CARPENTRY AND BUILDING IN LATE IMPERAL CHINA

A Study of the Fifteenth-Century Carpenter's Manual Lu Ban jing

BY

KLAAS RUITENBEEK

 \setminus f 0 /,

'65^

E.J. BRILL LEIDEN • NEW YORK • KOLN 1993

CONTENTS

Preface	XV
Chinese dynasties and	
Chinese measurements	xvii
CHAPTER ONE: The Lu Banjing and the building trade in China	1
Introduction	1
Building materials	7
Carpenters and other building workers	15
Chinese sources on building	24
1. Technical works	25
Mujing 25; Yingzao fashi 27; Gongbu gongcheng	
zuofa 27; Yingzao suanli 29; Yingzao fayuan 29;	
Yuanye 30; Zirenyizhi 31; Yanji tu, Dieji tu 32	
2. Miscellaneous notes	33
Yangzhou huafang lu 33; Xiangyan jieyi 34	
3. Works on building technique, ritual and divination	34
Popular encyclopaedias 34; Geomantic	
works 36; Almanacs 39; Almanac entries related	to
building 43	
The process of building a house	45
1. Foundation	45
2. Designing, plans	49
3. The wooden parts of a house and their shaping	62
4. Assembling the wooden framework	67
5. The roof	71
6. Joinery, measurements	76
Building magic	82
Appendix I: Foot-rules and measuring systems	90
Appendix II: Favourable and unfavourable days	99
Appendix III: Building a house according to the <i>Jiabao</i> quanji	107
quanji	107
CHAPTER TWO: The history of the Lu Banjing	117
Earliest edition	117
Impressions of the earliest edition	118
The compilation of the Lu Ban jing	126
The Lu Ban yingzao zhengshi	129
Almanac sections	138
Sections on furniture and implements	139

viii CONTENTS

Juan II	II and <i>Mijue xianji</i>	140
The ill	ustrations of the Lu Ban jing	142
Later e	editions of the Lu Ban jing	142
Conclu	ısion	143
T	HE LUBAN JING, AN ANNOTATED TRANSLATION	
INTRODU	UCTORY NOTE	149
	PHY OF THE IMMORTAL LU BAN	152
IUAN O	NE	
I 1.	Felling trees for building a house	155
I 2.	Favourable days for felling trees	155
Ι3.	Placing the trestle when starting the work	155
I 4.	(Days to) start working the wood when building a	
	house	156
I 5.	General remarks	156
I 6.	The way to assemble the trestle when erecting a	
	new house after having completely demolished the	
	old house and having torn down the main hall	156
I 7.	The way to assemble the trestle when building in	
	a direction which allows the centre of the house	
	to remain on its place	157
I 8.	The way to assemble the trestle when building in	
	a direction which requires transfer of the centre of	
	the house	157
I 9.	Flexible method for assembling the trestle	157
I 10.	Convenient method for affixing amulets when	
	building	157
111.	Method for affixing amulets when building or	
	repairing	157
I 12.	Method for a house in the west to affix an amulet	
	and control the direction, if construction work is	4 = 0
	done in a house to the east	158
I 13.	Marking the columns with the ink line	159
I 14.	General remarks	159
115.	Stirring the ground and levelling the platform	160
I 16.	General remarks	160
I 17.	(Removing soil and stirring the ground)	161
I 18.	Positioning the plinths and erecting the frames	161
I 19.	Favourable days for erecting the columns	161

I 20.	Favourable days for hoisting the ridge	161
121.	Favourable days for determining the slope of the	
	roof.	161
I 22.	Favourable days for tiling the roof	162
I 23.	Favourable days for plastering a house	162
I 24.	Favourable days for making a sewer	162
125.	Favourable days for paving floors	162
I 26.	Favourable days for paving the courtyard	162
I 27.	The favourable days of all months for laying brick	
	floors, paving courtyards and building masonry	
	stairs	163
I 28.	The way to erect the frames and hoist the ridge-	
	pole when building a house	164
I 29.	Request to present the prayer for the hoisting of	
	the ridge-pole, made to the immortal master Lu	
	Ban, Lord of the Earth, the second of the Three	
	Worlds	164
I 30.	Examples of favourable and unfavourable	
	numbers of bays when building a house	168
I 31.	The method of the water level	168
I 32.	The drawing of the plan	169
I 33.	The true foot-rule of Lu Ban	169
	The eight poems of the foot-rule of Lu Ban	170
134.	Wealth	170
I 35.	Illness	171
I 36.	Separation	171
I 37.	Righteousness	172
138.	Office	172
139.	Plunder	172
140.	Harm	172
141.	Luck	173
142.	Root	173
I 43.	Poem of the carpenter's square	173
I 44.	Illustration of the carpenter's square	173
I 45.	On the origin of the carpenter's square	174
I 46.	The determination of the poem which	
	corresponds to the lucky White Star when	
	building a house	174
147.	(The foot-rule of the Dark Maiden)	174
I 48.	On the fact that the number of paces (from the	
	eaves) to the gate must be odd and may not be	
	even	175
I 49.	The true rule for levelling the building site	175

CONTENTS

I 50.	The determination of good and bad luck when	
	building a house	176
151.	Design of a three-purlin house with one additional	
	purlin	177
I 52.	Design of a five-purlin house	177
I 53.	Design of a regular house with seven purlins and	
	three bays	179
I 54.	Design of a regular house with nine purlins and	
	five bays	179
I 55.	Swing-frame	181
I 56.	Design of a small gate	181
I 57.	Watch tower kiosk	182
I 58.	Building a gate house	183
I 59.	Proper rule for the construction of doors in large	
	halls	183
I 60.	(The door of a high-ranking household)	184
I 61.	(In spring, no door is made in the east)	184
I 62.	The fixed positions of the star <i>Zhaibu</i> through the	
	years	184
I 63.	The fixed days of the star <i>Zhaibu</i> through the	
	months	185
I 64.	Favourable days for blocking up doors	185
I 65.	(Days of the Red Beaked Vermilion Bird)	18f
I 66.	Various prohibitions when mending a door	186
I 67.	Favourable days of each month to make doors	186
I 68.	The star Door-light	181
I 69.	Fixed days of favourable days with the star Door-	101
_ ,,,	light	18"
I 70.	General remarks	18"
I 71.	(The gateway to the Yellow Spring)	18f
I 72.	Three poems by Guo Pu forjudging the	
	appearance of houses	181
I 73.	Illustrations of different types of five-purlin houses	18?
I 74.	Five purlins with two additional purlins at the	
	back	19<
I 75.	Design of a regular seven-purlin house	191
I 76.	Princely palaces	19
I 77.	Observation tower	19!
I 78.	Joinery for a main hall	19!
I 79.	(Joinery for a rear hall)	19
I 80.	Buddhist and Taoist temples and monasteries	19
1 00.	Eddamst and Tablet temples and monastelles	1)

19

19

I 81. Joinery for an ancestral hall

I 82. Shrine

I 83.	Military camp	202
I 84.	Kiosk and pavilion over the water	203
UAN TV	WO	
II 1.	Granary	205
II 2.	Bridge	205
II 3.	Corners of a prefectural palace	205
II 4.	Construction of a bell tower	207
II 5.	Construction of a granary	207
II 6.	Prohibitions when making a granary, and the way	
	to select a proper place	208
II 7.	Favourable days of all months to make a granary	208
II 8.	Method of building a cowshed, according to the	
	Five Tones	209
II 9.	Prescribed measurements of the wooden parts	
	used for building a cowshed	209
II 10.	The poem says	210
II 11.	Admonitory poem, in harmony with the tones	210
II 12.	Other poem	211
II 13.	The poem of the rinderpest	211
II 14.	Poem to determine (the position of the evil	
	current of) the Chopping Block when the buffalo	
	enters the cowshed	211
II 15.	Days on which to build a cowshed	212
II 16.	Predicting the movements of the buffalo ghost	212
II 17.	The construction of a cowshed	212
II 18.	(If the door of one's house faces the cowshed)	212
II 19.	Favourable days of all months for building a	
	cowshed	213
II 20.	The way to build a sheep-pen, according to the	
TT 01	Five Tones	213
II 21.	Favourable days of all months for making a	215
11.00	sheep-pen	215
II 22.	Horse stable	216
II 23.	Horse manger	216
II 24.	Stand for a horse saddle	216
II 25.	Favourable days of all months for making a horse	210
11.26	stable	218 218
II 26.	Pigsty Favourable days of all months for making a	218
II 27.	Favourable days of all months for making a	218
11 20	pigsty Days of the star "The Six Domestic Animals Are	218
II 28.	Fat"	219
	r at	Z19

xii CONTENTS

II 29.	Run for geese, -ducks, or chickens	219
II 30.		219
II 31.	Screen	219
II 32.	Folding screen	222
II 33.		222
II 34.	Clothes chest	223
II 35.	Alcove bed	223
II 36.	Summer bed	226
	Bed with cane webbing	227
	Favourable days of all months to place the bed	
	and hand up the bed curtains	227
II 39.	Meditation beds	227
II 40.	Meditation chair	230
II 41.	Mirror stand with mirror case	231
II 42.	Sculptured washstand	231
II 43.	Table	234
II 44.	Eight Immortals table	234
II 45.	Small lute table	235
II 46.	Square chess-table	235
II 47.	Round table	235
II 48.	Long rectangular table	238
II 49.	Folding table	238
II 50.	Table	238
II 51.	Foot rest	238
II 52.	Proper method for a "hanging fish", in various	
	styles	239
II 53.	Regular shape of "camel humps"	239
II 54.		240
II 55.	1	240
II 56.		242
II 57.		242
II 58.		242
II 59.		246
II 60.	Flower stand	246
II 61.		247
II 62.	Č	247
II 63.		247
II 64.		250
II 65.		251
II 66.	Large rectangular carrying box	251
II 67.		254
II 68.	Picnic box	254
II 69.	Folding stick	255

	CONTENTS	xiii
II 70.	Clothes chest	255
	Candle stand	255
II 72.	Round (stand for) brazier	255
II 73.	(Low stand for) brazier	258
II 74.		258
II 75.	Censer	259
II 76.	Stand for a scholar's lamp	259
II 77.	Incense table	259
II 78.	Signboard	262
II 79.	Sitting board for bath-tub	262
II 80.	Medicine cupboard	262
II 81.	Medicine box	262
II 82a.	Fire ladle	264
	(Lantern)	264
II 83.		264
II 84.		267
II 85.	Weiqi board	267
	Abacus	268
II 87.	Tea-tray, serving tray	270
II 88.	Hand-driven irrigation wheel	270
II 89.	Foot-power irrigation wheel	273
II 90.	Wheelbarrow	276
II 91.	Name board	277
JUAN THREE		278
SECRET	CHARMS AND MAGICAL DEVICES	290
The se	cret book of Lu Ban	298
The sec	cret book of enlightened esoteric teachings,	
	ful methods for expelling spirits and breaking spells	305
Bibliogra	nhy	313
Glossary	phy	335
Textual Notes		
Facsimile of the <i>Lu Banjing</i>		
Facsimile of the <i>Lu Banyingao zhengshi</i>		
Facsimile of the Wuche bajin		
Index		