrefutable Conjectures. A Review of William H. Baxter and Laurent Sagart, *Old Chinese. A New Reconstruction*," *Monumenta Serica* 64.2 (2010): 451–453.

- a) The “setup” group, including “circumstance,” “configuration,” “deployment,” and so on.
- b) The “external device/institution” group, which is the opposite of *xing* 性 “nature” or *cai* 才 “talent.” We have seen examples of this meaning in the Guodian manuscripts.
- c) The “leverage” group, including “strategic advantage,” “positional advantage,” “power,” and “influence.”
- d) The “momentum” group, including “potential” and “force.”

Among them, group (a) is *shi*’s original meaning; group (b) is very close to the original meaning with an “external” connotation added; (c) and (d) are derived meanings requiring explanation. The best explanation, I believe, is to take *shi* as a quasi-mechanical metaphor related to *quan* and *ji*, because the last two semantic groups of *shi* correspond well to the subtypes of the lever’s function of weight manipulation: “positional advantage” comes from the static leverage of a crane, while “momentum” is the dynamic leverage produced by the crossbow or trebuchet. To be sure, *shi* is a special case because it does not refer to any particular type of machine, but in some of the examples quoted above, the original meaning “setup” is associated more specifically with mechanical setup. The most conspicuous evidence is the depiction of the crossbow in the “Shi bei” (note that the very title of the manuscript, which appears on the verso of one of the bamboo slips, uses *shi*) that relates the term to the function of the crossbow trigger. In the *Huainanzi* passages, the term *shishi* 勢施 also refers to machines such as the crossbow and chariot. Moreover, as Ames points out, the first group of people who appropriated *shi* in philosophy were the early Warring States militarists.<sup>75</sup> Given their professional background, it seems particularly natural that the

---

<sup>75</sup> Ames, *The Art of Rulership*, 65–72.

militarists would associate this term with the function of the crossbow trigger which had just become available in the late Spring and Autumn period. In summary, I would propose the following hypothetical scenario of the early development of *shi*:

- a) The original meaning of *shi* in pre-Eastern Zhou inscriptions was “to set up” or the nominal form “setup.” It had no other meaning.
- b) Toward the end of the Spring and Autumn period or slightly later (5<sup>th</sup> century BCE), with the invention of the crossbow and the rise of professional militarists, *shi* came to be associated with mechanical setup, especially the trigger mechanism.
- c) During this process, *shi* acquired two additional meanings in relation to the lever’s function of weight-manipulation – “leverage” and “momentum.” At the same time, it still preserved the original meaning. The three meanings coexisted throughout the Warring States period.
- d) Sometime after the Warring States period, *she* gradually took over *shi*’s original meaning. As a result, *shi* lost the “setup” meaning and retained the derived meanings only.

I regard this scenario as hypothetical, because the textual support for stage (b) in this scenario is not strong enough to draw an absolute conclusion. While I believe that the metaphorical interpretation of *shi*’s polysemy makes the best sense in the current situation, I do realize its hypothetical nature. Hopefully, archaeology will one day provide new evidence to test the validity of this hypothesis.

### 3.4 The Complete Lever Schema

At the end of this chapter, let me sum up the historical-semantic analysis by combining the complete lever schema with its linguistic expressions:

Function	Metaphor	Linguistic expression	
Static weighing	One-sided value judgments	<i>Quan</i>	
Dynamic weighing	Balanced value judgments		
Static weight-manipulation	Static leverage	<i>Ji</i>	<i>Shi</i>
Dynamic weight-manipulation	Dynamic leverage		

Table 3.5: The complete lever schema with linguistic expressions

Table 3.5 defines the source and target domains of early Chinese lever metaphors. The source domain does not consist of the material properties of the lever, but rather the embodied experience of its mechanical functions. The metaphorical structure of the mechanical experience is subtly reflected in the polysemy of *quan*, *shi*, and *ji*. By taking these words as mechanical metaphors, we are also able to reveal the relationship between their multiple meanings.

The complete lever schema provides one more example of metaphorical convergence and divergence. The same source domain, the lever, has four divergent meanings, while the three words converge on a single metaphorical paradigm. The paradigm came to be associated with a variety of objects other than the lever itself, such as the axle, the latch, the fish net line, and so forth.

## CHAPTER FOUR

### BALANCE

In the previous chapters, we have seen that the lever performs two opposite functions, the function of weighing and the function of weight-manipulation. Accordingly, the lever schema lends itself to polarized metaphorical mappings onto the target domain of human action. Its function of weighing inspires metaphors for moral action in Confucian ethics; its function of weight-manipulation inspires metaphors for effective action in military and political philosophy. In this chapter, I shall consider the ethical pole of the lever schema by looking at Mengzi and Xunzi's use of weighing metaphors.<sup>1</sup> In contrast to the extensive philological analysis of chapter 3, this chapter conducts focused analysis of a select number of passages from the two philosophers, in order to highlight the conceptual role of the weighing metaphor in moral philosophy. In doing so, I will neither consider the global coherence of Mengzi and Xunzi's thought nor defend their arguments. My purpose is only to examine how the weighing metaphor helps to structure their thoughts conceptually.

The main characteristic of Mengzi and Xunzi's weighing metaphors is that both revolve around the following themes: conflicts and dilemmas in a person's moral life, making

---

<sup>1</sup> The chapter is not an exhaustive examination of the weighing metaphor in early Chinese philosophy. I will not consider the generic use of the balance metaphor for "rule" or "standard" that can be found pervasively. I shall also exclude the more philosophical uses in the *Analects* 9.30, the dialectical chapters of the *Mozi*, the supposed "Yangist" chapters of the *Lüshi chunqiu* and the Gongyang commentary. For some discussions of these other weighing metaphors, see John H. Berthrong, "Weighing the Way: Metaphoric Balances in *Analects* 9:30," in *Interpretation and Intellectual Change: Chinese Hermeneutics in Historical Perspective*, ed. Ching-I Tu (New Brunswick, NJ: Transaction, 2005), 3–18; Paul R. Goldin, "The Theme of the Primacy of the Situation in Classical Chinese Philosophy and Rhetoric," *Asia Major* 18, no. 2 (2005): 18–23; Carine Defoort, "Heavy and Light Body Parts: The Weighing Metaphor in Early Chinese Dialogues," *Early China* 38 (2015): 55–77; Michael Ing, *The Vulnerability of Integrity in Early Confucian Thought* (New York: Oxford University Press, 2017), 25–38. For some traditional discussions of *quan*, see Cheng Shude 程樹德, *Lunyu jishi 論語集釋* (Beijing: Zhonghua shuju, 1990), 626–629; Fu Yashu 傅亞庶, *Liuzi jiaoshi 劉子校釋* (Beijing: Zhonghua shuju, 1998) 410–418; Chen Chun 陳淳 (1159–1223), *Beixi ziyi 北溪字義* (Beijing: Zhonghua shuju, 1983), 51–52; Gao Gong 高拱 (1513–1578), *Gao Gong lunzhu sizhong 高拱論著四種* (Beijing: Zhonghua shuju, 1993), 159–165.

choices between alternatives, the human mind as the agent for moral choice, and ritual as a legitimate guide to proper conduct. These themes are interconnected. Living in a chaotic age of dramatic social transformation, both Mengzi and Xunzi witnessed the collapse of the old ritual order. In defense of the Confucian commitment to ritual, both felt the need to address problems and conflicts arising inevitably from trying to align one's own behavior with the rules stipulated in the ritual canons. They could hardly afford to overlook the subjective uncertainties in ethical cultivation and debate. The result was an increased awareness of issues concerning choice and the choosing mind. As Fingarette notes, there is a lack of attention to moral crossroads and subjective, introspective experience in the *Analects*.<sup>2</sup> Graham makes the same observation: "Confucius seems not to think in terms of choice between alternatives. But with the appearance of rival doctrines choice moves to the conceptual foreground." "Late in the 4th century B.C. we find in Mencius and Chuang-tzu a shift of attention inwards, to the heart, for ancient China the organ of thought and of approval and disapproval, and an explicit division of the inner and the outer man."<sup>3</sup>

The weighing metaphor in this context serves as a conceptual model for the mind's capacity for moral decisions. In accordance with the two subtypes of the function of weighing, the weighing metaphor also has two types, the static, one-sided weighing and the dynamic, balanced weighing. In the first case, one makes a one-sided judgment by choosing one alternative over the other. In the second case, one makes a balanced judgment by choosing the metaphorical "middle" between the alternatives. We shall see that Mengzi makes sophisticated use of both one-sided weighing and balanced weighing, whereas Xunzi

---

<sup>2</sup> Herbert Fingarette, *Confucius: The Secular as Sacred* (New York: Harper & Row, 1972), 18–56.

<sup>3</sup> Graham identifies the Jixia scholar Song Xing 宋鉞 and the anonymous author of the "Nei ye" 內業 (Inner Enterprise) chapter of the *Guanzi* as the first philosophers who discovered subjectivity in early China. See A. C. Graham, *Disputers of the Tao: Philosophical Argument in Ancient China* (La Salle, Ill: Open Court, 1989), 59, 95–105.

uses balanced weighing alone. Despite such a difference, both philosophers attach great significance to the moving fulcrum in dynamic weighing, and use it to conceptualize their highest ethical ideal and the fully cultivated mind. The most salient feature of dynamic weighing is a paradoxical combination of opposites: the fulcrum keeps moving on the beam, while remaining, in a sense, static in a balanced position. In each act of weighing, with one pair of weights, there is only one correct point of balance; yet the point of balance changes as the weights change. In other words, there is an *absolute* point of balance *relative* to each situation. The paradoxical structure of balanced weighing manifests itself in at least two other metaphorical models: the wheel's motionless center and moving circumference, as well as the mirror's empty surface and reflective capacity.<sup>4</sup> Here we may have another metaphorical convergence, for all three objects, which have been used as metaphors for mind and action, share the same combination of opposites.

#### **4.1 Mengzi on Weighing**

Mengzi is the first Confucian philosopher who seeks to justify ritual on the grounds of psychological plausibility. In Mengzi's moral psychology, the human mind has a medley of spontaneous inclinations, only a small part of which counts as human nature. Mengzi uses the weighing metaphor to deal with the mixed and conflictual relationship among these inclinations.

In the *Mengzi*, the weighing metaphor appears in three chapters, 6B1, 4A17, and 7A26. 6B1 is an example of one-sided weighing; 4A17 and 7A26 are examples of balanced weighing. In both 6B1 and 4A17, Mengzi uses the weighing metaphor to respond to criticisms of ritual as a proper guide to moral conduct. In each case, the criticism constructs a

---

<sup>4</sup> For the metaphorical convergence between the lever and mirror, see section 3.1.

hypothetical situation in which a follower of ritual is forced to make a hard choice: in 6B1, the choice is between virtue and bodily desires; in 4A17, it is between the Confucian virtues themselves. In the first dilemma, Mengzi uses the one-sided weighing metaphor to compare the relative “weight” of virtue and desire. In the second dilemma, he uses balanced weighing as a metaphorical model for the balance between the equally important Confucian virtues. It seems to me that the weighing metaphor is one of Mengzi’s main strategies for dealing with such challenges.

My analysis of Mengzi’s weighing metaphor overlaps in part with Mark Csikszentmihalyi’s argument that Mengzi belongs to a tradition of the “material virtue” theory in Warring States Confucianism. According to him, the material virtue theory is a response to external objections against the Confucian conception of virtue – the particular virtues are not in harmony with each other, and they give rise to moral hypocrisy. To defend Confucianism against these criticisms, the material virtue theory holds that virtue has material properties that can be measured and observed. If virtue has material properties, then, on the one hand, the process of moral decision-making can be reduced to a matter of weighing one option against another in the same way one weighs material objects on a balance, and on the other hand, one’s virtue can have physiognomic features that can be judged on public and objective grounds.<sup>5</sup> Like Csikszentmihalyi, I also take weighing as a metaphorical solution to the problem of conflicting virtues, but my argument is only that Mengzi conceptualizes virtue in material terms (through metaphors of weighing and measurement) without any ontological commitment to the materiality of virtue itself.<sup>6</sup> For

---

<sup>5</sup> See Mark Csikszentmihalyi, *Material Virtue: Ethics and the Body in Early China* (Leiden: Brill, 2004), 101–160.

<sup>6</sup> Put more precisely, my argument is not about what kind of thing virtue actually is (psychological or material), but about how virtue, as an abstract topic lacking a clear conceptual contour, is approached metaphorically.

this reason, I do not touch on the physiognomic aspect of the “material virtue theory.” Moreover, as Vankeerberghen points out, Csikszentmihalyi does not distinguish between different meanings of *quan* and translates all of them as “moral balance” (Vankeerberghen’s *quan* C).<sup>7</sup> Yet I shall argue that one-sided weighing is as important as balanced weighing in Mengzi’s ethical project.

#### 4.1.1 The Dilemma of Virtue and Desire

In 6B1, someone from the state of Ren asks Wuluzi to conduct a simple comparison between ritual and the desire for food and sex. Unable to fix a flaw in his answer, Wuluzi turns to Mengzi for help:

任人有問屋廬子曰：“禮與食孰重？”曰：“禮重。”“色與禮孰重？”曰：“禮重。”曰：“以禮食，則飢而死。不以禮食，則得食。必以禮乎？親迎，則不得妻。不親迎，則得妻。必親迎乎？”

A person from the state of Ren asked Wuluzi, “Which is heavier [i.e. more important], ritual or food?” Wuluzi said, “Ritual is heavier.” The person then asked, “Which is heavier, ritual or sex?” Wuluzi said, “Ritual is heavier.” Then the person said, “Suppose that if you try to eat in accordance with ritual, you will die of hunger, but if you do not eat in accordance with ritual, then you will get food. Must you then act in accordance with ritual? Or suppose that if you try to formally receive your bride at her parents’ home, you will not get a wife, but if you do not formally receive your bride, you will get a wife. Must you then formally receive your bride?”

屋廬子不能對，明日之鄒以告孟子。孟子曰：“於答是也何有？不揣其本，而齊其末，方寸之木可使高於岑樓。金重於羽者，豈謂一鈎金與一輿羽之謂哉？取食之重者與禮之輕者而比之，奚翅食重？取色之重者與禮之輕者而比之，奚翅色重？往應之曰：‘紵兄之臂而奪之食，則得食。不紵，則不得食。則將紵之乎？踰東家牆而摟其處子，則得妻。不摟，則不得妻。則將摟之乎？’”

Wuluzi was unable to answer. The next day he went to the state of Zou to tell Mengzi about this. Mengzi said, “What difficulty is there in answering this? If

---

<sup>7</sup> Vankeerberghen, “Choosing Balance,” 77, n. 93.

one lines up their tops without evening out their bottoms, a square inch of wood can be made taller than the top of a tower. Does the statement ‘metal is heavier than feathers’ refer to a single metal buckle and a wagonload of feathers? If you compare the heavy part of food with the light part of ritual, why stop only at food being heavy? If you compare the heavy part of sex with the light part of ritual, why stop only at sex being heavy? Go and respond to him, ‘Suppose that if you twist your elder brother’s arm to snatch his food, you will get food. But if you do not twist it, you will not get food. Will you twist it? If you climb over your neighbor’s wall and seize his maiden daughter, you will get a wife. If you do not seize her, you will not get a wife. Then will you seize her?’”

The chapter consists of two conversations, one between Wuluzi and a challenger and the other between Wuluzi and his teacher Mengzi. In the first conversation, Wuluzi conducts a simple weighing but fails to answer a follow-up question that tests ritual in some extreme cases. In the second conversation, Mengzi conducts a second, more complicated weighing. It ends abruptly with a counter question that is supposed to have resolved the problem. Although the chapter does not use the word *quan*, the original question implies the conceptual metaphor by comparing the relative “weight” of ritual and desire. Mengzi’s answer further expresses it in terms of an analogy between material weighing and moral weighing.

To understand what the weighing metaphor does in 6B1 we need to look at its immediate preceding context – the famous Book 6A on human nature. I take Book 6A not as some thematically close chapters loosely grouped together, but as one continuous argument that culminates in the weighing metaphor in 6B1. Moreover, the extended argument from Book 6A to 6B1 should be read together with Book 1 for a full picture of Mengzi’s view on human nature. The same view finds different formulations in the two books because of their rhetorical contexts. In Book 1, Mengzi seeks to convey his view subtly and tactfully to motivate kings. In Book 6A1–6, he uses a series of metaphors and analogies to defend this view against criticisms and misunderstandings. In the rest of Book 6A he directly makes his

point through another set of metaphors and analogies. The stylistic difference between these formulations should not conceal their fundamental coherence, of which the weighing metaphor is an essential part. I shall divide the chapters from Book 6A to 6B1 into four groups and go over their gist briefly, in order to show the logic of their organization:

- a) The first group (6A1–6) is the debates about human nature with Gaozi and Meng Jizi. The main point of these debates is to establish ritual propriety as part of human nature. Mengzi breaks this point down to two claims: 1) human nature is good and 2) ritual propriety is internal. If we take “good” to be equivalent to ritual propriety and “internal” to be equivalent to human nature, then the sub-claims are just restatements of the original one from two different angles. Human nature is good because it has an inherent inclination toward ritual propriety. Ritual propriety is internal because it is not simply a set of formal restrictions coming from an external authority. This is the core thesis of Book 6A.
- b) The next three chapters (6A7–9) take up an empirical challenge to the thesis: if human nature is good, why are so many people in this world *actually* not good? Although Mengzi addresses the challenge with many different analogies, they are all based on an implicit distinction between human nature and human reality.<sup>8</sup> Human reality is a hodgepodge of various inclinations including animal ones. Human nature, on the other hand, includes only the “noble” (*gui* 貴, 6A17) inclinations that are distinctively human. These inclinations are “subtle” (*jixi* 幾希, 4B19 and 7A16) compared to the base inclinations but much more powerful if fully cultivated. However, because of their subtlety, the majority of people fail to

---

<sup>8</sup> Many have drawn this distinction in slightly different ways. For some examples, see Xu Fuguan 徐復觀, *Zhongguo renxinglun shi: xian Qin pian* 中國人性論史: 先秦篇 (Shanghai: Shanghai sanlian shudian, 2001), 142–147; Graham, *Disputers of the Tao*, 123–132; Slingerland, *Effortless Action*, 135.

distinguish and cultivate them. Having this nature does not guarantee the actuality of good but only its *possibility*. The degree to which the possibility is actualized depends on “human effort” (*renshi* 人事, 6A7–9) and “circumstantial conditions” (*shi* 勢, 6A2, 6A7–8).

- c) The next group (6A11–17) develops the core thesis of group (a) by distinguishing the noble inclinations from base ones. Mengzi draws three more synonymous distinctions, between the “original mind” (*benxin* 本心, 6A10) and the “lost mind” (*fangxin* 放心, 6A11), between the “great body” and the “small body” (6A15), and finally between the “heavenly honors” (*tianjue* 天爵) and the “human honors” (*renjue* 人爵, 6A16).<sup>9</sup> According to 6A15, the faculty that draws these distinctions is “thinking” (*si* 思, repeatedly mentioned in 6A6, 6A13, 6A15, and 6A17 but rarely elsewhere in the *Mengzi*), defined as the “faculty of the mind” (*xin zhi guan* 心之官). In this context, “thinking” has a very specialized meaning that is almost equivalent to one-sided weighing. The function of thinking, in this technical sense, is to distinguish human nature (original mind/great body/heavenly honors) from human reality (lost mind/small body/human honors) and determine their relative “weight.” Although the word *quan* does not appear in this group, it is what Mengzi keeps doing in effect.
- d) In the last group (6A18–6B1, except 6A20),<sup>10</sup> Mengzi takes up a second potential empirical challenge that continues the challenge in (b). If noble inclinations

---

<sup>9</sup> These distinctions are all related. The mind is “lost” in the sense that it is led astray by the lesser organs (eyes, ears, nose...), all regarded as the “small body.” The human honors are the external noble titles favored by the lost mind overwhelmed by the physical pleasure these titles bring.

<sup>10</sup> 6A20 is indeed a randomly inserted chapter that disrupts the thematic continuity of Book 6A. It stands in between Book 6A and 6B1.

outweigh base ones, why are so many people in the world actually possessed by base inclinations? The reason, according to Mengzi, is that the noble ones have not been cultivated to *roughly the same degree*. A cup of water cannot extinguish a wagonload of firewood. An immature seed of fine grain is inferior to a mature wild plant. A single buckle of metal is lighter than a wagonload of feathers. In these structural parallel metaphors, Mengzi qualifies the one-sided weighing in (c) by specifying its quantitative condition. This qualification saves the claim in (c) but confines its scope.

Such is the theoretical background of 6B1. Now we can see that the structure of 6B1 itself mirrors that of groups (c) and (d). The first conversation in 6B1 continues the one-sided weighing in (c) with a new distinction between ritual and desire, and the second one continues the defense in 6A18 and 6A19. Arranged in such a way, 6B1 summarizes the argumentative structure of the second half of Book 6A. The meaning of the metaphor changes slightly between the two conversations. In the first one, one-sided weighing draws a categorical comparison between ritual and desire, while in the second conversation it complicates the picture by introducing degree into categorical thinking. It is, in fact, the challenger who surreptitiously brings in cases of varying intensity into a comparison that is originally categorical in the second question of the first conversation. Failing to notice the subtle move, Wuluzi finds that he cannot hold onto his original weighing. Mengzi, on the other hand, immediately notices that the questioner is manipulating the debate by introducing a new parameter, namely, the internal degree within a category. Thus, he accuses the challenger of making an unfair comparison between the “heavy part” of desire and the “light part” of ritual. If we admit that there are cases of varying intensity within each category, says Mengzi, this new parameter must be controlled, otherwise the comparison would have no

common ground.<sup>11</sup> The context of 6B1 shows that one-sided weighing lies at the heart of ethical knowing in the *Mengzi*. It makes a *qualitative* comparison between the original mind and the lost mind under a *quantitative* condition.

In addition to philosophical debates, Mengzi also uses the one-sided weighing metaphor in the political persuasions in Book 1. In the famous conversation with King Xuan of Qi (1A7), Mengzi encourages the king to weigh his mind, this time using the word *quan*. Having shown sympathy for a trembling ox, King Xuan has betrayed an inclination toward benevolence. Yet he fails to understand what this sympathetic impulse means and how it relates to his desire for conquering the world. By singling out the event of sparing the ox, Mengzi tries to demonstrate to the king that he already possesses the benevolent mind as the ancient sages do. What he lacks is not the benevolent inclination but the effort to extend that inclination to the world:

故推恩足以保四海，不推恩無以保妻子。古之人所以大過人者無他焉，善推其所為而已矣。今恩足以及禽獸，而功不至於百姓者，獨何與？權，然後知輕重。度，然後知長短。物皆然，心為甚。王請度之！

Thus if one extends one's kindness, it will be sufficient to protect all within the Four Seas. If one does not extend one's kindness, one will not have that by which one protects one's wife and children. That in which the ancients greatly exceeded the others was nothing other than that they were good at extending what they did. Now your kindness is sufficient to reach animals, but the effects do not reach common people. Why is it alone the case? Weigh it, and then you will distinguish the light and heavy. Measure it, and then you will know the long and the short. Things are all like this, the mind most of all. Let Your Majesty measure it! (1A7. Cf. 6B2)

The kind of weighing in this case is one-sided weighing, because Mengzi wants the king to distinguish, by examining his own mind, the heavy from the light and the long from the short.

---

<sup>11</sup> The rhetorical question at the end of 6B1 seems to compare the heavy parts of ritual and desire. As Chen Daqi 陳大齊 argues, the famous claim in 6A10 that the bear's paw is more desirable than fish is a similar comparison, although the second example that he cites from 1A7 is not a comparison of this sort. See Chen Daqi, *Mengzi daijie lu* 孟子待解錄 (Taipei: Taiwan shangwu yinshuguan, 1980), 241–251.

He must realize the relative heaviness of his benevolent mind to the desire for conquering the world. The chapters that follow 1A7 actually expand on this weighing by making a series of comparisons between another pair, the “great and small.” The happiness enjoyed alone is much smaller than the happiness enjoyed with the people (1B1). The physically small garden is perceived by people as being too large because it is not shared (1B2). The king should be fond of great courage rather than small courage (1B3). The luxurious Snow Place should be shared with people rather than enjoyed alone (1B4). The desire for wealth and sex should be shared with the people rather than kept to oneself (1B5). I take 1B1–5 as a series of demonstrations of one-sided weighing in parallel with Book 6A. The following table tidies up the terminology in Mengzi’s one-sided weighing metaphor in 1A7–1B5 and Book 6A:

Thinking (as one-sided weighing)	
Human nature	The rest of human reality
Noble (heavy/great/long) 貴	Base (light/small/short) 賤
Ritual 禮	Desire 欲
Original mind 本心	Lost mind 放心
Great body 大體	Small body 小體
Heavenly honors 天爵	Human honors 人爵
Great courage 大勇	Small courage 小勇
The desire to share with other people	Sensual desires (for food, wealth, sex, power, etc.)

Table 4.1: One-sided weighing in the *Mengzi*

This table, however, tells us only what Mengzi’s theory of human nature is about without any justification. One may still reasonably ask why the result of one-sided weighing is that the original mind outweighs the lost mind (calling the two parts of the mind “original” and “lost” already implies an ethical judgment and therefore begs the question). King Xuan of Qi might well have conducted a one-sided weighing and told Mengzi frankly that he got the opposite result. Although Mengzi never directly addresses this problem himself, we can offer two justifications based on what he says. The first one is just the series of analogies in 6A17–18 and 6B1 discussed above. The reason why we could have the opposite result is not

that the lost mind outweighs the original mind but that the two are not cultivated to roughly the same degree. In other words, if one-sided weighing is not conducted on even grounds, it might give us the opposite result. An analogy in 6A7 makes a similar point:

今夫粦麥，播種而耰之。其地同，樹之時又同。淳然而生，至於日至之時，皆熟矣。雖有不同，則地有肥磽，雨露之養，人事之不齊也。

Consider barley. Sow the seeds and cover them. The soil is the same and the time of planting is also the same. They grow rapidly, and by the time of the summer solstice they have all ripened. Although there are some differences, these are due to the richness of the soil and to unevenness in the rain and in human effort. (6A7)

The seed is a metaphor for the inherent inclinations in the human mind. Here Mengzi almost sounds like an ethical scientist conducting thought experiment in his human nature lab.

External factors, such as the richness of soil and the amount of rain and human effort, must be made even so that the inherent inclinations of the seed get extended into the world without interruption.<sup>12</sup> Mengzi does not forget to “even out the bottoms” before he claims that all seeds will have ripened by the summer solstice. Only in this controlled environment can we compare the relative quality of these seeds. Compare this passage to 6A19:

孟子曰：“五穀者，種之美者也。苟為不熟，不如蕘稗。夫仁亦在乎熟之而已矣。”

Mengzi said, “The five domesticated grains are the finest of seeds. But if they are not mature, they are not as good as wild plants. Similarly, benevolence depends on reaching maturity.” (6A19)

6A19 recognizes the difficulty that Mengzi is faced with in persuading the king. How can an incipient sign of benevolence outweigh an entrenched physical desire harbored for years? The seeds of the domesticated grains will *appear* inferior to the seeds of wild plants if they are not mature. Yet nowhere in reality do we have the “lab environment” for one-sided weighing to

---

<sup>12</sup> Graham compares Mengzi’s concept of *xing* 性 “nature” to the natural span of human life, when uninjured and sufficiently nourished. See Graham, *Disputers of the Tao*, 128–129.

work. It only provides an ideal theory of human nature that serves as the goal for self-cultivation. It can never be directly proved or disproved by empirical observations of current human reality, and in Book 6A Mengzi repeatedly refutes empirical challenges. It seems that Mengzi is caught up in a vicious circle here. He cannot demonstrate the superiority of the original mind if it is not fully cultivated; neither can he motivate the uninitiated if the superiority of the original mind is not demonstrated in advance.<sup>13</sup> To tackle this vicious circle, Mengzi employs several argumentative strategies, from citing legends of the ancient sage kings as quasi-empirical evidence, to constructing thought experiments, to detecting give-away actions.<sup>14</sup> Yet none of them seems sufficient to overcome the vicious circle completely.

The second justification of one-sided weighing may further alleviate the problem of the vicious circle. Even if we have excluded empirical complications from consideration, we still need to know why the original mind outweighs the lost mind, for the ideal theory itself is not self-evident. Mengzi offers us two reasons, one *affective* and the other *effective*. The affective reason for the superiority of the original mind is that it simply brings more satisfaction than the fulfillment of physical pleasures of the lesser organs (the small body). In 1B1, Mengzi invites King Xuan to compare the physical pleasures enjoyed alone with the satisfaction of being loved by his people, and the king answers without hesitation. Note that in 1B1–5 Mengzi never negates the king’s pleasures but keeps encouraging him to expand

---

<sup>13</sup> For the problem of motivation in Mengzi’s philosophy, see David S. Nivison, “Motivation and Moral Action in Mencius,” in *The Ways of Confucianism: Investigations in Chinese Philosophy*, ed. Bryan W. Van Norden (Chicago: Open Court, 1996), 91–120.

<sup>14</sup> These strategies are discussed in P. J. Ivanhoe, *Confucian Moral Self Cultivation* (Indianapolis: Hackett Publishing Company, 2000), 18–20.

them by sharing with his people.<sup>15</sup> As Brook Ziporyn has noted, “the objects of certain of our spontaneous desires ... are not reduced by being shared, but rather are increased in intensity when others also partake of them.”<sup>16</sup> Sharing brings greater pleasures than monopoly. If the king can share, then it does not matter whether he likes ancient music or modern music, because modern music would be no different from ancient music (1B1). This is an example of one-sided weighing, because Mengzi chooses the benevolent mind of sharing music over the particular types of auditory experience enjoyed by the ear.

The effective reason for the superiority of the original mind is that it actually helps one fulfill the desires of the lesser organs. In 1A7, right after urging the king to weigh his mind, Mengzi tactfully gets him to admit his great desire for ruling the world. Then he draws an analogy:

如若所為求若所欲，猶緣木而求魚也。

To seek what You desire with what You are doing is like climbing a tree in search of fish. (1A7)

The way Mengzi phrases this analogy seems to show that he is not talking about the correct end but the correct *means*. Instead of condemning the desire for ruling the world, Mengzi tries to instruct the king how to make it truly happen. Only benevolence is the effective means that actually works, and Mengzi uses three other analogies to make the same point:

今惡辱而居不仁，是猶惡濕而居下也。

Now, to hate disgrace and yet to dwell in what is not benevolent, this is like hating wetness yet dwelling in the damp. (2A4)

今惡死亡而樂不仁，是猶惡醉而強酒。

---

<sup>15</sup> Benjamin Huff and Michael Nylan have pointed out that the main concern of Mengzi’s conversations with kings in Book 1 is pleasure. See Benjamin I. Huff, “Eudaimonism in the Mencius: Fulfilling the Heart,” *Dao* 14, no. 3 (2015): 403–431; Michael Nylan, *The Chinese Pleasure Book* (New York: Zone Books, 2018), 135–174.

<sup>16</sup> Brook Ziporyn, *Ironies of Oneness and Difference: Coherence in Early Chinese Thought: Prolegomena to the Study of Li* (Albany: State University of New York Press, 2012), 119–120.

Now to hate death and yet to take delight in what is not benevolent, this is like hating drunkenness yet forcing yourself to drink. (4A3)

今也欲無敵於天下而不以仁，是猶執熱而不以濯也。

Now to desire to have no match in the world and yet to do so without being benevolent, this is like trying to hold something hot without dowsing one's hands. (4A7)

The grammatical parallelism among these analogies reflects a recurring pattern that is most likely a conscious choice. All of them make benevolence (that is, the original mind) the correct means to fulfill the greatest desire of the king. They almost make Mengzi sound like a consequentialist.<sup>17</sup> Holding to benevolence helps to fulfill one's desires, while failure to do so incurs disgrace or even self-destruction. Yet this instrumental understanding of benevolence is certainly not what Mengzi advocates, for 6A16 says:

古之人修其天爵，而人爵從之。今之人修其天爵，以要人爵。既得人爵，而棄其天爵，則惑之甚者也。終亦必亡而已矣。

The ancients cultivated Heavenly honors, and human honors followed upon them. Nowadays, people cultivate Heavenly honors as a way to seek human honors. Having obtained the human honors, they cast away the Heavenly honors. This is the extreme of confusion. In the end, they will certainly lose everything. (6A16)

This chapter tells us that for Mengzi, human honors, or profits in general, come as the spontaneous result of pursuing heavenly honors. Choosing ritual means choosing both ritual and desire, while choosing desire means the loss of both.<sup>18</sup> Although virtue may help one fulfill one's desires in the end, one should not seek virtue *for the sake of* reaping profits.

---

<sup>17</sup> Bryan Van Norden introduces the terms “consequentialism” and “virtue ethics” in Western moral philosophy to the discussion of Confucian ethics. See Bryan W. Van Norden, *Virtue Ethics and Consequentialism in Early Chinese Philosophy* (New York: Cambridge University Press, 2007), 65–314.

<sup>18</sup> This is known as the “distinction between propriety and benefit” (*yi li zhi bian* 義利之辨). The distinction does not mean that it is ethically right to choose propriety over benefit but that in choosing propriety one chooses both and in choosing benefit one loses both. For this interpretation, see Zhu Xi, *Sishu zhangju jizhu*, 201–202.

#### 4.1.2 The Dilemma of Virtues

Even if one has successfully understood the relative weight of virtue and desire and returned to his original mind, there is still work to do in moral cultivation. For Mengzi, the original mind is by no means a monolithic entity. In 2A6, he draws the famous analogy between the “four sprouts” of the original mind and the four limbs of the human body. The four sprouts are heterogeneous inclinations that do not always work in perfect harmony.<sup>19</sup> In 4A17, Chunyu Kun, a well-known scholar in the Jixia Academy, challenges Mengzi with a moral dilemma:

淳于髡曰：“男女授受不親，禮與？”孟子曰：“禮也。”曰：“嫂溺，則援之以手乎？”曰：“嫂溺不援，是豺狼也。男女授受不親，禮也。嫂溺，援之以手者，權也。”

Chunyu Kun said, “Does ritual require that men and women not touch when handing something to one another?” Mengzi replied, “That is the ritual.” Chunyu Kun then asked, “If your sister-in-law were drowning, would you pull her out with your hand?” Mengzi replied, “Only a beast would not pull out his sister-in-law if she were drowning. That men and women should not touch when handing something to one another is the ritual. To pull out your sister-in-law with your hand when she is drowning is a matter of weighing.” (4A17)

I agree with Csikszentmihalyi that 4A17 constructs a situation in which benevolence and ritual propriety, two of the four sprouts, are in conflict.<sup>20</sup> In 4A17, the ritual that men and women should not touch when handing something to one another prescribes an act of mutual respect (*jing* 敬, which is the core of ritual), while pulling out the drowning sister-in-law with the hand is a spontaneous act of benevolence (which is analogous to the immediate reaction to the falling child in 2A6). Such a conflict differs from the conflict between ritual and desire in that neither side outweighs the other *by kind*. In the particular situation in 4A7, the

---

<sup>19</sup> For a discussion of conflicting virtues in early Confucianism, see Csikszentmihalyi, *Material Virtue*, 113–126.

<sup>20</sup> Csikszentmihalyi, *Material Virtue*, 118–119.

benevolent inclination only *temporarily* outweighs ritual propriety. As a result, Mengzi uses a different weighing metaphor to respond to this challenge. This kind of weighing is not about choosing noble inclinations over base ones, but about reconciling the conflict between equally noble inclinations.

The new type of weighing must fulfill two conditions. First, it must fully recognize the plurality of the noble inclinations. Since none of them categorically outweighs the others, none can be totally sacrificed. If one chooses to prioritize one over the other, this is only because the situation temporarily demands it to be so, not that the prioritized one is inherently superior. Second, instead of choosing one side, one chooses the balance among all sides, seeking the greatest possible coordination of all cardinal virtues. In any given situation, one only makes this *one single* choice, but the resulting act can be different each time. A particular situation may require more of a particular virtue but less of the others (such as the emergencies in 4A17 and 2A6). In such a case, one may make a *seemingly* one-sided choice. This choice, however, is only temporarily one-sided, not categorically so. What appears to be a one-sided choice may turn out to be a balanced one in reality. Metaphorically speaking, balanced weighing means that one chooses the “middle” – the position of the fulcrum on a balanced beam.

The way Mengzi employs balanced weighing is very different from how he employs one-sided weighing. Whereas one-sided weighing separates what is noble from what is base, balanced weighing brings the equally noble things into a coherent whole. In the *Mengzi*, balanced weighing is not used to educate inexperienced kings but to evaluate the ways of worthy people, especially accomplished sages and masters who are already good but not good enough. Two typical examples of such an evaluation are 5B1 and 7A26. As discussed in section 1.1.4, 5B1 is a comparison of the ways of four representative sages: Bo Yi, Yi Yin, Liuxia Hui, and Confucius. Each of the first three sages has some admirable qualities that

Mengzi approves of (6B6, 7B15, 7A28).<sup>21</sup> What still makes them insufficient, however, is that they are trapped in their partial virtues and stop halfway on the journey of self-cultivation. To use the terminologies in this chapter, we can say that they have successfully performed one-sided weighing by choosing virtue over desire, but fail to perform balanced weighing among equally admirable virtues (purity, responsibility, and harmony). Confucius, the sage of timeliness, is able to advance to the highest level with a unifying vision of the virtues. Instead of dwelling in a partial virtue, he dwells in the timely balance of these virtues, that is, the “the middle.” Although Mengzi only uses the archery analogy in 5B1, the weighing metaphor is implicit in the background.

The second evaluation in 7A26 does use the word *quan*. In this chapter, Mengzi criticizes three contemporary masters who represent doctrinal types:

孟子曰：“楊子取為我，拔一毛而利天下，不為也。墨子兼愛，摩頂放踵利天下，為之。子莫執中，執中為近之。執中無權，猶執一也。所惡執一者，為其賊道也，舉一而廢百也。”

Mengzi said, “Yang Zhu favored ‘being for oneself.’ If plucking out one hair of his body would benefit the world, he would not do it. Mozi favored ‘impartial caring.’ If scraping himself bare from head to heels would benefit the world, he would do it. Zimo held to the middle. Holding to the middle is close to it. But if one holds to the middle without weighing, that is just like holding to one extreme. The reason why I dislike those who hold to one extreme is because they do harm to the Way. They elevate one thing and leave aside a hundred others.” (7A26)

The three master types are analogous to the sage types in 5B1 by having the same structure: two opposite extremes (Bo Yi and Yi Yin) and one middle position in between (Liuxia Hui).

---

<sup>21</sup> For another discussion of 5B1 and the weighing metaphor, see Ing, *The Vulnerability of Integrity in Early Confucian Thought*, 33–34. Ing situates the weighing metaphor in the context of what he calls “arguments for the invulnerability of integrity.” He argues that in early Confucianism there is a tension between the desire to maintain moral integrity and the desire to transform society by holding positions in the government. To fulfill the latter desire, it is sometimes inevitable that the moral agents sacrifice their ethical principles. The function of the weighing metaphor in this context is to reconcile the two desires. A sage’s ability of acting against ethical standards while still preserving integrity is regarded as the ability of “weighing.”

This seems to be a recurring evaluative scheme in the *Mengzi*. Although in 3B9 Mengzi unequivocally rejects Mozi and Yang Zhu's doctrines as being two extremes, in this chapter he subtly distinguishes his rejection from that of Zimo with the weighing metaphor. Zimo's commitment to the middle is only one-sided weighing in disguise, because it categorically prioritizes the middle as a fixed position and "leaves aside a hundred others." It fails to fulfill the first condition of balanced weighing – recognizing the plurality of virtues. For this reason, Zimo is no better than the extremist Mozi and Yang Zhu. Therefore, what Mengzi rejects is not *what* these people advocate but *how* they advocate them. It is not "impartial caring" or "being for oneself" that is wrong, but Mozi and Yang Zhu's exclusive commitment to them. The doctrines are only true conditionally, but the conditionality is not recognized in the doctrines themselves. To put it in a more philosophical way, what is problematic is not Mozi and Yang Zhu's propositions but their propositional attitudes. This subtle distinction between Zimo's middle and Mengzi's middle is only possible with the weighing metaphor, and balanced weighing is an indispensable method in Mengzi's evaluative scheme.<sup>22</sup>

The comparison of these sage and master types in 5B1 and 7A26 provides the highest ethical principle in Mengzi's philosophy by establishing a hierarchy of sagacity.

Understanding human nature only guarantees entrance into the sagely realm but not the full acquisition of sagehood. On the way to this highest ideal, there are three progressive understandings of the nature of ethical guidance. At the lowest, pre-reflective level, one matches one's conducts with the rules prescribed by the ritual system without pondering the meaning of those rules. This is a foolproof method, but conflicts will arise between ritual stipulation and two complications: human needs on the inside and the contingent external

---

<sup>22</sup> For a comparative study of the mean in Mengzi and Aristotle, see Howard J. Curzer, "An Aristotelian Doctrine of the Mean in the Mencius?" *Dao* 11, no. 1 (2012): 53–62.

situations. Therefore, Mengzi recognizes the importance of following rules and models in 6A20 and 4A1, but also notes the insufficiency of this method in 7B5:

孟子曰：“羿之教人射，必志於彀，學者亦必志於彀。大匠誨人，必以規矩，學者亦必以規矩。”

Mengzi said, “When Yi instructed people how to shoot, he made them set their will on drawing the bow to the full. Those who learn must also set their will on drawing the bow to the full. When a master carpenter instructs others, he must make use of the compass and square. Those who learn must also make use of the compass and square.” (6A20)

孟子曰：“離婁之明，公輸子之巧，不以規矩，不能成方員。師曠之聰，不以六律，不能正五音。堯舜之道，不以仁政，不能平治天下。”

Mengzi said, “Even the clear vision of Li Lou and the skillfulness of artisan Gongshuzi will not be able to draw a perfect square or circle if they are not used along with a compass and carpenter’s square. Even the hearing of Music Teacher Kuang will not be able to set the five notes if it is not used along with the six pitch pipes. Even the Way of Yao and Shun will not be able to pacify and rule the world if it is not used along with benevolent government.” (4A1)

孟子曰：“梓匠輪輿能與人規矩，不能使人巧。”

Mengzi said, “A carpenter or a wheelwright can give another his compass or square, but he cannot make another skillful.” (7B5)

At the intermediate level, one begins ethical reflection (that is, the kind of thinking in Book 6A) by performing one-sided weighing between ritual and desire. The result of this reflection is that one starts to realize the inherent meaning of ritual and becomes more motivated to practice it. At the highest level, one performs balanced weighing of the cardinal virtues in variable situations. The form of guidance is now the “middle,” and ethical thinking becomes far more sophisticated because there is no one single position that categorically prevails. Along the journey to sagehood, each stage has a distinct approach to ethical certainty, whether it is rule-based, one-sided, or balanced. Accordingly, one comes to develop an increasingly dynamic, internalized, and nuanced understanding of ethical guidance, in which the focus of self-cultivation shifts from external behavior to the subjective state of the agent.

## 4.2 Xunzi on Weighing

In Mengzi, the weighing metaphor is about choice and mind. Weighing, as the principal form of ethical thinking, is a faculty of the mind (6A15), and it is also the mind most of all that one should weigh (1A7). Xunzi also uses the weighing metaphor to discuss choice and mind. However, there are two significant differences between how the two philosophers employ this metaphor. First, as noted above, Mengzi uses both one-sided weighing and balanced weighing, while Xunzi only uses the latter. Second, the balance metaphor in the *Xunzi* is not part of a response to an opponent in an oral debate, but always appears in argumentative essays directly stating the author's view. Due to this rhetorical context, Xunzi's balance metaphor, never used to address moral dilemmas, is embedded in a structured argument with a consistent set of technical terms. The purpose of this section is to reconstruct that argument and clarify the conceptual role of the balance metaphor in it. Again, I will not consider the global coherence of Xunzi's thought, but will only focus on this particular line of thinking about mind, choice, and the balance.

Although Xunzi's weighing metaphor is more structured than Mengzi's, scholars rarely pay attention to it. In fact, I am not aware of any focused study devoted to this topic. The reason, I suppose, is twofold. First, Xunzi's balance metaphor is more opaque terminologically, for he sometimes uses *quan* and sometimes uses *heng* 衡 "balance" for it. Second, Xunzi's metaphor is buried among a large number of generic craft metaphors, while Mengzi's weighing metaphor easily stands out against the background of vegetal metaphors. It seems to me that Xunzi scholars tend to think of the balance metaphor as a generic tool metaphor rather than a specialized mechanical metaphor (see the beginning of chapter 3 for this distinction). I shall argue that such a distinction has an important place in Xunzi's thought.

The balance metaphor appears in three places: a short passage in chapter 3 “Bu gou” 不苟 (Nothing Improper) and two long discussions in chapter 21 “Jie bi” 解蔽 (Removing Obsession) and chapter 22 “Zheng ming” 正名 (Correcting Names). Scattered as they may seem, these passages belong to a coherent discussion of mind and choice with the same set of terms. In what follows, I will first consider chapter 22 and then turn to look at chapter 3 and 21.

#### 4.2.1 The Mind’s Approval

The weighing metaphor in chapter 22 appears as part of a continuous argument that runs throughout the latter half of the chapter. I suspect that this part does not belong to chapter 22 originally, because it is totally unrelated to the correction of names, the topic of the first half. The thesis of the argument is that good social order does not have to be achieved by eliminating or even reducing desires.<sup>23</sup> In a dense passage, Xunzi contends that social order has little to do with whether one has or does not have desires, because all living things cannot help but have desires. It rather lies with what the mind “approves of” (*ke* 可):<sup>24</sup>

有欲無欲，異類也，生死也，非治亂也。欲之多寡，異類也，情之數也，非治亂也。欲不待可得，而求者從所可。欲不待可得，所受乎天也；求者從所可，所受乎心也。所受乎天之一欲，制於所受乎心之多，固難類所受乎天也...故欲過之而動不及，心止之也。心之所可中理，則欲雖多，奚傷於治？欲不及而動過之，心使之也。心之所可失理，則欲雖寡，奚止於亂？故治亂在於心之所可，亡於情之所欲。

---

<sup>23</sup> *Xunzi*, 22/111/4–112/24. Many commentators point out that this argument may have been a critique of Mozi and Song Xing’s doctrines. See Wang Tianhai 王天海, *Xunzi jiaoshi* 荀子校釋 (Shanghai: Shanghai guji chubanshe, 2016), 919–920.

<sup>24</sup> Zhuangzi may have influenced Xunzi in using *ke* as a technical term, which in turn is taken from the *Mohist Canon*. For a discussion of *ke* in chapter 2 of the *Zhuangzi*, see A. C. Graham, “Chuang Tzu’s Essay on Seeing Things as Equal,” in *A Companion to Angus C. Graham’s Chuang Tzu: The Inner Chapters*, ed. Harold D. Roth (Honolulu: University of Hawai’i Press, 2003), 104–129.

Having desires and lacking desires fall under two different kinds, namely being alive and being dead, not order and disorder. Having many desires and having few desires also fall under different kinds, namely the numbers of people's dispositions, not order and disorder. The occurrence of desires does not wait upon the permissibility of fulfilling them, but those who seek to fulfill them follow what they approve of. That the occurrence of desires does not wait upon the permissibility of fulfilling them is something that is received from Heaven. That those who seek to fulfill them follow what they approve of is something that is received from the mind. When a single desire received from Heaven is controlled by many things received from the mind, then it will certainly be difficult to classify it as something received from Heaven... Thus, when the desire is excessive but the action does not match it, this is because the mind prevents it. If what the mind approves of conforms to the proper patterns, then even if the desires are many, what harm would they be to good order? When the desire is lacking but the action surpasses it, this is because the mind compels it. If what the minds approves of misses the proper patterns, then even if the desires are few, how would it stop short of chaos? Thus, order and disorder reside in what the mind approves of, they are not present in the desires from one's dispositions.<sup>25</sup>

The distinction between “desire” (*yu* 欲) and “approval” in this argument has provoked considerable debate among Xunzi scholars. The disagreement revolves around what the term “approval” means, and whether it is desire or approval that ultimately motivates action. Bryan Van Norden points out that this distinction distinguishes Xunzi's view on moral agency from that of Mengzi. For Mengzi, one does what one desires most, but for Xunzi, one does what the mind approves of. Both desire and the mind's approval can be the source of motivation, and approval has the power of overriding desire when necessary.<sup>26</sup> This reading is contested by David Wong and Winnie Sung from opposite angles. On the one hand, Wong argues that the mind's approval is not an independent source of motivation. The role of approval in moral agency is like the instrumental role of practical reason in fulfilling desires

---

<sup>25</sup> Xunzi, 22/111/5–11.

<sup>26</sup> Bryan W. Van Norden, “Mengzi and Xunzi: Two Views of Human Agency,” in *Virtue, Nature, and Moral Agency in the Xunzi*, ed. T.C. Kline III and Philip J. Ivanhoe (Indianapolis: Hackett Publishing Company, 2000), 103–134.

– the mind overrides a desire only for the sake of fulfilling greater desires in the long term. In such a case, what ultimately motivates action is still desire.<sup>27</sup> On the other hand, Sung argues that desire cannot motivate action directly by itself, but can only do so through the mind’s approval. It is the mind’s approval that ultimately motivates action.<sup>28</sup> More recently, Eric Hutton argues that Xunzi’s “approval” should not be understood as a near equivalent of the “judgment of reason” in the Western context, but is closer to a thin notion of “decision” and “choice” – a simple executive function of the mind that still needs to be guided by proper reason. The term “approval” *describes* the mind’s power of going against desires, but does not *prescribe* what the mind *should* do.<sup>29</sup> My position is closer to Hutton’s view, but due to limits of space, I will not go over the details of these debates concerning loaded terms such as “agency” and “motivation.” Instead, I shall try to extrapolate some minimal claims from this passage that we can be certain about, and then consider why Xunzi draws such a distinction.

- a) The first thing we can be certain about, as Van Norden notes, is that Xunzi clearly *thought* that there was a crucial distinction between desire and approval.<sup>30</sup> In chapter 22, this distinction is closely related to the distinction between what is natural (in the sense of being spontaneous and “received from heaven”) and what is social. As Xunzi claims, to associate order and disorder with desire rather than approval is a categorical mistake. It is certainly true that approval and desire can,

---

<sup>27</sup> David Wong, “Xunzi on Moral Motivation,” in *Virtue, Nature, and Moral Agency in the Xunzi*, ed. T.C. Kline III and Philip J. Ivanhoe (Indianapolis: Hackett Publishing Company, 2000), 135–154.

<sup>28</sup> Winnie Sung, “*Yu* in the *Xunzi*: Can Desire by Itself Motivate Action?” *Dao* 11, no. 3 (2012): 369–388.

<sup>29</sup> Eric Hutton, “Xunzi on Moral Psychology,” in *Dao Companion to the Philosophy of Xunzi*, ed. Eric Hutton (Dordrecht: Springer, 2016), 201–228. This is not a comprehensive survey of literature on the concept of approval. For two other studies, see T. C. Kline III, “Moran Agency and Motivation in the Xunzi,” in *Virtue, Nature, and Moral Agency in the Xunzi*, ed. T.C. Kline III and Philip J. Ivanhoe (Indianapolis: Hackett Publishing Company, 2000), 155–175; Kurtis Hagen, “Xunzi and the Prudence of Dao: Desire as the Motive to Become Good,” *Dao* 10, no. 1 (2011): 53–70.

<sup>30</sup> Van Norden, “Mengzi and Xunzi: Two Views of Human Agency,” 124.

and often do, overlap in content, if the mind happens to approve of desire. Yet approval is still an altogether different capacity. Consider the example of a hedonist. The hedonist mind approves of sensual pleasure. Does he act out of desire, or approval? The answer seems to be both. Even in this case, however, we can still draw a distinction between “having desire” (as a natural disposition) and “being a hedonist” (as an ethical commitment).

- b) The minimal reason for drawing such a distinction is a simple observation that we can sometimes act against our desires. The example Xunzi gives (omitted in the above quotation) is similar to the fish and bear’s paw analogy in *Mengzi* 6A10 – people do choose to override the greatest desire for life in extreme cases. If one’s action may “lag behind” or “surpass” desire, the mind must be able to execute a different kind of power independent of desire.
- c) One further reason for drawing the distinction is that desire is simple but the mind’s approval is complex. As Xunzi says, “a single desire received from Heaven is controlled by many things received from the mind.” Hutton’s translation does not reflect a textual variant here: a different edition has *ji* 計 “plan” in place of *duo* 多 “many.” One plausible suggestion is that the original text may have had both characters here, because the phrase *duoji* 多計 “many plans” forms a neat contrast with *yiyu* 一欲 “one desire.”<sup>31</sup> The contrast comes out more clearly in Knoblock’s translation: “The simple desires we received from

---

<sup>31</sup> This reading, plausible as it is, has no absolute textual support. For philological discussions of this line, see Wang Xianqian 王先謙, *Xunzi jijie* 荀子集解 (Beijing: Zhonghua shuju, 1988), 427; Wang Tianhai, *Xunzi jiaoshi*, 921–922.

nature are controlled by the complex devices exercised by the mind.”<sup>32</sup> Whatever the original text may have been, the basic idea is that desires move simply towards satisfaction, whereas the mind’s plans involve all kinds of hesitations and conflicts interfering with the simple movement of desires, making them less like things “received from heaven.”

- d) The third reason for drawing the distinction is that the mind’s approval is a *fallible* capacity, whereas fallibility is not a category we can apply to desire. As Hutton notes, the mind’s approval is a *de facto* power of the mind that does not itself constitute any normative principle.<sup>33</sup> As a complex and potentially misleading capacity, the mind’s approval still needs further guidance, such as “conforming to the proper patterns.”

These minimal claims do not answer the question whether the mind’s approval alone is sufficient to motivate action. They only show that the mind *has* such an independent, complex, and fallible power. The purpose of distinguishing this power from desire is twofold. First, by characterizing approval as the distinctive faculty of the mind, Xunzi is able to define the concept of mind itself.<sup>34</sup> Second, by separating the mind’s approval from desire, Xunzi is able to define the proper realm of moral cultivation and use that definition to correct a

---

<sup>32</sup> John Knoblock, *Xunzi: A Translation and Study of the Complete Works Vol. 3* (Stanford: Stanford University Press, 1988), 135, 343–344 (n. 97).

<sup>33</sup> Hutton, “Xunzi on Moral Psychology,” 222.

<sup>34</sup> This definition only captures one aspect of Xunzi’s concept of mind. The complexity of this concept has attracted considerable scholarly attention. For other studies of this concept, see Lee H. Yearley, “Hsün Tzu on the Mind: His Attempted Synthesis of Confucianism and Taoism,” *The Journal of Asian Studies* 39, no.3 (1980): 465–480; Knoblock, *Xunzi Vol. 3*, 88–99; David S. Nivison, “Hsun Tzu and Chuang Tzu,” in *Chinese Texts and Contexts: Essays Dedicated to Angus C. Graham*, ed. Henry Rosemont, Jr. (La Salle: Open Court, 1991), 129–142; Chad Hansen, *A Daoist Theory of Chinese Thought: A Philosophical Interpretation* (Oxford: Oxford University Press, 1992), 338–343; Slingerland, *Effortless Action*, 224–232; Aaron Stalnaker, “Aspects of Xunzi’s Engagement with Early Daoism,” *Philosophy East and West* 53, no. 1 (2003): 87–129; Cline, “Mirrors, Minds, and Metaphors,” 341–348.

categorical mistake in rival theories of morality (namely to associate moral cultivation with desires). However, a properly defined realm of moral cultivation does not yet provide any actual guidance. It only tells us what moral cultivation should *not* be about. That is to say, the whole point of distinguishing approval from desire, at least in chapter 22, is to set limits on the scope of ethical guidance without providing positive determination of its content.

Naturally, the next step in the argument is to provide a positive definition of ethical guidance, especially since the mind's approval is a fallible capacity. Xunzi claims that the mind must be guided by "technique" (*shu* 術). In chapter 5, when criticizing physiognomy, Xunzi gives technique priority over mind:

故相形不如論心，論心不如擇術。形不勝心，心不勝術。術正而心順之，則形相雖惡而心術善，無害為君子也。

Physiognomizing a person's outer form is not as good as judging his mind, and judging his mind is not as good as ascertaining his technique. The outer form is not superior to the mind, and the mind is not superior to its technique. Once the technique is correct, the mind follows it. Even though one's outer form is bad, it will pose no impediment to becoming a gentleman if the mind's technique is good.<sup>35</sup>

The mind should follow technique precisely because it is complex, confused, and fallible.

The emphasis on technique rather than mind is consistent with the denial of the basic "stuff" of human nature and the prevalent use of craft metaphors, which sets Xunzi apart from Mengzi.

What, then, is the content of the technique? Stalnaker, noticing the priority of technique over mind in the Xunzi, defines technique as "classical learning, ritual practice, and the appreciation of music."<sup>36</sup> Yet in chapter 22, Xunzi himself defines technique metaphorically as the material balance. After drawing the distinction between approval and

---

<sup>35</sup> Xunzi, 5/17/11–13.

<sup>36</sup> Stalnaker, "Aspects of Xunzi's Engagement with Early Daoism," 108–110.

desire, Xunzi claims that a person, in making every choice, needs to perform it with a balance to distinguish between good fortune and disaster:

凡人之取也，所欲未嘗粹而來也；其去也，所惡未嘗粹而往也。故人無動而可以不與權俱。衡不正，則重懸於仰而人以為輕，輕懸於俛而人以為重，此人所以惑於輕重也。權不正，則禍託於欲而人以為福，福託於惡而人以為禍，此亦人所以惑於禍福也。道者，古今之正權，離道而內自擇，則不知禍福之所託。

In every selection that people make, what they desire does not come pure. In their rejection, what they dislike does not go away pure. Thus, they must perform every action along with a balance. If the balance beam is not correct, then what is heavy will hang in the raised position, and people will think it is light. Or what is light will hang in the low position, and people will think it is heavy. This is how people become confused about light and heavy. If people's balance is not correct, then disaster may be attached to what they desire, but people will think it is good fortune. Or good fortune may be attached to what they dislike, but people will think it is disaster. This is likewise how people become confused about disaster and good fortune. The Way is the correct balance from ancient times to the present. If one departs from the Way and instead, looking within, chooses based on himself alone, then he will not know to what disaster and good fortune are attached.<sup>37</sup>

Although Xunzi does not explicitly relate the balance to the technique of the mind here, we shall see in a moment that he establishes the relationship in chapter 21. The term “choose” (*qu* 取), the main topic of this passage, is closely related to “approval” and “follow” (*cong* 從) in chapter 22, for we choose and follow what our mind approves of. Xunzi claims that the reason why a person should always choose with the balance is because the objects of people's desire are never in a “pure” (*cui* 粹) state. The discussion of the impurity of things offers one more reason for the mind's fallibility. Since the mind is intrinsically confused about whether a thing is truly beneficial or harmful, it should not rely on itself or “look within” for guidance. Instead, it should choose according to the Way, defined as the “correct balance”

---

<sup>37</sup> Xunzi, 22/111/24–112/2.

(Xunzi uses *quan* and *heng* synonymously for the same metaphor). The “correct balance” is the Way or the technique that the mind should follow. Superficially, this weighing metaphor seems to mean “making a true assessment” (Vankeerberghen’s *quan* A) rather than “achieving balance” (Vankeerberghen’s *quan* C).<sup>38</sup> The balance appears as a simple device for measuring the weight of an object, and metaphorically signifies nothing but the objective standard for determining the value of things. However, we shall see in the next section that what Xunzi means by “correct” has something to do with balanced weighing and the “middle.”

The context of the balance metaphor in chapter 22 demonstrates that we must not confuse this metaphor with other generic craft metaphors in the discussion of human nature.<sup>39</sup> The balance metaphor has a very different meaning and plays a totally different conceptual role in Xunzi’s ethics. Conceptually, it does not stand for the “reshaping” of human nature but stands for the correct technique of making choice, even though this technique may in effect reshape human nature. While Xunzi uses different kinds of crafts as source domains of the “reshaping” metaphor, the balance is the only source domain of the weighing metaphor due to its specialized function. It deserves to be singled out as one of its own type, especially because it is a metaphor for the Way.

#### 4.2.2 The Mind’s Technique

In chapter 3, Xunzi explains how “choosing with the balance” works in a short passage.

Chapter 3 does not have extended arguments like those in chapter 21 and 22, and the context

---

<sup>38</sup> Vankeerberghen, “Choosing Balance,” 65–67.

<sup>39</sup> For discussions of the generic craft metaphors, see Slingerland, *Effortless Action*, pp. 217–64; David Wong, “Early Confucian Philosophy and the Development of Compassion,” *Dao* 14, no. 2 (2015): 157–194; Slingerland, “Crafting Bowls, Cultivating Sprouts: Unavoidable Tensions in Early Chinese Confucianism,” *Dao* 14, no. 2 (2015): 211–218.

of the passage is not important for understanding its meaning. He continues the discussion of the balance with a more specific characterization of metaphorical weighing:

欲惡取舍之權：見其可欲也，則必前後慮其可惡也者；見其可利也，則必前後慮其可害也者；而兼權之，孰計之，然後定其欲惡取舍。如是，則常不大陷矣。凡人之患，偏傷之也。見其可欲也，則不慮其可惡也者；見其可利也，則不顧其可害也者。是以動則必陷，為則必辱，是偏傷之患也。

On weighing between the desirable and the undesirable, between that worth choosing and that worth rejecting: When you see something that may be desirable, be sure to consider forward and backward what may be undesirable in it. When you see something that may be beneficial, be sure to consider forward and backward what may be harmful in it. Weigh both sides and reckon them thoroughly, and only then decide whether it is desirable or undesirable, worth adopting or worth rejecting. If you proceed thus, then you will reliably avoid falling into trouble. In most cases, people's problems are due to their own one-sidedness harming them. They see what may be desirable in something, but then do not consider what may be undesirable in it; they see what may be beneficial in it, but then do not look to what may be harmful in it. Thus, when they move on it they are sure to fall into trouble, and when they act on it they are sure to encounter disgrace. These are the problems that occur when one-sidedness harms a person.<sup>40</sup>

Here, Xunzi uses the same language of “choosing,” “rejecting,” “desirable,” and “undesirable” as aspects of weighing. The characterization itself is rather plain; Xunzi's advice makes metaphorical weighing sound like nothing more than prudence – one should not be misled by the appearance of things but needs to weigh their desirable and undesirable aspects. It is noteworthy that Xunzi relates weighing to two more technical terms, *pian* 偏 “one-sided,” and *jian* 兼 “inclusive” (literally “all”).<sup>41</sup> One-sidedness is the mind's inherent flaw and the reason why it should not choose on its own. Inclusivity, on the other, defines the

---

<sup>40</sup> Xunzi, 3/12/6–9.

<sup>41</sup> Like “approval,” the term *jian* may also have been a Mohist influence. For a discussion of this term in Warring States political philosophy, see Masayuki Sato 佐藤將之, “The Idea to Rule the World: The Mohist Impact of *Jian* 兼 on the *Xunzi*,” *Oriens Extremus* 48 (2009): 21–54. Sato discusses only the political aspect of this term, while my focus is on the psychological side.

balanced style of thinking and action. In the *Xunzi*, *pian* and *jian* appear to be the mind's foremost vice and virtue. Unlike Mengzi, who believes that the mind should first make a one-sided choice between the original mind and the lost mind, Xunzi thinks that one-sidedness itself is the greatest "problem" (*huan* 患) of the mind's technique. This view of mind explains why there is no one-sided weighing metaphor in the *Xunzi*.

In chapter 21, the metaphor gets more interesting philosophically. The topic of this chapter is how to remove the mind's "obsessions" (*bi* 蔽), and the balance metaphor appears as the method for doing it:

故為蔽：欲為蔽，惡為蔽，始為蔽，終為蔽，遠為蔽，近為蔽，博為蔽，淺為蔽，古為蔽，今為蔽。凡萬物異則莫不相為蔽，此心術之公患也。

Thus, among the cases of obsession, one can be obsessed with desires, or with dislikes. One can be obsessed with origins, or with ends. One can be obsessed with what is far away, or with what is nearby. One can be obsessed with broad learning, or with narrowness. One can be obsessed with the ancient past, or with the present. In whatever respect the myriad things are different, they can become objects of obsession to the exclusion of each other. This is the common problem in the technique of the mind.<sup>42</sup>

聖人知心術之患，見蔽塞之禍，故無欲、無惡、無始、無終、無近、無遠、無博、無淺、無古、無今。兼陳萬物而中懸衡焉。

The sage knows the problems in the technique of the mind, and sees the disaster of being obsessed and blocked up in one's thinking. So, he has neither desires, nor dislikes, has neither the origins, nor the end results, has neither what is near, nor what is far away, has neither what is broad, nor what is shallow, has neither the ancient past, nor the present. He lays out the myriad things inclusively and suspends his balance in the middle.<sup>43</sup>

何謂衡？曰：道。故心不可以不知道；心不知道，則不可道，而可非道。人孰欲得恣，而守其所不可以禁其所可？

---

<sup>42</sup> *Xunzi*, 21/102/12–13.

<sup>43</sup> *Xunzi*, 21/103/16–17.

What am I calling his “balance”? I say: it is the Way. Thus, one’s mind must not be ignorant of the Way. If the mind does not know the Way, then it will not approve of the Way, but will rather approve what is not the Way. For what person would wish to be so dissolute as to keep to what they disapprove and reject what they approve?<sup>44</sup>

The balance metaphor in chapter 21 brings together most of the technical terms in chapter 3 and 22 discussed above – the “technique of the mind,” “approval,” “balance,” “inclusivity,” and “Way.” Xunzi gives a clear summary of the structure of his thought and the place of the balance metaphor in it. “Obsession,” as the mind’s “common problem in the technique of the mind” (*xinshu zhi gonghuan* 心術之公患), is described as nothing but being “one-sided” in choosing between dichotomous options.<sup>45</sup> The technique for curing this problem is explained metaphorically as to “suspend a balance in the middle” and lay things out “inclusively.” The balance is the “Way,” by which the mind knows what it should “approve of.”

Yet the language of the second passage is potentially misleading, for Xunzi uses the expression “has no X” (X being one of the dichotomous terms) to describe the state of being without obsessions. Strictly speaking, the object of *wu* 無 “have no” should be the obsessive attachments to the dichotomous terms, not the terms themselves, but Xunzi’s phrasing makes it sound like the mind should remain utterly devoid of cognitive and emotive content. Xunzi himself is certainly aware of this problem, for in the very next sentence he immediately says that the sage still “lays out things” (indeed everything) with a balance. The balance metaphor in this context redefines the meaning of “having none” as *zhong* 中 “middle.” The paradoxical structure of balanced weighing allows Xunzi to characterize the mind as something that can be empty and full of content at the same time:

---

<sup>44</sup> Xunzi, 21/103/18–19.

<sup>45</sup> One-sidedness and obsession are different names for the same problem. In his criticism of the Warring States masters, Xunzi makes it clear that being obsessive is at the same time being one-sided.

人何以知道？曰：心。心何以知？曰：虛壹而靜。心未嘗不臧也，然而有所謂虛。心未嘗不兩也，然而有所謂壹。心未嘗不動也，然而有所謂靜。人生而有知，知而有志。志也者，臧也。然而有所謂虛，不以所已臧害所將受謂之虛。心生而有知，知而有異。異也者，同時兼知之。同時兼知之，兩也。然而有所謂一，不以夫一害此一謂之壹。心臥則夢，偷則自行，使之則謀，故心未嘗不動也。然而有所謂靜，不以夢劇亂知謂之靜。未得道而求道者，謂之虛壹而靜。

How do people know the Way? I say: with the mind. How does the mind know the Way? I say: it is through emptiness, singlemindedness, and stillness. The mind is always holding something. Yet, there is what is called being “empty.” The mind is always twofold. Yet, there is what is called being “single-minded.” The mind is always moving. Yet, there is what is called being “still.” Humans are born and have awareness. With awareness, they have focus. To focus is to be holding something. Yet, there is something called being “empty.” Not to let what one is already holding harm what one is about to receive is called being “empty.” The mind is born and has awareness. With awareness, there comes awareness of differences. To be aware of differences is to know both at the same time.<sup>46</sup> When one knows both at the same time, this is to be two-fold. Yet, there is what is called being “single-minded.” Not to let one idea harm another idea is called being “single-minded.” When the heart sleeps, then it dreams. When it relaxes, then it goes about on its own. When one puts it to use, then it forms plans. Thus, the heart is always moving. Yet, there is what is called being “still.” Not to let dreams and worries disorder one’s understanding is called being “still.” As for those who have not yet grasped the Way but are seeking the Way, I say to them: emptiness, single-mindedness, and stillness—make these your principles.<sup>47</sup>

This much-discussed passage makes no use of the balance metaphor, but it can be viewed as a logical consequence of using the balance metaphor for the mind’s technique of removing obsessions. The three pairs of opposites – emptiness and fullness, movement and stillness, unity and duality – coexist in the function of the balance. In dynamic weighing, the fulcrum is always moving, but it remains, in a sense, still in the balanced position. As a single spot

---

<sup>46</sup> The word “both” again translates *jian*. In this case, it should be “both” rather than “all” because Xunzi seems to be talking about the dichotomous terms just mentioned.

<sup>47</sup> *Xunzi*, 21/103/25–104/4.

(unity), it achieves a balance between two things (duality). The balanced position is always located somewhere on the beam (being), but it is at the same time nowhere (emptiness). The balance metaphor provides a way of conceptualizing the paradoxical combination of opposite pairs.

Yet how does the balance metaphor work in reality? How should one employ one's mind so that it is both unified and twofold, empty and full, moving and still? Why do we need such a paradox to get rid of obsessions? The short passage in chapter 3 provides a clue. There, Xunzi says that when encountering something desirable, the mind should "consider forward and backward what may be undesirable in it," and vice versa. This mode of thinking applies to the series of dichotomous terms in chapter 21 as well. In general, when the balanced mind encounters an object X and perceives its side A, it should immediately jump to side B and keep doing this back and forth until it finds a point of balance between the two sides. By considering things "inclusively" like this, the mind is indeed moving, twofold, and occupied. Yet the result of this back and forth movement is an increased awareness of an empty, still, and unified point of balance between them. This point does not have to be actually in the middle; on the contrary, in most cases it *appears* to be one-sided, for the two sides in consideration are rarely of the same weight. Yet the superficial one-sidedness differs from the "really" one-sided positions by being "inclusive" – that is, moving, twofold, and occupied – in the first place. Therefore, in the conceptual model of the balance, the mind is not endowed with a mysterious, effortless intuition of where the middle is, but has to labor back and forth in each case before it eventually finds balance.

The balance metaphor saves Xunzi from a potential self-contradiction. If he simply says that the mind should be without dichotomous commitments such as likes and dislikes, the statement itself creates another dichotomy of "having" and "having none," and Xunzi may be criticized for endorsing a self-contradictory commitment to the empty mind by liking

the state of having no likes and dislikes. Yet the balance metaphor shows how the mind can be *inclusively empty* rather than exclusively so. It is precisely *by* laboring back and forth between the many aspects of a thing that the mind can find the one balance among them. The more aspects it is able to take into consideration (that is, the more inclusive it is), the more likely it is to achieve the correct balance. Balance is nothing but the balance *of* many aspects, and the concept of balance itself entails plurality. Thus in the dynamic weighing metaphor, inclusivity and balance are essentially connected and mutually supportive. The distinction Xunzi draws is not between an empty mind and an occupied mind, but between a unified and inclusive mind and an obsessed and exclusive mind.

The balance metaphor also fits with the overall ritualist image of Xunzi. Think of the balance of our body: it is a *skill* acquired through training and habituation, not an innate mystical consciousness.<sup>48</sup> Learning to balance oneself may involve emulating a particular set of movements of an accomplished teacher. The effortless command of muscles only comes at the end of disciplined training and accumulated effort, thereby being the exact opposite of *laissez-faire*. The formal procedures are not dispensable, because the teacher can only train students through behavior demonstration. Therefore, I do not think my interpretation of the mind's technique as the balance metaphor is incompatible with Stalnaker's claim that the technique is about classical learning and ritual practice. Rather, my interpretation may help to bridge the gap between the ritualist Xunzi and the quasi-Daoist Xunzi in chapter 21.

---

<sup>48</sup> For a "skill" reading of Xunzi's conception of virtue, see Aaron Stalnaker, "Virtue as Mastery in Early Confucianism," *The Journal of Religious Ethics* 38, no. 3 (2010): 404–428.

## CHAPTER FIVE

### LEVERAGE

Having examined the weighing metaphor in moral philosophy, let us now consider the instrumental pole of the lever schema in the context of Warring States military and political thought. For military and political experts, the problem was not how to make choices at moral crossroads, but how the few could possibly defeat or control the many. Their main concern, largely amoral, was to increase the efficacy of human action in a situation of being outnumbered and overpowered. Against such a background, the lever's function of weight-manipulation provided the conceptual possibility for maximizing the outcome of a given input. It became a metaphor for strategies of optimization, or conditions that could be manipulated to produce leverage.

This mode of thinking can be compared with the debate in *Mengzi* 6B1 discussed in chapter 4. In 6B1, Mengzi accuses his opponent of making an unfair comparison between ritual and sexual desire, saying that “if one lines up their tops without evening out their bottoms, a square inch of wood can be made taller than the top of a tower.” The purpose of strategic thinking, on the contrary, is precisely to make a square inch of wood taller than the top of a tower by placing them on uneven grounds. Consider the following passage from the “Gong ming” 功名 (Achievement and Fame) chapter of the *Hanfeizi*:

夫有材而無勢，雖賢不能制不肖。故立尺材於高山之上，則臨千仞之谿。材非長也，位高也。桀為天子，能制天下。非賢也，勢重也。... 千鈞得船則浮，錙銖失船則沈，非千鈞輕錙銖重也，有勢之與無勢也。故短之臨高也以位，不肖之制賢也以勢。

As a rule, if someone has talent (*cai*) but no *shi*, even if he is worthy he cannot control those who do not match up. Therefore, if a timber tree (*cai*) of one inch is established on a high mountain, it overlooks a valley a thousand yards deep. It is not that the timber tree is tall but that its position is high. That Jie was the

Son of Heaven and was able to control the world was not because he was worthy but because his *shi* was heavy... If something of a thousand pounds is loaded on a boat, it will float. If something of a pennyweight is not loaded on a boat, it will sink. It is not that one thousand pounds are light and a pennyweight is heavy, but that one has *shi* and the other does not. Therefore, the reason why the short can overlook the tall is because of its position. The reason why those who do not match up can control the worthy is because of their *shi*.<sup>1</sup>

Han Fei uses a similar analogy based on a pun of *cai* “talent” and *cai* “timber tree” for the opposite purpose. For Mengzi, the ground on which two objects stand must be brought to light and made even. From the strategic point of view, however, the ground must be deceptively concealed and manipulated so that one side gains advantage over the other. The focus is not on objective comparison anymore, but on subjective manipulation. It is striking that even Mengzi himself uses *shi* in a similar sense in 2A1. Quoting a popular saying of Qi, he relates *shi* to the efficacy of practicing benevolence in an age when virtue was much needed:

齊人有言曰：“雖有智慧，不如乘勢。雖有鎡基，不如待時”...孔子曰：“德之流行，速於置郵而傳命。”當今之時，萬乘之國行仁政，民之悅之，猶解倒懸也。故事半古之人，功必倍之，惟此時為然。

The people of Qi have a saying: “Having wisdom isn’t as good as riding on *shi*. Even if you have a hoe, this isn’t as important as awaiting the right time”...Confucius said, “Virtue spreads faster than couriers carrying commands.” At the current time, if a state of ten thousand chariots puts benevolent government into effect, the people would be as happy as if they had been saved from hanging upside down. Therefore, only in a time like this can one exert half the effort of the ancients and be assured twice the achievement. (2A1)

This use of *shi* probably reflects a Jixia influence on Mengzi despite his persistent rejection of placing value on profits. The phrasing of the last sentence (“half the effort, twice the achievement”) even parallels the characterization of machines in chapter 2.

---

<sup>1</sup> *Hanfeizi*, 28/60/5–8.

The result of strategic thinking was the discovery of *instrumental subjectivity* as opposed to ethical subjectivity in chapter 4. As Mark Lewis points out, one of the most important military developments in the Warring States period was the appearance of a new form of commander understood metaphorically as the “mind” of an obedient, unthinking “body” of troops. What accompanied this trend was a proliferation of military texts describing combat as a duel of two minds.<sup>2</sup> Lisa Raphals also argues that the *Sunzi bingfa* emphasizes the intellectual nature of warfare, prioritizing knowledge and indirect strategy over direct physical strength.<sup>3</sup> Unlike the ethical mind responsible for moral choice, the commander’s instrumental mind is the intelligent, resourceful, and often bluntly crafty brain over brawn, full of cunning strategies for the manipulation of brute force. While ethical subjectivity seeks to *find balance* between moral alternatives, instrumental subjectivity seeks to *create imbalance* in the fleeting moments of power struggle.

The term most typically associated with instrumental subjectivity is *shi*.<sup>4</sup> This term signifies all kinds of extrinsic conditions other than inherent talent that may contribute to the effectiveness of an action. The meanings of *shi* analyzed in chapter 3 represent only a basic conceptual substrate, which is still abstract, versatile, and elusive, open to open-ended strategic appropriations. As Han Fei says, “As for *shi*, it is one name with countless variations” (夫勢者名一而變無數者也).<sup>5</sup> No single definition or translation is able to capture the full semantic range of this slippery term, whose unpredictable polysemy reflects

---

<sup>2</sup> Mark Edward Lewis, *Sanctioned Violence in Early China* (Albany: State University of New York Press, 1990), 97–136.

<sup>3</sup> Lisa Raphals, *Knowing Words: Wisdom and Cunning in Two Classical Traditions* (Ithaca: Cornell University Press, 1992), 104–116.

<sup>4</sup> *Quan* and *ji* can also be used, but are less frequent.

<sup>5</sup> *Hanfeizi*, 40/128/28–29.

nothing but its strategic nature. For this reason, I will leave *shi* untranslated and let its meaning develop in context.

In this chapter, I shall examine how the basic “setup” and “leverage” meaning of *shi* acquire specific determinations in the hands of military and political thinkers. Since the leverage metaphor appears so widely in a variety of texts, I could not possibly exhaust all of its occurrences. Instead, I plan to focus on a small sample of the most representative figures. In the following two sections, I will examine Sunzi and Shen Dao as the subject of my analysis.<sup>6</sup> Both were known as prominent proponents of *shi* as early as the Warring States period, and both belonged to the very first generation of thinkers in their respective intellectual traditions.<sup>7</sup> Their surviving works, short as they are, cover most of the central themes in later military and political philosophy. It will turn out that both Sunzi and Shen Dao use metaphors of weighing and weight-manipulation to conceptualize the extraordinary situations in which the strong and weak reverse their positions, but they adopt opposite approaches to *shi*.

---

<sup>6</sup> This chapter is geographically focused. It deals only with an intellectual tradition in the eastern part of China, especially in the Jixia Academy of Qi. In fact, *shi* may have been a distinctively Jixia topic, as most of the Jixia masters either advocated it or felt the need to respond to it (such as Mengzi and Xunzi). I will not consider the works of important political philosophers in western China, such as Shen Buhai, Shang Yang 商鞅, and Han Fei.

<sup>7</sup> I use “Sunzi” to refer to the collective identity of the putative author(s) of the *Sunzi*. I take this collective identity to be a group of military specialists during the first half of the Warring States period who hailed the teachings of a “Master Sun” and transmitted military texts. The precise date of the *Sunzi* is still controversial. Li Ling and Qi Sihe place the lower limit of its completion in mid-Warring States, while Bruce Brooks takes the mid-Warring States to be the starting point of its textual formation. Both Brooks and Li Ling point out that the *Sunzi* was a composite text compiled over a period of time. Whatever the actual date was, the majority of the military knowledge recorded in the *Sunzi* seems to have been in circulation around the mid-Warring States when Sun Bin was a general in Qi. See Qi Sihe 齊思和, “Sunzi bingfa zhuzuo shidai kao” 孫子兵法著作時代考, in *Zhongguo shi tanyan* 中國史探研 (Shijiazhuang: Hebei jiaoyu chubanshe, 2000), 415–433; Bruce E. Brooks, “Review Article: ‘The Present State and Future Prospects of Pre-Han Text Studies,’” *Sino-Platonic Papers* 46 (1994): 1–74; Li Ling 李零, *Sunzi shisanpian zonghe yanjiu* 孫子十三篇綜合研究 (Beijing: Zhonghua shuju, 2006), 345–358. For a summary of the problems around the date and authorship of the *Sunzi*, see Victor H. Mair, *The Art of War: Sun Zi's Military Methods* (New York: Columbia University Press, 2007), 9–29.

## 5.1 Sunzi on Leverage

According to Lewis, the *Sunzi* divides the commander's actions on campaign into two stages that roughly correspond to the realms of strategy and tactics: pre-war estimations of relative strength and decisions in the flux of battle.<sup>8</sup> For Li Ling, the organization of the received edition of the *Sunzi* also reflects such a distinction.<sup>9</sup> The distinction is drawn in the “Shi ji” 始計 (Initial Calculations), the first chapter of the *Sunzi*:

故經之以五事，校之以計，而索其情。

Therefore, manage it with the five factors, examine it with calculations, and seek out its true nature.<sup>10</sup>

計利以聽，乃為之勢，以佐其外。勢者，因利而制權也。

If the calculations are advantageous and followed, then make *shi* for them to assist from the outside. *Shi* is that which controls *quan* according to what is advantageous.<sup>11</sup>

In the first stage, the commander seeks to determine objectively the strength of both sides in order to decide whether and when to give battle. In the second stage, the commander seeks to produce *shi*, a kind of external mechanism that controls the *quan* (which I take to mean “leverage” here) of a situation. The two stages correspond to the two kinds of lever metaphors: the comparison of strength is like weighing, while strategic advantage is like mechanical leverage. We shall see that Sunzi not only describes victory in both quantitative

---

<sup>8</sup> Lewis, *Sanctioned Violence in Early China*, 114–121.

<sup>9</sup> Li Ling divides the 13 chapters of the received *Sunzi* into the “inner chapters” (1–6) and the “outer chapters” (7–13), claiming that the inner chapters focus on military theories, while the outer chapters focus on military technology. He further divides the 6 inner chapters into the “strategy” (*quanmou* 權謀) group (1–3) and the “tactics” (*xingshi* 形勢) group (4–6). The terminologies are borrowed from the bibliographic treatise of the *Han shu*. See Li Ling, *Bing yi zha li – wo du Sunzi* 兵以詐立—我讀孫子 (Beijing: Zhonghua shuju, 2006), 54–56.

<sup>10</sup> *Sunzi*, A1/1/5.

<sup>11</sup> *Sunzi*, A1/1/14.

and qualitative terms, but also develops both a temporal and a spatial conception of strategic leverage.

### 5.1.1 Weighing Military Strength

In chapter 1, Sunzi tells us that pre-war calculations are done in the ancestral temple with counting rods. The estimation of military strength must take into account five factors: 1) the Way, or political solidarity, 2) heaven, or weather conditions, 3) terrain, 4) the five virtues of the commander, and 5) the laws, or administrative techniques. The list summarizes the major aspects that determine the success or failure of military action, though it is difficult to see how some of the factors can be quantified with counting rods. If natural conditions such as weather and terrain can still be roughly approximated, the virtues of the commander seem beyond mathematical operation by any means. In fact, it is not until chapter 4 that Sunzi offers a different, more realistic picture of the calculation method:

兵法：一曰度，二曰量，三曰數，四曰稱，五曰勝；地生度，度生量，量生數，數生稱，稱生勝。故勝兵若以鎰稱銖，敗兵若以銖稱鎰。

As for military methods: the first is called measurement; the second, quantity; the third, numbers; the fourth, weighing; the fifth, prevailing. Land gives rise to measurement; measurement gives rise to quantity; quantity gives rise to numbers; numbers give rise to weighing; weighing gives rise to prevailing. Therefore, an army that prevails is like a pound weighed against a dram. A defeated army is like a dram weighed against a pound.<sup>12</sup>

The first three steps of this simple algorithm show that the military strength of a state ultimately depends on the area of arable land, which must be “measured” carefully to estimate the “quantity” of crops. The amount of agricultural product then determines the

---

<sup>12</sup> Sunzi, A4/4/1–4.

“number” of soldiers that the government can afford.<sup>13</sup> The rest of the passage uses the metaphorical language of weighing to figure out which side will prevail. Note that “prevailing” is also a technical term used in the *Mohist Canon* B25a for a horizontal beam’s ability to carry a weight, as in the phrase *shengzhong* 勝重 (“being able to carry the weight”). The concept of “heavy” in the source domain of the weighing metaphor can have different metaphorical meanings, depending on whether the target domain is ethical or instrumental. In the ethical domain, “heavy” means ethical importance. In the instrumental domain, “heavy” means physical strength.

The military method in chapter 4 depicts victory as a straightforward matter of physical strength that can be measured and compared in an almost scientific way. One factor, however, slightly complicates the simple comparison. An army that marches into the enemy’s territory has to expend a great deal more on the way, while the enemy has plenty of time to prepare for defense. Distance and the cost of transportation must also be taken into consideration. In the “Ke zhu ren fen” 客主人分 (The Positions of Host and Guest) manuscript attributed to the \**Sun Bin bingfa*, the advantage of the attacking side and the defending side must be calculated differently:

兵有客之分，有主人之分。客之分衆，主人之分少。客負主人半，然可  
當也。

In warfare, there is the position of the guest and the position of the host. The position of the guest requires more, while the position of the host requires less. Even if the guest’s forces are doubled and the host’s forces are made half, they can be a match.<sup>14</sup>

---

<sup>13</sup> The interpretation of “measurement,” “quantity,” and “number” is based on the traditional commentaries in Yang Bing’an 楊丙安, *Shiyijia zhu Sunzi jiaoli* 十一家註孫子校理 (Beijing: Zhonghua shuju, 1999), 77–79. See also Li Ling, *Sunzi shisanpian zonghe yanjiu*, 31, n.15.

<sup>14</sup> Yinqueshan Hanmu zhujian zhengli xiaozu, ed., *Yinqueshan Hanmu zhujian Vol.2*, 150.

According to the manuscript, the guest army is one that marches into the host's territory. The host army, not burdened by the extra cost of travelling a far distance, is naturally in an advantageous position. We must not take the 1 to 4 ratio too seriously, because "double" and "half" seem to be just conventional numbers for describing efficiency or inefficiency (Mengzi uses them for describing the efficiency of *shi* and timing in 2A1). Yet the ratio is a great discouragement to those who are planning to launch active campaigns, for the attacking side will have to invest more. To remedy this natural inferiority, Sunzi recommends a strategy of relying on the enemy's provisions:

故智將務食於敵。食敵一鍾，當吾二十鍾，惹秆一石，當我二十石。

Therefore, the wise commander seeks to feed his army with provisions from the enemy. One *zhong* of the enemy's provisions is equal to twenty *zhong* of our own. One *dan* of beanstalk and straw is equal to twenty *dan* of our own.<sup>15</sup>

This passage gives an extraordinary ratio of 20 to 1 and dramatically reverses the disadvantageous position of the guest army. Relying on the enemy's provisions has the double effect of increasing the cost for the enemy while reducing one's own. If we add the guest/host parameter on top of the double effect to recalculate the utility, then the 20 to 1 efficiency ratio may not be too exaggerated. It is uncertain whether these ratios are taken seriously in actual calculations, but they give us a preliminary sense of how the commander incorporates increasingly complex parameters in the process of weighing.

The introduction of complex factors in pre-war calculation shows that even this stage has a strategic element. In reality, military strength consists of an open-ended list of factors that can be turned to the advantage of either side. According to the "Ke zhu ren fen," war is never a matter of simple calculation no matter how sophisticated one's method is:

---

<sup>15</sup> Sunzi, A2/2/7.

能分人之兵，能安人之兵，則鎡銖而有余。不能分人之兵，不能安人之兵，則數負而不足。衆者勝乎？則投筭而戰耳。富者勝乎？則量粟而戰耳。

If we are able to divide the enemy's forces and to check his advance, then even a pennyweight is more than enough. If we are not able to divide the enemy's forces and to check his advance, then even if we have several times his number, it is still not enough. Is victory a matter of numbers? If so, we can wage war by totting up counting rods. Is victory a matter of wealth? If so, then we can wage war by measuring up millet.<sup>16</sup>

This passage ultimately prioritizes tactics over scientific estimation. It calls the entire mathematical understanding of victory into question with the metaphorical language in chapter 4 of the *Sunzi*.

### 5.1.2 Strategic Leverage

In chapter 1, Sunzi uses *shi* as the name for strategic leverage. As one of the core concepts in strategic thinking, *shi* is the topic of the entire chapter 5. Although chapter 5 is the classic and probably the earliest formulation of the military meaning of *shi*, it never gives a clear definition of this term. What we find instead is terse and abstract descriptions combined with a series of metaphors. The opening paragraph gives a list of four strategic pairs:

孫子曰：“凡治衆如治寡，分數是也。鬪衆如鬪寡，形名是也。三軍之衆，可使畢受敵而無敗者，奇正是也。兵之所加，如以礮投卵者，虛實是也。”

Sunzi said, “Managing the many is like managing a few; it is a question of division and number. Fighting with the masses is like fighting with a few; it is a question of visual and audio signs. The masses of the three armies may all be caused to have an encounter with the enemy and yet not be defeated; it is a question of straightforward and indirect action. The application of military

---

<sup>16</sup> Yinqueshan Hanmu zhujian zhengli xiaozu, ed., *Yinqueshan Hanmu zhujian Vol.2*, 150.

force is like throwing a grindstone at an egg: it is a question of emptiness and solidity.”<sup>17</sup>

The list may seem random at first sight, but, as Li Ling points out, there is a certain logic to it.<sup>18</sup> The first two pairs are the commander’s administrative techniques; both are about how the few can control the many. The commander “divides” the army into smaller units with fixed “numbers” of people, and then moves them around with “visual and audio signs” such as flags and drums.<sup>19</sup> The next two pairs are the commander’s tactical maneuvers; both are about how the few can defeat the many. The *Sunzi* is much more interested in tactical maneuvers than military administration. It discusses “straightforward and indirect action” briefly in chapter 5 and devotes the entirety of chapter 6 to “emptiness and solidity.” These two pairs lie at the center of Sunzi’s approach to strategic leverage.

What, then, is the difference between them? Li Ling explains the difference as a matter of scale, saying that “emptiness and solidity” are about victory on a larger scale than “straightforward and indirect action.” In contrast to his view, I believe that “straightforward and indirect action” is based on a *qualitative* approach to victory, whereas “emptiness and solidity” is based on a *quantitative* approach. Let us consider the quantitative approach in chapter 6 first. The main strategy of chapter 6 is that an army should avoid the “solid” part of

---

<sup>17</sup> *Sunzi*, A5/4/10–11.

<sup>18</sup> Li Ling, *Bing yi zha li*, 174–177; Li Ling, *Weiyi de guize: Sunzi de douzhng zhexue* 唯一的規則: 孫子的鬥爭哲學 (Beijing: Sanlian shudian, 2010), 122–127.

<sup>19</sup> The term *xingming* 形名 literally means “form and name.” Cao Cao 曹操 (155–220) glosses *xing* as “flags and pennants” and *ming* as “bells and drums.” Hattori Chiharu 服部千春 interprets them as the more abstract “visual and audio signs.” Robin Yates points out that both “form and name” refer to flags and pennants in the military chapters of the *Mozi*, suggesting that this term originated in military practice and was later taken up by political thinkers. My translation follows Hattori’s interpretation. See Yang Bingan, *Shiyijia zhu Sunzi jiaoli*, 85–86; Hattori Chiharu, *Sunzi bingfa jiaojie* 孫子兵法校解 (Beijing: Junshi kexue chubanshe, 1987), 385; Robin Yates, “New Light on Ancient Chinese Military Texts: Notes on Their Nature and Evolution, and the Development of Military Specialization in Warring States China,” *T’oung Pao* 74, no. 4/5 (1988): 211–248.

the enemy's forces and attack its "empty" part. Sunzi explains solidity and emptiness in terms of numerical force:

故形人而我無形，則我專而敵分，我專為一，敵分為十，是以十攻其一也。則我衆敵寡。能以衆擊寡，則吾之所與戰者約矣。

Therefore, I make the enemy reveal his formation while having no formation myself. Thus, my forces are focused while those of my enemy are divided. My forces are focused as a single whole, whereas my enemy's forces are divided into ten parts. This is to attack one portion of his forces with ten times the strength. Thus my forces are many while the enemy's forces are few. If I am able to strike his few forces with my numerous forces, those with whom I engage in battle are constrained.<sup>20</sup>

Here, the solid part of the army is simply the one with more soldiers, and the empty part with less. The understanding of victory is straightforwardly numerical: the side with more soldiers prevails. If this is the case, how can a smaller army ever defeat a larger army? For Sunzi, the secret of leverage lies in the crucial distinction between the global size of an army and a particular localized force. A smaller army should seek to create a local situation in which it enjoys a transient moment of dominance. The situation so created will not last long, for the enemy will quickly move to remedy its own disadvantage. Ultimately, victory becomes a matter of taking the initiative and seizing the moment with lightning speed, and the majority of chapter 6 seeks to base military tactics on this new ground. For example, Sunzi redefines "the masses" (*zhong* 衆) and "the few" (*gua* 寡) as a matter of taking the initiative:

故備前則後寡，備後則前寡，備左則右寡，備右則左寡，無所不備，則無所不寡。寡者，備人者也；衆者，使人備己者也。

Therefore, if the enemy prepares for me in front, he will have few forces in the rear; if he prepares for me in the rear, he will have few forces in front. If he prepares for me on the left, he will have few forces on the right. If he prepares for me on the right, he will have few forces on the left. If he prepares for me everywhere, then his forces will be few everywhere. Fewness results from

---

<sup>20</sup> Sunzi, A6/5/18–19.

having to prepare for your enemy; numerousness results from causing your opponent to prepare for you.<sup>21</sup>

The global scale of the army does not matter anymore. What matters is the commander's ability to take the lead and manipulate his opponent in the flux of battle. Therefore, the numerical understanding of victory gives rise to a *temporal* conception of strategic leverage. Leverage exists only as small windows created by prompt dispositions.

While “emptiness and solidity” is a matter of numerical strength, “straightforward and indirect action” introduces the notion of *qualitative conquest* into the analysis of leverage.<sup>22</sup> In chapter 5 of the *Sunzi*, this notion is embedded in a preliminary form of the five-agent theory, as the alternation of straightforward and indirect actions is linked to the circular generation of the five notes, colors, and tastes.<sup>23</sup> In military thought, the significance of the five-agent theory is that it provides an abstract model for analyzing mutual conquest. A five-agent model is a closed system of five qualitatively different entities with particular strengths and weaknesses, each of which is embedded in a circular chain of conquering and being conquered. The whole system is “set up” in a way that it achieves global balance and local imbalance at the same time, for while no agent has unconditional dominance over the others, each agent may have a temporary advantage (or disadvantage) due to the strength (or weakness) of its quality. In such a model, the concept of “conquest” is an essential part of the concept of “qualitative difference.” A quality can be any sort of thing that has a bearing on the efficacy of military action, such as weather, terrain, the morale of the soldiers, the

---

<sup>21</sup> *Sunzi*, A6/5/22–23.

<sup>22</sup> For two etymological and semantic analyses of *qi* and *zheng*, see D. C. Lau, “Some Notes on the ‘Sun tzu’ 孫子,” *Bulletin of the School of Oriental and African Studies* 28, no. 2 (1965): 319–335; Benjamin E. Wallacker, “Two Concepts in Early Chinese Military Thought,” *Language* 42, no. 2 (1966): 295–299.

<sup>23</sup> This is not to say that the *Sunzi* already contains a full-blown correlative cosmology, but it does mention that “the five agents do not have a fixed order of conquest” (五行無常勝) in chapter 6.

material condition of their weapons, the configuration of battle formations, and so forth. As an illustration of this model, consider a discussion of the “five weapons” in the *Sima fa* 司馬法:

兵不雜則不利。長兵以衛，短兵以守。太長則難犯，太短則不及。太輕則銳，銳則易亂。太重則鈍，鈍則不濟。

If the weapons are not mixed, they are not advantageous. Long weapons are for sieging; short weapons are for defending. If a weapon is too long, it is difficult to attack with it. If a weapon is too short, it is difficult to reach the enemy. If a weapon is too light, it is sharp; being sharp, it is likely to be in disorder. If a weapon is too heavy, it is blunt; being blunt, it will not get across.<sup>24</sup>

凡五兵五當，長以衛短，短以救長。迭戰則久，皆戰則強。見物與侔，是謂兩之。

In general, the five weapons are fit for five tasks. Long weapons attack short ones; short weapons come to the rescue of long ones. Used in turn, they will last long. Used altogether, they will be strong. Match our weapon to that of the enemy. This is called a paring.<sup>25</sup>

The *Sima fa* does not tell us what the five weapons are, but the basic idea is that each kind has its strength and weakness, and for that reason they must be used in combination to achieve the greatest efficacy. Moreover, the commander should seek to exploit the conquest system of the five weapons by making his own weapon a counterpart of his opponent's. Theoretically, the five-agent model can be applied to any other condition that may have an impact on military strength.

In the *Sunzi*, the relationship between indirect action and qualitative conquest is not very clear. The idea finds a more detailed explanation in the “Ji zheng” 奇正 (Indirect and Straightforward Actions) manuscript of the \**Sun Bin bingfa*:

---

<sup>24</sup> *Sima fa*, D2/46/28–29.

<sup>25</sup> *Sima fa*, D3/48/4–5. The translation of the last two sentences follows Li Ling's interpretation. See Li Ling, *Sima fa yizhu* 司馬法譯註 (Shijiazhuang: Hebei renmin chubanshe, 1992), 30–32.

有勝有不勝，五行是也。有生有死，萬物是也。有能有不能，萬生是也。有所有餘，有所不足，刑執是也。故有刑之徒，莫不可名。有名之徒，莫不可勝。故聖人以萬物之勝勝萬物，故其勝不屈。

Each prevails and is also prevailed over. Such are the five agents. Each lives and also perishes. Such are the ten thousand things. Each is capable of certain things but incapable of others. Such are the ten thousand lives. Each has more than enough in some respects but less than enough in other respects. Such is their form and *shi*. Therefore, all things that have a form can be named, and all things with a name can be prevailed over. Therefore, the sage prevails over the ten thousand things by the ten thousand things' prevailing over each other. Therefore, there is no end to the sage's victory.<sup>26</sup>

故善戰者，見適之所長，則智其所短；見適之所不足，則智其所有餘。見勝如見日月。其錯勝也如以水勝火。

Therefore, the expert at warfare knows the enemy's weakness upon seeing his strength, and what he has in excess upon seeing what he is deficient in. He sees victory just as he sees the sun and moon. He handles victory just as he quenches fire with water.<sup>27</sup>

同不足以相勝也，故以異為奇。是以靜為動奇，失為勞奇，飽為飢奇，治為乳奇，眾為寡奇。

People cannot prevail over each other by having the same quality, thus one takes difference to be the indirect force. For this reason, stillness is an indirect force to motion. Leisure is an indirect force to labor. Being well-fed is an indirect force to hunger. Order is an indirect force to chaos. Being many is an indirect force to being few.<sup>28</sup>

The “*Ji zheng*” relates straightforward action to “sameness” and indirect action to “difference.” I take sameness here to mean straightforward numerical strength, and difference to mean the qualitative advantage of one thing over the other.<sup>29</sup> Metaphorically speaking, if

---

<sup>26</sup> Yinqueshan Hanmu zhujian zhengli xiaozu, ed., *Yinqueshan Hanmu zhujian Vol.2*, 154.

<sup>27</sup> Yinqueshan Hanmu zhujian zhengli xiaozu, ed., *Yinqueshan Hanmu zhujian Vol.2*, 155.

<sup>28</sup> Yinqueshan Hanmu zhujian zhengli xiaozu, ed., *Yinqueshan Hanmu zhujian Vol.2*, 155.

<sup>29</sup> The series of opposites in the “*Ji zheng*” do not seem to fit into the five-agent model. It

Curiously, the very last pair of opposites is the numerical “many” and “few.”

numerical strength is the weight, then qualitative advantage is the mechanical leverage of the weight that gives it extra power. Therefore, if two armies of roughly the same size meet, their victory will be determined by their qualitative advantages.

If the quantitative understanding of victory gives rise to a temporal conception of strategic leverage, then in the case of qualitative conquest we are dealing with a *spatial* conception. In the *Sunzi*, leverage can be either the temporary quantitative advantage generated by prompt maneuvers, or the built-in qualitative advantage of the five-agent model. In practice, the commander should seek to combine both forms of leverage for optimal performance. In chapter 5, the two forms of leverage are summarized in a series of metaphors:

激水之疾，至于漂石者，勢也。鷲鳥之擊，至于毀折者，節也。是故善戰者，其勢險，其節短。勢如彊弩，節如機發。

The swiftness of a raging torrent can sweep away boulders; this is a matter of *shi*. The attack of a raptor can tear things apart; this is a matter of timing. For this reason, the expert at warfare makes a perilous *shi* with short timing. *Shi* is like a fully drawn crossbow. Timing is like pulling a trigger.<sup>30</sup>

Source		Target	
Water	A fully drawn crossbow	Setup	Perilous
Raptor	Pulling a crossbow trigger	Timing	Short

Table 5.1: Metaphors of leverage in the *Sunzi*

What we see in this metaphorical blend is a spatial metaphor and a temporal metaphor based on three imageries: the water, raptor, and crossbow. It is striking that the crossbow is recognized for both a spatial and a temporal aspect of its function (another example of metaphorical divergence). The drawn crossbow metaphor is for the potential force and advantage inherent in a spatial configuration, whereas the trigger metaphor is for the instantaneous timing of maximum efficacy. Although the passage does not relate the spatial

---

<sup>30</sup> *Sunzi*, A5/4/18–19.

metaphor to qualitative conquest, I believe its conceptual structure reflects the quantitative/qualitative distinction.

The terminologies used in these metaphors deserve attention, for they reveal how the different meanings of *shi* and *ji* fit into the structure of Sunzi's strategic thought. First, the *shi* here appears close to its original meaning as a kind of perilous spatial "setup." In the *Ji zheng*, *shi* (together with *xing* "form") is also explained as the "setup" that all things have excesses and deficiencies and can prevail over each other, providing a semantic link between the spatial metaphor and the concept of qualitative advantage. In a broader sense, however, we can say that both the spatial and the temporal metaphors are for *shi* as "leverage." As such, the double meaning of *shi* is embedded in the spatial conception of leverage and the five-agent model of victory, for on the one hand it refers to the natural setup of excesses and deficiencies, and on the other hand it refers to the advantage inherent in the natural setup. This double correspondence reinforces the *Ji zheng* claim that "the sage prevails over the ten thousand things by the ten thousand things' prevailing over each other." *Shi* as natural setup is "ten thousand things' prevailing over each other," while *shi* as strategic leverage is "the sage's prevailing over the ten thousand things."

Second, the use of the trigger metaphor diverges from its usual meaning in early Chinese texts analyzed in chapter 3. Indeed, if the trigger metaphor has its usual meaning of "subtle and dangerous" here, it seems a better fit for the precarious situation and the drawn crossbow, rather than the correct timing of pulling the trigger. This unconventional use of the trigger metaphor seems to be the origin of the "opportune moment" meaning of *ji* in later times, but we must note that in this passage the *term* itself has not acquired that meaning. Sunzi uses *ji* as the *metaphor* and *jie* 節 (literally meaning a segment of bamboo, but also used as a metaphor for a period of time) as the *term* for "opportune moment." It seems to me

that *ji* acquired an additional meaning of “opportune moment” as a result of being used as such a metaphor in the *Sunzi*.

Finally, at the end of chapter 5, Sunzi offers another spatial metaphor for *shi*. This spatial metaphor is similar to the downward flow metaphor just mentioned, but it makes a different point:

故善戰者，求之于勢，不責于人，故能擇人任勢。任勢者，其戰人也，如轉木石。木石之性，安則靜，危則動，方則止，圓則行。故善戰人之勢，如轉圓石于千仞之山者，勢也。

Therefore, the expert at warfare places emphasis upon *shi* and does not put responsibilities on people. Therefore, he can select suitable people and rely on *shi*. When he who relies on *shi* sends his people into battle, his warriors are like rolling a log or a stone. The nature of wood and stone is such that when in a stable situation they are still, but when in a perilous situation they move; when they are square they stop, but when they are round they roll. Therefore, the *shi* of one who is skilled at sending his people into battle is like rolling a round stone from the top of a mountain ten thousand yards high. This is called *shi*.<sup>31</sup>

The passage uses the rolling stone metaphor to claim that victory does not depend on personal qualities but on *shi*. We must distinguish the distinction between personal quality and *shi* from the internal/external distinction, even though Sunzi defines *shi* as external assistance in chapter 1. In this metaphor, the shape of a thing itself stands for internal conditions, while the slope stands for external conditions; both need to be manipulated. Therefore, Sunzi is not so much discrediting personal qualities as encouraging the commander to take an *impersonal* approach to personal qualities. As Jullien notes, personal quality is but one of the many conditions available for exploitation, and chapter 5 says explicitly that bravery and cowardice are both a matter of *shi*.<sup>32</sup>

---

<sup>31</sup> Sunzi, A5/4/27–29.

<sup>32</sup> Jullien, *La Propension Des Choses*, 27–29.

Moreover, the rolling stone imagery of this metaphor exhibits the metaphorical divergence of the circle. The balance/imbalance divergence we see so often in the lever metaphor applies to the wheel as well. We have seen in chapter 2 that Zhuangzi uses the wheel metaphor as a model for the cultivated mind. This model has the same paradoxical structure as the balance metaphor in Xunzi's philosophy discussed in chapter 4. In the *Sunzi*, however, the round object appears as an energy-saving device of great advantage, because its setup enables easy movement. Therefore, the images of the lever and wheel diverge in a structurally parallel way, for both have an aspect of balance and an aspect of imbalance at the same time.

As we can see, the theory of *shi* in the *Sunzi* remains on a highly abstract level. In later military texts, *shi* is sometimes defined more concretely by specifying the kinds of things that can be relied on for optimal effect. At the end of this section, let me just quote two particularly illustrative passages from the *Wuzi* and the *Huainanzi* that provide concrete classificatory systems of strategic leverage:

吳子曰：“凡兵有四機：一曰氣機，二曰地機，三曰事機，四曰力機。三軍之衆，百萬之師，張設輕重，在於一人，是謂氣機。路狹道險，名山大塞，十夫所守，千夫不過，是謂地機。善行間諜，輕兵往來，分散其衆，使其君臣相怨，上下相咎，是謂事機。車堅管轄，舟利櫓楫，士習戰陳，馬閑馳逐，是謂力機。”

Wuzi said, “In general warfare has four [kinds of] *ji*: the *ji* of vital breath, the *ji* of terrain, the *ji* of affairs, and the *ji* of force. Amid the three armies and within the myriad hosts, the deployment of light and heavy troops depends on one man. This is called the ‘*ji* of *qi*.’ Narrow roads and perilous ways, famous mountains and great obstructions: what ten men guard cannot be passed by one thousand men. These are called called a ‘*ji* of terrain.’ Skillfully using spies, sending light troops back and forth to split up the multitude of the enemy force, making the enemy’s ruler and ministers resent each other and higher and lower ranks reproach each other. These are called the ‘*ji* of affairs.’ The chariots having solid axles and secure linchpins, the boats having well-suited rudders and oars, the soldiers being familiar with the battle formations, and the

horses being skilled in galloping and pursuing, these are called the ‘*ji* of force.’”<sup>33</sup>

有三勢，有二權。有氣勢，有地勢，有因勢。將充勇而輕敵，卒果敢而樂戰，三軍之衆，百萬之師，志厲青雲，氣如飄風，聲如雷霆，誠積精踰而威加敵人，此謂氣勢。硤路津關，大山名塞，龍蛇蟠，笠笠居，羊腸道，魚笥門，一人守隘，而千人弗敢過也，此謂地勢。因其勞倦怠亂，飢渴凍渴，推其搖搖，擠其揭揭，此謂因勢。善用間諜，審錯規慮，設施蔚伏，隱匿其形，出於不意，使敵人之兵無所適備，此謂知權。陳卒正，前行選，進退俱，什伍搏，前後不相撓，左右不相干，受刃者少，傷敵者衆，此謂事權。

The military has three [types of] *shi* and two [forms of] *quan*. There is the *shi* of *qi*; there is the *shi* of terrain; there is the *shi* of following [the circumstance]. When the commander is full of courage and scorns the enemy; when soldiers are daring and take joy in battle; when amid the three armies and within the myriad hosts, their will leaps to the sky; their *qi* is like the whirlwind; their sound is like thunder. Their sincerity amasses and their essence overflows, so that their might falls on the enemy. These are called “the *shi* of *qi*.” Mountain trails and marshy passes, great mountains and famous obstructions, “dragon coils,” “umbrella peaks,” “sheep intestine paths,” “fish trap gates”: when one person guards the defile, one thousand men do not dare pass. These are called “the *shi* of terrain.” Relying on their being belabored and fatigued, negligent and disordered, hungry and thirsty, frozen or scorched, pushing them where they are unsteady, squeezing them where they are spread thin, these are called “the *shi* of following [the circumstance].” Skillfully using spies, carefully laying plans, setting up ambushes, concealing their form, emerging where the enemy does not expect, [thus] giving the enemy’s soldiers no suitable defense. These are called “the *quan* of knowledge.” [When] the formations of soldiers are correct, the front rank is elite, they advance and retreat together; the units and squads [maintain] tight [formation]; the front and the rear do not restrain each other; the left and the right do not interfere with each other. [When] the blows received are few, the enemy wounded are many; these are called “the *quan* of affairs.”<sup>34</sup>

---

<sup>33</sup> *Wuzi*, C4/41/6–9.

<sup>34</sup> *Huainanzi*, 15/148/1–7. The original passage contains a few textual corruptions, pointed out by Wang Niansun 王念孫 (1744–1832). The text quoted here incorporates Wang’s emendations. For a collection of philological studies on this passage including Wang’s notes, see Zhang Shuangdi 張雙棣, *Huainanzi jiaoshi* 淮南子校釋 (Beijing: Beijing daxue chubanshe, 2013): 1617–1623. The English translation is modified from Andrew Seth Meyer, *The Dao of the Military: Liu An’s Art of War* (New York: Columbia University Press, 2012), 115–116.

Notably, these passages use the three words analyzed in chapter 3 – *quan*, *shi*, and *ji* – almost interchangeably. All of them stand for the conditions that can be manipulated to produce leverage in a military situation. The classifications are not always consistent, and there are many overlaps among the categories. But together they constitute a good summary of the scope of things that early Chinese militarists held to be *shi*. Theoretically, a commander could still add more items to the list depending on his own experience.

## 5.2 Shen Dao on Leverage

Shen Dao was a political theorist active in the Jixia Academy of Qi around the 4<sup>th</sup> century BCE, roughly contemporaneous with Mengzi. His work survives only in fragments, and we know about him mostly from brief and often contradictory accounts in the works of other philosophers or historians.<sup>35</sup> Xunzi criticized Shen Dao a few times, and Han Fei wrote a long essay in defense of his political theory of *shi*.<sup>36</sup> In the “Tian xia” 天下 chapter of the *Zhuangzi*, Shen Dao was portrayed as a quasi-Daoist figure who advocated the doctrines of “making things equal” (*qiwu* 齊物) and “abandoning knowledge and getting rid of the self” (*qizhi quji* 棄知去己).<sup>37</sup> In the *Shiji*, Sima Qian regarded him as a Huang-Lao type of Daoist who combined Daoism with Legalism.<sup>38</sup> In recent years, these school affiliations in Warring States intellectual history have come under severe attack and reevaluation, and Daoism and

---

<sup>35</sup> These Shen Dao related materials have been compiled in two handy volumes: Zhang Bingnan 張秉楠, *Jixia gou chen* 稷下鉤沉 (Shanghai: Shanghai guji chubanshe, 1991); Lin Zhipeng 林志鵬, *Zhanguo zhuzi shuping jizheng: yi Zhuangzi “Tian xia” wei zhuyao xiansuo* 戰國諸子評述輯証: 以《庄子·天下》为主要线索 (Shanghai: Fudan daxue chubanshe, 2014).

<sup>36</sup> *Xunzi*, 6/21/22–22/2.

<sup>37</sup> *Zhuangzi*, 33/99/10–25.

<sup>38</sup> Sima Qian, *Shiji*, 2347.

Legalism have been viewed as two particularly problematic “schools.” As many scholars have pointed out, they lack clear definitions and often overlap.<sup>39</sup> I do not think these categories must be abandoned altogether, but in the case of Shen Dao I agree that they obscure more than they reveal. In this section, I will not view Shen Dao’s philosophy through the lens of these school affiliations, but instead will focus on the reconstructed *Shenzi Fragments* alone as my primary source.<sup>40</sup> There are also some scholars who identify the *Shenzi yue gongjian* 慎子曰恭儉 manuscript in the Shanghai Museum collection as Shen Dao’s own work.<sup>41</sup> Since this identification has not been universally accepted, I will not consider it here.

My reconstruction of Shen Dao’s philosophy differs significantly from Eirik Lang Harris’ recent analysis, even though I agree with many of his individual claims. The difference is a matter of the logical organization and starting point of the fragments. Harris

---

<sup>39</sup> For some discussions of Daoism, Legalism, and the concept of “school,” see Nathan Sivin, “On the Word ‘Taoist’ as a Source of Perplexity,” *History of Religions* 17, no. 3/4 (1978): 303–330; Herrlee G. Creel, “What is Taoism?” in *What is Taoism?: And Other Studies in Chinese Cultural History* (Chicago: University of Chicago Press, 1982), 1–24; Mark Csikszentmihalyi and Michael Nylan, “Constructing Lineages and Inventing Traditions through Exemplary Figures in Early China,” *T’oung Pao* 89, no. 1 (2003): 59–99; Kidder Smith, “Sima Tan and the Invention of ‘Daoism,’ ‘Legalism,’ ‘et cetera,’” *The Journal of Asian Studies* 62, no. 1 (2003): 129–156; Paul R. Goldin, “Persistent Misconceptions about Chinese ‘Legalism,’” *Journal of Chinese Philosophy* 38, no. 1 (2011): 88–104; Li Rui 李銳, “Daojia yu huanglao” 道家與黃老, in *Zhanguo Qin Han shiqi de xuepai wenti yanjiu* 戰國秦漢時期的學派問題研究 (Beijing: Beijing shifan daxue chubanshe, 2011), 149–165.

<sup>40</sup> For the fragments, I rely on the critical editions provided by P. M. Thompson and Xu Fuhong 許富宏. Eirik Lang Harris has also produced a full English translation based on Thompson’s edition with a convenient finding chart of Thompson and Xu’s numbering systems. For the sake of convenience, I will use Thompson’s numbering system. There are three fragments absent in Harris’ chart: X23 is included in T’s “Appendix to the Fragments” (p. 440); X17 is totally absent in T; X50 does not appear as an independent fragment in T but is appended to T123. The textual problem of X17 is complicated and will be discussed later. Since Thompson does not include this fragment, I will number it X17. See P. M. Thompson, *The Shen Tzu Fragments* (New York: Oxford University Press, 1979); Xu Fuhong 許富宏, *Shenzi jijiao jizhu* 慎子集校集註 (Beijing: Zhonghua shuju, 2013); Eirik Lang Harris, *The Shenzi Fragments: A Philosophical Analysis and Translation* (New York: Columbia University Press, 2016), 135–137.

<sup>41</sup> see Li Rui, “Shenzi yue gongjian xuepai shuxing chutan” 《慎子曰恭儉》學派屬性初探, in *Xinchu jianbo de xueshu tansuo* 新出簡帛的學術探索 (Beijing: Beijing shifan daxue chubanshe, 2010), 210–221; Li Xueqin 李學勤, “Tan chujian shenzi” 談楚簡《慎子》, *Zhongguo wenhua* 25–26 (2007): 43–45.

argues that Shen Dao's philosophy is an attempt to model the government on the natural patterns of heaven and earth. The most important pattern of heaven and earth is that they have a fixed quality, and Shen Dao seeks to replicate this fixedness in the political realm.<sup>42</sup> In contrast, I argue that Shen Dao provides a *technocratic* solution to an urgent political problem of his age, and the starting point of his ideas is not nature but technology. For Shen Dao, not only does the government work like a machine, but the most effective way of ruling is also to turn it into a machine. He uses a series of mechanical metaphors to conceptualize the way government works and the technique for controlling it. Both the political problem and the technocratic solution can be reconstructed from the surviving fragments, though they are usually short and sketchy. In my reorganization of the fragments, some traditionally marginalized ones will be foregrounded and given logical priority over the others.

My reading of Shen Dao echoes Creel's study of the political philosophy of Shen Buhai, in which he highlights Shen Buhai's use of mechanical metaphors in advocating a more bureaucratic form of government. Creel writes:

Bureaucracies are often compared to machines, and in some respects the comparison is apt. A machine is an assemblage of parts designed to achieve a preconceived purpose. While Shen Buhai certainly did not live in a "machine age," he made rather frequent use of mechanical similes in describing the manner in which the ruler should control his government.<sup>43</sup>

---

<sup>42</sup> Harris, *The Shenzi Fragments*, 11–25. Harris's reading seems to be motivated by the fact that the *Shenzi Fragments* quoted in the *Qunshu zhiyao* 群書治要 begins with a discussion of heaven and earth. The textual order of the *Qunshu zhiyao* quotations, however, does not necessarily represent the logical structure of Shen Dao's thought. Throughout the fragments, we see only this one discussion of heaven and earth, while tool metaphors appear frequently.

<sup>43</sup> Creel, *Shen Pu-hai*, 55–56, 132–133.

I will show that Shen Dao likewise uses mechanical metaphors to recommend effective strategies of ruling, but I will not claim that Shen Dao's conception of government is necessarily a bureaucratic one.<sup>44</sup>

### 5.2.1 The Outnumbered Ruler

The problem that Shen Dao sought to resolve was rooted in the changed political environment of the Warring States period. When the ruler could no longer rely on blood ties to inspire loyalty and obedience, he found himself in a situation of being vastly outnumbered by potential usurpers. The king's position became more of a matter of actual power as opposed to hereditary legitimacy in the old system.<sup>45</sup> The late Warring States *Lüshi chunqiu* even defines the concept of "king" itself as *shi*:

王也者，勢也。王也者，勢無敵也。勢有敵則王者廢矣。有知小之愈於大、少之賢於多者，則知無敵矣。

Being king is a matter of *shi*. Being king is a matter of having peerless *shi*. If the king's *shi* has peers, then he would be toppled. Those who understand that the small can surpass the large and the few can be superior to the many know how to be peerless.<sup>46</sup>

In such an atmosphere, being king was conceived of as a matter of having peerless *shi*, with which the ruler, as a single person, could secure his precarious place above the masses. There

---

<sup>44</sup> It is uncertain who first came up with the idea of mechanical metaphor and whether there was any direct line of influence, but it does seem that political thinkers started to use mechanical metaphor around the mid-Warring States.

<sup>45</sup> This is certainly not to say that actual power had played no role in the politics of prior times or that hereditary legitimacy lost its authority in the Warring States. In reality, both were surely important in any historical period of early China. The change from legitimacy to actual power was itself an ideological one, as usurpation became an increasingly important theme in political thought.

<sup>46</sup> *Lüshi chunqiu*, 17.6/106/7–8. Meng Wentong 蒙文通 points out that the "Shen shi" chapter is closely related to Shen Dao, for it not only quotes Shen Dao directly but also contains passages very similar to the *Shenzi Fragments*. See Meng Wentong, "Lue lun Huang-Lao xue" 略論黃老學, in *Xianqin zhuzi yu lixue* 先秦諸子與理學 (Guilin: Guangxi shifan daxue chubanshe, 2006), 191–223

was probably not as much tension between the ruler and his subordinates in Shen Dao's time as in the late Warring States, but Shen Dao nonetheless had a realistic view of the power dynamics at court. In three fragments, he presents a picture similar to that in the *Lüshi chunqiu*:

君臣之間猶權衡也。權左輕則右重，右輕則左重。輕重迭相楛，天地之理也。

The relationship between the ruler and ministers is like a weighing balance. As for the balance, when it is lighter on the left, it is heavier on the right. When it is lighter on the right, it is heavier on the left. Light and heavy alternate in restraining each other. This is the pattern of heaven and earth. (T121)

兩貴不相事，兩賤不相使。

Two [people] who are equally noble cannot serve each other. Two [people] who are equally lowly cannot employ each other. (T98)

衆之勝寡，必也。

That the many prevail over the few is inevitable. (T92)

As far as I can tell, T121 is the only example in Warring States texts that compares the government to the mechanical workings of the balance, which conveys an image of one side outweighing the other in an actual competition. Shen Dao substitutes the mechanical metaphor for the prevalent mind-body analogy for political subordination.<sup>47</sup> While in the mind-body analogy the ruler's position is almost biologically absolute, in the balance metaphor the ministers are given a chance to tip the scale. Political authority, metaphorically conceived of as the "heavier" side, is something that must be *earned* through powerful means. Shen Dao does make it clear that the balance is always tilted to one side, for T98 states that the government must have a hierarchical structure. If this is the case, then T92

---

<sup>47</sup> For a discussion of the mind-body analogies for government, see Masayuki Sato, *The Confucian Quest for Order: The Origin and Formation of the Political Thought of Xun Zi* (Leiden: Brill, 2003), 154–161.

constitutes a real problem: how is it possible for a ruler to maintain his position, if the many necessarily prevail over the few?

Around Shen Dao's time, there were two competing theories about the political foundation of the government. On the one hand, the Confucians advocate a return to the old way of family politics, seeking to base political loyalty on the mutual affections between family members. For them, the natural bonds between relatives are the most solid ground for social cohesion. Shen Dao quickly dismisses this view by offering a cynical description of family relationships:

家富則疏族聚，家貧則兄弟離，非不相愛，利不足相容也。

When a family is rich, then distant relatives will gather together. When a family is poor, then brothers will separate. It is not because they do not care for one another; it is because profits are not enough to accommodate them both. (T99)

匠人成棺，不憎人死。利之所在，忘其醜也。

When an artisan completes a coffin, he does not dislike people's death. Where there is profit, the ugliness [of death] is forgotten. (T103)

Indeed, this view perhaps better captures Warring States reality than Mengzi's glorification of human nature. Shen Dao does not have to be as eloquent a political rhetorician as Mengzi is to persuade a ruler. In a time of fierce struggle, it seems evident that familial affection can often be overridden by profit-seeking ends. Moreover, Shen Dao seems to think that professional artisans are more likely to have an instrumental, profit-driven mentality, and even Mengzi himself makes a similar comment in 2A7 about arrow and armor makers. Due to the fragility of family bonds, a ruler should not attempt to inspire loyalty from his ministers by appealing to blood relations. Such emotions are precisely the cause of social

disorder, because they make things personal, give rise to favoritism, and get in the way of official responsibilities (T46–51).<sup>48</sup>

On the other hand, the Mohists place value on personal talent and advocate a doctrine known as “respecting the worthy.” Shen Dao would agree with Mozi on a consequentialist model of statecraft, for he attaches great importance to the efficacy of political action rather than moral character. However, for Shen Dao, the source of efficacy lies in external device rather than human action itself. Even the power of a sage has serious limitations:

離朱之明，察秋毫之末於百步之外。下於水，尺而不能見淺深。非目不明也，其勢難覩也。

Li Zhu’s clarity of vision was such that he could see the tip of a hair beyond a hundred paces. But if something were submerged in water, even if it was one inch long he would not be able to tell how shallow or deep it was. It is not that his vision was not clear, but the *shi* made it difficult to see. (T71)

公輸子巧用材也，不能以檀為瑟。

Gongshuzi was skillful at working with wood, but he could not turn the wood of a spindle tree into a zither. (T114)

Both Li Zhu and Gongshuzi are stock examples of people with exceptional talents in early China. In T71, Shen Dao uses *shi* as the term for natural limitations to human power, which is close to its original “setup” meaning. In the political realm, no matter how worthy a ruler is, his talent will surely be dwarfed by the sheer number of his subordinates:

君之智，未必最賢於衆也，以未最賢而欲以善盡被下，則不贍矣。若使君之智最賢，以一君而盡贍下則勞，勞則有倦，倦則衰，衰則復反於不贍之道也。

The wisdom of the lord is not necessarily the worthiest among the people. If his wisdom is not the worthiest and yet he wants to use his goodness to completely shelter those below, he will be incapable of succeeding. Even if we were to suppose that the lord’s wisdom was the worthiest, if as a single lord he were to completely provide for those below, he would have to toil laboriously. If he were to toil laboriously, he would be wearied. If wearied, he would be

---

<sup>48</sup> For an analysis of Shen Dao’s view about loyalty, see Harris, *The Shenzi Fragments*, 36–46.

enfeebled. If enfeebled, he would again be returned to the Way of being incapable of taking care of [those below]. (T42–43)

Contra Mozi, Shen Dao claims that the ruler's personal ability is inadequate for a task as massive as ruling a state. In place of family ties and personal ability, he recommends relying on external devices, contrasting personal ability with technological means:

棄道術，舍度量，以求一人之識識天下，誰子之識能足焉？

If one discards techniques of the Way and gives up standards and measurements, seeking to understand all under heaven through the understanding of one man, whose understanding could be sufficient for this? (T107)

折券契，屬符節，賢不肖用之。物以此得，而不托於信也。

As for breaking contracts into halves and joining together the halves of tallies, both the worthy and the unworthy use them. Things can be obtained in this manner without relying upon trust. (T70)

厝鈞石，使禹察錙銖之重，則不識也。懸於權衡，則釐髮之不可差，則不待禹之智。中人之知，莫不足以識之矣。

If one lays down the unit of pound and asks Yu to measure something of a pennyweight, even he would not be able to tell. If one suspends it on a balance, he will not be off by so much as a hair. Then one does not need to rely on the wisdom of a Yu. The wisdom of average people is sufficient to know this. (T120)

Therefore, rejecting the Confucian and Mohist theories, Shen Dao advocates an utterly impersonal approach to political power by taking advantage of technology. Technological device remedies differences in personal talent negligible. With the help of tools, even mediocre talent can be made comparable to the talent of a sage king – this is to turn Mozi's tool metaphors against his respect for the worthy. Although Shen Dao inherits Mohist tool metaphors, he is more interested in the efficacy of tools than their normative value.

### 5.2.2 The Watercraft Analogy

In Shen Dao's philosophy, the key to political power is *shi*.<sup>49</sup> In T71, *shi* appears as the external conditions that impose restraints on personal ability, but elsewhere it also refers to the external conditions that bring advantage. In other words, *shi* makes a person realize the inherent limitations of his power while at the same time serving as its remedy:

今之重錙銖，役千仞之水，窮泥於後止，勢然也。吳舟之重，錯之千鈞，入水則浮，輕於錙銖，則勢浮之也。

Now if one throws something of a pennyweight into water a thousand yards deep, it will only stop after reaching the mud. *Shi* makes it so. If one places something that weighs a thousand pounds on a heavy boat from the state of Wu, it floats in water and appears lighter than one pennyweight. *Shi* makes it float. (X17)<sup>50</sup>

---

<sup>49</sup> Yang Soon-ja argues that the character for *shi* appears only twice in Thompson's reconstruction of the fragments, much less frequent than *fa*, and we should not treat *shi* as a central concept in Shen Dao's philosophy even if Han Fei says so. I agree with her that we should not see a classical thinker too much through the lens of later commentaries, and *fa* indeed occupies most of the fragments. However, it also seems to me that Yang commits the mistake of what Slingerland calls "word fetishism" – evaluating conceptual importance based on a simple character count. The two fragments about water flowing downward (T101 and T110 quoted below) do not use the character *shi*, but are they not about *shi* on a conceptual level? Even if the character does not show up as often, the concept of "leverage" is certainly a preoccupation. Moreover, the Thompson redaction, on which Yang relies, does not include X17 that also discusses *shi* (see the next note). See Yang Soon-ja, "Shen Dao's Own Voice in the *Shenzi* Fragments," *Dao* 10, no.2 (2011): 187–207; Slingerland, "Conceptual Metaphor Theory as Methodology for Comparative Religion," 5–6.

<sup>50</sup> This fragment, quoted in the 7<sup>th</sup> century *Beitang shuchao* 北堂書鈔 Vol.137, is neither included by Thompson nor by Qian Xizuo 錢熙祚 (?–1844) in his *Shenshange* 守山閣 redaction of the *Shenzi*. Only Xu Fuhong includes it. The reason for its absence is probably due to the textual problem of the *Beitang shuchao* itself. There are two extant redactions of the *Beitang shuchao*, the *Siku quanshu* redaction edited by Chen Yumou 陳禹謨 (1548–1618) and the *Wanjuantang* 萬卷堂 redaction edited by Kong Guangtao 孔廣陶 (1832–1890). In the *Siku* redaction, Chen Yumou attributes this quotation to the *Hanfeizi* instead by substituting Hanzi 韓子 for *Shenzi* 慎子, because the "Gong ming" chapter of the *Hanfeizi* contains a very similar passage (already quoted at the very beginning of this chapter): 千鈞得船則浮，錙銖失船則沈。非千鈞輕錙銖重也，有勢之與無勢也。 Chen's logic seems to be that either someone was using the *Hanfeizi* to fabricate a quotation from the *Shenzi* or there was simply a graphic mistake. In the *Wanjuantang* redaction, Kong preserves the original 慎子 reading with an editorial note saying that Chen's editorial choice seems correct. However, if we accept Thompson's judicial analogy that "the authentication of a text is not the criminal trial, but rather the preliminary hearing," then there is no evidence to suggest that the hypothesis of spuriousness is more probable than the hypothesis of authenticity (which is not to say that this fragment must be authentic!). On the one hand, the fact that the *Hanfeizi* contains a similar passage by no means proves that the quotation in the *Beitang shuchao* must be from the *Hanfeizi* rather than the *Shenzi*. After all, Han Fei quotes Shen Dao extensively elsewhere and seems familiar with his work. On the other hand, as the Qing scholar and bibliophile Qian Zeng 錢曾 (1629–1701) has proven, Chen's editorial work is extremely arbitrary and irresponsible, and the *Siku* redaction is generally of poor quality. Thompson also notes that Kong's redaction is much more reliable. Therefore, if we choose to accept Thompson's textual methodology and critical edition, there is no reason why we should not also accept

故賢而屈於不肖者，權輕也。不肖而服於賢者，位尊也。堯為匹夫，不能治其鄰家。而桀為天子，能亂天下。由此觀之，賢未足以服衆，而勢位足以屈賢矣。故無名而斷者，權重也。弩弱而矜高者，乘於風也。身不肖而令行者，得助於衆也。

Therefore, if worthies yield to an unworthy, this is because their *quan* is too light. If unworthies submit to a worthy, it is because his position is superior. When Yao was a commoner, he could not bring order to neighboring families, while when Jie was the Son of Heaven, he was able to bring disorder to all under heaven. Looking at it from this viewpoint, being worthy is not sufficient to make the masses submit, while *shi* and position are sufficient to make the worthies yield. Thus those who are not renowned but still decide matters are able to do so because their *quan* is heavy. If a crossbow is weak but its bolt flies high, it is because the bolt rides on the wind. If one is not worthy, yet one's orders are carried out, it is because one has obtained the assistance of the masses. (T10–14)

X17 shows the double meaning of *shi* as both advantage and limitation. In military thought, *shi* also has the same double meaning, because Sunzi likewise uses it to reject the reliance on personal qualities and recommend the reliance on impersonal conditions. In T10–14, Shen Dao uses *shi*, *quan*, and *wei* 位 “position” interchangeably, which seems to suggest that *shi* is equivalent to position. However, we still need to distinguish them from each other, because *shi*, as leverage, is that which enables the outnumbered ruler to occupy his position; it is the reason behind the ruler's position. Moreover, at the end of T10–14, using an analogy of the bolt and wind, Shen Dao describes *shi* as the “assistance of the masses.” I will say more about this aspect of *shi* below.

If *shi* is the ultimate secret behind the royal position, then what is *shi*? In the surviving fragments Shen Dao never defines *shi* directly. Yet since he takes *shi* and *quan* to be interchangeable, the most reasonable interpretation is that mechanical leverage provides the

---

this fragment. See Thompson, *The Shen Tzu Fragments*, 90–92 (especially note 161), 181; Qian Zeng, *Dushu minqiu ji jiaozheng* 讀書敏求記校證, ed. Guan Tingfen 管庭芬 and Zhang Yu 章鈺 (Shanghai: Shanghai guji chubanshe, 2007), 352–353.

conceptual possibility for the ruler's advantage. In chapter 2, I have already quoted a *Shenzi* fragment when discussing the meaning of machine in early China. It is worth quoting it again here:

行海者坐而至越，有舟也。行陸者立而至秦，有車也。秦越遠途也，安坐而至者，械也。

Those who travel by sea can sit and reach the state of Yue, because there is a boat. Those who travel by land can stand and reach the state of Qin, because there is a chariot. Qin and Yue are far away. [That by which one] reaches [there] by sitting peacefully is the machine. (T119)

Such a statement would seem completely out of the place if Shen Dao is understood traditionally as a “following nature” type of thinker. A traditional account of Shen Dao would marginalize this statement as one of the random remarks with no logical consequence. However, in my reading, the discussion of mechanical technology is the cornerstone of Shen Dao's conception of political power. In the physical realm, mechanical devices amplify the effect of human action, making it possible for us to “overcome things in which we are conquered by nature.” Accordingly, it serves as a metaphor for power in the political realm and a theoretical solution to the problem of the outnumbered ruler.

It is noteworthy that in T119 Shen Dao uses not the lever but the boat and chariot as two typical examples of machine. In chapter 1, we have seen plenty of charioteering analogies for statecraft, in which the ruler is compared to the charioteer, the ruling regime to the chariot body, and the people to the horses. In the case of Shen Dao, however, I believe there is an implicit, isomorphic watercraft analogy, in which the ruler can be compared to the sailor, the ruling regime to the body of the boat, and the people to water. To be sure, there is no direct textual evidence for this analogy; I propose it only as a *hypothetical* analogy for the purpose of clarifying the structure of Shen Dao's thought. However, I believe there are some good reasons for taking the boat seriously as a potential source domain of statecraft. The first reason is that in the context of early Chinese thought, the metaphorical convergence between

the boat and chariot would seem very natural. The following passage from the *Hanfeizi* is a typical example:

託於犀車良馬之上，則可以陸犯阪阻之患。乘舟之安，持楫之利，則可以水絕江河之難。操法術之數，行重罰嚴誅，則可以致霸王之功。治國之有法術賞罰，猶若陸行之有犀車良馬也，水行之有輕舟便楫也。乘之者遂得其成。

Riding on a solid chariot and a good horse, one can go over slopes and cliffs on land. Relying on the security of the boat and the advantage of the helm, one can get over the hazards of the Yellow River and the Yangtze River on water. Holding the techniques of law and putting heavy punishment and severe execution into effect, one can accomplish the achievement of a hegemon or a king. Law, technique, reward, and punishment are to statecraft as solid chariot and good horse are to travelling on land, as well as light boat and convenient helm are to travelling by water. One who rides on them reaches completion thereupon.<sup>51</sup>

Note that the body of the boat and chariot is compared to the ruling regime of “law, technique, reward, and punishment.” The metaphorical connection between law, chariot, and boat is a common trope in classical political thought.

The second reason is that Shen Dao seems to take a keen interest in water and talks about it quite a few times. He places stress on two important qualities of water, its downward flow and the power of flotation:

海與山爭水，海必得之。

If the sea and the mountain compete for water, the sea will certainly get it.  
(T101)

河之下龍門，其流駛如竹箭。駟馬追，弗能及。

When the Yellow River flows down the Dragon Gate, its current flows as quickly as a bamboo arrow. Even if a team of four horses were to chase it, they could not catch up. (T110)

燕鼎之重乎千鈞，乘於吳舟則可以濟，所託者浮道也。

---

<sup>51</sup> *Hanfeizi*, 14/26/22–25.

A cauldron from the state of Yan weighs ten thousand pounds, but if it is loaded in a boat from the state of Wu, then it can be transported. What it relies on is the way of flotation. (T118)

The recurrence of the water image is quite striking, given that only a small portion of Shen Dao's work survives. The descriptions of water also consistently recognize the two qualities. If we compare T118 to X17, then the concept of *shi* seems closely related to the downward flow of water, flotation, and the boat. In this analogy, *shi* can be three kinds of natural conditions – water's tendency to flow downward, a thing's tendency to sink in water, and a boat's tendency to float in water. One can either sink in water without a boat or take advantage of its flotation by riding on a boat. Likewise, a ruler can either sink among his people or gain the “assistance of the masses” by relying on some kind of mechanism.

The final reason is that Shen Dao's description of the ideal form of governance fits with the structure of the charioteering or watercraft analogy:

君臣之道，臣事事而君無事，君逸樂而臣任勞。臣盡智力以善其事，而君無與焉，仰成而已。故事無不治，治之正道然也。

The way of the ruler and his ministers is such that his ministers engage in work while the ruler has no work. The ruler is leisurely and happy, while the ministers serve and toil. The ministers exhaust their knowledge and power in order to excel in their tasks, while the ruler does not participate in these tasks. He simply relies on their completion. Therefore, there are no tasks that are not well ordered. This is the correct way of good order. (T38)

T38 draws a typical picture of the effortless ruler and the laboring ministers. We see this kind of description recurrently in early Chinese charioteering analogies. Even if the surviving fragments do not contain an explicit form of such an analogy, the analogical structure is consistent with Shen Dao's view of statecraft.

### 5.2.3 Mobilizing the Political Machine

The hypothetical watercraft analogy provides a general structure of Shen Dao's political ideas. The next step is to fit individual themes into the picture. Most of these themes have been analyzed by Harris, and there is no need to repeat what has been done. My job here is to reconsider the relationship between these themes in light of the watercraft analogy.

Redefining the logical (or analogical) place of a particular theme may sometimes change our understanding of it, slightly or significantly.

As mentioned above, the watercraft analogy has three main aspects, the sailor, the boat, and water. Accordingly, there are three aspects in Shen Dao's philosophy, the ruler, the regime, and the people. The majority of the fragments focus on the latter two aspects. Metaphorically, they correspond to the *body of a machine* and its *power source*, each of which can be a source of mechanical advantage. In the case of the mechanical body, the advantage comes from the efficiency brought about by *standardization*. Therefore, for Shen Dao, the ruler's political leverage comes from 1) standardizing the political procedures with external means, known as *fa* 法 “model,” “standard,” “law,” or “method,” and 2) adopting an indirect mode of action by taking advantage of the power of people, known as *yin* 因 “to follow” or “to rely on.”<sup>52</sup>

---

<sup>52</sup> Traditionally, *fa* gives rise to legalist readings of Shen Dao, while *yin* gives rise to Daoist readings. In the watercraft analogy, they are just two aspects of the same source domain. For some general discussions of the meaning of *fa* in early China, see Creel, *Shen Pu-hai*, 140–150; Ames, *The Art of Rulership*, 108–141; R. P. Peerenboom, *Law and Morality in Ancient China: The Silk Manuscripts of Huang-Lao* (Albany: State University of New York Press, 1993), 48–49; Chad Hansen, “Fa (Standards: Laws) and Meaning Changes in Chinese Philosophy,” *Philosophy East and West* 44, no. 3 (1994): 435–488; Miranda Brown and Charles Sanft, “Categories and Legal Reasoning in Early Imperial China: The Meaning of *Fa* in Recovered Texts,” *Oriens Extremus* 50 (2011): 283–306.

For Shen Dao, the concept of *fa* generally means fixed laws or standards instituted by the ruler.<sup>53</sup> It performs two main functions, one subjective and the other objective. The subjective function is to regulate human desire by apportioning reward and punishment with predetermined, automatic procedures (T23–24, 61–67, 73, 75–77). If the ruler relies on *fa* rather than his personal judgment, he will be able to prevent subjective bias and resentment in political matters.<sup>54</sup> The objective function is to regulate human ability by instituting a strict division of labor according to people’s strengths and weaknesses:

古者工不兼事，士不兼官。工不兼事則事省，事省則易勝。士不兼官則職寡，職寡則易守。故士位可世，工事可常。百工之子，不學而能者，非生巧也，言有常事也。

In the past, artisans did not pursue more than one task, and officials did not hold more than one post. Because artisans did not pursue more than one task, their tasks were few. Because their tasks were few, it was easy to succeed in them. Because officials did not hold more than one post, their responsibilities were few. Because their responsibilities were few, it was easy to stick to them. Therefore, the position of officials could be passed down to the next generation, and the tasks of the artisans could be made constant. The sons of the hundred artisans became capable without [too much] learning not because they were born to be skillful. This is to say that the tasks were made constant. (T17–18)

Shen Dao is one of the first thinkers who recognize the relationship between division of labor and efficiency. He argues that skillfulness is not a matter of inborn capacity, but lies in an institutional guarantee of concentrated practice. The two functions of *fa* come together in the term *fen* 分 “portion” (T82), which refers to a person’s part or share in a society – what one

---

<sup>53</sup> For two recent analyses of *fa* in Shen Dao, see Yang, Soon-ja, “Shen Dao’s Theory of *fa* and His Influence on Han Fei,” in *Dao Companion to the Philosophy of Han Fei*, ed. Paul R. Goldin (Dordrecht: Springer, 2013), 47–63; Harris, *The Shenzi Fragments*, 46–56.

<sup>54</sup> Note that this does not mean that *fa* necessarily brings justice, but only that people will not be able to resent the ruler due to the impersonal nature of the process. For Shen Dao, even if *fa* fails to bring justice, it is still a much better option than the lawlessness caused by relying on subjective criteria.

deserves and what one is responsible for. *Fa* prescribes a completely impersonal, automatic set of rules that define a person's *fen*.

Shen Dao's theory of *yin* is closely linked to his view about people as the power source of the political machine. To take advantage of people's power, the ruler must first understand the basic human disposition (*qing* 情). In accordance with the two functions of *fa*, Shen Dao also analyzes basic human disposition into two aspects: desire and ability. On the one hand, human desires are simple and unified; they always move toward profit just as water always flows to the low ground (T99, 103). As a result, human beings act on their private interests rather than moral virtues (T28–32), which may easily get them into conflict.<sup>55</sup> On the other hand, human abilities are varied and mixed (T33–35). They need to be guided by an institutional division of labor for optimal performance. What the ruler ultimately needs is the varied abilities of the people, but since the people will only use their abilities to fulfill their own desires, the ruler has to deal with their desires first. Therefore, the ruler's indirect mode of action lies in helping the people to fulfill their desires so that their abilities are at the ruler's disposal. Several passages from the “Gui yin” 貴因 (Esteeming the Method of Relying) and “Yong min” 用民 (Using the People) chapters of the *Lüshi chunqiu* elaborate on this idea:

三代所寶莫如因，因則無敵。禹通三江五湖，決伊闕，溝迴陸，注之東海，因水之力也…湯、武以千乘制夏、商，因民之欲也。如秦者立而至，有車也；適越者坐而至，有舟也。秦、越，遠塗也，崢立安坐而至者，因其械也。

What the Three Dynasties treasured was nothing other than “relying.” If one is able to rely, then one will be peerless. Yu connected the three rivers and the five lakes, dredged the Yique, made channels in the Huilu, and made the water flow into the Eastern Sea by relying on the power of water... That Tang and Wu with only a thousand chariots brought the Xia and Shang under their

---

<sup>55</sup> Harris, *The Shenzi Fragments*, 26–31.

control was because they relied on the desires of the people. That someone travelling to Qin arrives standing up is because he has a chariot. That someone going to Yue arrives sitting down is because he has a boat. Qin and Yue are far away. The fact that one can arrive by standing peacefully or sitting comfortably is because one relies on his machine.<sup>56</sup>

劍不徒斷，車不自行，或使之也。夫種麥而得麥，種稷而得稷，人不怪也。用民亦有種，不審其種，而祈民之用，惑莫大焉。

A sword does not cut things, a chariot does not move on its own. Someone must make them do so. No one marvels at the fact that if you plant wheat, you harvest wheat, and if you plant millet, you harvest millet. In using the people, there is also a seed. There is no greater delusion than failing to examine the seed and yet praying that the people will be used.<sup>57</sup>

用民有紀有綱。壹引其紀，萬目皆起。壹引其綱，萬目皆張。為民紀綱者何也？欲也惡也。何欲何惡？欲榮利，惡辱害。辱害所以為罰充也，榮利所以為賞實也。賞罰皆有充實，則民無不用矣。

In using the people, there is the main and small lines of the fish net. As soon as one pulls up the small lines, the ten thousand meshes will rise. As soon as one pulls up the main line, the ten thousand meshes will stretch. What is the main and small lines of the people? It is their desires and aversions. What are the people's desires and aversions? They desire and honor and profit, and they hate disgrace and harm. Disgrace and harm are those by which you make punishments substantial. Honor and profit are those by which you make rewards material. If rewards and punishments are substantial and material, all people may be used.<sup>58</sup>

It is very likely that these passages draw on Shen Dao's ideas, or at least they are consistent with Shen Dao's philosophy. The seed in the second passage is a metaphor for the basic human disposition, similar to Mengzi's seed metaphor in 6A7 and 6A19 discussed in chapter

---

<sup>56</sup> *Lüshi chunqiu*, 15.7/87/22–25. Knoblock and Riegel mistakenly translate the last sentence as “Whether you arrive standing straight up or comfortably sitting relies on the nature of the vehicle.” The idea of the last sentence is not about the mode of transportation being dependent on the kind of vehicle one rides in. It is about the machine's labor-saving capacity. See John Knoblock and Jeffrey Riegel, trans., *The Annals of Lü Buwei: A Complete Translation and Study* (Stanford: Stanford University Press, 2000), 364.

<sup>57</sup> *Lüshi chunqiu*, 19.4/123/4–5. I take the first two *zhong* 種 as “planting” and the last two *zhong* as “seed,” because the third *zhong* appears as the object of “having.”

<sup>58</sup> *Lüshi chunqiu*, 19.4/123/9–11.

4. The *Lüshi chunqiu* juxtaposes the seed with the power source of things that cannot move on their own. Both are metaphors for the basic motivational force that drives people into action. In the third passages, we see that the seed of the people is actually their desire for honor and profit as well as their hatred of disgrace and harm. It is also the “fish net line” that the ruler should hold in hand to control the people without much effort.

In Shen Dao, the verb *yin* has two slightly different meanings in the fragments, depending on whether its object is simple human desire or varied human ability. When the object is desire, *yin* is better translated as “to follow.” When the object is ability, *yin* is better translated as “to rely on.” The following fragments show the double meaning of *yin*:

天道因則大，化則細。因也者，因人之情也。人莫不自為也，化而使之為我，則莫可得而用矣。是故先王見不受祿者不臣，祿不厚者不與入難。人不得其所以自為也，則上不取用焉。故用人之自為，不用人之為我，則莫不可得而用矣。此之謂因。

The Way of heaven is such that if you follow then you will be great, while if you alter then you will be small. To follow means to follow the disposition of people. People all act on self-interest. If you alter them and make them act for you, there will be no one whom you get to use. For this reason, the former kings, having seen those who would not accept a salary, did not use them as ministers, and they did not undertake difficult tasks with those whose salary was not large. If people do not obtain that by which they act for themselves, then those above will not get any use out of them. Therefore, if you make use of people’s acting for themselves rather than their acting for you, then there is no one whom you do not get to use. Such is called “following.” (T28–32)

民雜處而各有所能，所能者不同，此民之情也。大君者，太上也，兼畜下者也。下之所能不同，而皆上之用也。是以大君因民之能為資，盡包而畜之，無能去取焉。

People live together and have various abilities. Their abilities are different, and this is a disposition of the people. A great ruler is one who, occupying the supreme position, inclusively provides for those below. The abilities of those below are different, but they can all be used by the one above. Therefore, the great ruler relies on the people’s abilities and takes them as his material. He embraces and provides for them all without selecting some and abandoning others. (T33–35)

This group of fragments demonstrates the double meaning of both *yin* and *qing*. Twice do they mention that the ruler should follow/rely on the people’s disposition (*yin min zhi qing* 因民之情), but the disposition is defined as self-interest (*ziwei* 自為) in T28–32 and ability (*neng* 能) in T33–35. Therefore, we find a systematic correspondence between the ambiguity of the three technical terms, *fa*, *qing*, and *yin*. The following table summarizes the meanings of these terms together with the watercraft analogy:

Source	Target	Term	Component	
Water	People	<i>Qing</i> 情	Desire (simple)	Ability (varied)
Boat	Political regime	<i>Fa</i> 法	Standard procedures of reward and punishment	Division of labor
Sailor	Ruler	<i>Yin</i> 因	Following people’s self-interests	Making use of people’s abilities

Table 5.2: Shen Dao’s watercraft analogy

Table 5.2 defines Shen Dao’s conception of the political machine, its power source, and the method of operation. It demonstrates the value of the hypothetical watercraft analogy in teasing out the logical contours of Shen Dao’s ideas. The whole table also represents Shen Dao’s answer to the problem of the outnumbered ruler and his approach to political leverage. The ruler’s positional advantage eventually comes from a standardized government and his ability to handle the people’s desires.

Such an approach to political leverage is the opposite of Sunzi’s approach to strategic leverage. While Sunzian leverage is a matter of variability, unpredictability, and deception, Shen Dao’s version of political leverage hinges on fixed, standardized, and public procedures. While Sunzi redefines warfare as mind games rather than the competition of physical strength, Shen Dao does his best to eliminate the mind’s subjective criteria in governance. They constitute two poles in the Warring States philosophy of *shi*.

## CONCLUSION

The study of early Chinese thought has often been dominated by a one-sided picture that stresses the organic or spiritual orientation of the Chinese mind. In contrast to this image, I have argued that the Warring States period witnessed the emergence of a mindset that used mechanical metaphors to understand a society in crisis. The “mechanical mind,” as I would call it using a term borrowed from the *Zhuangzi*, is neither a well-defined school nor a self-conscious theory, but an intellectual tendency of finding metaphorical inspirations from machines. It was not limited to a particular thinker or school, but was shared among philosophers with quite different and sometimes opposing views. This trend probably started in the eastern part of China, where the first generation of militarists and Mohists flourished, and the Jixia Academy of Qi in the mid-Warring States might have been an especially important institution in its development. The use of mechanical metaphors gave new meanings to a number of words that came to be integrated into the standard moral and political vocabulary in classical and modern Chinese, such as *quan*, *ji*, and *shi*. They had a profound impact on language and thought in later times, although the metaphorical association with the machine was gradually lost.

My argument may initially seem counterintuitive to readers familiar with early Chinese texts. A term like “mechanical mind” is probably the last thing a student of Chinese thought is willing to associate with Mengzi and Xunzi. Yet this is only because our modern concept of machine has been so colored by mechanistic philosophy that it has little in common with the ancient counterpart. If, on the other hand, we understand the ancient Chinese concept of machine through the lens of Mohist mechanics, then there is no reason why we should not regard the weighing metaphors used by Mengzi and Xunzi as mechanical. The meaning of “mechanical” in early China lies generally in the labor-saving power of the

lever and wheel, and more specifically in the lever's function of weighing and weight-manipulation. It is not the antithesis of the organic or the spiritual. The lever and wheel are also closely related, because when a lever functions, it rotates around a motionless fulcrum like the radius of a circle. A machine differs from a generic tool just by having a lever-axle assembly as its component. A specialized mechanical metaphor of this kind deserves to be distinguished from a generic tool metaphor and analyzed on its own. While I do not intend to overemphasize the presence of mechanical metaphors in the early Chinese intellectual milieu, I do think they are underestimated or even overlooked.

The most salient feature of the early Chinese lever metaphor is that it has a paradoxical structure of balance and imbalance. The lever performs the double function of finding balance and creating imbalance, reflected in the double meaning of *quan* as in the compound *quanheng* 權衡 “weighing” and *quanshi* 權勢 “leverage.” The two functions metaphorically correspond to value rationality and instrumental rationality in Warring States philosophy. In the former case, the philosopher seeks to either make an objective comparison between two alternatives or find the balance between them. The material balance helps a philosopher conceptualize a paradoxical combination of movement and stillness, giving rise to a novel understanding of cultivated moral action. In the latter case, the philosopher seeks to manipulate certain military and political conditions in order to tip the scale. The lever helps a philosopher redefine the strength and weakness of either side in a power struggle, giving rise to a novel conception of indirect, effortless action that takes advantage of circumstantial conditions. The same device has polarized meanings in philosophical works due to the complexity of its function. In fact, the wheel metaphor also reflects the same kind of polarization, for it is not only an object of perfect balance and a paradoxical combination of movement and stillness, but also an efficient device that enables easy movement. We have already seen this in Zhuangzi's metaphor of the potter's wheel and Sunzi's metaphor of the

rolling stone. The metaphorical meaning of the wheel and lever seems to diverge in a structurally parallel way.

Moreover, we have seen that many source domains, mechanical or not, come to share the same metaphorical pattern. This can happen to metaphors based on either skills or technological artifacts. I have identified two such patterns: one is the tripartite division of ruler-regime-people that we see across a variety of bodily skills, such as archery, charioteering, riding on a boat, shaking a tree, pulling the fish net with a rope, and so on; the other is the crossbow trigger mechanism (a small device that controls a large task) that manifests itself in a group of objects such as the wheel hub, the door latch, and the chariot linchpin. These diverse skills and objects come to be organized by a common conceptual paradigm with ethical and social significance. It seems to me that once a metaphorical pattern is established, classical philosophers would deliberately look for other skills or tools that fit into the same picture. Such a tendency of classifying things metaphorically is one of the important ways in which concrete ideas become abstract. The physical skills and objects are not recognized for their tangible properties such as color or texture, but for abstract structures underlying their practice or function. The analysis of metaphorical convergence may help us identify conceptual paradigms lurking in the background of imageries.

Two things I leave open in this study may be topics of future research. One is the development of mechanical metaphors in late Warring States, especially in the *Hanfeizi* and *Lüshi chunqiu*. Although I have quoted many passages from these two masterpieces, I have not examined their own metaphor systems. Both the *Hanfeizi* and *Lüshi chunqiu* inherit many of the metaphors used by their predecessors and blend them into a more sophisticated complex. Even the passages I have quoted have already shown their interest in constructing large-scale metaphorical convergence. The other one is the problem of verification. Metaphorical thinking is a powerful but easily abused tool. My cognitive-historical approach

may give readers the impression that early Chinese thinkers were only interested in rhetoric rather than truth, and they sometimes went too far in their metaphorical indulgence at the cost of precision and justification. Yet classical philosophers were certainly *aware* that metaphors could be abused, and there were philosophical treatises on analogical fallacy. The Mohists, for example, discussed technical problems with analogical thinking in the dialectical chapters of the *Mozi*. There were also many debates over the adequacy of particular analogies. All these are well beyond the scope of the present study, but they must be addressed if we want to have a comprehensive understanding of metaphorical thinking in early China.

## Bibliography

- Allan, Sarah. *The Way of Water and Sprouts of Virtue*. Albany: State University of New York Press, 1997.
- Ames, Roger T. *The Art of Rulership: A Study in Ancient Chinese Political Thought*. Honolulu: University of Hawaii Press, 1983.
- Aristotle, *The Complete Works of Aristotle: The Revised Oxford Translation*, edited by Jonathan Barnes. 2vols. Princeton, N.J.: Princeton University Press, 1984.
- Bagley, Robert W. "What the Bronzes from Hunyuan Tell Us about the Foundry at Houma." *Orientalia* 26, no. 1 (1995): 46–54.
- Ban Gu 班固 (32–92). *Hanshu* 漢書. Beijing: Zhonghua shuju, 1962.
- Baxter, William H. "'Yi,' 'shi,' 'she,' deng zi de gouni he zhonggu sy- (shumu=shen san) de lai yuan" "藝," "勢," "設," 等字的構擬和中古 sy- (書母=審三)的來源. *Jianbo* 5 (2010): 161–178.
- Baxter, William H., and Laurent Sagart. *Old Chinese: A New Reconstruction*. Oxford: Oxford University Press, 2014.
- Behuniak, James, Jr. "Hitting the Mark: Archery and Ethics in Early Confucianism." *Journal of Chinese Philosophy* 37, no. 4 (2010): 588–604.
- Berryman, Sylvia. "Ancient Automata and Mechanical Explanation." *Phronesis* 48, no. 4 (2003): 344–369.
- . *The Mechanical Hypothesis in Ancient Greek Natural Philosophy*. Cambridge: Cambridge University Press, 2009.
- Berthrong, John H. "Weighing the Way: Metaphoric Balances in *Analects* 9:30." In *Interpretation and Intellectual Change: Chinese Hermeneutics in Historical Perspective*, edited by Ching-I Tu, 3–18. New Brunswick, NJ: Transaction, 2005.
- Black, Max. "Metaphor," *Proceedings of the Aristotelian Society* 55 (1954): 273–294.
- . "More about Metaphor." *Dialectica* 31, no. 3/4 (1977): 431–457.
- Blumenberg, Hans. *Paradigms for a Metaphorology*. Translated by Robert Savage. Ithaca: Cornell University Press, 2010.
- Brooks, Bruce E. "Review Article: 'The Present State and Future Prospects of Pre-Han Text Studies.'" *Sino-Platonic Papers* 46 (1994): 1–74.

- Brown, Miranda, and Charles Sanft. "Categories and Legal Reasoning in Early Imperial China: The Meaning of *Fa* in Recovered Texts." *Oriens Extremus* 50 (2011): 283–306.
- Burke, Kenneth. *A Grammar of Motives*. Berkeley: University of California Press, 1969.
- Camus, Rina Marie. "Comparison by Metaphor: Archery in Confucius and Aristotle." *Dao* 16, no. 2 (2017): 165–185.
- Chen Chun 陳淳 (1159–1223). *Beixi ziyi* 北溪字義. Beijing: Zhonghua shuju, 1983.
- Chen Daqi 陳大齊. *Mengzi daijie lu* 孟子待解錄. Taipei: Taiwan shangwu yinshuguan, 1980.
- Chen Qiyou 陳奇猷. *Hanfeizi xinjiaozhu* 韓非子新校注. Shanghai: Shanghai guji chubanshe, 2000.
- Chen Zhaorong 陳昭容. "Shuo 're'" 說'尊'. *Zhongguo Wenzhi* (New) 中國文字(新) 18 (1994): 139–172.
- Cheng Shude 程樹德. *Lunyu jishi* 論語集釋. Beijing: Zhonghua shuju, 1990.
- Cheng Yaotian 程瑤田 (1725–1814). "Shi ren wei shi kao" 矢人為矢考. In Vol. 2 of *Cheng Yaotian quanji* 程瑤田全集, edited by Chen Guanming 陳冠明, 212–215. Hefei: Huangshan shushe, 2008.
- Cline, Erin M. "Mirrors, Minds, and Metaphors." *Philosophy East and West* 58, no. 3 (2008): 337–357.
- Cook, Scott. *The Bamboo Texts of Guodian: A Study and Complete Translation*. 2 vols. Ithaca, N.Y.: East Asia Program, Cornell University, 2012.
- Creel, Herrlee G. *Shen Pu-hai: A Chinese Political Philosopher of the Fourth Century B.C.* Chicago: The University of Chicago Press, 1974.
- . "What is Taoism?" In *What is Taoism? And Other Studies in Chinese Cultural History*, 1–24. Chicago: University of Chicago Press, 1982.
- Csikszentmihalyi, Mark. *Material Virtue: Ethics and the Body in Early China*. Leiden: Brill, 2004.
- Csikszentmihalyi, Mark, and Michael Nylan, "Constructing Lineages and Inventing Traditions through Exemplary Figures in Early China." *T'oung Pao* 89, no. 1 (2003): 59–99.
- Curzer, Howard J. "An Aristotelian Doctrine of the Mean in the Mencius?" *Dao* 11, no. 1 (2012): 53–62.

- Da Dai liji zhuzi suoyin* 大戴禮記逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Davidson, Donald. “What Metaphors Mean.” *Critical Inquiry* 5, no.1 (1978): 31–47.
- De Groot, Jean. *Aristotle's Empiricism: Experience and Mechanics in the Fourth Century BC*. Las Vegas: Parmenides Publishing, 2014.
- De Reu, Wim. “How to Throw a Pot: The Centrality of the Potter’s Wheel in the *Zhuangzi*.” *Asian Philosophy* 20, no. 1 (2010): 43–66.
- Defoort, Carine. “Heavy and Light Body Parts: The Weighing Metaphor in Early Chinese Dialogues.” *Early China* 38 (2015): 55–77.
- Dijksterhuis, E. J. *The Mechanization of the World Picture*. Oxford: Clarendon Press, 1961.
- Duan Yucai 段玉裁 (1735–1815). *Shuowen jiezi zhu* 說文解字注. Shanghai: Shanghai guji chubanshe, 1981.
- Erya zhushu* 爾雅注疏. Vol. 8 of *Shisanjing zhushu* 十三經注疏, edited by Ruan Yuan 阮元 (1764–1849). Taipei: Yiwen yinshuguan, 2001.
- Evans, Vyvyan, and Melanie Green: *Cognitive Linguistics: An Introduction*. Edinburgh: Edinburgh University Press, 2006.
- Fan Xiangyong 范祥雍. *Zhanguo ce jianzheng* 戰國策箋證. Shanghai: Shanghai guji chubanshe, 2011.
- Fauconnier, Gilles. *Mappings in Thought and Language*. Cambridge: Cambridge University Press, 1997.
- Fauconnier, Gilles, and Mark Turner. “Conceptual Integration Networks.” *Cognitive Science* 22, no. 2 (1998): 33–187.
- . *The Way We Think: Conceptual Blending and the Mind’s Hidden Complexities*. New York: Basic Books, 2002.
- Fingarette, Herbert. *Confucius: The Secular as Sacred*. New York: Harper & Row, 1972.
- Fraser, Chris. *The Philosophy of the Mòzǐ: The First Consequentialists*. New York: Columbia University Press, 2016.
- Fried, Daniel. “A Never-Stable Word: Zhuangzi’s “Zhiyan” 卮言 and ‘Tipping-Vessel’ Irrigation.” *Early China* 31 (2007): 145–170.
- Fu Yashu 傅亞庶. *Liuzi jiaoshi* 劉子校釋. Beijing: Zhonghua shuju, 1998.

- Furley, David J. *Two Studies in the Greek Atomists*. Princeton, N.J.: Princeton University Press, 1967.
- Gao Gong 高拱 (1513–1578). *Gao Gong lunzhu sizhong* 高拱論著四種. Beijing: Zhonghua shuju, 1993.
- Gao Zhixi 高至喜. “Ji Changsha, Changde chutu nuji de Zhanguo mu – jiantan youguan nuji gongshi de jige wenti” 记长沙常德出土弩机的战国墓——兼谈有关弩机弓矢的几个问题. *Wenwu* 文物 6 (1964): 33–45.
- Gentner, Dedre. “Structure–mapping: A theoretical framework for analogy.” *Cognitive Science* 7 (1983): 155–170.
- Gentner, Dedre, and A. B. Markman. “Splitting the differences: A structural alignment view of similarity.” *Journal of Memory and Language* 32 (1993): 517–535.
- Gibbs, Raymond W. *The Poetics of Mind: Figurative Thought, Language, and Understanding*. Cambridge: Cambridge University Press, 1994.
- Goldin, Paul R. “Persistent Misconceptions about Chinese ‘Legalism’.” *Journal of Chinese Philosophy* 38, no. 1 (2011): 88–104.
- . “The Theme of the Primacy of the Situation in Classical Chinese Philosophy and Rhetoric.” *Asia Major* 18, no. 2 (2005): 18–23.
- Goodman, Nelson. *Languages of Art: An Approach to a Theory of Symbols*. Indianapolis: Bobbs-Merrill, 1968.
- Grady, Joseph. “THEORIES ARE BUILDINGS Revisited.” *Cognitive Linguistics* 8 no. 4 (1997): 267–290.
- Grady, Joseph, Todd Oakley and Seana Coulson. “Blending and Metaphor,” In *Metaphor in Cognitive Linguistics*, edited by Raymond W. Gibbs Jr. and Gerard J. Steen, 101–124. Amsterdam: John Benjamins Publishing Company, 1999.
- Graham, A. C. “Chuang Tzu’s Essay on Seeing Things as Equal.” In *A Companion to Angus C. Graham’s Chuang Tzu: The Inner Chapters*, edited by Harold D. Roth, 104–129. Honolulu: University of Hawai’i Press, 2003.
- . *Disputers of the Tao: Philosophical Argument in Ancient China*. La Salle, Ill: Open Court, 1989.
- . *Later Mohist Logic, Ethics and Science*. Hong Kong: Chinese University Press, 1978.

- Guanzi zhuzi suoyin* 管子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 2001.
- Guo Moruo 郭沫若. “Kao gong ji de niandai yu guobie” 《考工記》的年代與國別. In *Tiandi xuanhuang* 天地玄黃, 601–605. Shanghai: Dafu chuban gongsi, 1947.
- Guo Qingfan 郭慶藩 (1844–1896). *Zhuangzi jishi* 莊子集釋. Beijing: Zhonghua shuju, 1985.
- Hampe, Beate, ed. *From Perception to Meaning: Image Schemas in Cognitive Linguistics*. Berlin: Mouton de Gruyter, 2005.
- . “Image schemas in Cognitive Linguistics: Introduction.” In *From Perception to Meaning: Image Schemas in Cognitive Linguistics*, edited by Beate Hampe, 1–14. Berlin: Mouton de Gruyter, 2005.
- Hagen, Kurtis. “Xunzi and the Prudence of Dao: Desire as the Motive to Become Good.” *Dao* 10, no. 1 (2011): 53–70.
- Hanfeizi zhuzi suoyin* 韓非子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 2000.
- Hansen, Chad. *A Daoist Theory of Chinese Thought: A Philosophical Interpretation*. Oxford: Oxford University Press, 1992.
- . “Fa (Standards: Laws) and Meaning Changes in Chinese Philosophy.” *Philosophy East and West* 44, no. 3 (1994): 435–488.
- Harbsmeier, Christoph. “Irrefutable Conjectures. A Review of William H. Baxter and Laurent Sagart, *Old Chinese. A New Reconstruction*.” *Monumenta Serica* 64, no. 2 (2010): 445–504.
- Harris, Eirik Lang. *The Shenzi Fragments: A Philosophical Analysis and Translation*. New York: Columbia University Press, 2016.
- Hattori Chiharu 服部千春. *Sunzi bingfa jiaojie* 孫子兵法校解. Beijing: Junshi kexue chubanshe, 1987.
- Huainanzi zhuzi suoyin* 淮南子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Hubei sheng wenwu kaogu yanjiusuo 湖北省文物考古研究所, and Beijing daxue zhongwenxi 北京大學中文系, eds. *Jiudian chujian* 九店楚簡. Beijing: Zhonghua shuju, 2000.

- Huff, Benjamin I. “Eudaimonism in the Mencius: Fulfilling the Heart.” *Dao* 14, no. 3 (2015): 403–431.
- Hutton, Eric L., trans. *Xunzi: The Complete Text*. Princeton, N.J.: Princeton University Press, 2014.
- . “Xunzi on Moral Psychology.” In *Dao Companion to the Philosophy of Xunzi*, edited by Eric Hutton, 201–228. Dordrecht: Springer, 2016.
- Ivanhoe, P. J. *Confucian Moral Self Cultivation*. Indianapolis: Hackett Publishing Company, 2000.
- Ing, Michael. *The Vulnerability of Integrity in Early Confucian Thought*. New York: Oxford University Press, 2017.
- Jäkel, Olaf. “Kant, Blumenberg, Weinrich: Some Forgotten Contributions to the Cognitive Theory of Metaphor.” In *Metaphor in Cognitive Linguistics*, edited by Raymond W. Gibbs Jr. and Gerard J. Steen, 1–27. Amsterdam: John Benjamins Publishing Company, 1999.
- Jakobson, Roman, and Morris Halle. *Fundamentals of Language*. 4th ed. The Hague: Mouton, 1980.
- Ji Xusheng 季旭昇. *Shuowen xinzheng 說文新證*. Fuzhou: Fujian renmin chubanshe, 2010.
- Jia Yi Xinshu zhuzi suoyin 賈誼新書逐字索引*. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1994.
- Jiang Liangfu 姜亮夫. *Chuci tonggu 楚辭通故*. Vol. 3 of *Jiang Liangfu quanji 姜亮夫全集*. Kunming: Yunnan renmin chubanshe, 2002.
- Jiao Xun 焦循 (1763–1820). *Mengzi zhengyi 孟子正義*. Beijing: zhonghua shuju, 1987.
- Jingmei shi bowuguan 荊門市博物館, ed. *Guodian chumu zhujian 郭店楚墓竹簡*. Beijing: Wenwu chubanshe, 1998.
- Johnson, Mark. *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: The University of Chicago Press, 1990.
- Jullien, François. *La Propension Des Choses: Pour Une Histoire De L'efficacité En Chine*. Paris: Seuil, 1992.
- Keyser, Barbara W. “Decor Replication in Two Late Chou Bronze Chien.” *Ars Orientalis* 11 (1979): 127–162.

- Kline, T. C., III. “Moran Agency and Motivation in the Xunzi.” In *Virtue, Nature, and Moral Agency in the Xunzi*, edited by T.C. Kline III and Philip J. Ivanhoe, 155–175. Indianapolis: Hackett Publishing Company, 2000.
- Knoblock, John. *Xunzi: A Translation and Study of the Complete Works*. 3 vols. Stanford: Stanford University Press, 1988.
- Knoblock John, and Jeffrey Riegel. *The Annals of Lü Buwei: A Complete Translation and Study*. Stanford: Stanford University Press, 2000.
- Kongzi jia yu zhu zi suo yin* 孔子家語逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Kövecses, Zoltán. *Metaphor: A Practical Introduction*. New York: Oxford University Press, 2010.
- Lakoff, George. “The Contemporary Theory of Metaphor.” In *Metaphor and Thought*, edited by Andrew Ortony, 202–251. Cambridge: Cambridge University Press, 1993.
- Lakoff, George, and Mark Johnson. *Metaphors We Live By*. Chicago: University Of Chicago Press, 1980.
- . *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books, 1999.
- Laozi zhu zi suo yin* 老子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1996.
- Lau, D. C. “Some Notes on the ‘Sun tzu’ 孫子.” *Bulletin of the School of Oriental and African Studies* 28, no. 2 (1965): 319–335.
- Lau, D. C., and Roger T. Ames, trans. *Sun Bin, the Art of Warfare: A Translation of the Classic Chinese Work of Philosophy and Strategy*. Albany: State University of New York Press, 2003.
- Lewis, Mark Edward. “Warring States Political History.” In *The Cambridge History of Ancient China*, edited by Edward Shaughnessy and Michael Loewe, 587–650. Cambridge: Cambridge University Press, 1999.
- . *Sanctioned Violence in Early China*. Albany: State University of New York Press, 1990.
- Li Ling 李零. *Bing yi zha li – wo du Sunzi* 兵以詐立—我讀孫子. Beijing: Zhonghua shuju, 2006.

- . *Sima fa yizhu* 司馬法譯注. Shijiazhuang: Hebei renmin chubanshe, 1992.
- . *Sunzi shisanpian zonghe yanjiu* 孫子十三篇綜合研究. Beijing: Zhonghua shuju, 2006.
- . *Weiyi de guize: Sunzi de douzhng zhexue* 唯一的規則: 孫子的鬥爭哲學. Beijing: Sanlian shudian, 2010.
- Li Rui 李銳. “Shenzi yue gongjian xuepai shuxing chutan” 《慎子曰恭儉》學派屬性初探. In *Xinchu jianbo de xueshu tansuo* 新出簡帛的學術探索, 210–221. Beijing: Beijing shifan daxue chubanshe, 2010.
- . “Daojia yu huanglao” 道家與黃老. In *Zhanguo Qin Han shiqi de xuepai wenti yanjiu* 戰國秦漢時期的學派問題研究, 149–165. Beijing: Beijing shifan daxue chubanshe, 2011.
- Li Xiangfeng 黎翔鳳. *Guanzi jiaozhu* 管子校注. Beijing: Zhonghua shuju, 2004.
- Li Xueqin 李學勤. “Tan chujian shenzi” 談楚簡《慎子》. *Zhongguo wenhua* 中國文化 25–26 (2007): 43–45.
- Li Zhichao 李志超. “Jifa lun–youwei de kexue guan” 機發論–有為的科學觀. *Ziran kexueshi yanjiu* 自然科學史研究 9, no.1 (1990): 1–8.
- Liji zhushu* 禮記注疏. Vol. 5 of *Shisanjing zhushu* 十三經注疏, edited by Ruan Yuan. Taipei: Yiwen yinshuguan, 2001.
- Lin Zhipeng 林志鵬. *Zhanguo zhuzi shuping jizheng: yi Zhuangzi “Tian xia” wei zhuyao xiansuo* 戰國諸子評述輯証: 以《莊子·天下》為主要線索. Shanghai: Fudan daxue chubanshe, 2014.
- Liu Caonan 劉操南. “Shi quan, heng, ji, shu, qiao” 釋權, 衡, 機, 樞, 橋. *Dongyue luncong* 東岳論叢 2 (1982): 109–112.
- Liu Hongtao 劉洪濤. “Kao gong ji bushi Qiguo guanshu” 《考工記》不是齊國官書. *Ziran kexueshi yanjiu* 自然科學史研究 3, no. 4 (1984): 359–365.
- Luan Tiaofu 樂調甫. *Mozi yanjiu lunwenji* 墨子研究論文集. Beijing: Renmin chubanshe, 1957.
- Lüshi chunqiu zhuzi suoyin* 呂氏春秋. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1994.
- Mair, Victor H., trans. *The Art of War: Sun Zi's Military Methods*. New York: Columbia University Press, 2007.

- Major, John S. “Tool Metaphors in the *Huainanzi* and other Early Texts.” In *The Huainanzi and Textual Production in Early China*, edited by Sarah A. Queen and Michael Puett, 153–198. Leiden: Brill, 2014.
- Maoshi zhengyi* 毛詩正義, Vol. 2 of *Shisanjing zhushu* 十三經注疏, edited by Ruan Yuan. Taipei: Yiwen yinshuguan, 2001.
- Mao Ying 毛穎. “Nuji gailun” 弩機概論. *Dongnan wenhua* 東南文化 3 (1998): 109–117.
- Mason, Joshua. “Generalizations, Cultural Essentialism, and Metaphorical Gulfs.” *Dao* 17, no. 4 (2018): 479–497.
- Mayer, K. P. “On Variations in the Shapes of the Components of the Chinese nu-chi (Crossbow Latch).” *T'oung Pao* 52, Livr. 1/3 (1965): 1–7.
- Meng Wentong 蒙文通. “Lue lun Huang-Lao xue” 略論黃老學. In *Xianqin zhuzi yu lixue* 先秦諸子與理學, 191–223. Guilin: Guangxi shifan daxue chubanshe, 2006.
- Meyer, Andrew Seth. *The Dao of the Military: Liu An's Art of War*. New York: Columbia University Press, 2012.
- Mittelstrass, Jürgen. “Nature and Science in the Renaissance.” In *Metaphysics and Philosophy of Science in the Seventeenth and Eighteenth Centuries*, edited by R.S. Woolhouse, 17–44. Dordrecht: Kluwer Academic Publishers, 1988.
- Mozi zhuzi suoyin* 墨子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 2001.
- Murphy, Gregory. “On Metaphoric Representation.” *Cognition* 60 (1996): 173–204.
- Needham, Joseph, and Wang Ling. *Mechanical Engineering*. Part II of *Science and Civilization in China, Vol.4: Physics and Physical Technology*, edited by Joseph Needham. Cambridge, Cambridge University Press, 1965.
- . *Physics*. Part I of *Science and Civilization in China Vol. 4: Physics and Physical Technology*, edited by Joseph Needham. Cambridge, Cambridge University Press, 1962.
- Nivison, David S. “Hsun Tzu and Chuang Tzu.” In *Chinese Texts and Contexts: Essays Dedicated to Angus C. Graham*, edited by Henry Rosemont, Jr., 129–142. La Salle: Open Court, 1991.
- . “Motivation and Moral Action in Mencius.” In *The Ways of Confucianism: Investigations in Chinese Philosophy*, edited by Bryan W. Van Norden, 91–120. Chicago: Open Court, 1996.

- Norman, Jerry, and Mei Tsu-lin, “The Austroasiatics in Ancient South China: Some Lexical Evidence.” *Monumenta Serica* 32, no. 1 (1976): 274–301.
- Nussbaum, Martha. *Aristotle's De Motu Animalium: Text With Translation, Commentary, and Interpretive Essays*. Princeton, N.J.: Princeton University Press, 1985.
- Nylan, Michael. “Beliefs about Seeing: Optics and Moral Technologies in Early China.” *Asia Major, Third Series* 21, no. 1 (2008): 89–132.
- . *The Chinese Pleasure Book*. New York: Zone Books, 2018.
- Peerenboom, R. P. *Law and Morality in Ancient China: The Silk Manuscripts of Huang-Lao*. Albany: State University of New York Press, 1993.
- Pepper, Stephen C. “Introduction: Metaphor in Philosophy,” *The Journal of Mind and Behavior* 3, no. 3/4 (1982): 197–205.
- . *World Hypotheses: A Study in Evidence*. Berkeley and Los Angeles: University of California press, 1942.
- Perkins, Franklin. *Heaven and Earth Are Not Humane: The Problem of Evil in Classical Chinese Philosophy*. Bloomington, IN: Indiana University Press, 2014.
- Qi Sihe 齊思和. “Sunzi bingfa zhuzuo shidai kao” 孫子兵法著作時代考. In *Zhongguo shi tanyan* 中國史探研, 415–433. Shijiazhuang: Hebei jiaoyu chubanshe, 2000.
- Qian Baocong 錢寶琮. “Mojing lixue jin shi” 墨經力學今釋. *Kexueshi jikan* 科學史集刊 8 (1965): 65–72.
- Qian Zeng 錢曾 (1629–1701). *Dushu minqiu ji jiaozheng* 讀書敏求記校證, edited by Guan Tingfen 管庭芬 and Zhang Yu 章鈺. Shanghai: Shanghai guji chubanshe, 2007.
- Qiu Xigui 裘錫圭. “Guwenxian zhong duwei ‘she’ de ‘shi’ ji qi yu ‘zhi’ hu e zhi li” 古文獻中讀為“設”的“執”及其與“執”互訛之例. In Vol.4 of *Qiu Xigui xueshu wenji* 裘錫圭學術文集, 451–460. Shanghai: Fudan daxue chubanshe, 2012.
- . “Shi yinxu jiaguwen li de ‘yuan’ ‘er’ ji youguan zhuzi” 釋殷墟甲骨文裏的“遠”“邇”及有關諸字. In Vol.1 of *Qiu Xigui xueshu wenji* 裘錫圭學術文集, 167–176. Shanghai: Fudan daxue chubanshe, 2012.
- . “Zai tan guwenxian yi ‘shi’ biao ‘she’” 再談古文獻以“執”表“設.” In Vol.4 of *Qiu Xigui xueshu wenji* 裘錫圭學術文集, 484–495. Shanghai: Fudan daxue chubanshe, 2012.
- Raphals, Lisa. “Craft Analogies in Chinese and Greek Argumentation.” In *Literature, Religion,*

- and *East-West Comparison: Essays in Honor of Anthony C. Yu.*, edited by Eric Ziolkowski, 181–201. Newark: University of Delaware Press, 2005.
- . *Knowing Words: Wisdom and Cunning in Two Classical Traditions*. Ithaca: Cornell University Press, 1992.
- Reding, Jean-Paul. “Analogical Reasoning in Early Chinese Philosophy.” *Asiatische Studien* 40 (1986): 40–56.
- . *Comparative Essays in Early Greek and Chinese Rational Thinking*. Burlington, VT: Ashgate Publishing Company, 2004.
- . “Light and the Mirror in Greece and Ancient China: Elements of Comparative Metaphorology.” In *Comparative Essays in Early Greek and Chinese Rational Thinking*, 127–166. Burlington, VT: Ashgate Publishing Company, 2004.
- Renn, Jürgen, and Matthias Schemmel. “Mechanics in the Mohist Canon and its European Counterparts.” In *Zhongguo keji dianji yanjiu: di san jie Zhongguo keji dianji guoji huiyi lunwenji* 中國科技典籍研究:第三屆中國科技典籍國際會議論文集, edited by Hans Ulrich Vogel, Moll-Murata Christine, and Gao Xuan, 24–31. Zhengzhou: Daxiang chubanshe, 2006.
- Richards, I. A. *The Philosophy of Rhetoric*. New York: Oxford University Press, 1965.
- Ricoeur, Paul. *The Rule of Metaphor: The Creation of Meaning in Language*, translated by Robert Czerny, Kathleen McLaughlin, and John Costello. New York: Routledge, 2003.
- Sato Masayuki 佐藤將之. *The Confucian Quest for Order: The Origin and Formation of the Political Thought of Xun Zi*. Leiden: Brill, 2003
- . “The Idea to Rule the World: The Mohist Impact of Jian 兼 on the Xunzi.” *Oriens Extremus* 48 (2009): 21–54.
- Schiefsky, Mark J. “Art and Nature in Ancient Mechanics.” In *The Artificial and the Natural: An Evolving Polarity*, edited by Bernadette Bensaude-Vincent and William R. Newman, 67–108. Cambridge: MIT Press, 2007.
- . “Structures of Argument and Concepts of Force in the Aristotelian Mechanical Problems.” *Early Science and Medicine* 14 (2009): 43–69.
- Schuessler, Alex. *ABC Etymological Dictionary of Old Chinese*. Honolulu: University of Hawai’I Press, 2007.
- Shangshu zhengyi* 尚書正義. Vol. 1 of *Shisanjing zhushu* 十三經注疏, edited by Ruan Yuan. Taipei: Yiwen yinshuguan, 2001.

- Shaughnessy, Edward L. “Shang Shu 尚書 (Shu ching 書經).” In *Early Chinese Texts: A Bibliographical Guide*, edited by Michael Loewe, 376–389. Berkeley: Society for the Study of Early China and Institute of East Asian Studies, University of California, 1993.
- Shenzi zhuzi suoyin* 申子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 2000.
- Shen Pei 沈培. “Shuo Yinxi jiagu buci de ‘su’” 說殷墟甲骨卜辭的𠄎. *Yuan xue* 原學 3 (1995): 75–110.
- Shuoyuan zhuzi suoyin* 說苑逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Sima fa zhuzi suoyin* 司馬法逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Sima Qian 司馬遷 (145–86 BCE). *Shiji* 史記. . Beijing: Zhonghua shuju, 1962.
- Sivin, Nathan. “On the Word ‘Taoist’ as a Source of Perplexity.” *History of Religions* 17, no. 3/4 (1978): 303–330.
- Slingerland, Edward. “Conceptual Metaphor Theory as Methodology for Comparative Religion.” *Journal of the American Academy of Religion* 72, no. 1 (2004): 1–31.
- . “Crafting Bowls, Cultivating Sprouts: Unavoidable Tensions in Early Chinese Confucianism.” *Dao* 14, no.2 (2015): 211–218.
- . *Effortless Action: Wu-wei As Conceptual Metaphor and Spiritual Ideal in Early China*. Oxford: Oxford University Press, 2003.
- . “Metaphor and Meaning in Early China.” *Dao* 10, no. 1 (2011): 1–30.
- . “Metaphor, Blending, and Cultural Variation: A Reply to Camus.” *Dao* 16, no. 3 (2017): 431–435.
- . *What Science Offers the Humanities: Integrating Body and Culture*. Cambridge: Cambridge University Press, 2008.
- Smith, Kidder. “Sima Tan and the Invention of ‘Daoism,’ ‘Legalism,’ ‘et cetera.’” *The Journal of Asian Studies* 62, no. 1 (2003): 129–156.
- Stalnaker, Aaron. “Aspects of Xunzi’s Engagement with Early Daoism.” *Philosophy East and West* 53, no. 1 (2003): 87–129.

- . “Virtue as Mastery in Early Confucianism.” *The Journal of Religious Ethics* 38, no. 3 (2010): 404–428.
- Su Rongyu 蘇榮譽, Hua Jueming 華覺明, Li Kemin 李克敏, and Lu Benshan 盧本珊. *Zhongguo shanggu jinshu jishu* 中國國上古金屬技術. Jinan: Shandong kexue jishu shubanshe, 1995.
- Sun Yirang 孫詒讓 (1848–1908). *Zhouli zheng yi* 周禮正義. 7 vols. Beijing: Zhonghua shuju, 2013.
- Sung, Winnie. “Yu in the *Xunzi*: Can Desire by Itself Motivate Action?” *Dao* 11, no. 3 (2012): 369–388.
- Sunzi zhuzi suoyin* 孫子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Svarverud, Rune. *Methods of the Way: Early Chinese Ethical Thought*. Leiden: Brill, 1998.
- Thompson, Paul M. *The Shen Tzu Fragments*. 2 vols. New York: Oxford University Press, 1979.
- Van Norden, Bryan W. “Mengzi and Xunzi: Two Views of Human Agency.” In *Virtue, Nature, and Moral Agency in the Xunzi*, edited by T.C. Kline III and Philip J. Ivanhoe, 103–134. Indianapolis: Hackett Publishing Company, 2000.
- . *Virtue Ethics and Consequentialism in Early Chinese Philosophy*. New York: Cambridge University Press, 2007.
- Vankeerberghen, Griet. “Choosing Balance: Weighing (Quan 權) as a Metaphor for Action in Early Chinese Texts.” *Early China* 30 (2005–2006): 47–89.
- . *The Huainanzi and Liu An's Claim to Moral Authority*. Albany: State University of New York Press, 2001.
- Wallacker, Benjamin E. “Two Concepts in Early Chinese Military Thought.” *Language* 42, no. 2 (1966): 295–299.
- Wang Tianhai 王天海. *Xunzi jiaoshi* 荀子校釋. 2 vols. Shanghai: Shanghai guji chubanshe, 2016.
- Wang Xianqian 王先謙 (1842–1917). *Shisanjia yi jishu* 詩三家義集疏. 2 vols. Beijing: Zhonghua shuju, 1987.
- Weber, Max. *Economy and Society: An Outline of Interpretive Sociology*. 2 vols. Berkeley: University of California Press, 1978.

- Wen Renjun 聞人軍. *Kao gong ji yi zhu* 考工記譯注. Shanghai: Shanghai guji chubanshe, 2007.
- Wheeler, Everett L. *Stratagem and the Vocabulary of Military Trickery*. Leiden: Brill, 1988.
- Wong, David. “Early Confucian Philosophy and the Development of Compassion.” *Dao* 14, no. 2 (2015): 157–194.
- . “Xunzi on Moral Motivation.” In *Virtue, Nature, and Moral Agency in the Xunzi*, edited by T.C. Kline III and Philip J. Ivanhoe, 135–154. Indianapolis: Hackett Publishing Company, 2000.
- Wu Hsiao-yun. *Chariots in Early China: Origins, Cultural Interaction, and Identity*. Oxford: Archaeopress, 2013.
- Wu Kejing 鄔可晶. *Kong zi jia yu cheng shu kao* 《孔子家語》成書考. Shanghai: Zhongxi shuju, 2015.
- Wu Yujiang 吳毓江. *Mozi jiaozhu* 墨子校注. 2 vols. Beijing: Zhonghua shuju, 1993.
- Wuzi zhuzi suoyin* 吳子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Wuhan daxue jianbo yanjiu zhongxin 武漢大學簡帛研究中心, Hubei sheng bowuguan 湖北省博物館, and Hubei sheng wenwu kaogu yanjiusuo 湖北省文物考古研究所, eds. *Shuihudi qinmu jiandu* 睡虎地秦墓簡牘. Vol. 1 of *Qin jiandu heji* 秦簡牘合集. Wuhan: Wuhan daxue chubanshe, 2014.
- Xiang Zonglu 向宗魯. *Shuoyuan jiaozheng* 說苑校證. Beijing: Zhonghua shuju, 1987.
- Xu Fuguan 徐復觀. *Zhongguo renxinglun shi: xian Qin pian* 中國人性論史: 先秦篇. Shanghai: Shanghai sanlian shudian, 2001.
- Xu Fuhong 許富宏. *Shenzi jijiao jizhu* 慎子集校集注. Beijing: Zhonghua shuju, 2013.
- Xu Weiyu 許維遙. *Lüshi chunqiu jishi* 呂氏春秋集釋. 2 vols. Beijing: Zhonghua shuju, 2009.
- Xunzi zhuzi suoyin* 荀子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1996.
- Yang Bingan 楊丙安, ed. *Shiyijia zhu Sunzi jiaoli* 十一家注孫子校理. Beijing: Zhonghua shuju, 1999.
- Yang Soon-ja. “Shen Dao’s Own Voice in the *Shenzi* Fragments.” *Dao* 10, no. 2 (2011): 187–207.

- . “Shen Dao’s Theory of *fa* and His Influence on Han Fei.” In *Dao Companion to the Philosophy of Han Fei*, edited by Paul R. Goldin, 47–63. Dordrecht: Springer, 2013.
- Yates, Robin S. “The Mohists on Warfare: Technology, Technique, and Justification.” *Journal of the American Academy of Religion* 47, no. 3 (1980): 549–603.
- . “New Light on Ancient Chinese Military Texts: Notes on Their Nature and Evolution, and the Development of Military Specialization in Warring States China.” *T’oung Pao* 74, no. 4/5 (1988): 211–248.
- Yates, Robin S., and Edward McEwen. “Projectile Weapons.” In *Military Technology: Missiles and Sieges*, 101–240. Part VI of *Science and Civilization in China, Vol.5: Chemistry and Chemical Technology*, edited by Joseph Needham. Cambridge, Cambridge University Press, 1994.
- Yearley, Lee H. “Hsün Tzu on the Mind: His Attempted Synthesis of Confucianism and Taoism.” *The Journal of Asian Studies* 39, no.3 (1980): 465–480.
- Yinqueshan Hanmu zhujian zhengli xiaozu 銀雀山漢墓竹簡整理小組, ed. *Yinqueshan Hanmu zhujian Vol.1 銀雀山漢墓竹簡(壹)*. Beijing: Wenwu chubanshe, 1985.
- , ed. *Yinqueshan Hanmu zhujian Vol.2 銀雀山漢墓竹簡(貳)*. Beijing: Wenwu chubanshe, 2010.
- Zhanguo ce zhuzi suoyin 戰國策逐字索引*. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 1992.
- Zhang Bingnan 張秉楠. *Jixia gou chen 稷下鉤沉*. Shanghai: Shanghai guji chubanshe, 1991.
- Zhang Shuangdi 張雙棣. *Huainanzi jiaoshi 淮南子校釋*. Beijing: Beijing daxue chubanshe, 2013.
- Zhang Shunhui 張舜徽. *Zhouqin daolun fawei/ Shixue sanshu pingyi 周秦道論發微/史學三書平議*. Wuhan: Huazhong shifan daxue chubanshe, 2005.
- Zhao Jibin 趙紀彬. “Shi quan” 釋權. In *Kun zhi er lu 困知二錄*, 250–262. Beijing: Zhonghua shuju, 1991.
- Zhongguo shehui kexueyuan lishi yanjiusuo 中國社會科學院歷史研究所, ed. *Jiaguwen heji 甲骨文合集*. 13 vols. Beijing: Zhonghua shuju, 1982.
- Zhongguo shehui kexueyuan kaogu yanjiusuo 中國社會科學院考古研究所, ed. *Xiaotun nandi jiagu 小屯南地甲骨*. Beijing: Zhonghua shuju, 1980.
- , ed. *Yin Zhou jinwen jicheng (xiuding zengbu ben) 殷周金文集成(修訂增補本)*. 8

- vols. Beijing: Zhonghua shuju, 2007.
- Zhouyi zhengyi* 周易正義. Vol. 1 of *Shisanjing zhushu* 十三經注疏, edited by Ruan Yuan. Taipei: Yiwen yinshuguan, 2001.
- Zhu Fenghan 朱鳳瀚. *Zhongguo qingtongqi zonglun* 中國青銅器綜論. 3 vols. Shanghai: Shanghai guji chubanshe, 2009.
- Zhu Junsheng 朱駿聲 (1788–1858). *Shuowen tongxun dingsheng* 說文通訓定聲. Beijing: Zhonghua shuju, 1984.
- Zhu Xi 朱熹 (1130–1200). *Sishu zhangju jizhu* 四書章句集注. Beijing: zhonghua shuju, 1983.
- Zhuangzi zhuzi suoyin* 莊子逐字索引. ICS Ancient Chinese Text Concordance Series. Hong Kong: Shangwu, 2000.
- Ziporyn, Brook. *Ironies of Oneness and Difference: Coherence in Early Chinese Thought: Prolegomena to the Study of Li*. Albany: State University of New York Press, 2012.
- Zürn, Tobias Benedikt. “Overgrown Courtyards and Tilled Fields: Image-Based Debates on Governance and Body Politics in the *Mengzi*, *Zhuangzi*, and *Huainanzi*.” *Early China* 41 (2018): 297–332.