

SUMMARY OF PROPERTIES

1. The content of the painting consists of a pattern of circles arranged in symmetrically staggered rows, as in a hexagonal lattice. From a general (complete) pattern, a certain amount of circles, based on an average/percentage, are randomly deleted, producing a specific pattern. The circles may be connected by one or at most two connecting bridges, creating chain-like segments and, inevitably, single free-floating circles. Over the homogenous flat background color, the pattern is executed in an illusionistic manner suggesting volume; nevertheless, the term "circle" is used in this documentation rather than the more accurate "orb" or "sphere".
2. Once the specific pattern has been determined, one majority and two minority colors are distributed among the pattern, with each free-floating chain-like segment *and* each single circle being treated as an individual element. In other words, this partial grid-like pattern is analogous to a population of discrete groups of elements in an enclosed field, distinguishable not by form but by color.
3. A sequence of indeterminate length of randomly generated numbers between 1 and 6 ("dice numbers") is required. When configuring any table, only as many numbers are used to configure all options as are required. Example: For a table with 6 options, only 5 *different* numbers are required, since the sixth number is automatically (by default) assigned to the last option.
4. During any analysis of the pattern, the rows of circles are "read" as with text: one horizontal row at a time, from left to right and from top to bottom. Single numbers are assigned to single circles (when determining the density), or individual chain-like segments/single circles (when determining color distribution).
5. Many properties of the painting are selected randomly, by means of multiple-choice tables, each with 2, 3 or 6 numbered options. These include: A) the density table, determining the average density of the specific pattern, and containing 3 different options: 50% density ("3 out of 6 options"), 67% ("4 out of 6...") and 83% ("5 out of 6"); B) the specific pattern, showing precisely which circles are represented (or rather, which are *not* represented); C) which circles are joined by connecting bridges; D) the color of the background; and E) the distribution of color in the pattern (Properties *not* determined by randomness: canvas size and format; the specific type of pattern; black and white added as 5th and 6th colors to the palette).
6. The color-distribution tables differentiate the population into one majority, a first minority and a second minority group. The formation of the majority out of the entire population has two options of being represented: by 67% or 83% ("4 out of 6..." or "5 out of 6 options", respectively). From the remaining pattern, the first minority color is represented by either 50%, 67% or 83% (3, 4 or 5 out of 6 options).
7. The names of four colors were selected at random from a pigment lottery containing the names of all different color hues (approx. 40) available in the studio. These were numbered 1 to 4 according to the order in which they were selected, and black and white were added to compose a palette of 6 different colors. From this palette, the following color properties were selected by random: the background, the majority and both minorities; it may well be that one or even 2 selected colors are ultimately not used. Likewise, each of these elements was offered the possibility of being modified by adding a small amount of another color from the palette ("yes-or-no" as to whether a second 'mix-color' was to be added).
8. As always, a rough draft of the painting was completed, in the form of a sketch with colored pencils on paper – a visualization of the specific pattern is indispensable.
9. The general pattern was sketched out lightly onto the blank primed canvas; the ratio "diameter of circle/distance between neighboring circles" = 6/6 cm.

HIERARCHY OF ACTIONS *(marked in red after completion)*

Configure all tables, in each case with an adequate number of different digits (red numbers in number sequence = inert)

- > Density table (Table 1)
- > Color-distribution table, majority (Table 2a)
- > Color-distribution table, minorities (Table 2b)

- > Color-selection table, background (Table 3a)
- > Color-mix table, background (Table 3b)
- > Color-selection table for mix-color, background (Table 3c)

- > Color-selection table, majority (Table 4a)
- > Color-mix table, majority (Table 4b)
- > Color-selection table for mix-color, majority (Table 4c)

- > Color-selection table, 1st minority (Table 5a)
- > Color-mix table, 1st minority (Table 5b)
- > Color-selection table for mix-color, 1st minority (Table 5c)

- > Color-selection table, 2nd minority (Table 6a)
- > Color-mix table, 2nd minority (Table 6b)
- > Color-selection table for mix-color, 2nd minority (Table 6c)

Placement of circles (red numbers = "no circle")

Placement of bridges (red numbers = no bridge possible)

Distribution of colors I: majority/minorities (blue numbers = minorities)

Distribution of colors II: 1st / 2nd minorities (blue numbers = 2nd minority)

BREAKDOWN OF RANDOM SELECTION PROCESSES

(For all tables: inert numbers = red, selected numbers = blue)

Configuration of all tables (red numbers = inert)

Table 1: Configuration of density

Density table:		different digits selected to represent "circle"	different digits implied to represent "no circle"
3 out of 6 options	1 5 >>	1 2 5	3 4 6
4 out of 6 options	2 6		
5 out of 6 options	3 4		

Table 2a: Configuration of color-distribution table, *majority*. ("How many elements in the specific pattern comprise the majority?") (*all minorities considered together – see Table 2b*)

		different digits selected to represent "majority"	different digits implied to represent "[all] minorities"
4 out of 6 digits	2 5 3		
5 out of 6 digits	1 4 6 >>	6 5 3 4 2	1

Table 2b: Configuration of color-distribution table, *minorities*. ("How many elements comprise 1st minority color?")

		different digits selected to represent "1 st minority"	different digits implied to represent "2 nd minority"
3 out of 6 digits	4 5		
4 out of 6 digits	1 2		
5 out of 6 digits	3 6 >>	3 5 6 1 2	4

Tables governing properties of the background color

Table 3a: Color-selection table. ("Which color is the background?")

1st color	4 >> raw sienna (Siena natur)
2 nd color	5
3 rd color	2
4 th color	6
black	3
white	1

Table 3b: Color-mix table. ("Is the background color cut with another color?")

yes = 5 **3** 4 no = 1 2 6

Table 3c: Color-selection table for mix-color. ("If 'yes' was selected to 3b, with which color?")
(cannot be the same color as the background color)

1 st color	6
2 nd color	1
3rd color	5 >> cadmium yellow light (Kadmiumgelb hell)
4 th color	3
black	2
white	4

Tables governing properties of the majority color

Table 4a: Color-selection table. ("Which color is the majority?")

(cannot be the same as the background color)

1 st color	3
2 nd color	1
3rd color	6 >> cadmium yellow light (Kadmiumgelb hell)
4 th color	5
black	2
white	4

Table 4b: Color-mix table. ("Is the majority color cut with another color?")

yes = 6 **2** 3 no = 1 4 5

Table 4c: Color-selection table for mix-color. ("If 'yes' was selected to 4b, with which color?")
(cannot be the same as the majority color)

1 st color	2
2 nd color	5
3 rd color	6
4 th color	4
black	3 >> ivory black (Elfenbeinschwarz)
white	1

Tables governing properties of the 1st minority color

Table 5a: Color-selection table. ("Which color is the 1st minority?")

(cannot be the same as majority, nor as the background color)

1 st color	2
2 nd color	4
3 rd color	3
4 th color	5
black	1
white	6 >> (Titanweiss)

Table 5b: Color-mix table. ("Is the 1st minority color cut with another color?")

yes = 6 3 1 no = **2** 4 5

Table 5c: Color-selection table for mix-color. ("If 'yes' was selected to 5b, with which color?")
(cannot be the same as the 1st minority color) (**this table was not used**)

1 st color	3
2 nd color	1
3 rd color	4
4 th color	5
black	6
white	2

Tables governing properties of the 2nd minority color

Table 6a: Color-selection table. ("Which color is the 2nd minority?")
(cannot be the same as majority, nor as the background, nor as the 1st minority color)

1 st color	4
2 nd color	3
3 rd color	5
4 th color	2
black	1 >> ivory black (Elfenbeinschwarz)
white	6

Table 6b: Color-mix table. ("Is the 2nd minority color cut with another color?")

yes = 6 1 3 no = 2 4 5

Table 6c: Color-selection table for mix-color. ("If 'yes' was selected to 6b, with which color?")
(cannot be the same as the 2nd minority color) (this table was not used)

1 st color	5
2 nd color	1
3 rd color	6
4 th color	3
black	4
white	2

SUMMARY OF COLOR PROPERTIES

Colors selected in order:

- 1st color: **raw sienna** (Siena natur)
- 2nd color: **Bohemian green earth** (Grüne Erde böhmisch) - - *not used*
- 3rd color: **cadmium yellow light** (Kadmiumgelb hell)
- 4th color: **titanium white** (Titanweiss)
- (5th and 6th colors, **ivory black** [Elfenbeinschwarz] + **titanium white** [Titanweiss], added by choice)

Background = 1st color, cut with 3rd color = **raw sienna, cut with cadmium yellow light**
Majority = 3rd color, cut with black = **cadmium yellow light, cut with black**
1st Minority = white **titanium white**
2nd Minority = black **ivory black**

SUMMARY OF PROCESSING OF RANDOM NUMBER SEQUENCE

(including diagrams showing the development of the pattern, formatted to fit the size of the canvas)

Configuration of all tables (red numbers = inert)

15216:2253:454512:445263:534:6153332:316152:6223:252643:243245
 331:6361:313114334315515516:4355241:6613:516133664:

Application of all tables (red numbers = inert)

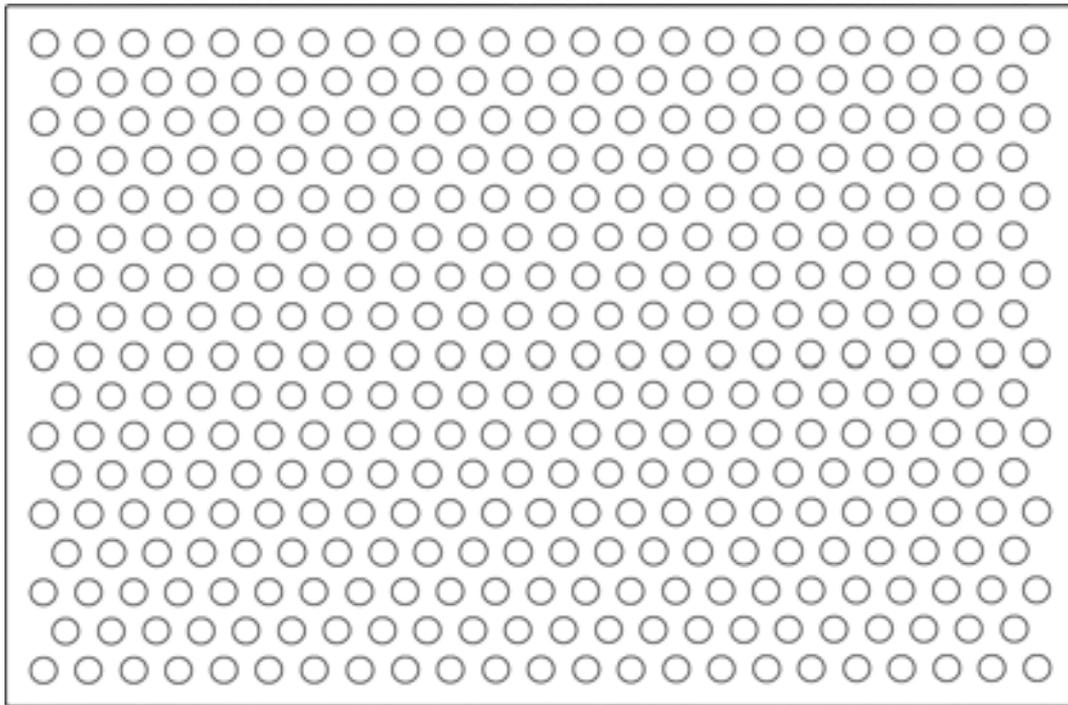
1, 1215:6, 6563442:3, 356661362:4:3:5:36:2:3:226:2:41:4:

Placement of circles (red numbers = "no circle")

65152213362153353356343. 1411425341454663521124.621254125223
 26112446366.6123661225135216345453.23122445412264464461353.
 2511524336354662521624.52614616343256256215144.123636352516

2631232461.22366331245411111561334.6223466331245421111611.4
 2636226144124131463616.2631233462234663312662.1163643116634
 5252513116.2253454512445263534615.33344222631344363154354.3
 564431412424236443552.41212351123365214234351:

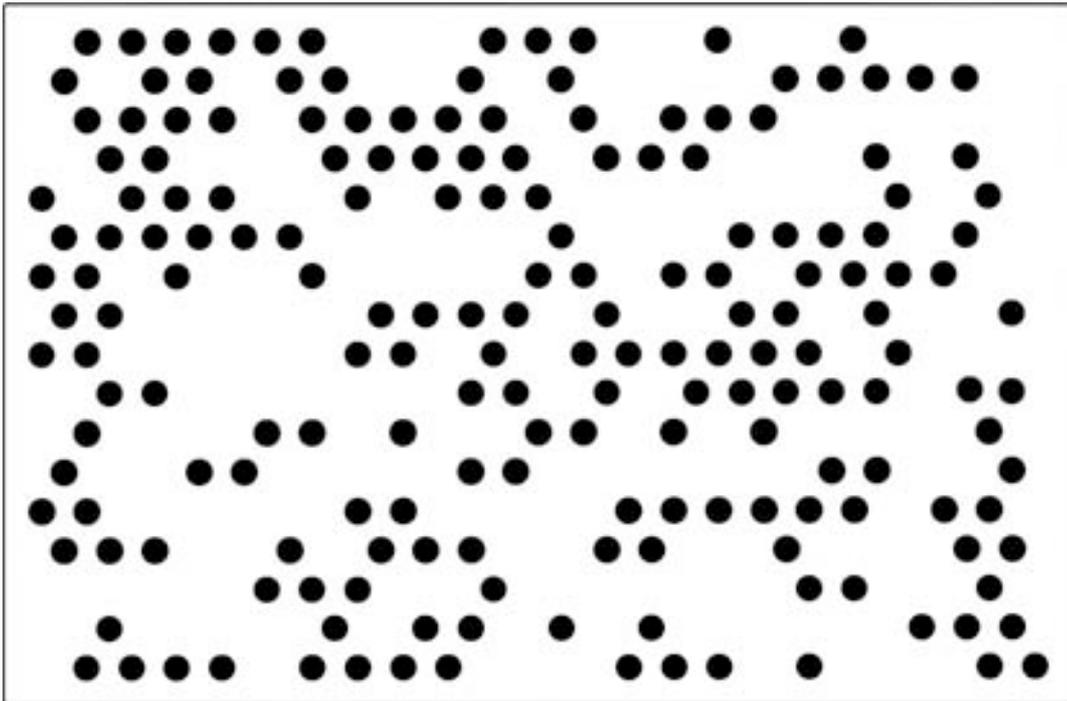
General (complete) pattern, before placement of circles in specific pattern:



Placement of circles (red numbers = "no circle")

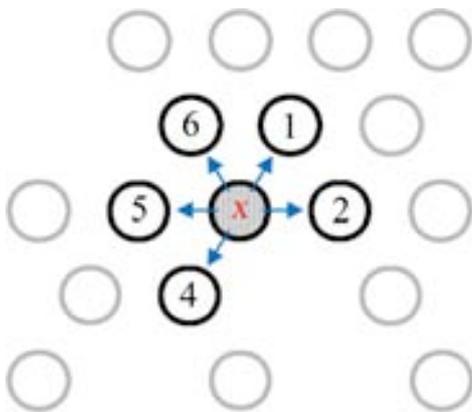
65152213362153353356343.1411425341454663521124.621254125223
 26112446366.6123661225135216345453.23122445412264464461353.
 2511524336354662521624.52614616343256256215144.123636352516
 2631232461.22366331245411111561334.6223466331245421111611.4
 2636226144124131463616.2631233462234663312662.1163643116634
 5252513116.2253454512445263534615.33344222631344363154354.3
 564431412424236443552.41212351123365214234351:

Specific pattern:



Placement of bridges (red numbers = no bridge possible)

1335152423.56522222161.4151221415.331421342215.25626232.6531
 14113354.4145516362.112463125.42262342611.14131363563.616213.
 44236312.331163644263.2123116636.265235.6532223.12241135313.

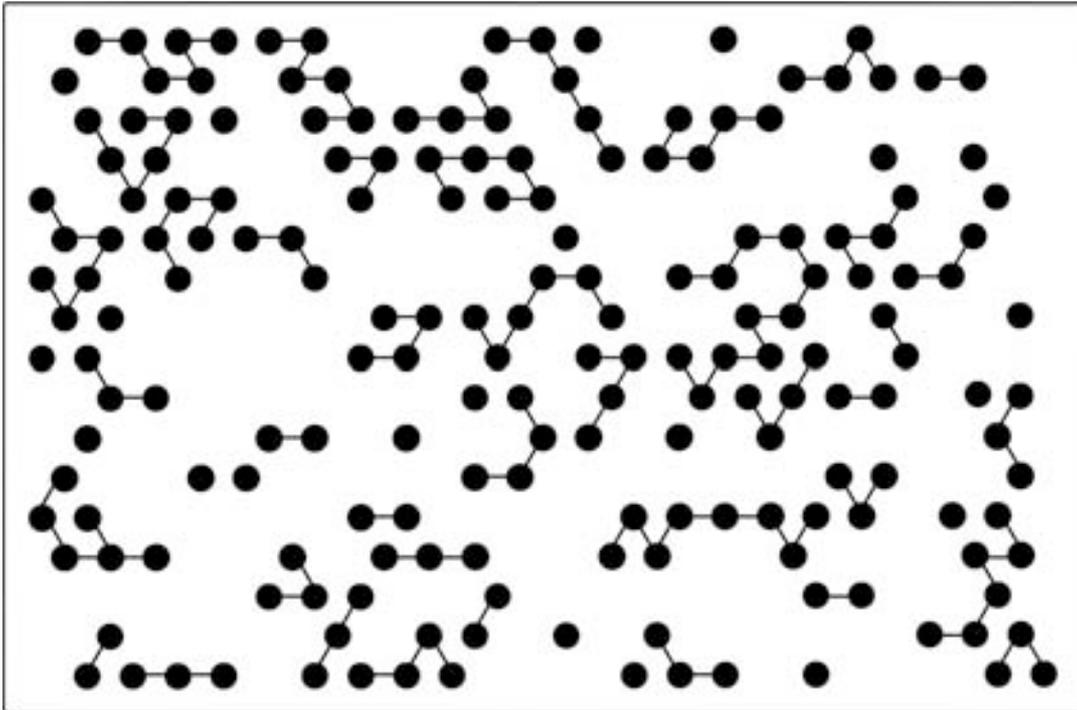


Each circle is assigned one number and thus given one chance to "grow" a connecting bridge to a neighboring circle, using this simplified clock-face diagram.

If the assigned number corresponds to a gap in the pattern, the next higher number is given a try; if that circle is also missing, the next lower number has a chance.

Example: if 3 is assigned to x, and the circle in the direction of 3 is missing, try 4; if 4 were also missing, try 2. If no bridge can be grown, 3 is considered an inert number, and the next number in the sequence is assigned to the next circle in the pattern.

Specific pattern, with bridges:



Distribution of colors I: majority/minorities (blue numbers = minorities)

3335364435424533263522325162631232461251153444432362241613
1641435:

Distribution of colors II: 1st / 2nd minorities (blue numbers = 2nd minority)

461313125:

Complete number sequence, including color (= inert numbers) and punctuation:

15216:2253:454512:445263:534:6153332:316152:6223:252643:243245
331:6361:313114334315515516:4355241:6613:516133664:1,1215:6,65
63442:3,356661362:4:3:5:36:2:3:226:2:41:4:6515221336215335335634
3.1411425341454663521124.62125412522326112446366.6123661225
135216345453.23122445412264464461353.2511524336354662521624
52614616343256256215144.1236363525162631232461.223663312454
11111561334.6223466331245421111611.42636226144124131463616.
2631233462234663312662.11636431166345252513116.225345451244
5263534615.33344222631344363154354.3564431412424236443552.4
1212351123365214234351:1335152423.56522222161.4151221415.331
421342215.25626232.653114113354.4145516362.112463125.4226234
2611.14131363563.616213.44236312.331163644263.2123116636.2652
35.6532223.12241135313:333536443542453326352232516263123246
12511534444323622416131641435:461313125.

Complete raw number sequence:

1521622534545124452635346153332316152622325264324324533163
6131311433431551551643552416613516133664112156656344233566
6136243536232262414651522133621533533563431411425341454663
5211246212541252232611244636661236612251352163454532312244
5412264464461353251152433635466252162452614616343256256215
1441236363525162631232461223663312454111115613346223466331
2454211116114263622614412413146361626312334622346633126621
1636431166345252513116225345451244526353461533344222631344
3631543543564431412424236443552412123511233652142343511335
1524235652222216141512214153314213422152562623265311411335
4414551636211246312542262342611141313635636162134423631233
1163644263212311663626523565322231224113531333353644354245
3326352232516263123246125115344443236224161316414354613131
25