

Universal Multiple-Octet Coded Character Set  
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## 1. Introduction

This is a proposal to encode an additional 348 circled and negative circled numbers. Currently the following circled numbers zero through fifty, and negative circled numbers zero through twenty, are encoded:

- 24EA : Circled Digit Zero
- 2460..2473 : Circled Digit One .. Circled Number Twenty
- 3251..325F : Circled Number Twenty One .. Circled Number Thirty Five
- 32B1..32BF : Circled Number Thirty Six .. Circled Number Fifty
- 24FF : Negative Circled Digit Zero
- 2776..277F : Dingbat Negative Circled Digit One .. Dingbat Negative Circled Number Ten
- 24EB..24F4 : Negative Circled Number Eleven .. Negative Circled Number Twenty

Although this may seem to be a sufficiently large number of circled numbers for most uses, there are in fact two common use cases where circled numbers greater than fifty, and negative circled numbers greater than twenty, are regularly used in text:

1. For the numbering of Go stones in the game of Go (known as Weiqi in Chinese and Baduk in Korean)
2. For reference note numbering in books and academic articles, mainly published in China and Taiwan

The Unicode Standard does not provide a mechanism for creating arbitrary circled and negative circled numbers, and so it is currently impossible to represent these higher circled and negative circled numbers in Unicode. This is a severe problem for people who want to be able to make digital transcriptions of printed texts that use higher circled and negative circled numbers.

A possible solution would be to use 20DD Combining Enclosing Circle and a new Combining Enclosing Negative Circle character to dynamically compose arbitrary circled and negative circled numbers. However, the combining character would have to be applied to a variable number of preceding digits, and unfortunately “[t]here is also no defined way of indicating the application of a combining enclosing mark to more than a single base character” (*The Unicode Standard Version 9.0* pp. 817–818).

In N4719 (L2/16-108) I suggested a mechanism for overcoming this limitation by linking the sequence of digits to be encircled by 20DD with 200D Zero Width Joiner. However, such a mechanism is not ideal, and the UTC rightly rejected it. I am therefore proposing in this document to encode a set of 348 additional circled numbers and negative circled numbers as atomic characters.

## 2. Go Stone Numbering

In modern usage, Go games are notated using diagrams in which the move number of a stone is placed inside a black or white circle representing the corresponding black or white Go stone. There are 361 playable points on a standard 19×19 Go board, and 361 stones in total (181 black and 180 white), so the normal maximum number of moves is 361, although as stones can be taken, some professional games have recorded up to about 400 moves. In an evenly-matched game black always makes the first move, so black circled numbers are odd, and white circled numbers are even. However, in a handicap game between players of different ranks, black places a number of stones at predefined spots on the board, and white makes the first numbered move, in which case white circled numbers are odd, and black circled numbers are even. Thus, Go notation uses circled numbers one through about 400 and negative circled numbers one through about 400.

In some cases, the entire game is represented as a single diagram (see Fig. 3), in which case up to 361 or more moves may be shown, although in practice the total number of moves in a game is usually in the 200s (or in the high 100s for many resigned games).

More commonly a game is spread over a number of diagrams, with each diagram focussing on a portion of the game. In these cases, it is normal to reset the numbering for a new diagram if the last move of the previous diagram was greater than 100. So for example Fig. 4 shows moves 91 through 113 as 91–113, but Fig. 5 shows the continuation, moves 114 through 134, as 14–34. In such cases numbers do not normally exceed the mid-100s.

In some publications and web sites, numbering of Go stones in a single game diagram only goes up to 99, and then continues on a new diagram from “00” (representing a hundred or multiple of a hundred); the next nine moves are marked as “01” through “09” (in contrast with “1” through “9” for the absolute first nine moves). See Fig. 2 for an example of this usage on Wikipedia.

When a stone is played at the site of a previously-played stone (which was later taken and removed from the board), then the move cannot be recorded in the game diagram, but is recorded as a note below the diagram. See Fig. 1 and Fig. 7 where circled and negative circled numbers are shown in text below the game diagram. The usage of these circled and negative circled numbers in running text indicates that these numbers need to be dealt with at the character encoding level, and cannot be treated as images or dismissed as requiring some “higher level protocol” for correct rendering.

The existing encoded characters CIRCLED DIGIT ONE through CIRCLED NUMBER FIFTY, and DINGBAT NEGATIVE CIRCLED DIGIT ONE through NEGATIVE CIRCLED NUMBER TWENTY can be used for some Go diagrams representing game problems or opening positions (*fuseki*), but are insufficient for notating a complete game, which on average has between 150 and 250 moves.

### ***3. Reference Note Numbering***

In China and Taiwan, there are various systems for numbering notes in books and academic papers. One of the common systems is to use circled Arabic numbers. When used for footnotes, the numbers are usually reset to one on each page (see Fig. 9), and so the existing circled numbers are sufficient for this usage.

However, this system of numbering is also used for section-final, chapter-final or book-final notes, as well as occasionally for sequential footnotes over multiple pages, and in these cases there are frequently more than fifty sequentially-numbered notes. In most cases note numbers do not exceed one hundred, but in some cases note numbers are greater than one hundred, and the highest circled note numbers I have seen are in the low 300s. Various examples of circled note numbers greater than fifty are provided in the Figures section of this document:

- Fig. 10: Page showing sequential footnote number 53
- Fig. 11: Last page of notes numbered 1 through 57
- Fig. 12: Last page of notes numbered 1 through 85
- Fig. 13: Note 73, showing that circled note numbers are also cross-referenced in running text
- Fig. 14: Last page of notes numbered 1 through 93
- Fig. 15: Page showing note numbers 91–93 in text
- Fig. 16: Page showing note numbers 38–73 in text
- Fig. 17: Last page of notes numbered 1 through 73
- Fig. 18: Last page of notes numbered 1 through 98
- Fig. 19: Penultimate page of lexical notes numbered 1 through 104
- Fig. 20: Last page of notes numbered 1 through 305

#### 4. Proposed Characters

It is not clear what the highest circled number or negative circled number in actual use is, so a decision has to be made as to which additional circled and negative circled numbers should be encoded. Ideally, I would like to see all circled and negative circled numbers up to 999 encoded, but as the higher numbers are not currently attested I am not proposing to encode full sets up to 999. Circled and negative circled numbers up to 399 would cover all Go notation usage and the highest circled reference note numbers that I have found. On the other hand, the vast majority of circled note numbers are less than 200. Moreover, most Go diagrams reset the numbering somewhere between 100 and 199, so circled and negative circled numbers up to 199 are sufficient for Go notation, except where a complete game is shown in a single diagram. For Go diagrams where continuation numbers in the first decade of the hundreds are represented as circled or negative circled “00” through “09” (see Fig. 2), ten additional circled and negative circled numbers should also be encoded. Therefore, I propose encoding the following 348 characters:

- 10 circled digits 00 through 09 ① . . ⑩
- 10 negative circled digits 00 through 09 ① . . ⑩
- 149 circled numbers 51 through 199 ⑤ . . ⑱
- 179 negative circled numbers 21 through 199 ② . . ⑱

The Enclosed Alphanumeric Supplement block (1F100..1F1FF) has 65 free spaces, so the twenty circled and negative circled double digits could go in that block. The remaining 328 characters could go in a new block named Supplemental Enclosed Numbers at 1FA00..1FB4F. These are the allocations given in the table below, but I understand that the committees may well change these allocations if the characters are accepted for encoding.

**Table 1: Proposed Characters**

Code Point	Glyph	Character Name	Compatibility Decomposition	Numeric Value
1F1B0	①	CIRCLED DIGITS ZERO ZERO	<circle> 0030 0030	0
1F1B1	①	CIRCLED DIGITS ZERO ONE	<circle> 0030 0031	1
1F1B2	②	CIRCLED DIGITS ZERO TWO	<circle> 0030 0032	2
1F1B3	③	CIRCLED DIGITS ZERO THREE	<circle> 0030 0033	3
1F1B4	④	CIRCLED DIGITS ZERO FOUR	<circle> 0030 0034	4

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1F1B5	⑤	CIRCLED DIGITS ZERO FIVE	<circle> 0030 0035	5
1F1B6	⑥	CIRCLED DIGITS ZERO SIX	<circle> 0030 0036	6
1F1B7	⑦	CIRCLED DIGITS ZERO SEVEN	<circle> 0030 0037	7
1F1B8	⑧	CIRCLED DIGITS ZERO EIGHT	<circle> 0030 0038	8
1F1B9	⑨	CIRCLED DIGITS ZERO NINE	<circle> 0030 0039	9
1F1C0	⓪	NEGATIVE CIRCLED DIGITS ZERO ZERO		0
1F1C1	⓫	NEGATIVE CIRCLED DIGITS ZERO ONE		1
1F1C2	⓬	NEGATIVE CIRCLED DIGITS ZERO TWO		2
1F1C3	⓭	NEGATIVE CIRCLED DIGITS ZERO THREE		3
1F1C4	⓮	NEGATIVE CIRCLED DIGITS ZERO FOUR		4
1F1C5	⓯	NEGATIVE CIRCLED DIGITS ZERO FIVE		5
1F1C6	⓰	NEGATIVE CIRCLED DIGITS ZERO SIX		6
1F1C7	⓱	NEGATIVE CIRCLED DIGITS ZERO SEVEN		7
1F1C8	⓲	NEGATIVE CIRCLED DIGITS ZERO EIGHT		8
1F1C9	⓳	NEGATIVE CIRCLED DIGITS ZERO NINE		9
1FA00	⑤①	CIRCLED NUMBER FIFTY ONE	<circle> 0035 0031	51
1FA01	⑤②	CIRCLED NUMBER FIFTY TWO	<circle> 0035 0032	52
1FA02	⑤③	CIRCLED NUMBER FIFTY THREE	<circle> 0035 0033	53
1FA03	⑤④	CIRCLED NUMBER FIFTY FOUR	<circle> 0035 0034	54
1FA04	⑤⑤	CIRCLED NUMBER FIFTY FIVE	<circle> 0035 0035	55

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FA05	⑤⑥	CIRCLED NUMBER FIFTY SIX	<circle> 0035 0036	56
1FA06	⑤⑦	CIRCLED NUMBER FIFTY SEVEN	<circle> 0035 0037	57
1FA07	⑤⑧	CIRCLED NUMBER FIFTY EIGHT	<circle> 0035 0038	58
1FA08	⑤⑨	CIRCLED NUMBER FIFTY NINE	<circle> 0035 0039	59
1FA09	⑥⑩	CIRCLED NUMBER SIXTY	<circle> 0036 0030	60
1FA0A	⑥⑪	CIRCLED NUMBER SIXTY ONE	<circle> 0036 0031	61
1FA0B	⑥⑫	CIRCLED NUMBER SIXTY TWO	<circle> 0036 0032	62
1FA0C	⑥⑬	CIRCLED NUMBER SIXTY THREE	<circle> 0036 0033	63
1FA0D	⑥⑭	CIRCLED NUMBER SIXTY FOUR	<circle> 0036 0034	64
1FA0E	⑥⑮	CIRCLED NUMBER SIXTY FIVE	<circle> 0036 0035	65
1FA0F	⑥⑯	CIRCLED NUMBER SIXTY SIX	<circle> 0036 0036	66
1FA10	⑥⑰	CIRCLED NUMBER SIXTY SEVEN	<circle> 0036 0037	67
1FA11	⑥⑱	CIRCLED NUMBER SIXTY EIGHT	<circle> 0036 0038	68
1FA12	⑥⑲	CIRCLED NUMBER SIXTY NINE	<circle> 0036 0039	69
1FA13	⑦⑩	CIRCLED NUMBER SEVENTY	<circle> 0037 0030	70
1FA14	⑦⑪	CIRCLED NUMBER SEVENTY ONE	<circle> 0037 0031	71
1FA15	⑦⑫	CIRCLED NUMBER SEVENTY TWO	<circle> 0037 0032	72
1FA16	⑦⑬	CIRCLED NUMBER SEVENTY THREE	<circle> 0037 0033	73
1FA17	⑦⑭	CIRCLED NUMBER SEVENTY FOUR	<circle> 0037 0034	74
1FA18	⑦⑮	CIRCLED NUMBER SEVENTY FIVE	<circle> 0037 0035	75

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FA19	⑦⑥	CIRCLED NUMBER SEVENTY SIX	<circle> 0037 0036	76
1FA1A	⑦⑦	CIRCLED NUMBER SEVENTY SEVEN	<circle> 0037 0037	77
1FA1B	⑦⑧	CIRCLED NUMBER SEVENTY EIGHT	<circle> 0037 0038	78
1FA1C	⑦⑨	CIRCLED NUMBER SEVENTY NINE	<circle> 0037 0039	79
1FA1D	⑧①	CIRCLED NUMBER EIGHTY	<circle> 0038 0030	80
1FA1E	⑧②	CIRCLED NUMBER EIGHTY ONE	<circle> 0038 0031	81
1FA1F	⑧③	CIRCLED NUMBER EIGHTY TWO	<circle> 0038 0032	82
1FA20	⑧④	CIRCLED NUMBER EIGHTY THREE	<circle> 0038 0033	83
1FA21	⑧⑤	CIRCLED NUMBER EIGHTY FOUR	<circle> 0038 0034	84
1FA22	⑧⑥	CIRCLED NUMBER EIGHTY FIVE	<circle> 0038 0035	85
1FA23	⑧⑦	CIRCLED NUMBER EIGHTY SIX	<circle> 0038 0036	86
1FA24	⑧⑧	CIRCLED NUMBER EIGHTY SEVEN	<circle> 0038 0037	87
1FA25	⑧⑨	CIRCLED NUMBER EIGHTY EIGHT	<circle> 0038 0038	88
1FA26	⑨①	CIRCLED NUMBER EIGHTY NINE	<circle> 0038 0039	89
1FA27	⑨②	CIRCLED NUMBER NINETY	<circle> 0039 0030	90
1FA28	⑨③	CIRCLED NUMBER NINETY ONE	<circle> 0039 0031	91
1FA29	⑨④	CIRCLED NUMBER NINETY TWO	<circle> 0039 0032	92
1FA2A	⑨⑤	CIRCLED NUMBER NINETY THREE	<circle> 0039 0033	93
1FA2B	⑨⑥	CIRCLED NUMBER NINETY FOUR	<circle> 0039 0034	94
1FA2C	⑨⑦	CIRCLED NUMBER NINETY FIVE	<circle> 0039 0035	95



<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FA2D	⑨⑥	CIRCLED NUMBER NINETY SIX	<circle> 0039 0036	96
1FA2E	⑨⑦	CIRCLED NUMBER NINETY SEVEN	<circle> 0039 0037	97
1FA2F	⑨⑧	CIRCLED NUMBER NINETY EIGHT	<circle> 0039 0038	98
1FA30	⑨⑨	CIRCLED NUMBER NINETY NINE	<circle> 0039 0039	99
1FA31	⑩①	CIRCLED NUMBER HUNDRED	<circle> 0031 0030 0030	100
1FA32	⑩②	CIRCLED NUMBER HUNDRED ONE	<circle> 0031 0030 0031	101
1FA33	⑩③	CIRCLED NUMBER HUNDRED TWO	<circle> 0031 0030 0032	102
1FA34	⑩④	CIRCLED NUMBER HUNDRED THREE	<circle> 0031 0030 0033	103
1FA35	⑩⑤	CIRCLED NUMBER HUNDRED FOUR	<circle> 0031 0030 0034	104
1FA36	⑩⑥	CIRCLED NUMBER HUNDRED FIVE	<circle> 0031 0030 0035	105
1FA37	⑩⑦	CIRCLED NUMBER HUNDRED SIX	<circle> 0031 0030 0036	106
1FA38	⑩⑧	CIRCLED NUMBER HUNDRED SEVEN	<circle> 0031 0030 0037	107
1FA39	⑩⑨	CIRCLED NUMBER HUNDRED EIGHT	<circle> 0031 0030 0038	108
1FA3A	⑪①	CIRCLED NUMBER HUNDRED NINE	<circle> 0031 0030 0039	109
1FA3B	⑪②	CIRCLED NUMBER HUNDRED TEN	<circle> 0031 0031 0030	110
1FA3C	⑪③	CIRCLED NUMBER HUNDRED ELEVEN	<circle> 0031 0031 0031	111
1FA3D	⑪④	CIRCLED NUMBER HUNDRED TWELVE	<circle> 0031 0031 0032	112
1FA3E	⑪⑤	CIRCLED NUMBER HUNDRED THIRTEEN	<circle> 0031 0031 0033	113
1FA3F	⑪⑥	CIRCLED NUMBER HUNDRED FOURTEEN	<circle> 0031 0031 0034	114
1FA40	⑪⑦	CIRCLED NUMBER HUNDRED FIFTEEN	<circle> 0031 0031 0035	115

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FA41	⑪①⑥	CIRCLED NUMBER HUNDRED SIXTEEN	<circle> 0031 0031 0036	116
1FA42	⑪①⑦	CIRCLED NUMBER HUNDRED SEVENTEEN	<circle> 0031 0031 0037	117
1FA43	⑪①⑧	CIRCLED NUMBER HUNDRED EIGHTEEN	<circle> 0031 0031 0038	118
1FA44	⑪①⑨	CIRCLED NUMBER HUNDRED NINETEEN	<circle> 0031 0031 0039	119
1FA45	⑫①①	CIRCLED NUMBER HUNDRED TWENTY	<circle> 0031 0032 0030	120
1FA46	⑫①②	CIRCLED NUMBER HUNDRED TWENTY ONE	<circle> 0031 0032 0031	121
1FA47	⑫①③	CIRCLED NUMBER HUNDRED TWENTY TWO	<circle> 0031 0032 0032	122
1FA48	⑫①④	CIRCLED NUMBER HUNDRED TWENTY THREE	<circle> 0031 0032 0033	123
1FA49	⑫①⑤	CIRCLED NUMBER HUNDRED TWENTY FOUR	<circle> 0031 0032 0034	124
1FA4A	⑫①⑥	CIRCLED NUMBER HUNDRED TWENTY FIVE	<circle> 0031 0032 0035	125
1FA4B	⑫①⑦	CIRCLED NUMBER HUNDRED TWENTY SIX	<circle> 0031 0032 0036	126
1FA4C	⑫①⑧	CIRCLED NUMBER HUNDRED TWENTY SEVEN	<circle> 0031 0032 0037	127
1FA4D	⑫①⑨	CIRCLED NUMBER HUNDRED TWENTY EIGHT	<circle> 0031 0032 0038	128
1FA4E	⑫①⑩	CIRCLED NUMBER HUNDRED TWENTY NINE	<circle> 0031 0032 0039	129
1FA4F	⑬①①	CIRCLED NUMBER HUNDRED THIRTY	<circle> 0031 0033 0030	130
1FA50	⑬①②	CIRCLED NUMBER HUNDRED THIRTY ONE	<circle> 0031 0033 0031	131
1FA51	⑬①③	CIRCLED NUMBER HUNDRED THIRTY TWO	<circle> 0031 0033 0032	132
1FA52	⑬①④	CIRCLED NUMBER HUNDRED THIRTY THREE	<circle> 0031 0033 0033	133
1FA53	⑬①⑤	CIRCLED NUMBER HUNDRED THIRTY FOUR	<circle> 0031 0033 0034	134
1FA54	⑬①⑥	CIRCLED NUMBER HUNDRED THIRTY FIVE	<circle> 0031 0033 0035	135

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FA55	⑬᠖	CIRCLED NUMBER HUNDRED THIRTY SIX	<circle> 0031 0033 0036	136
1FA56	⑬᠗	CIRCLED NUMBER HUNDRED THIRTY SEVEN	<circle> 0031 0033 0037	137
1FA57	⑬᠘	CIRCLED NUMBER HUNDRED THIRTY EIGHT	<circle> 0031 0033 0038	138
1FA58	⑬᠙	CIRCLED NUMBER HUNDRED THIRTY NINE	<circle> 0031 0033 0039	139
1FA59	⑭᠐	CIRCLED NUMBER HUNDRED FORTY	<circle> 0031 0034 0030	140
1FA5A	⑭᠑	CIRCLED NUMBER HUNDRED FORTY ONE	<circle> 0031 0034 0031	141
1FA5B	⑭᠒	CIRCLED NUMBER HUNDRED FORTY TWO	<circle> 0031 0034 0032	142
1FA5C	⑭᠓	CIRCLED NUMBER HUNDRED FORTY THREE	<circle> 0031 0034 0033	143
1FA5D	⑭᠔	CIRCLED NUMBER HUNDRED FORTY FOUR	<circle> 0031 0034 0034	144
1FA5E	⑭᠕	CIRCLED NUMBER HUNDRED FORTY FIVE	<circle> 0031 0034 0035	145
1FA5F	⑭᠖	CIRCLED NUMBER HUNDRED FORTY SIX	<circle> 0031 0034 0036	146
1FA60	⑭᠗	CIRCLED NUMBER HUNDRED FORTY SEVEN	<circle> 0031 0034 0037	147
1FA61	⑭᠘	CIRCLED NUMBER HUNDRED FORTY EIGHT	<circle> 0031 0034 0038	148
1FA62	⑭᠙	CIRCLED NUMBER HUNDRED FORTY NINE	<circle> 0031 0034 0039	149
1FA63	⑮᠐	CIRCLED NUMBER HUNDRED FIFTY	<circle> 0031 0035 0030	150
1FA64	⑮᠑	CIRCLED NUMBER HUNDRED FIFTY ONE	<circle> 0031 0035 0031	151
1FA65	⑮᠒	CIRCLED NUMBER HUNDRED FIFTY TWO	<circle> 0031 0035 0032	152
1FA66	⑮᠓	CIRCLED NUMBER HUNDRED FIFTY THREE	<circle> 0031 0035 0033	153
1FA67	⑮᠔	CIRCLED NUMBER HUNDRED FIFTY FOUR	<circle> 0031 0035 0034	154
1FA68	⑮᠕	CIRCLED NUMBER HUNDRED FIFTY FIVE	<circle> 0031 0035 0035	155

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FA69	⑮⑤⑥	CIRCLED NUMBER HUNDRED FIFTY SIX	<circle> 0031 0035 0036	156
1FA6A	⑮⑤⑦	CIRCLED NUMBER HUNDRED FIFTY SEVEN	<circle> 0031 0035 0037	157
1FA6B	⑮⑤⑧	CIRCLED NUMBER HUNDRED FIFTY EIGHT	<circle> 0031 0035 0038	158
1FA6C	⑮⑤⑨	CIRCLED NUMBER HUNDRED FIFTY NINE	<circle> 0031 0035 0039	159
1FA6D	⑮⑥①	CIRCLED NUMBER HUNDRED SIXTY	<circle> 0031 0036 0030	160
1FA6E	⑮⑥②	CIRCLED NUMBER HUNDRED SIXTY ONE	<circle> 0031 0036 0031	161
1FA6F	⑮⑥③	CIRCLED NUMBER HUNDRED SIXTY TWO	<circle> 0031 0036 0032	162
1FA70	⑮⑥④	CIRCLED NUMBER HUNDRED SIXTY THREE	<circle> 0031 0036 0033	163
1FA71	⑮⑥⑤	CIRCLED NUMBER HUNDRED SIXTY FOUR	<circle> 0031 0036 0034	164
1FA72	⑮⑥⑥	CIRCLED NUMBER HUNDRED SIXTY FIVE	<circle> 0031 0036 0035	165
1FA73	⑮⑥⑦	CIRCLED NUMBER HUNDRED SIXTY SIX	<circle> 0031 0036 0036	166
1FA74	⑮⑥⑧	CIRCLED NUMBER HUNDRED SIXTY SEVEN	<circle> 0031 0036 0037	167
1FA75	⑮⑥⑨	CIRCLED NUMBER HUNDRED SIXTY EIGHT	<circle> 0031 0036 0038	168
1FA76	⑮⑦①	CIRCLED NUMBER HUNDRED SIXTY NINE	<circle> 0031 0036 0039	169
1FA77	⑮⑦②	CIRCLED NUMBER HUNDRED SEVENTY	<circle> 0031 0037 0030	170
1FA78	⑮⑦③	CIRCLED NUMBER HUNDRED SEVENTY ONE	<circle> 0031 0037 0031	171
1FA79	⑮⑦④	CIRCLED NUMBER HUNDRED SEVENTY TWO	<circle> 0031 0037 0032	172
1FA7A	⑮⑦⑤	CIRCLED NUMBER HUNDRED SEVENTY THREE	<circle> 0031 0037 0033	173
1FA7B	⑮⑦⑥	CIRCLED NUMBER HUNDRED SEVENTY FOUR	<circle> 0031 0037 0034	174
1FA7C	⑮⑦⑦	CIRCLED NUMBER HUNDRED SEVENTY FIVE	<circle> 0031 0037 0035	175

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FA7D	⑰①⑥	CIRCLED NUMBER HUNDRED SEVENTY SIX	<circle> 0031 0037 0036	176
1FA7E	⑰①⑦	CIRCLED NUMBER HUNDRED SEVENTY SEVEN	<circle> 0031 0037 0037	177
1FA7F	⑰①⑧	CIRCLED NUMBER HUNDRED SEVENTY EIGHT	<circle> 0031 0037 0038	178
1FA80	⑰①⑨	CIRCLED NUMBER HUNDRED SEVENTY NINE	<circle> 0031 0037 0039	179
1FA81	⑰①⑩	CIRCLED NUMBER HUNDRED EIGHTY	<circle> 0031 0038 0030	180
1FA82	⑰①⑪	CIRCLED NUMBER HUNDRED EIGHTY ONE	<circle> 0031 0038 0031	181
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1FA86	⑰①⑮	CIRCLED NUMBER HUNDRED EIGHTY FIVE	<circle> 0031 0038 0035	185
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1FA8C	⑰①㉑	CIRCLED NUMBER HUNDRED NINETY ONE	<circle> 0031 0039 0031	191
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1FA8F	⑰①㉔	CIRCLED NUMBER HUNDRED NINETY FOUR	<circle> 0031 0039 0034	194
1FA90	⑰①㉕	CIRCLED NUMBER HUNDRED NINETY FIVE	<circle> 0031 0039 0035	195

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
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1FA96	Ⓣ2	NEGATIVE CIRCLED NUMBER TWENTY TWO		22
1FA97	Ⓣ3	NEGATIVE CIRCLED NUMBER TWENTY THREE		23
1FA98	Ⓣ4	NEGATIVE CIRCLED NUMBER TWENTY FOUR		24
1FA99	Ⓣ5	NEGATIVE CIRCLED NUMBER TWENTY FIVE		25
1FA9A	Ⓣ6	NEGATIVE CIRCLED NUMBER TWENTY SIX		26
1FA9B	Ⓣ7	NEGATIVE CIRCLED NUMBER TWENTY SEVEN		27
1FA9C	Ⓣ8	NEGATIVE CIRCLED NUMBER TWENTY EIGHT		28
1FA9D	Ⓣ9	NEGATIVE CIRCLED NUMBER TWENTY NINE		29
1FA9E	Ⓣ0	NEGATIVE CIRCLED NUMBER THIRTY		30
1FA9F	Ⓣ1	NEGATIVE CIRCLED NUMBER THIRTY ONE		31
1FAA0	Ⓣ2	NEGATIVE CIRCLED NUMBER THIRTY TWO		32
1FAA1	Ⓣ3	NEGATIVE CIRCLED NUMBER THIRTY THREE		33
1FAA2	Ⓣ4	NEGATIVE CIRCLED NUMBER THIRTY FOUR		34
1FAA3	Ⓣ5	NEGATIVE CIRCLED NUMBER THIRTY FIVE		35
1FAA4	Ⓣ6	NEGATIVE CIRCLED NUMBER THIRTY SIX		36

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
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1FAA6	③8	NEGATIVE CIRCLED NUMBER THIRTY EIGHT		38
1FAA7	③9	NEGATIVE CIRCLED NUMBER THIRTY NINE		39
1FAA8	④0	NEGATIVE CIRCLED NUMBER FORTY		40
1FAA9	④1	NEGATIVE CIRCLED NUMBER FORTY ONE		41
1FAAA	④2	NEGATIVE CIRCLED NUMBER FORTY TWO		42
1FAAB	④3	NEGATIVE CIRCLED NUMBER FORTY THREE		43
1FAAC	④4	NEGATIVE CIRCLED NUMBER FORTY FOUR		44
1FAAD	④5	NEGATIVE CIRCLED NUMBER FORTY FIVE		45
1FAAE	④6	NEGATIVE CIRCLED NUMBER FORTY SIX		46
1FAAF	④7	NEGATIVE CIRCLED NUMBER FORTY SEVEN		47
1FAB0	④8	NEGATIVE CIRCLED NUMBER FORTY EIGHT		48
1FAB1	④9	NEGATIVE CIRCLED NUMBER FORTY NINE		49
1FAB2	⑤0	NEGATIVE CIRCLED NUMBER FIFTY		50
1FAB3	⑤1	NEGATIVE CIRCLED NUMBER FIFTY ONE		51
1FAB4	⑤2	NEGATIVE CIRCLED NUMBER FIFTY TWO		52
1FAB5	⑤3	NEGATIVE CIRCLED NUMBER FIFTY THREE		53
1FAB6	⑤4	NEGATIVE CIRCLED NUMBER FIFTY FOUR		54
1FAB7	⑤5	NEGATIVE CIRCLED NUMBER FIFTY FIVE		55
1FAB8	⑤6	NEGATIVE CIRCLED NUMBER FIFTY SIX		56



<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FAB9	⑤⑦	NEGATIVE CIRCLED NUMBER FIFTY SEVEN		57
1FABA	⑤⑧	NEGATIVE CIRCLED NUMBER FIFTY EIGHT		58
1FABB	⑤⑨	NEGATIVE CIRCLED NUMBER FIFTY NINE		59
1FABC	⑥①	NEGATIVE CIRCLED NUMBER SIXTY		60
1FABD	⑥②	NEGATIVE CIRCLED NUMBER SIXTY ONE		61
1FABE	⑥③	NEGATIVE CIRCLED NUMBER SIXTY TWO		62
1FABF	⑥④	NEGATIVE CIRCLED NUMBER SIXTY THREE		63
1FAC0	⑥⑤	NEGATIVE CIRCLED NUMBER SIXTY FOUR		64
1FAC1	⑥⑥	NEGATIVE CIRCLED NUMBER SIXTY FIVE		65
1FAC2	⑥⑦	NEGATIVE CIRCLED NUMBER SIXTY SIX		66
1FAC3	⑥⑧	NEGATIVE CIRCLED NUMBER SIXTY SEVEN		67
1FAC4	⑥⑨	NEGATIVE CIRCLED NUMBER SIXTY EIGHT		68
1FAC5	⑦①	NEGATIVE CIRCLED NUMBER SIXTY NINE		69
1FAC6	⑦②	NEGATIVE CIRCLED NUMBER SEVENTY		70
1FAC7	⑦③	NEGATIVE CIRCLED NUMBER SEVENTY ONE		71
1FAC8	⑦④	NEGATIVE CIRCLED NUMBER SEVENTY TWO		72
1FAC9	⑦⑤	NEGATIVE CIRCLED NUMBER SEVENTY THREE		73
1FACA	⑦⑥	NEGATIVE CIRCLED NUMBER SEVENTY FOUR		74
1FACB	⑦⑦	NEGATIVE CIRCLED NUMBER SEVENTY FIVE		75
1FACC	⑦⑧	NEGATIVE CIRCLED NUMBER SEVENTY SIX		76



<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FACD	⦶	NEGATIVE CIRCLED NUMBER SEVENTY SEVEN		77
1FACE	⦷	NEGATIVE CIRCLED NUMBER SEVENTY EIGHT		78
1FACF	⦸	NEGATIVE CIRCLED NUMBER SEVENTY NINE		79
1FAD0	⦹	NEGATIVE CIRCLED NUMBER EIGHTY		80
1FAD1	⦺	NEGATIVE CIRCLED NUMBER EIGHTY ONE		81
1FAD2	⦻	NEGATIVE CIRCLED NUMBER EIGHTY TWO		82
1FAD3	⦼	NEGATIVE CIRCLED NUMBER EIGHTY THREE		83
1FAD4	⦽	NEGATIVE CIRCLED NUMBER EIGHTY FOUR		84
1FAD5	⦾	NEGATIVE CIRCLED NUMBER EIGHTY FIVE		85
1FAD6	⦿	NEGATIVE CIRCLED NUMBER EIGHTY SIX		86
1FAD7	⦿	NEGATIVE CIRCLED NUMBER EIGHTY SEVEN		87
1FAD8	⦿	NEGATIVE CIRCLED NUMBER EIGHTY EIGHT		88
1FAD9	⦿	NEGATIVE CIRCLED NUMBER EIGHTY NINE		89
1FADA	⦿	NEGATIVE CIRCLED NUMBER NINETY		90
1FADB	⦿	NEGATIVE CIRCLED NUMBER NINETY ONE		91
1FADC	⦿	NEGATIVE CIRCLED NUMBER NINETY TWO		92
1FADD	⦿	NEGATIVE CIRCLED NUMBER NINETY THREE		93
1FADE	⦿	NEGATIVE CIRCLED NUMBER NINETY FOUR		94
1FADF	⦿	NEGATIVE CIRCLED NUMBER NINETY FIVE		95
1FAE0	⦿	NEGATIVE CIRCLED NUMBER NINETY SIX		96

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
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1FAE2	⑨8	NEGATIVE CIRCLED NUMBER NINETY EIGHT		98
1FAE3	⑨9	NEGATIVE CIRCLED NUMBER NINETY NINE		99
1FAE4	⑩0	NEGATIVE CIRCLED NUMBER HUNDRED		100
1FAE5	⑩1	NEGATIVE CIRCLED NUMBER HUNDRED ONE		101
1FAE6	⑩2	NEGATIVE CIRCLED NUMBER HUNDRED TWO		102
1FAE7	⑩3	NEGATIVE CIRCLED NUMBER HUNDRED THREE		103
1FAE8	⑩4	NEGATIVE CIRCLED NUMBER HUNDRED FOUR		104
1FAE9	⑩5	NEGATIVE CIRCLED NUMBER HUNDRED FIVE		105
1FAEA	⑩6	NEGATIVE CIRCLED NUMBER HUNDRED SIX		106
1FAEB	⑩7	NEGATIVE CIRCLED NUMBER HUNDRED SEVEN		107
1FAEC	⑩8	NEGATIVE CIRCLED NUMBER HUNDRED EIGHT		108
1FAED	⑩9	NEGATIVE CIRCLED NUMBER HUNDRED NINE		109
1FAEE	⑪0	NEGATIVE CIRCLED NUMBER HUNDRED TEN		110
1FAEF	⑪1	NEGATIVE CIRCLED NUMBER HUNDRED ELEVEN		111
1FAF0	⑪2	NEGATIVE CIRCLED NUMBER HUNDRED TWELVE		112
1FAF1	⑪3	NEGATIVE CIRCLED NUMBER HUNDRED THIRTEEN		113
1FAF2	⑪4	NEGATIVE CIRCLED NUMBER HUNDRED FOURTEEN		114
1FAF3	⑪5	NEGATIVE CIRCLED NUMBER HUNDRED FIFTEEN		115
1FAF4	⑪6	NEGATIVE CIRCLED NUMBER HUNDRED SIXTEEN		116

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FAF5	Ⓐ	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTEEN		117
1FAF6	Ⓑ	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTEEN		118
1FAF7	Ⓒ	NEGATIVE CIRCLED NUMBER HUNDRED NINETEEN		119
1FAF8	Ⓓ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY		120
1FAF9	Ⓔ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY ONE		121
1FAFA	Ⓕ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY TWO		122
1FAFB	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY THREE		123
1FAFC	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY FOUR		124
1FAFD	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY FIVE		125
1FAFE	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY SIX		126
1FAFF	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY SEVEN		127
1FB00	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY EIGHT		128
1FB01	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED TWENTY NINE		129
1FB02	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY		130
1FB03	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY ONE		131
1FB04	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY TWO		132
1FB05	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY THREE		133
1FB06	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY FOUR		134
1FB07	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY FIVE		135
1FB08	Ⓖ	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY SIX		136

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FB09	⑬ <sup>7</sup>	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY SEVEN		137
1FB0A	⑬ <sup>8</sup>	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY EIGHT		138
1FB0B	⑬ <sup>9</sup>	NEGATIVE CIRCLED NUMBER HUNDRED THIRTY NINE		139
1FB0C	⑭ <sup>0</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY		140
1FB0D	⑭ <sup>1</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY ONE		141
1FB0E	⑭ <sup>2</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY TWO		142
1FB0F	⑭ <sup>3</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY THREE		143
1FB10	⑭ <sup>4</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY FOUR		144
1FB11	⑭ <sup>5</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY FIVE		145
1FB12	⑭ <sup>6</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY SIX		146
1FB13	⑭ <sup>7</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY SEVEN		147
1FB14	⑭ <sup>8</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY EIGHT		148
1FB15	⑭ <sup>9</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FORTY NINE		149
1FB16	⑮ <sup>0</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY		150
1FB17	⑮ <sup>1</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY ONE		151
1FB18	⑮ <sup>2</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY TWO		152
1FB19	⑮ <sup>3</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY THREE		153
1FB1A	⑮ <sup>4</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY FOUR		154
1FB1B	⑮ <sup>5</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY FIVE		155
1FB1C	⑮ <sup>6</sup>	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY SIX		156

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FB1D	⑮	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY SEVEN		157
1FB1E	⑯	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY EIGHT		158
1FB1F	⑰	NEGATIVE CIRCLED NUMBER HUNDRED FIFTY NINE		159
1FB20	⑱	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY		160
1FB21	⑲	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY ONE		161
1FB22	⑳	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY TWO		162
1FB23	㉑	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY THREE		163
1FB24	㉒	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY FOUR		164
1FB25	㉓	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY FIVE		165
1FB26	㉔	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY SIX		166
1FB27	㉕	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY SEVEN		167
1FB28	㉖	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY EIGHT		168
1FB29	㉗	NEGATIVE CIRCLED NUMBER HUNDRED SIXTY NINE		169
1FB2A	㉘	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY		170
1FB2B	㉙	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY ONE		171
1FB2C	㉚	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY TWO		172
1FB2D	㉛	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY THREE		173
1FB2E	㉜	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY FOUR		174
1FB2F	㉝	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY FIVE		175
1FB30	㉞	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY SIX		176

<b>Code Point</b>	<b>Glyph</b>	<b>Character Name</b>	<b>Compatibility Decomposition</b>	<b>Numeric Value</b>
1FB31	⑰	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY SEVEN		177
1FB32	⑱	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY EIGHT		178
1FB33	⑲	NEGATIVE CIRCLED NUMBER HUNDRED SEVENTY NINE		179
1FB34	⑳	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY		180
1FB35	㉑	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY ONE		181
1FB36	㉒	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY TWO		182
1FB37	㉓	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY THREE		183
1FB38	㉔	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY FOUR		184
1FB39	㉕	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY FIVE		185
1FB3A	㉖	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY SIX		186
1FB3B	㉗	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY SEVEN		187
1FB3C	㉘	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY EIGHT		188
1FB3D	㉙	NEGATIVE CIRCLED NUMBER HUNDRED EIGHTY NINE		189
1FB3E	㉚	NEGATIVE CIRCLED NUMBER HUNDRED NINETY		190
1FB3F	㉛	NEGATIVE CIRCLED NUMBER HUNDRED NINETY ONE		191
1FB40	㉜	NEGATIVE CIRCLED NUMBER HUNDRED NINETY TWO		192
1FB41	㉝	NEGATIVE CIRCLED NUMBER HUNDRED NINETY THREE		193
1FB42	㉞	NEGATIVE CIRCLED NUMBER HUNDRED NINETY FOUR		194
1FB43	㉟	NEGATIVE CIRCLED NUMBER HUNDRED NINETY FIVE		195
1FB44	㊀	NEGATIVE CIRCLED NUMBER HUNDRED NINETY SIX		196

Code Point	Glyph	Character Name	Compatibility Decomposition	Numeric Value
1FB45	①97	NEGATIVE CIRCLED NUMBER HUNDRED NINETY SEVEN		197
1FB46	①98	NEGATIVE CIRCLED NUMBER HUNDRED NINETY EIGHT		198
1FB47	①99	NEGATIVE CIRCLED NUMBER HUNDRED NINETY NINE		199

## 5. Unicode Properties

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1F1C9;NEGATIVE CIRCLED DIGITS ZERO NINE;No;0;ON;;;9;9;N;;;;;

1FA00;CIRCLED NUMBER FIFTY ONE;No;0;ON;<circle> 0035 0031;;51;51;N;;;;;
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1FA95;NEGATIVE CIRCLED NUMBER TWENTY ONE;No;0;ON;;;21;21;N;;;;;
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0039;;199;199;N;;;;;

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6. Figures

Fig. 1: Shuzo Ohira, *Appreciating Famous Games* (Ishi Press, 1977) p. 279

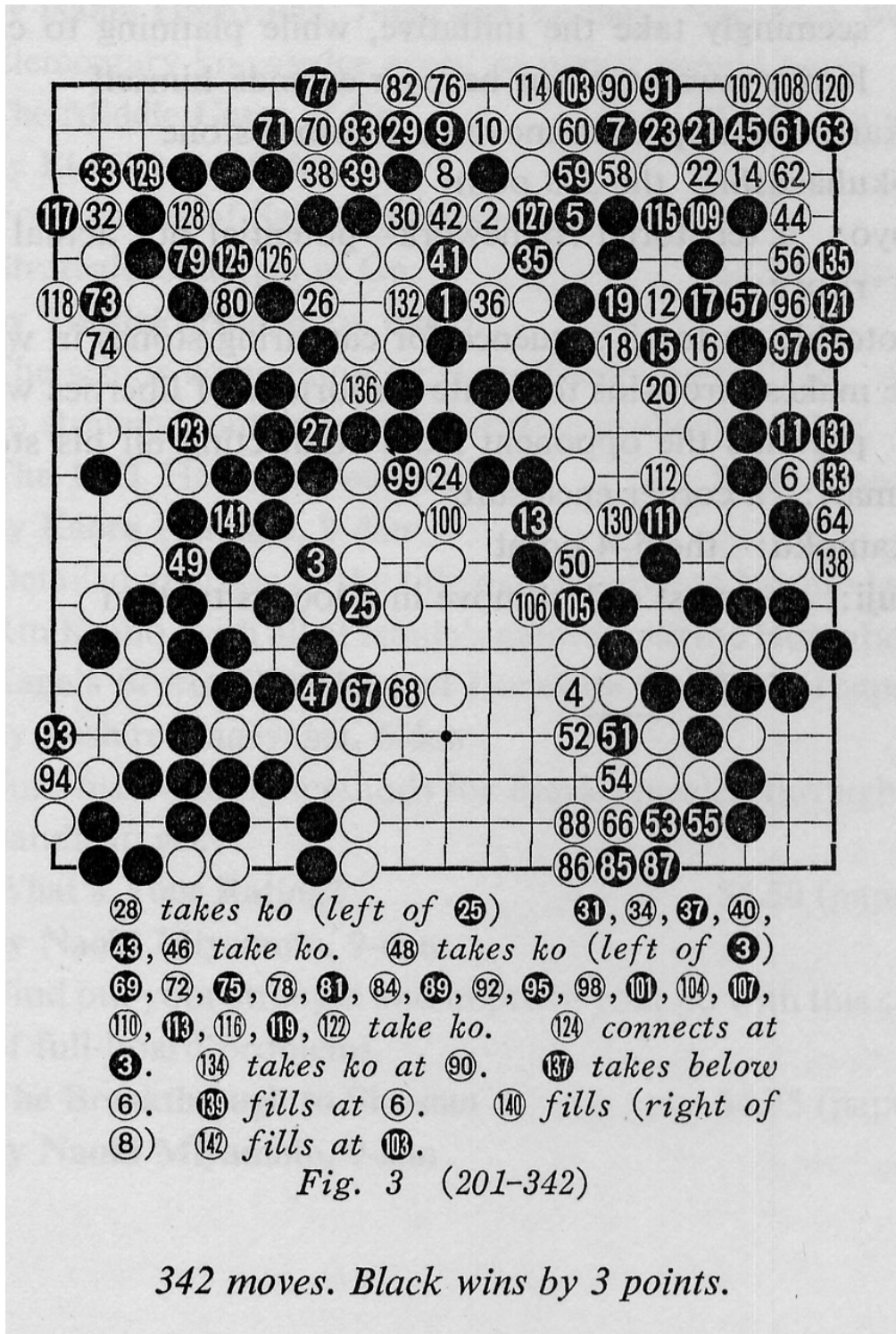
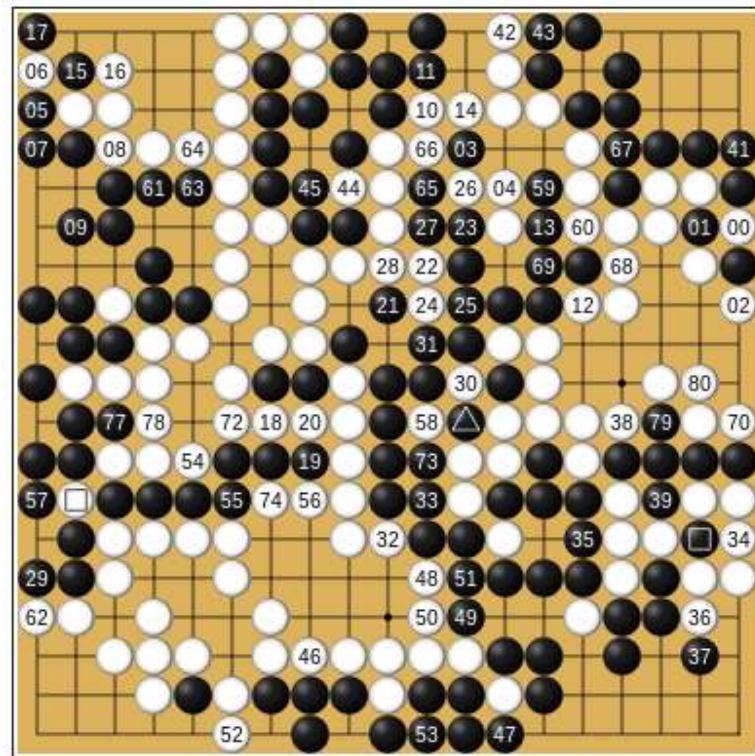




Fig. 2: AlphaGo vs Lee Sedol Game 5  
([https://en.wikipedia.org/wiki/AlphaGo\\_vs\\_Lee\\_Sedol](https://en.wikipedia.org/wiki/AlphaGo_vs_Lee_Sedol))





Moves 200-280 (240 at 200, 271 at ,  
275 at , 276 at )

Fig. 3: Fan Hui vs AlphaGo - Game 5  
 (https://commons.wikimedia.org/wiki/File:FHvAG5.jpg)

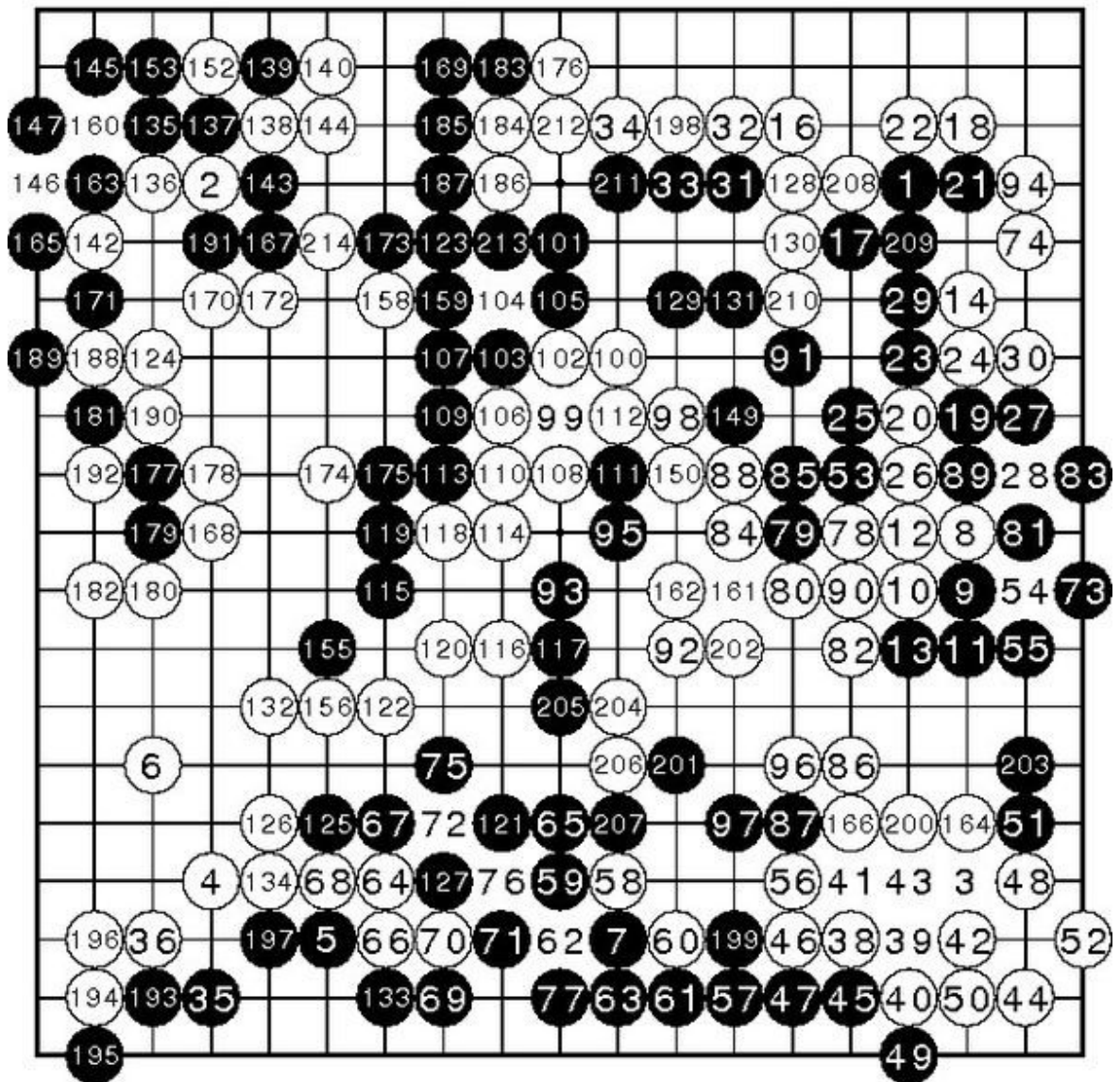
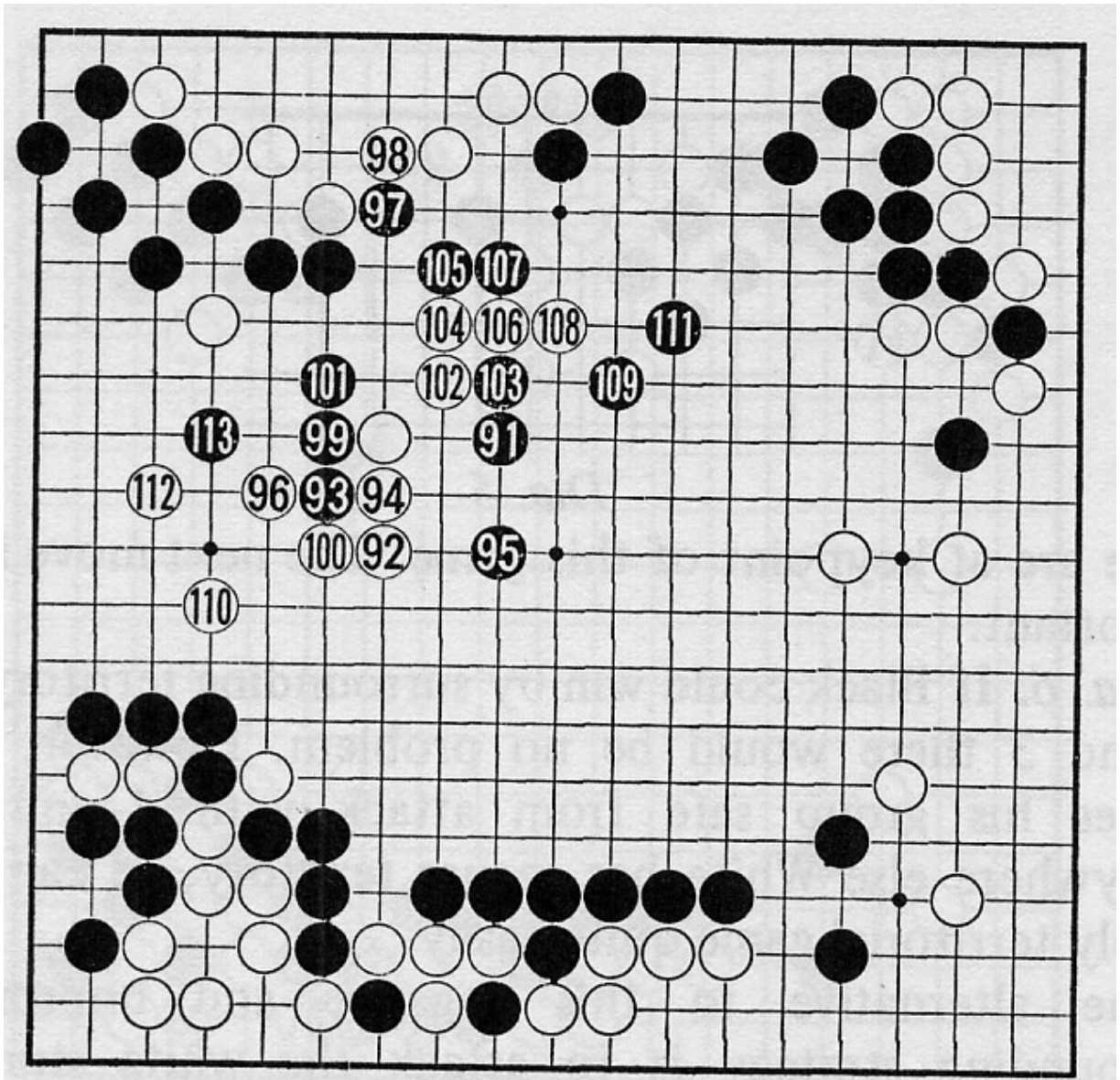


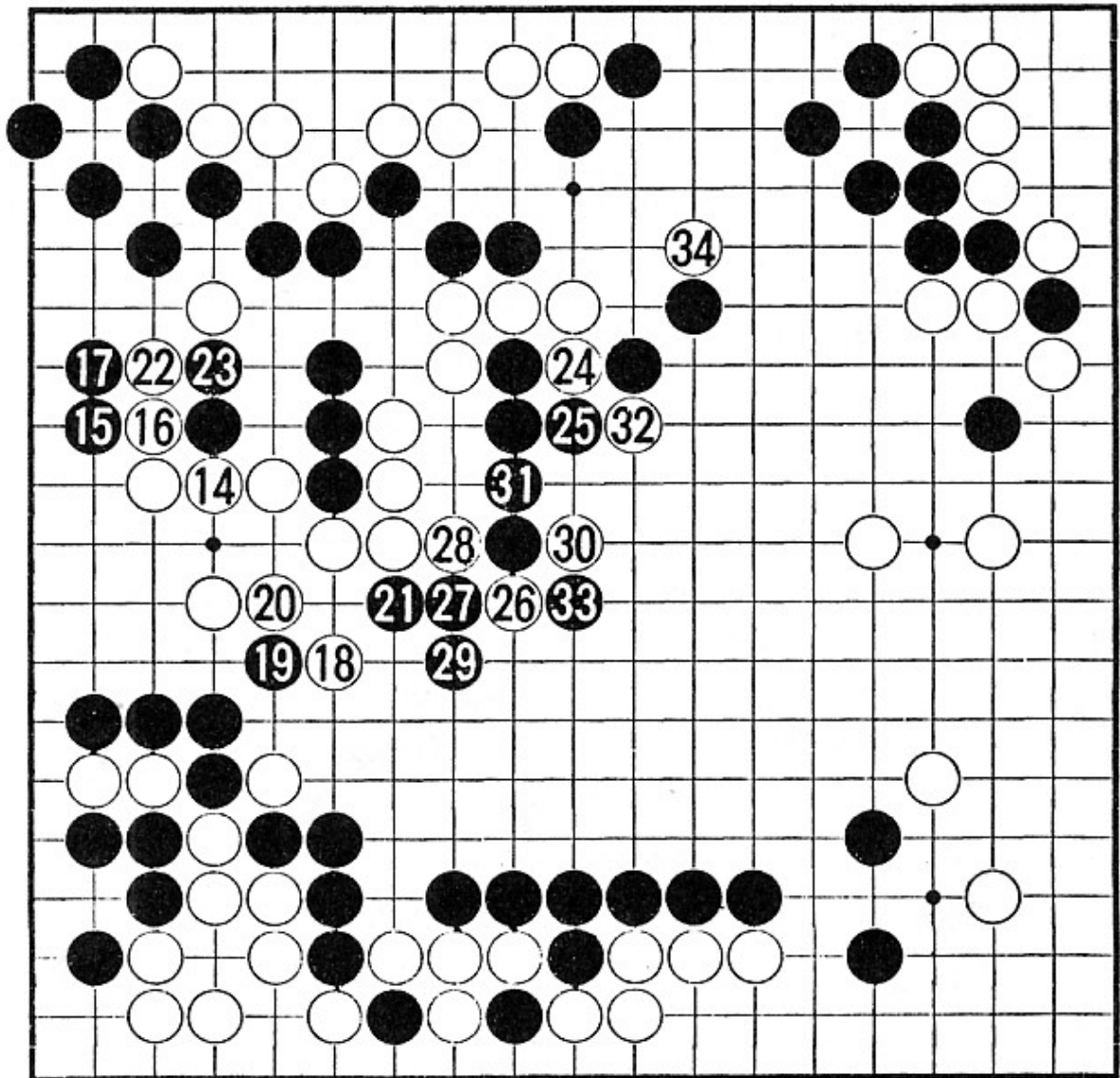
Fig. 4: Masao Kato, *Kato's Attack and Kill* (The Ishi Press, 1978) p. 178



*Fig. 4 (91 – 113)*

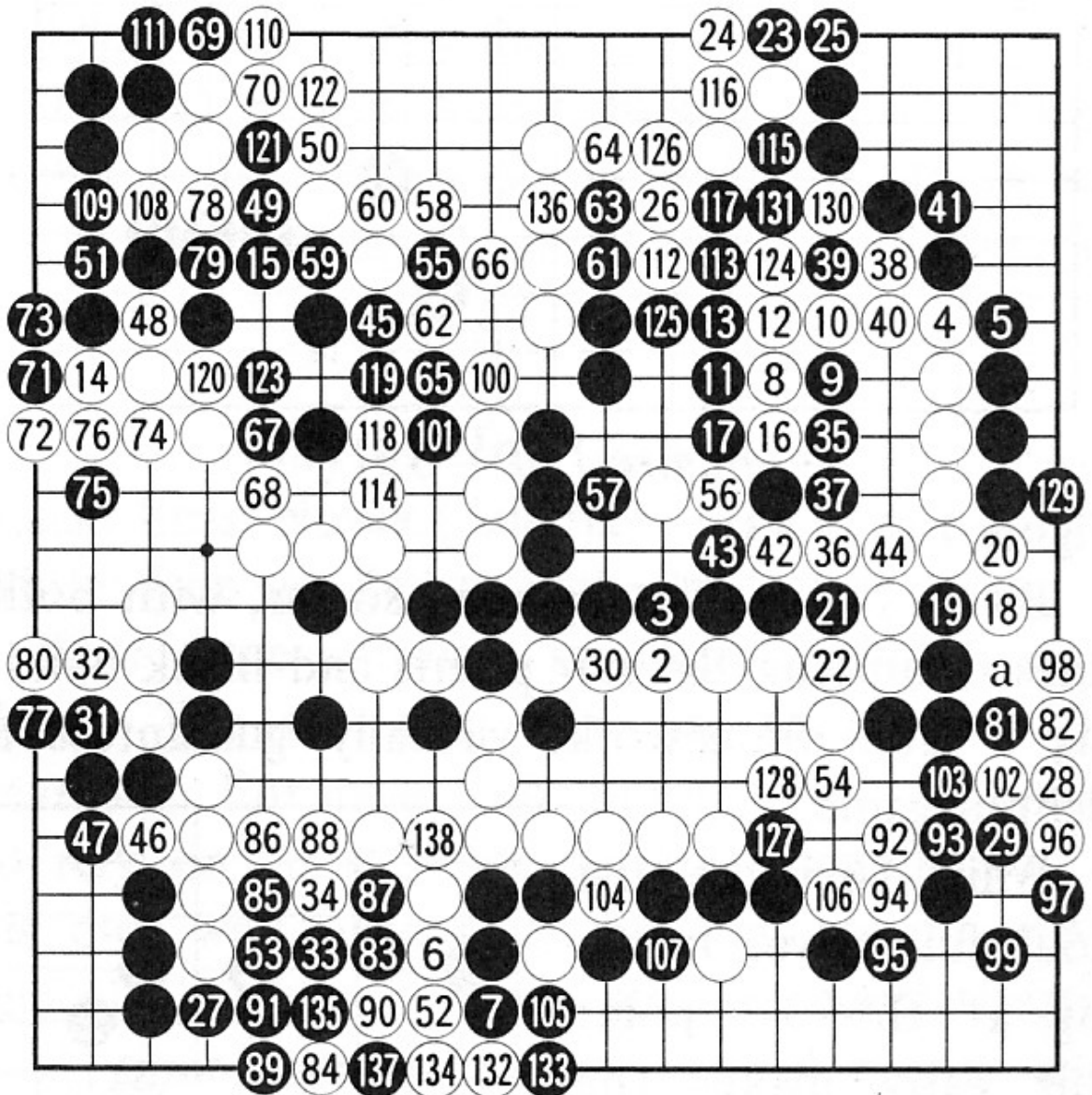


Fig. 5: Masao Kato, *Kato's Attack and Kill* (The Ishi Press, 1978) p. 180



*Fig. 5 (114 – 134)*

Fig. 6: *Go World* No. 28 (Summer 1982) p. 37



*Figure 3 (102 – 238)*



Fig. 7: Kaoru Iwamoto, *Go for Beginners* (Penguin Books 1976) p. 125

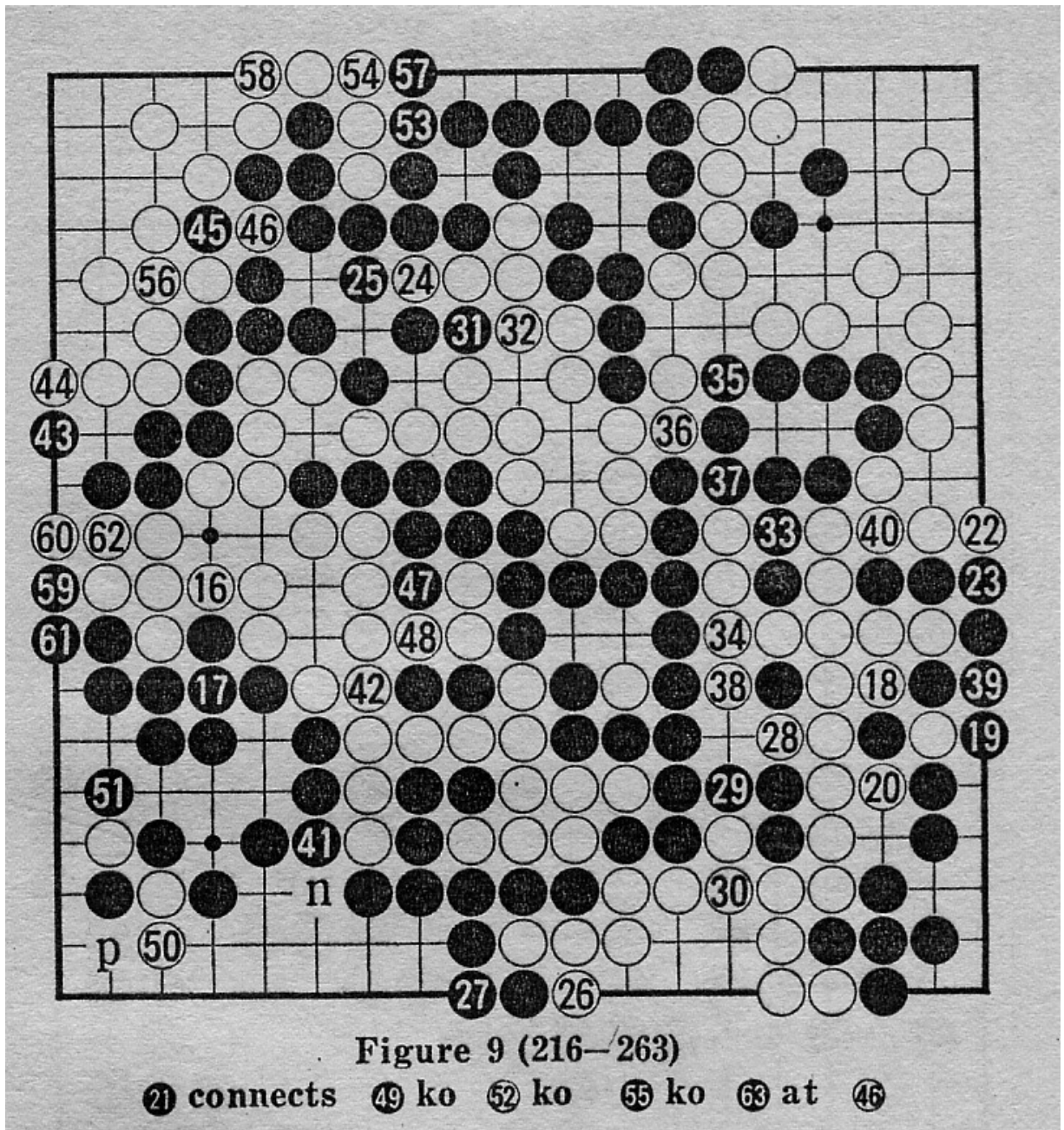


Fig. 8: Chéng Ēnyuán 成恩元, *Dūnhuáng Qíjīng Jiānzhèng* 敦煌碁经笺证 (Shurong Qiyi Chubanshe, 1990) p.116

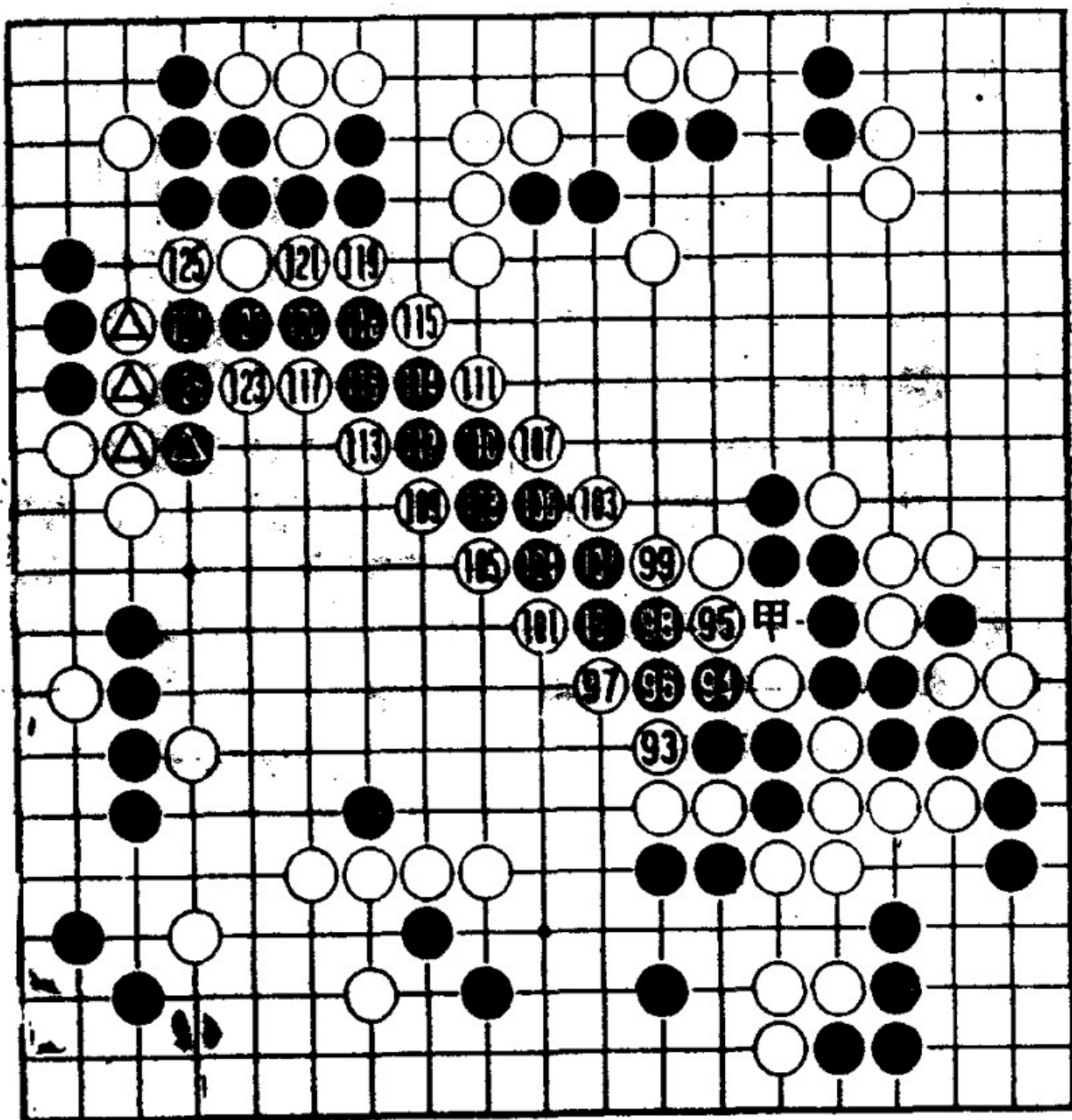


图14 第六谱 (93 — 126)



的双蛾纹与五代越窑青瓷上的刻花纹样一致；景德镇等南方南宋窑场使用的支圈组合式窑具与印花纹样又酷似定窑；湖田窑的元代灰坑中青花瓷器和磁州窑黑彩残片一道出土<sup>①</sup>；最近，江西省博物馆发掘吉州窑时，又在元代的遗存中发现景德镇烧造的枢府、釉里红瓷器。从这些瓷窑遗址的出土遗物来看，在北宋初期，南方窑场的先进技术曾影响过北方；在“靖康”以后，北方的先进技术又影响了南方窑场。这种南北影响和相互交流，使我国宋元瓷器既有不同的地方特点，又有极为一致的共同的时代风格。

从居住遗址和古墓葬出土的瓷器来看，浙江绍兴繆家桥南宋水井的发掘，反映了南宋景德镇影青芒口瓷比龙泉青瓷在国内有更大的商业市场<sup>②</sup>，元大都居住遗址的发掘则表明大都居民主要是使用北方白瓷、龙泉青瓷，景德镇烧造的枢府与青花瓷器可能仅供贵族使用而居第三位<sup>③</sup>。江苏金坛元代窖藏中元青花大罐与刻有回历纪年的银盘一道出土，新疆伊犁地区霍城县元代窖藏既出土了刻有阿拉伯文的波斯嵌银铜碗，又出土了景德镇烧造的青花凤纹高足钵<sup>④</sup>，这一方面表明窖藏主人很可能是元末动乱中受到冲击的色目人；另一方面还意味着，景德镇早期青花瓷器可能是为了满足国内色目人的需要和销往伊斯兰国家而生产的。

江苏、湖北、浙江、江西等省的六朝墓葬中多有成组成队的青瓷出土，“几乎代替了陶器”<sup>⑤</sup>。“天堂的生活也是人世生活的反映”，从这一时期开始，青瓷已成为我国社会最普遍的日用品。河南安阳北齐范粹墓出土的白釉瓶、杯，虽被视为我国最早的“白瓷”<sup>⑥</sup>，但胎骨疏松，瓷化程度很差。临安晚唐钱宽墓、水邱氏

① 《湖田窑考察纪要》，《文物》1980年11期。

② 《浙江绍兴繆家桥宋井发掘简报》，《考古》，1964年11期。

③ 据徐苹芳、赵光林等参加元大都发掘的同志见告，报告待发。

④ 新疆博物馆《新疆伊犁地区霍城县出土的元青花瓷等文物》，《文物》1979年8期。

⑤ 《文物考古工作三十年》的江西等省的有关部分，文物出版社1979年版。

⑥ 河南省博物馆《河南安阳北齐范粹墓发掘简报》，《文物》1972年1期。



近代武俠小說在奇中求生存，武術之奇和兵器之奇外，人也非奇不可。這大有重返唐傳奇境界的意味。可是，身體四肢能做到的事，受自然規律的管制，是有限度的。以有限度的體格，求無限度的奇能，結果就是競相製造超人，傳統的口吐飛劍，刀鎗不入，呼風喚雨，早已毫不為奇，代之而興者為移脈換穴，吸取宇宙精靈之氣，無師自悟而為天下第一人，這類超乎物理原則和邏輯規範的成就。《水滸》人物不能用這種尺度去衡量。梁山中人稱得上奇的自是不少，他們多數是合乎世間法度之奇<sup>53</sup>。書中還不時提醒讀者，不要把那些英雄看作超人。魯智深少吃一頓飯，便手軟腳浮，禪杖也舞不動，險些兒給兩個野和尚道士斃了。武松多喝幾碗酒，刀掉入只有二尺深的小溪，不獨撿不起來，還在那裏栽筋斗。這種常人之態，近代的武俠小說家很少敢加在他們苦心創造的英雄身上。

這樣說來，《水滸》與近代武俠小說不是無分別，而是它們之間的分別可以從演變歷程和市場要求等角度去理解。假如沒有《水滸》的上承下導，而僅有《三國演義》、《隋唐演義》、《英烈傳》，這

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<sup>53</sup> 有例外，如張順能在水中潛伏數晝夜。這例外可能是由於編書人不懂水性之故。

Fig. 11: Luó Ěrgāng 羅爾綱, *Shuǐhǔzhuàn Yuánběn Hé Zhùzhě Yánjiū* 水滸傳原本和著者研究 (Jiangsu Guji Chubanshe, 1992) p. 57

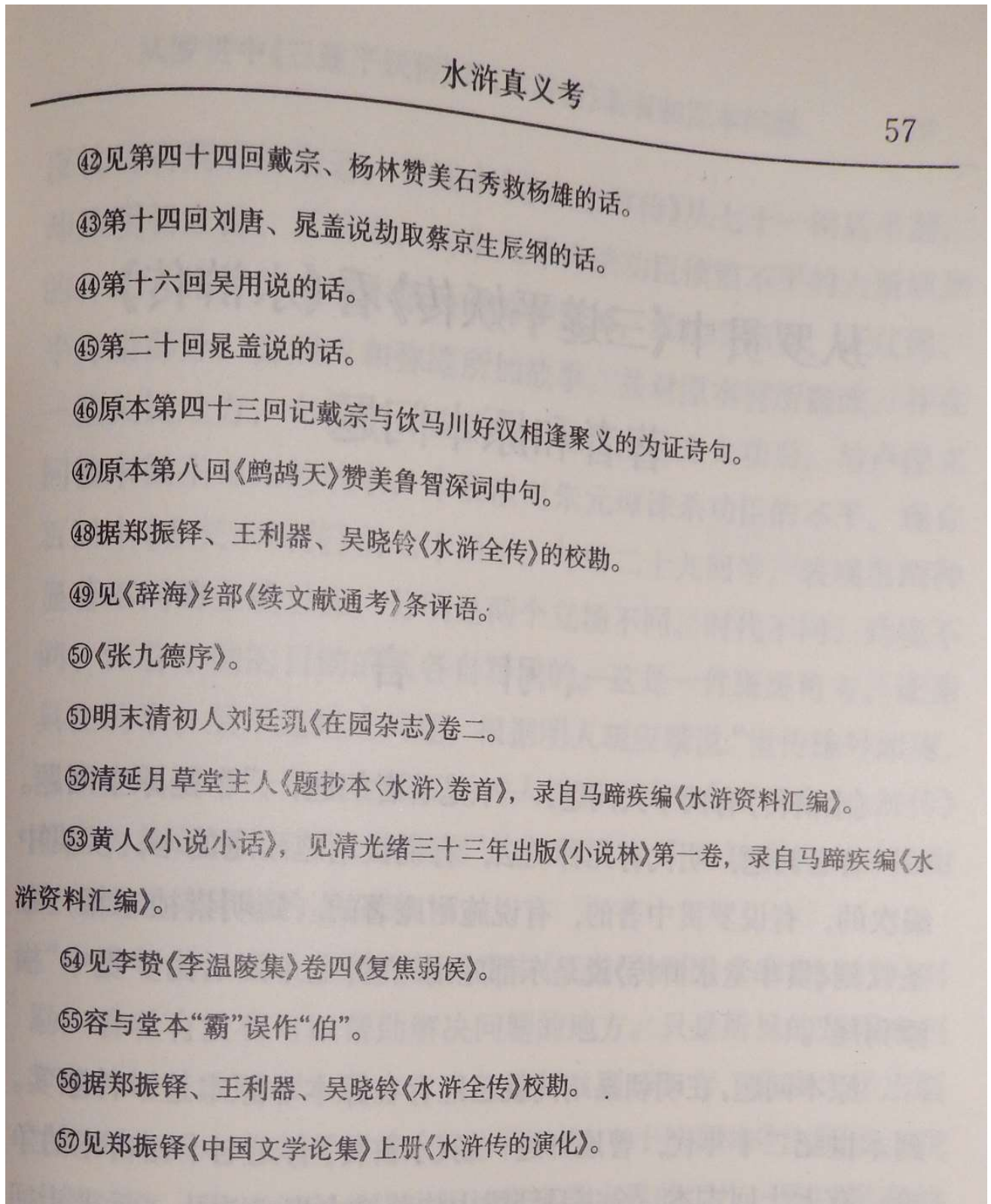




Fig. 12: Ma Rusen 馬如森, *Jiǎgǔ Jīnwén Tuòběn* 甲骨金文拓本 (Shanghai University Press, 2010) p. 158

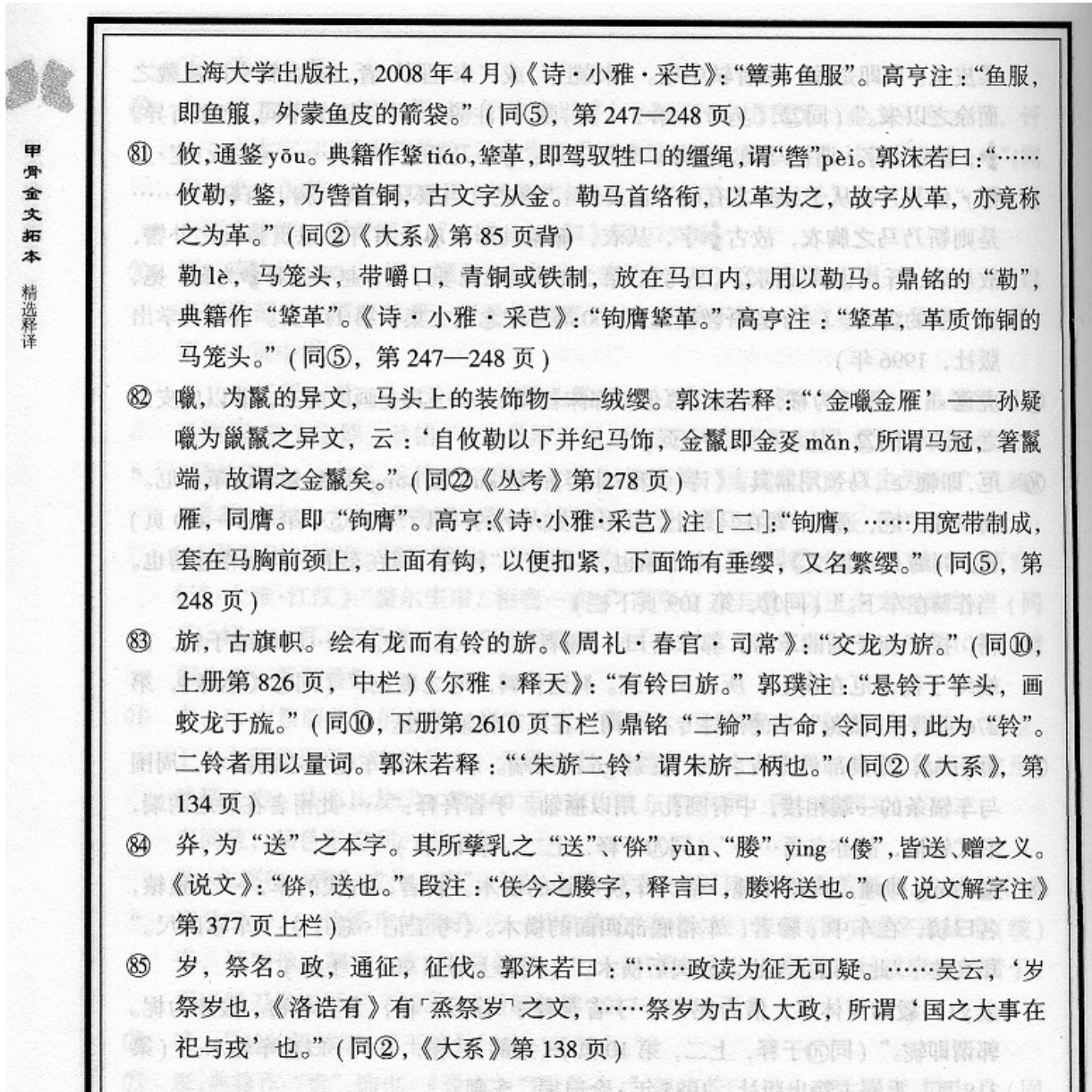


Fig. 13: Ma Rusen 馬如森, *Jiǎgǔ Jīnwén Tuòběn* 甲骨金文拓本 (Shanghai University Press, 2010) p. 156

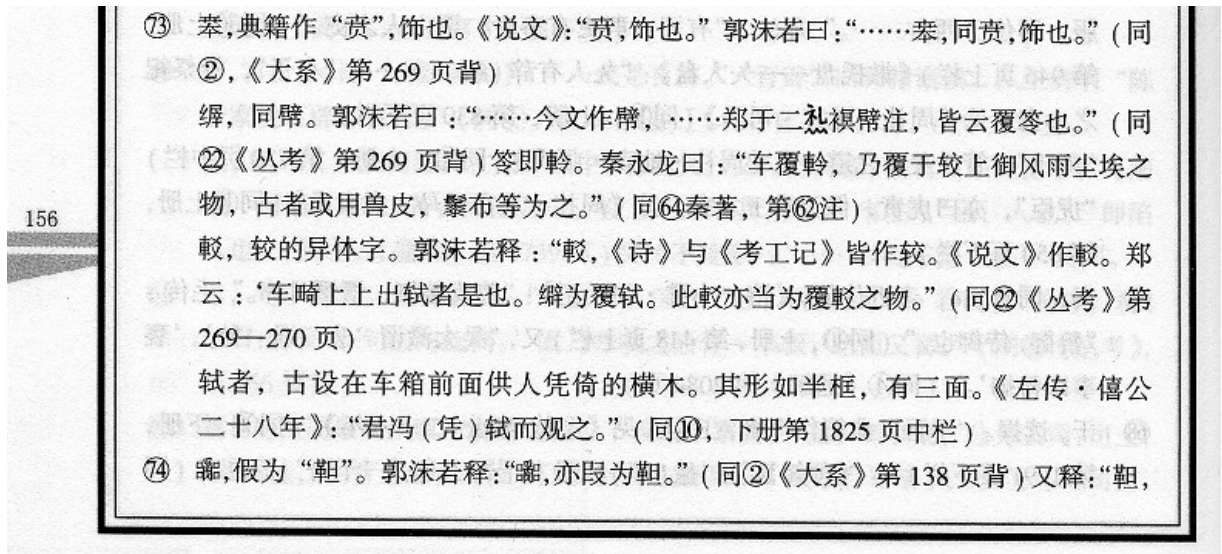


Fig. 14: Lin Gang 林岗, *Míngqīng Zhìjì Xiǎoshuō Píngdiǎnxué zhī Yánjiū* 明清之际小说评点学之研究 (Beijing Daxue Chubanshe, 1999) p. 111

#### 第四章 小说话语与评点学的文学自觉 111

- 页,台北:商务印书馆影印本。
- ⑧⑧ 萧子显《南齐书·文学传》中之“史臣曰”,见《南齐书》第三册,第907页。北京:中华书局,1972年。
- ⑧⑨ 参阅郭绍虞《从“文”和“文学”的含义说明现实主义和反现实主义的斗争》、《文笔说考辨》两文,见《照隅室古典文学论集》下编,上海:上海古籍出版社,1983年。
- ⑧⑩ 参阅尚定《论“文学的自觉”——兼议六朝文学的评价》,见《走向盛唐》,北京:中国社会科学出版社,1994年。
- ⑧⑪ 见《张竹坡批评〈金瓶梅〉》第十七回回评,第254—255页。济南:齐鲁书社,1987年。
- ⑧⑫ 见《张竹坡批评〈金瓶梅〉》第二十六回回评,同注第91,第389页。
- ⑧⑬ 见《张竹坡批评〈金瓶梅〉》第四十回回评,同注第91,第598页。



主《金瓶梅》第十七回写李瓶儿富贵孀居与西门庆苟且，但西门庆因亲家事变，冷落了李瓶儿。李瓶儿情急难耐，与郎中蒋竹山干柴烈火一拍即合。张竹坡认为这段文字写李瓶儿之所以必写蒋竹山，是写他们“本意为淫”，更无“誓死相守”之情，无论西门视李，抑或李视西门。正是这种情理使得蒋竹山成为这段文字的角色。张竹坡评云：“故西门一有事，而竹山之说已行。竹山一入室，瓶儿之意已中。然则其于西门，亦不过如斯，有何不解之情哉！写淫妇人至此，令人心灰过半矣！是盖又于人情中讨出来，不特文字生法而已。”<sup>⑩</sup>此可见张氏视“人情”为文字组织安排的依据。如要透解“文字”，必须先体悟“人情”。第二十六回写西门庆与家仆来旺儿媳妇宋蕙莲勾搭成奸，惹潘金莲妒忌，由潘设计假西门之手嫁祸来旺儿。当宋得知来旺儿被含冤问罪远流徐州时，“含羞自缢”。张竹坡分析道，“蕙莲本意无情西门，不过结识家主为叨贴计耳，宜乎不甘心来旺之去也。文字俱于人情深浅中一一讨分晓，安得不妙。”<sup>⑪</sup>蕙莲之仰就西门，纯是为了鬻色进身，本属小人之智，所以她不会忍心来旺远去。她所以有自缢的举动，是因为家散而生活幻想的破灭。张竹坡这种由人情观文字的手眼，是很精当的。张氏由章法文字而悟情理，再由情理而返解章法文字，正如他自己总结说的：“文字无非情理，情理便生出章法”。<sup>⑫</sup>可见张竹坡拈出“情理”两字，特为解释小说文体的文学特性的本源。从得出的结论看张竹坡是比较接近六朝“缘情”说的。



故求之，争四处而不自以为贪<sup>38</sup>；有余故辞之，弃天下而不自以为廉<sup>39</sup>。廉贪之实<sup>40</sup>，非以迫外也，反监之度。势为天子，而不以贵骄人；富有天下，而不以财戏人<sup>41</sup>。计其患，虑其反<sup>42</sup>，以为害于性<sup>43</sup>，故辞而不受也，非以要名誉也。尧、舜为帝而雍<sup>44</sup>，非仁天下也<sup>45</sup>，不以美害生；善卷、许由得帝而不受<sup>46</sup>，非虚辞让也<sup>47</sup>，不以事害己。此皆就其利、辞其害<sup>48</sup>，而天下称贤焉，则可以有之<sup>49</sup>，彼非以兴名誉也<sup>50</sup>。”无足曰：“必持其名<sup>51</sup>，苦体绝甘，约养以持生，则亦久病长厄而不死者也。”知和曰：“平为福<sup>52</sup>，有余为害者<sup>53</sup>，物莫不然，而财其甚者也<sup>54</sup>。今富人，耳营钟鼓管籥之声<sup>55</sup>，口嗛于刍豢醪醴之味<sup>56</sup>，以感其意<sup>57</sup>，遗忘其业<sup>58</sup>，可谓乱矣；佹溺于冯气<sup>59</sup>，若负重行而上阪<sup>60</sup>，可谓苦矣；贪财而取慰<sup>61</sup>，贪权而取竭<sup>62</sup>，静居则溺<sup>63</sup>，体泽则冯<sup>64</sup>，可谓疾矣；为欲富就利<sup>65</sup>，故满若堵耳而不知避，且冯而不舍，可谓辱矣；财积而无用，服膺而不舍<sup>66</sup>，满心戚醮<sup>67</sup>，求益而不止，可谓忧矣；内则疑劫请之贼<sup>68</sup>，外则畏寇盗之害，内周楼疏<sup>69</sup>，外不敢独行，可谓畏矣。此六者，天下之至害也，皆遗忘而不知察。及其患至，求尽性竭财单以反一日之无故而不可得也<sup>70</sup>。故观之名则不见<sup>71</sup>，求之利则不得<sup>72</sup>。繇意绝体而争此<sup>73</sup>，不亦惑乎！”



Fig. 17: Cao Chuji 曹础基, *Zhuāngzǐ Jiānzhù* 庄子笺注 (Zhonghua Shuju, 1982) p. 464

疏,交疏。楼疏,窗孔交疏。

⑦⑩ 求尽句: 尽,完全。性竭,亡命。单,借为殫,尽。反,通返。故,事。句意谓就是想完全拼出一命、费尽家财而换回一天的平安无事都办不到了。

⑦⑪ 故观句: 意谓名声得不到。观,察。

⑦⑫ 求之句: 说明利亦落空。

⑦⑬ 缭意,心神缭乱。绝,尽。绝体,尽全身之力。“绝”字原本无,依《续古逸丛书》本补。

Fig. 18: *Yízú Yuánliú* 彝族源流 vols. 21-23 (Guizhou Minzu Chubanshe, 1997) p. 297

在云南省大理州境内。⑧④ 朴尼: 彝族支系名。⑧⑤ 谷昌贝谷: 地名,在云南省昆明市附近。⑧⑥ 麻谷吐: 部族名。⑧⑦ 道峨毕奏勾: 地名,在云南省东川市境内。⑧⑧ 妥嘎益奏: 地名,同 ⑧⑦ 注。⑧⑨ 勾益法吐: 地名,同 ⑧⑧ 注。⑧⑩ 录阻录卧: 地名,同 ⑧⑧ 注。⑧⑪ 特吐周朵: 地名,同 ⑧⑧ 注。⑧⑫ 毕濯阻吉: 权杖虎皮,代表身份印信。汉文志书云: 罗罗。“其酋长披虎皮……”。⑧⑬ 举杜博: 山名,相传此山盛产祭祀品。⑧⑭ 金银: 彝族布摩祭祀时用五倍子木削成片代表银,用一种金黄色木(可作染料用)削成片代表金,挥洒而献与祖宗、神灵。⑧⑮ 南方: 是以黔西北之阿哲(水西部)同滇东北之阿芋路部相对而言的方位。⑧⑯ 德晋: 又称德晋录略,即云南的晋宁城。⑧⑰ 能沽: 即今四川省成都市一带。⑧⑱ 举偶: 米靡之后的一个朝代,其统治者尚武。

Fig. 19: Mǎ Jǐnwèi 马锦卫, *Yíwén Qǐyuán Jíqí Fāzhǎn Kǎolùn* 彝文起源及其发展考论 (Beijing: Minzu Chubanshe, 2011) p. 193

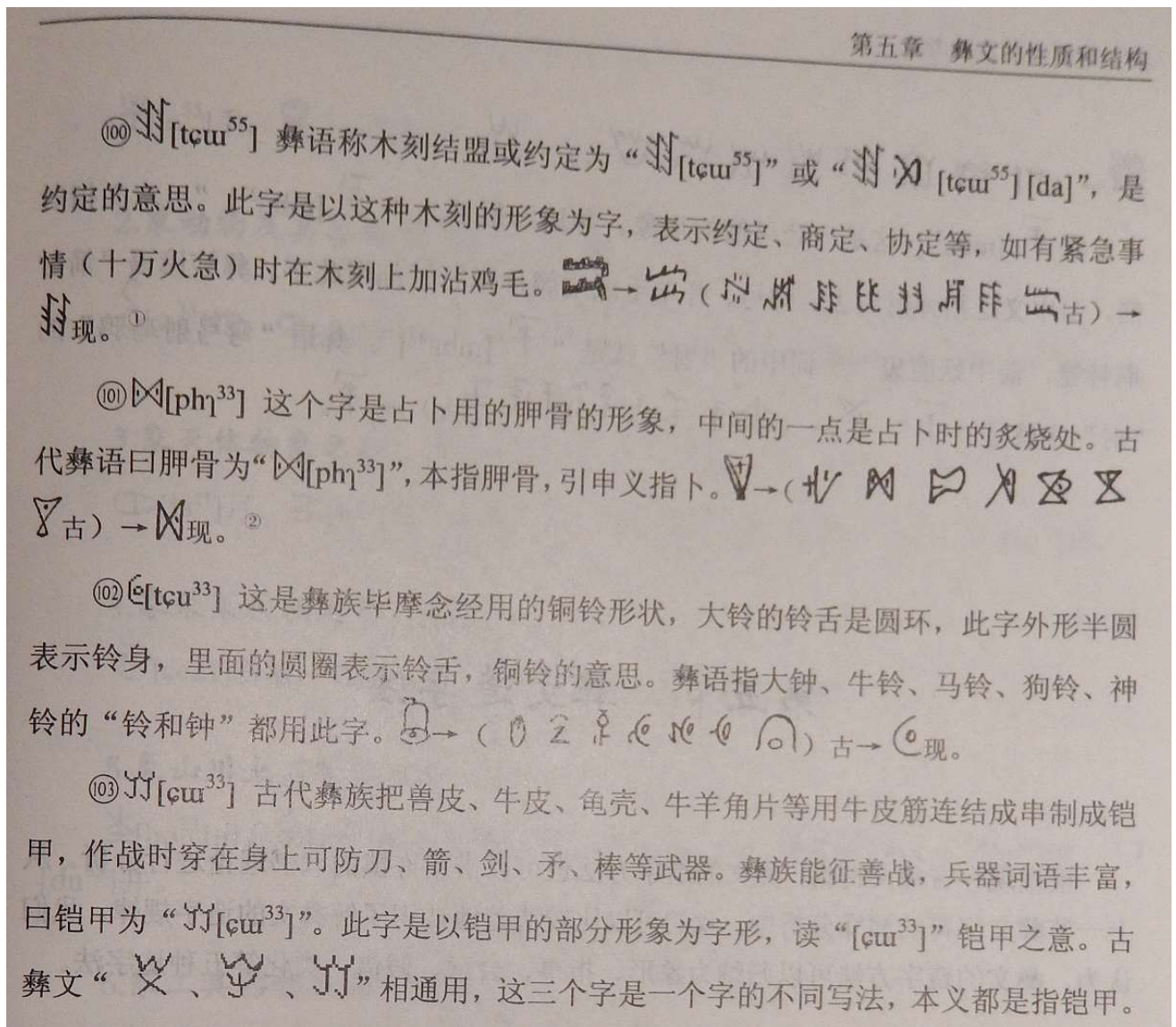




Fig. 20: Qiu Dexiu 邱德修, *Shàngbó Chǔjiǎn (1)(2) Zìcí Jiěgǔ* 上博楚簡(一)(二)字詞解詁 (Taipei, 2005) p. 2240

上博楚簡(一)(二)字詞解詁  
2240

昔武王數紂之罪以告諸侯曰：「紂為天下逋逃王，萃淵藪。」<sup>305</sup>

楊伯峻云：「天下逃亡者，紂為窩藏主，故群集之，如「淵」為魚所藏，「藪」為獸所聚處。」<sup>306</sup>是也。

《左傳》「淵藪」一詞為貶義，而簡文此「淵藪」則是褒義詞，謂當時賢者慕德求行，結果獲得認同，而使人才薈萃，群賢畢集，有如眾水所鍾會，有如魚獸之就淵藪者也。餘詳拙著《容成氏注考》<sup>307</sup>

【五】習（〈容成氏〉）  
整理者云：

右上不清，似是「修蓋」、「建築」之義。(一)(二八〇頁)

<sup>305</sup> 《春秋左傳注》，一二八五頁。  
<sup>306</sup> 《春秋左傳注》，一二八五頁。  
<sup>307</sup> 拙作《容成氏注考》，四八九—四九一頁。

## 7. Proposal Summary Form

**SO/IEC JTC 1/SC 2/WG 2  
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS  
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646<sup>1</sup>**

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://www.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

### A. Administrative

1. Title:	<i>Proposal to encode additional circled numbers</i>
2. Requester's name:	<i>Andrew West</i>
3. Requester type (Member body/Liaison/Individual contribution):	<i>Individual contribution</i>
4. Submission date:	<i>2016-09-12</i>
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	<input checked="" type="checkbox"/> YES
(or) More information will be provided later:	<input type="checkbox"/>

### B. Technical – General

1. Choose one of the following:	
a. This proposal is for a new script (set of characters):	<input checked="" type="checkbox"/> YES
Proposed name of script:	<i>Supplemental Enclosed Numbers</i>
b. The proposal is for addition of character(s) to an existing block:	<input type="checkbox"/> NO
Name of the existing block:	
2. Number of characters in proposal:	<i>348</i>
3. Proposed category (select one from below - see section 2.2 of P&P document):	
A-Contemporary <input checked="" type="checkbox"/>	B.1-Specialized (small collection) <input type="checkbox"/>
C-Major extinct <input type="checkbox"/>	B.2-Specialized (large collection) <input type="checkbox"/>
D-Attested extinct <input type="checkbox"/>	E-Minor extinct <input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic <input type="checkbox"/>	G-Obscure or questionable usage symbols <input type="checkbox"/>
4. Is a repertoire including character names provided?	<input checked="" type="checkbox"/> YES
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?	<input checked="" type="checkbox"/> YES
b. Are the character shapes attached in a legible form suitable for review?	<input checked="" type="checkbox"/> YES
5. Fonts related:	
a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?	<i>Andrew West</i>
b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):	<i>Andrew West</i>
6. References:	
a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?	<input checked="" type="checkbox"/> YES
b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?	<input checked="" type="checkbox"/> YES
7. Special encoding issues:	
Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)?	<input checked="" type="checkbox"/> YES

### 8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database ( <http://www.unicode.org/reports/tr44/> ) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

<sup>1</sup> Form number: N4102-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

**C. Technical - Justification**

1. Has this proposal for addition of character(s) been submitted before? If YES explain		NO
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)? If YES, with whom? If YES, available relevant documents:		YES
	Unicode mailing list	
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Reference:		NO
4. The context of use for the proposed characters (type of use; common or rare) Reference:		common
5. Are the proposed characters in current use by the user community? If YES, where? Reference:		YES
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? If YES, is a rationale provided? If YES, reference:		NO
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?		NO
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? If YES, is a rationale for its inclusion provided? If YES, reference:		NO
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? If YES, is a rationale for its inclusion provided? If YES, reference:		NO
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character? If YES, is a rationale for its inclusion provided? If YES, reference:		NO
11. Does the proposal include use of combining characters and/or use of composite sequences? If YES, is a rationale for such use provided? If YES, reference: Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? If YES, reference:		NO
12. Does the proposal contain characters with any special properties such as control function or similar semantics? If YES, describe in detail (include attachment if necessary)		NO
13. Does the proposal contain any Ideographic compatibility characters? If YES, are the equivalent corresponding unified ideographic characters identified? If YES, reference:		NO