

Spirally Mapped Mandalas Twilled with Chinese Poems

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Abstract. Mandala patterns generated from Chinese poems which were composed by Su Shi (Su Tungpo) are shown. The drawing is based on the spiral mapping technique, with which one can visualize a statistical property of a text within a two-dimensional region through spirally folding a string of Chinese characters.

Mandala Patterns and Chinese Poems

Mandalas are highly symmetrical arrangements of sacred symbols, which constellate around the center (TUCCI, 1969). Originally they were used as means of the religious achievement in the Hinduism as well as the Buddhism. On the basis of this initial meaning, recent progress in the depth psychology has found relevance between the highly symmetrical drawings and the traditional mandalas. JUNG (1968) had found through observations of his patients that such singular figures with rigorous symmetries could be interpreted with a symbol of the “Self” being a key concept in his psychology (JACOBI, 1954). In his point of view it is the mandala that appears as a symbol of “Self” which attempts to integrate various conflicting elements in the mind. In his works he classified mandalas into the two categories: Type I) “modern or personal mandalas” as a natural symbol and Type II) “traditional or historical mandalas” as a cultural symbol. Their respective examples can be seen in Fig. 1(a) (HYEMEYOHSTS STORM, 1972) and in Fig. 1(b) (KODAMA, 2002); the eight-foliolate core of the embryo-stored (TAIZO) mandala, Fig. 1(b), is expressed with nine Sanskrit characters. According to this classification the mandalas used in the Esoteric Buddhism can be included in the latter. Based on the Jung’s understanding, more recently TUCCI (1969) has defined mandalas as “figures symbolically representing the two processes that consist of break-up and reintegration of the consciousness.” In this paper, mandala patterns generated from Chinese poems composed by Su Shi (1036–1101), who has also been referred to as Su Tungpo, are shown. He was the most outstanding poet in the Beisung period (960–1127). In Japan he has been known by the name of So Shoku and of So Toba, respectively (see, e.g., OGAWA, 1983; OGAWA and YAMAMOTO, 1983). The drawing is based on the spiral mapping technique (HAYATA, 2004), with which one can visualize a statistical property of a text within a two-dimensional region through spirally folding a

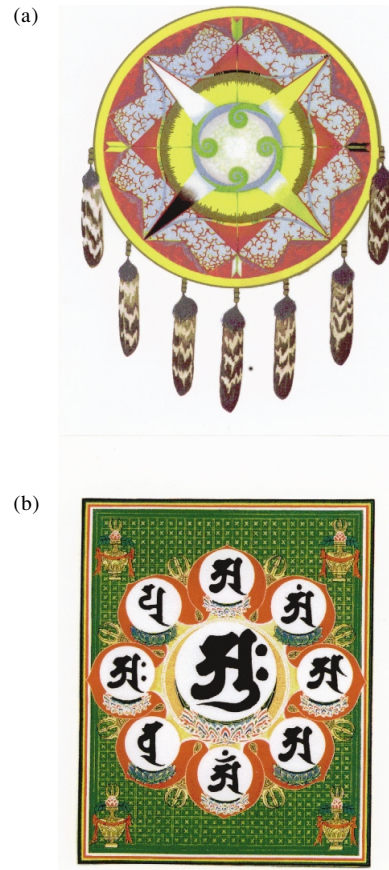


Fig. 1. (a) An example of Type-I mandalas, which symbolizes the spirit of a native American. (b) An example of Type-II mandalas in the Esoteric Buddhism.

string of Chinese characters. With the Jung's classification mentioned above, these symmetrical patterns can be categorized into Type-I mandalas.

An Outline of Mapping Procedure

In this section a method for generating mandala patterns is reviewed through application to Poem #81 (OGAWA and YAMAMOTO, 1983) shown in Fig. 2(a). In the present method we take notice of fluctuation in the number of KANAs along the sequence of the Japanese reading of Chinese poems. Note that KANAs are letters in the Japanese syllabary, which are frequently added to a Chinese character in order to indicate its pronunciation. For visualizing the sequence of the character-length data the spiral mapping technique (HAYATA, 2004) is useful, where the length is defined as the number of KANAs per Chinese character.

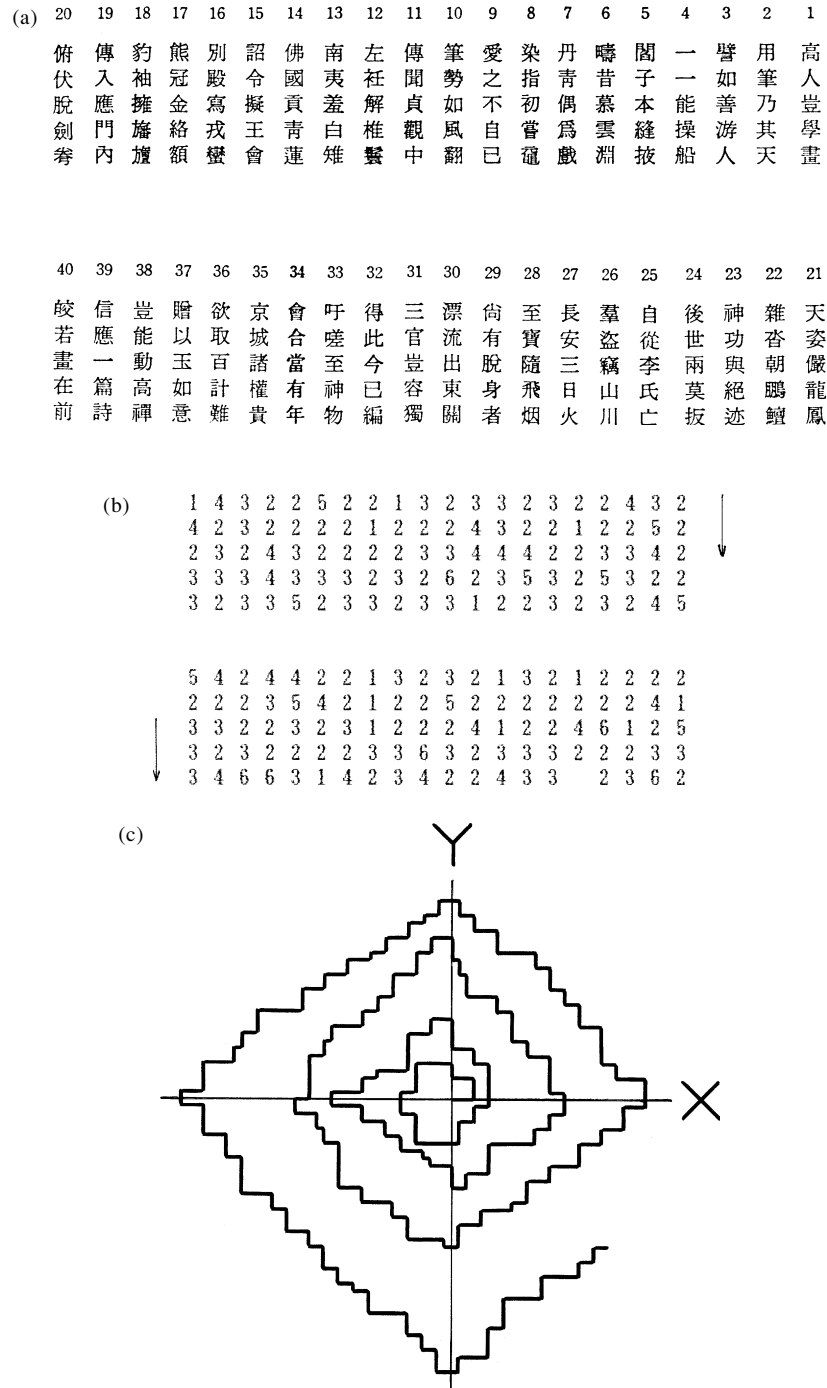


Fig. 2. (a) Poem #81 entitled “Responding to the Poem of Shuiquan.” (b) Sequential strokes resulting from character-length data. (c) Spirally mapped orbits.

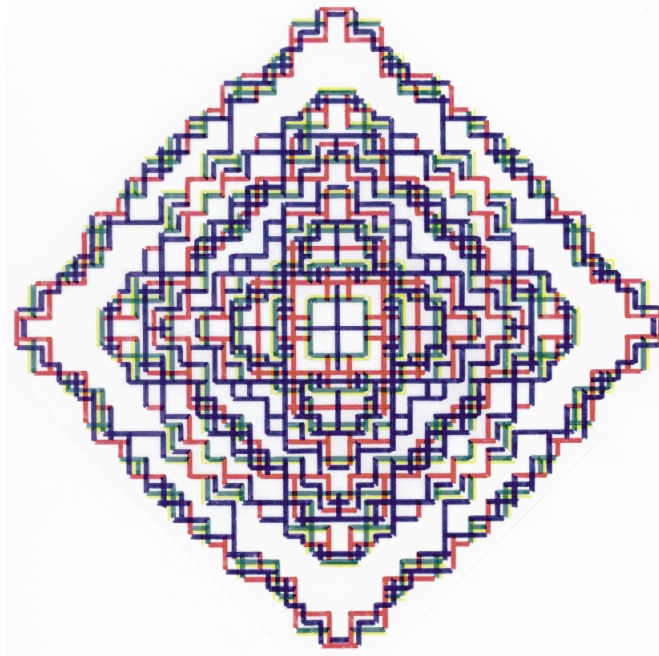


Fig. 3. Mandala pattern generated from Poem #81 (copyright belongs to K. Hayata).

In this method, from a point on the outermost orbit to the center, a notched spiral with the clockwise rotation is drawn in accordance with the direction of the sequence. However, because of the uncertainty in the location of the initial point, in actual drawings, instead of the forward propagation, a spiral with the counterclockwise rotation is created backward. Applying the spiral mapping algorithm (HAYATA, 2004) to the sequence of Fig. 2(b), one obtains the trajectory

$$(0, 0) \rightarrow (3, 0) \rightarrow (3, 3) \rightarrow (0, 3) \rightarrow (0, 5) \rightarrow (-5, 5) \rightarrow (-5, 1) \rightarrow (-7, 1) \rightarrow (-7, -2) \\ \rightarrow (-5, -2) \rightarrow (-5, -6) \rightarrow (1, -6) \rightarrow (1, -3) \rightarrow (3, -3) \rightarrow (3, -1) \rightarrow (5, -1) \rightarrow (5, 5) \\ \rightarrow (3, 5) \rightarrow (3, 7) \rightarrow \cdots \rightarrow (17, -24) \rightarrow (17, -22) \rightarrow (19, -22) \rightarrow (19, -20) \rightarrow (21, -20).$$

Here the adjacent points are joined with a segment line. The spiral pattern realized with this trajectory is shown in Fig. 2(c). Eventually, in order to yield a pattern with four-fold mirror symmetry, the original pattern and its seven copies are superimposed.

Exhibition of Spirally Mapped Mandalas: A Journey for a Golden Flower

Poem #81: The mandala pattern generated from the poem of Fig. 2(a), which is entitled “Responding to the poem of Shuiquan,” is shown in Fig. 3, where Shuiquan signifies the

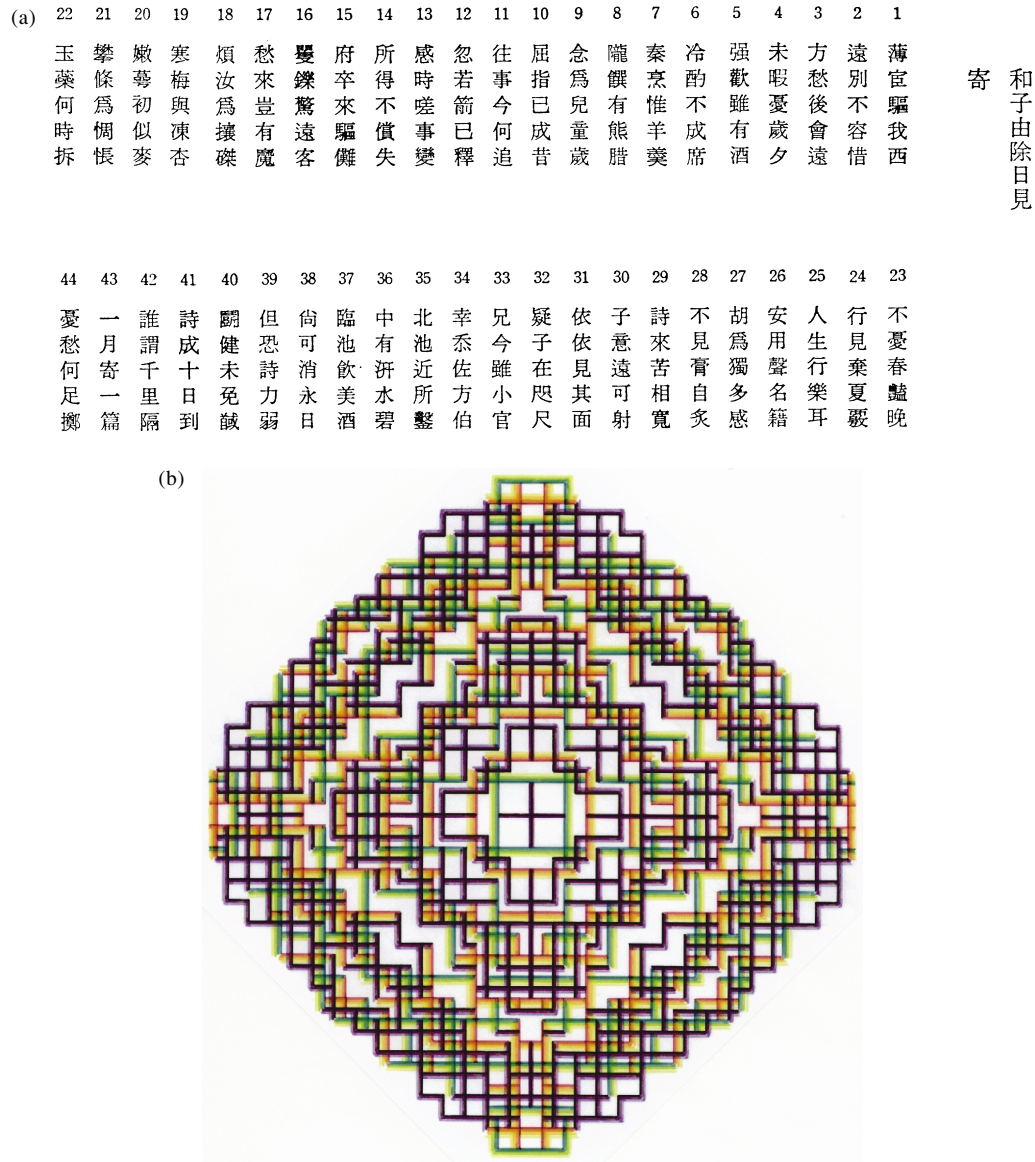


Fig. 4. (a) Poem #110 entitled “Responding to a poem which has been received on New Year’s Eve from Ziyou.”
 (b) Mandala pattern generated from (a) (copyright belongs to K. Hayata).

god of water. This poem is composed of 40 lines; each line contains five characters. Gazing at this mandala would remind us of a bird’s-eye view of a splendid flower garden where the configuration among beds is exquisitely balanced. Herein a quatrefoil is surrounded with an octofoil (a double quatrefoil), which is enclosed by a rim.

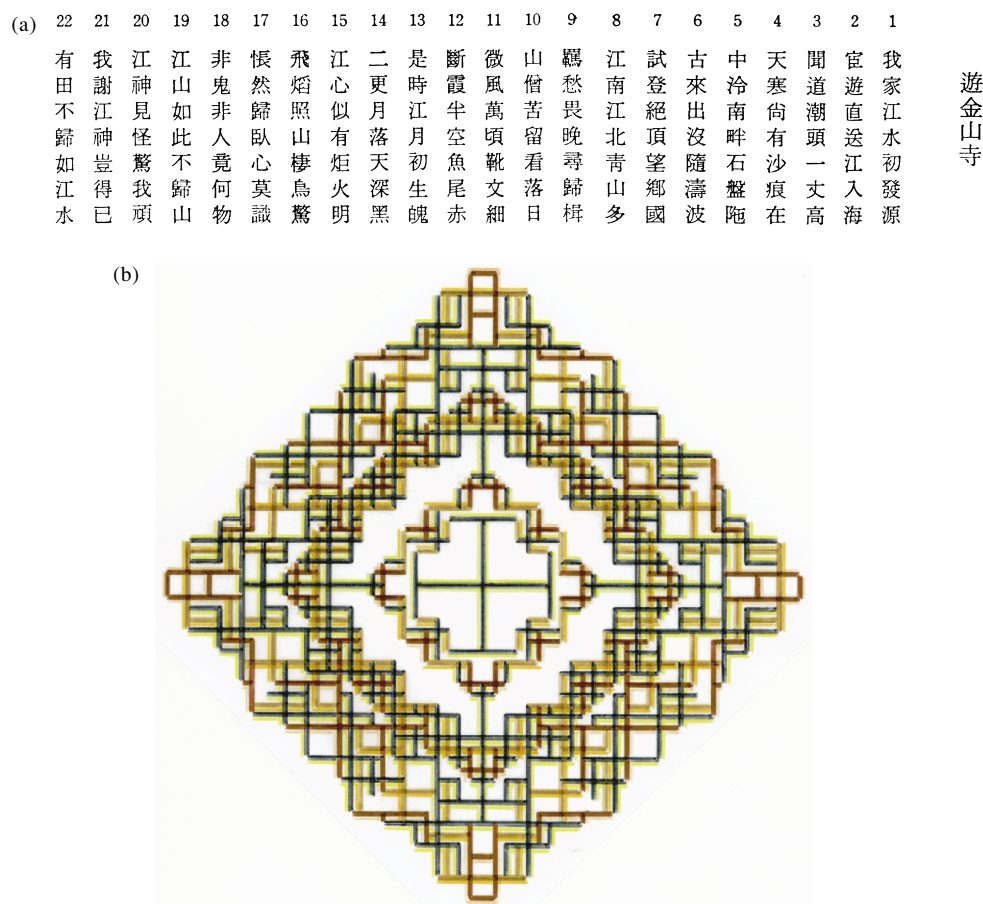


Fig. 5. (a) Poem #267 entitled “Visiting Jinshan Temple.” (b) Mandala pattern generated from (a) (copyright belongs to K. Hayata).

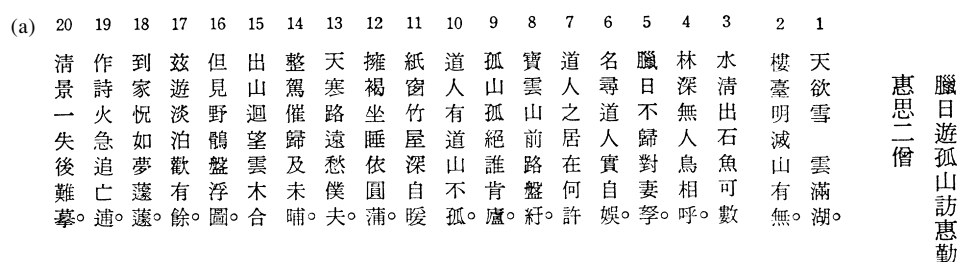


Fig. 6. (a) Poem #276 entitled “In a festival day on December of the lunar calendar, making a trip to Gushan, and visiting two bonzes by the names of Huiqin and Huisi.” (b) Mandala pattern generated from (a) (copyright belongs to K. Hayata). (c) Same as (b) but the reading different from that of (b) (copyright belongs to K. Hayata).

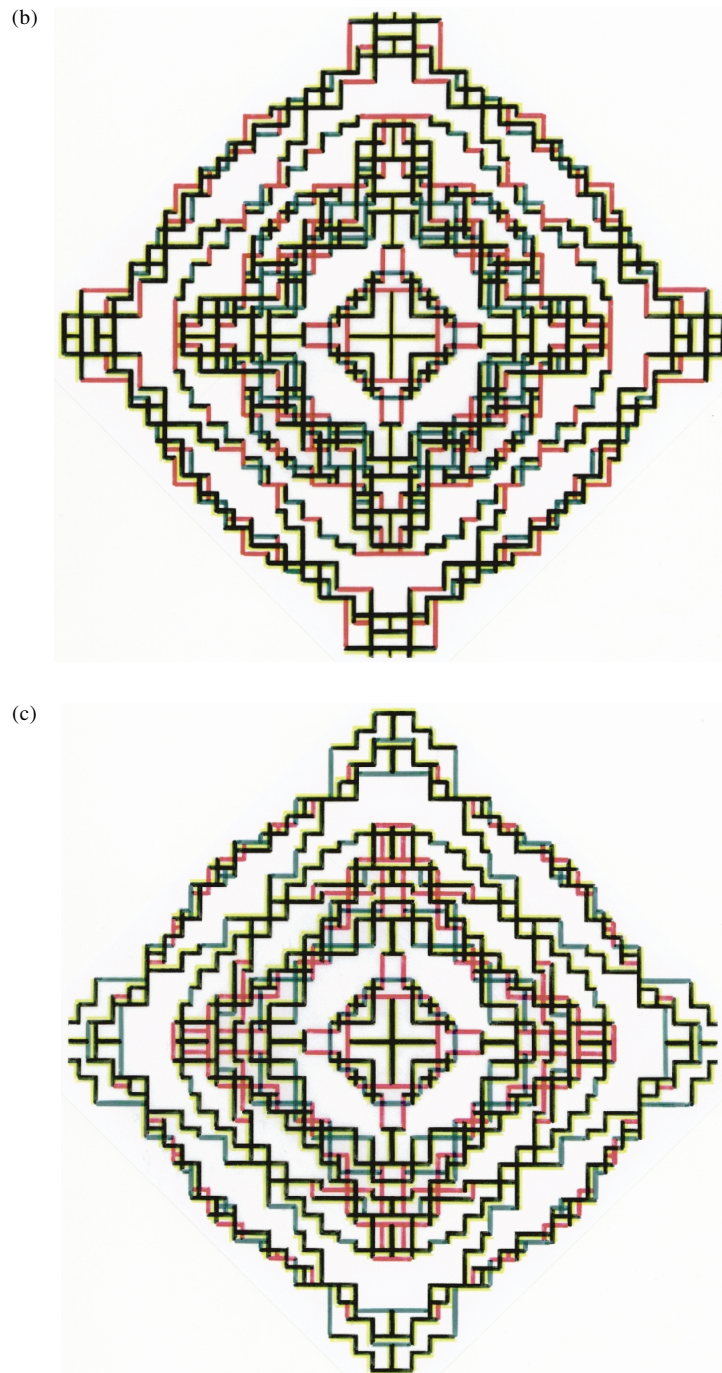


Fig. 6. (continued).

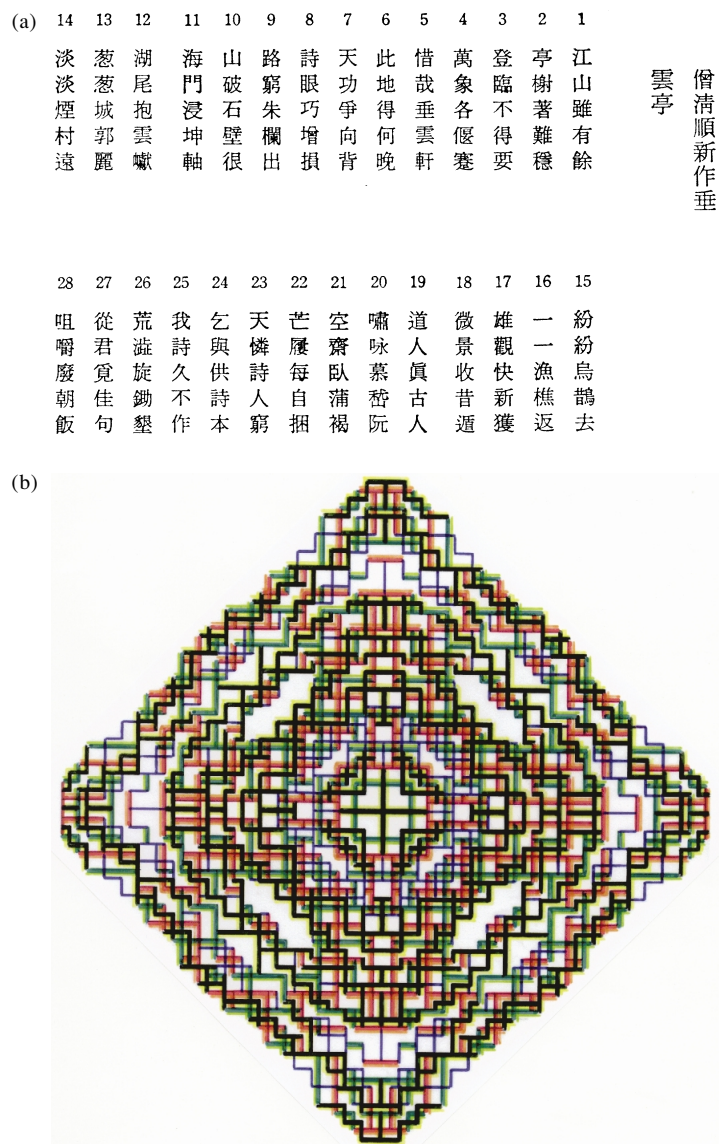


Fig. 7. (a) Poem #429 entitled “Bonze Qingshun newly builds Chuiyunting.” (b) A superimposition between the pattern shown in Fig. 6(c) and the one resulting from Poem #429 (copyright belongs to K. Hayata).

Poem #110: The pattern generated from Poem #110 (OGAWA and YAMAMOTO, 1983), which is composed of 44 lines with five characters per line (Fig. 4(a)), is displayed in Fig. 4(b). First, the mandala impresses us with its highly complicated flowerings being full blown. Specifically, we can find a large wreath enclosing a smaller one with a deformed

(a)

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
相對歡有餘	烹雞酌白酒	始識長者車	是時里中兒	罷官還舊廬	嬌嬌任夫子	雨中擷園蔬	常呼赤脚婢	小池白芙蕖	高樹紅消梨	堂上四庫書	門前萬竿竹	老史在郊墟	出門無所詣	小人自闊疎	何嘗疎小人	風采照鄉閭	道德無貧賤	杜門皇祐初	先君昔未仕
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21
解辦請冠裾	威行烏白蠻	老佩刺魚	獨喜任夫子	始悟萬緣虛	漂流二十年	清血滿襟袪	我亦涉萬里	孤墳拱桑梧	史侯最先沒	耆老逝不居	歲月曾幾何	精悍實起予	侍立看君談	作賦慕相如	我時年尚幼	主人竟誰歟	妻子走堂下	往還葛與徐	有如龐德公
60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
幾何不樵漁	頭顱已可知	乏人偶見除	彭城古名郡	衰髮不滿梳	我今四十二	窮苦自把鋤	豈比陶淵明	猛犬如黃驢	蒼鷹十斤重	搏射鹿與猪	閑隨李丞相	雍容十年儲	罷亞百頃稻	黃沙走清渠	上蔡有良田	歸意不少紓	胡爲厭軒冕	清廟陳瑤琬	方當入奏事
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61
我師寧與遜	作詩謝二子	喜怒紛衆狙	升沈一何速	秋扇悲婕妤	雀羅弔廷尉	翻如風中旗	世事日反覆	教我時卷舒	知我少所諧	清詩綴瓊琚	醉中忽思我	玉玪傾浮蛆	冰盤薦文鮪	相歡出同輿	賴我同年友	懷抱向誰據	念子瘴江邊	芒鞋老舊畚	會當相從去

公
答任師中家漢

(b)

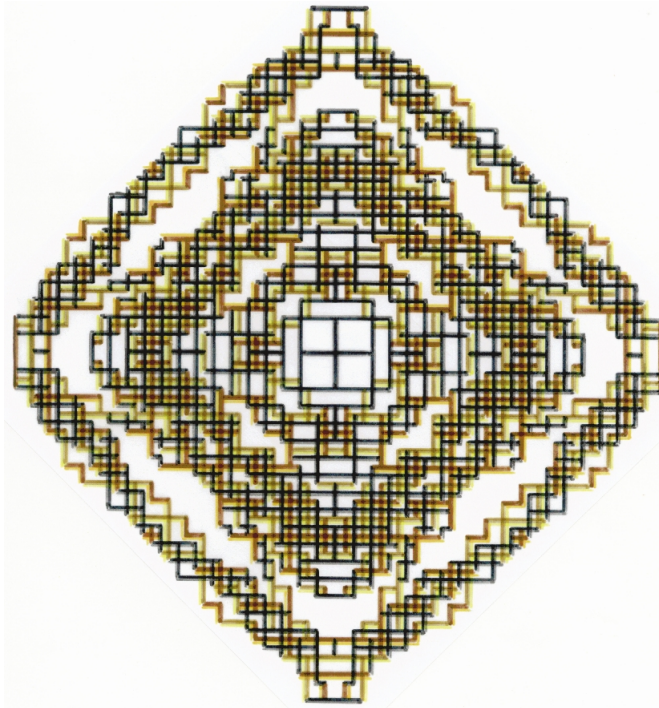


Fig. 8. (a) Poem #786 entitled “Responding to a poem sent by Ren Shizhong and Jia Hangong.” (b) Mandala pattern generated from (a) (copyright belongs to K. Hayata).

Poem #267: The pattern resulting from Poem #267 (OGAWA and YAMAMOTO, 1984), which is composed of 22 lines with seven characters per line (Fig. 5(a)), is seen in Fig. 5(b). In the title of this poem the Jinshan Temple indicates a Buddhist temple set up on an island in the Changjiang River, being 60 meters above the sea. For this mandala one will notice a wreathlike feature, where a thick wreath surrounds an octofoil and exhibits a somewhat garish pattern as if there were plenty of jewels being dispersed. In addition, careful observation of the inner boundary of the wreath allows us to perceive a multifoil.

Poem #276: The pattern realized with Poem #276 (OGAWA and YAMAMOTO, 1984), which is composed of 20 lines with seven characters per line (Fig. 6(a)), is shown in Fig. 6(b). In the title of this poem, Gushan stands for an islet in the Xi Lake; Huiqin and Huisi were known as poetic bonzes, both of them possessing a talent for writing. The morphology of the present mandala bears a resemblance to a bird's-eye view of a flower garden. We compare this pattern with the one yielded from the same poem but the reading being slightly different (OGAWA, 1983). The result can be seen in Fig. 6(c). Through comparison between the two patterns (Figs. 6(b) and (c)), we find a substantial difference for the intermediate garden located between the central and the outermost regions. Incidentally, the shape of the contour resembles that of Fig. 3.

Superimposition between Poem #276 and Poem #429: We consider Poem #429 (OGAWA and YAMAMOTO, 1984), which is composed of 28 lines with five characters per line (Fig. 7(a)) and is entitled "Bonze Qingshun newly builds Chuiyunting." Here Qingshun and Chuiyunting, respectively, are the name of a poetic bonze and that of an arbor. In an attempt to synthesize two patterns the result for superimposition between Fig. 6(c) and the pattern from Poem #429 is shown in Fig. 7(b). It is found that through this technique the original pattern (Fig. 6(c)) becomes highly complicated. Specifically, over a wide region around the center, a brocade pattern emerges. Note that brocades have been realized in a Japanese twilled cloth, typical of which will be FUSENRYO (TAKAKI, 2003).

Poem #786: The pattern generated from Poem #786 (OGAWA and YAMAMOTO, 1990), which is composed of 80 lines with five characters per line (Fig. 8(a)), is exhibited in Fig. 8(b). In the title of this poem, Shizhong and Hangong are another names of Jiand Qinguo, respectively. Note that this poem is longest among those cited in this paper; the total number of Chinese characters contained attains 400. We find in Fig. 8(b) a three-fold concentric structure, i.e., the innermost region is surrounded by a wreath, and furthermore, the outermost rim encloses the wreathy region; the rim and the wreath are connected each other with narrow bridges made of several warps and woofs. The whole pattern shines out with great brilliance.

Poem #850: The pattern weaved with Poem #850 (OGAWA and YAMAMOTO, 1990), which is composed of 24 lines with seven characters per line (Fig. 9(a)), is displayed in Fig. 9(b). As is suggested in the title, Qinguan possessed an outstanding talent for writing. Owing to this ability, later he was regarded as one of the four excellent scholars among pupils of Su Shi. In the pattern of Fig. 9(b) we perceive an insular region surrounded with a thick garland; the two regions are bridged with eight green paths. It is interesting to compare the patterns of the two regions. In contrast to a static feature in the island, the pattern of the garland appears to be dynamic and rather garish, which may remind us of HOSOGI, a jewel-figured flowerings in the Japanese family crests (TAKAKI, 2003). In consequence, the mandala of Fig. 9(b) allows one to associate itself with a bird's-eye view

(a)

16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
但	此	定	一	傾	世	時	我	嗜	秦	顧	二	自	暮	野	異
恐	墨	心	生	身	間	人	生	好	王	與	子	厭	年	驚	時
風	足	肯	當	障	有	謬	百	晚	十	兒	風	家	却	腫	長
霜	支	為	著	籠	癖	說	事	將	八	童	流	雞	得	腥	笑
侵	三	微	幾	尤	念	云	不	蛇	已	爭	冠	題	庚	汗	王
髮	十	物	兩	堪	誰	工	掛	蚓	龍	愠	當	六	安	刀	會
齒	年	起	屐	鄙	無	此	眼	比	飛	喜	代	紙	西	几	稽

次韻答舒教授觀余
所藏墨

32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
寒	聞	不	時	雙	倒	列	君	萬	一	但	作	數	逝	餅	非
窗	君	惜	閒	鴉	暈	屋	不	竈	螺	寬	書	畝	將	應	人
冷	此	千	五	畫	連	閑	見	燒	點	來	寄	荒	振	未	磨
硯	詩	金	斛	髮	眉	居	永	松	漆	禽	君	園	衣	罄	墨
冰	當	求	賜	香	秀	清	寧	何	便	與	莫	自	歸	疊	磨
生	大	獺	蝦	雲	嶺	且	第	處	有	青	笑	鋤	故	先	人
水	笑	隨	綠	委	浮	美	中	使	餘	李		理	國	恥	

(b)

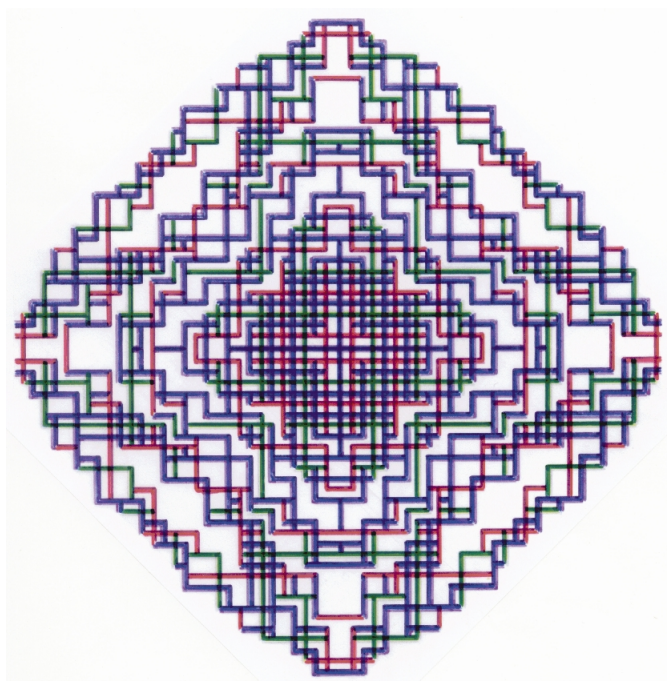


Fig. 10. (a) Poem #857 entitled "Responding to remarks which Professor Xu has made on my stick of China ink."

(b) Blue-based mandala pattern generated from (a) (copyright belongs to K. Hayata). (c) Same as (b) but the coloring based on brown (copyright belongs to K. Hayata).

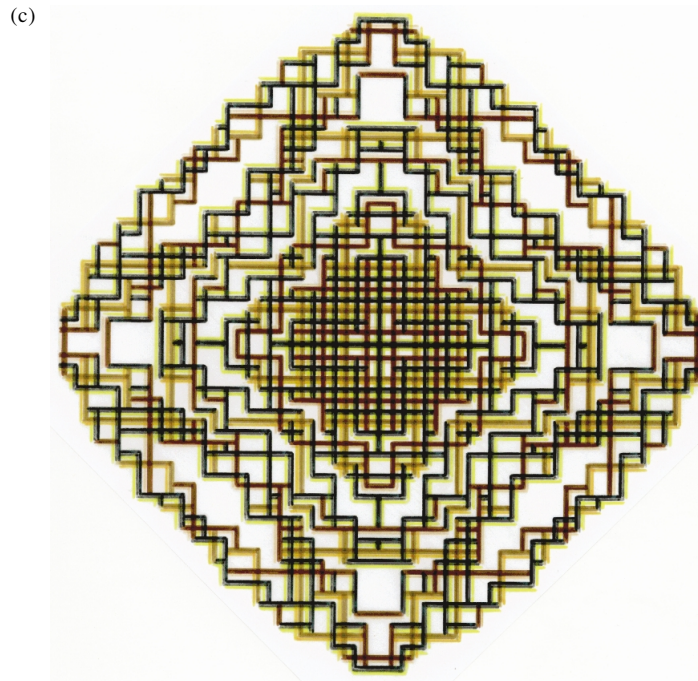


Fig. 10. (continued).

of a dense forest preserving a bower.

Poem #857: The goal of our journey for a golden flower is just around the corner. The patterns realized with Poem #857 (OGAWA and YAMAMOTO, 1990), which is composed of 32 lines with seven characters per line (Fig. 10(a)), are exhibited in Figs. 10 (b) and (c). The color scheme of the former is taken after the blue flower in *Henry of Ofterdingen* by Novalis (1772–1801). Here one can find a number of multifoliate patterns constellating around the center; the outermost quatrefoil is bounded by a roundish contour. Furthermore the central flowerings would indeed preserve a feature in common with a medallion in a Persian carpet (MISUGI and SASAKI, 1998). The present mandala could be regarded as one of the best examples of an organic whole twilled with the spiral mapping, where a certain golden mean would be achieved between statics and dynamics. Finally the long years of effort achieved fruition!

Mandala as a Jewel among Stones

Seeking for a Chinese poem which may possibly yield a beautiful spirally mapped mandala could be compared to the work of mining engineers who labor to strike a vein. The subsequent drawing process of the mandala seems analogous to the effort of jewelers searching for a more brilliant cut. To conclude each of the mandalas presented in this paper

is a jewel among stones. Work is underway to confirm relevance to the art therapy using mandalas (KELLOGG *et al.*, 1977; FINCHER, 1991).

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