

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. A perforated sheet of acrylic glass with a staggered hole pattern was used as a template for the final work; the ratio "diameter of circle/distance between neighboring circles" = 6/4 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)

Select an option from the density table (Table 1), then select the corresponding amount of different digits to signify “circle painted in” (> reveals which digits signify “no circle painted in”)

Select an option from the *color-distribution table, majority (2a)*, then select the corresponding amount of different digits to signify “majority” (> remainder = 1st and 2nd minorities)

Select an option from the *color-distribution table, minorities (2b)*, then select the corresponding amount of different digits to signify “1st minority” (> remainder = 2nd minority)

Select an option from *color-selection table, background (3a)*

Select an option from *color-mix table, background (3b)*

- > if “yes” was selected, select an option from *color-selection table for mix-color, background (3c)*

Select an option from *color-selection table, majority (4a)*

Select an option from *color-mix table, majority (4b)*

- > if “yes” was selected, select an option from *color-selection table for mix-color, majority (4c)*

Select an option from *color-selection table, 1st minority (5a)*

Select an option from *color-mix table, 1st minority (5b)*

- > if “yes” was selected, select an option from *color-selection table for mix-color, 1st minority (5c)*

Select an option from *color-selection table, 2nd minority (6a)*

Select an option from *color-mix table, 2nd minority (6b)*

- > if “yes” was selected, select an option from *color-selection table for mix-color, 2nd minority (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)

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	4 1		
4 out of 6 options	5 3		
5 out of 6 options	2 6 >>	2 4 5 1 3	6

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	6 1 4		
5 out of 6 digits	2 3 5 >>	6 4 1 5 2	3

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	2 5 >>	2 5 3	1 4 6
4 out of 6 digits	1 6		
5 out of 6 digits	3 4		

Tables governing properties of the background color

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

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

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

yes = 5 3 2 **no = 1 4 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	3	
2nd color	1 >>	violet lake (Violetter Lack)
3 rd color	2	
4 th color	4	
black	5	
white	6	

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	5	
2nd color	4 >>	violet lake (Violetter Lack)
3 rd color	1	
4 th color	2	
black	6	
white	3	

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

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

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	5	
2 nd color	4	
3 rd color	1	
4th color	6 >>	carmine red (Karminrot)
black	3	
white	2	

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

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

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

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)

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

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

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

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

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)

1 st color	1
2nd color	3 >> violet lake (Violetter Lack)
3 rd color	2
4 th color	4
black	5
white	6

SUMMARY OF COLOR PROPERTIES

Colors selected in order:

- 1st color: **Prussian blue** (Preussischblau) (*not used*)
- 2nd color: **violet lake** (Violetter Lack)
- 3rd color: **cadmium yellow light** (Kadmiumgelb hell)
- 4th color: **carmine red** (Karminrot)
- (5th and 6th colors, **ivory black** [Elfenbeinschwarz] + **titanium white** [Titanweiss], added by choice)

Background = 4th color, cut with 2nd color
Majority = 2nd color, cut with 4th color
1st minority color = white, cut with black
2nd minority color = 3rd color, cut with 2nd color

carmine red, cut with **violet lake**
violet lake, cut with **carmine red**
titanium white, cut with **ivory black**
cadmium yellow light, cut with **violet lake**

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)

41,53:614:25156:2315554:532:314245:541426:546:5461553:252353533
 6554:6625:2223654:34535361:514:132425:

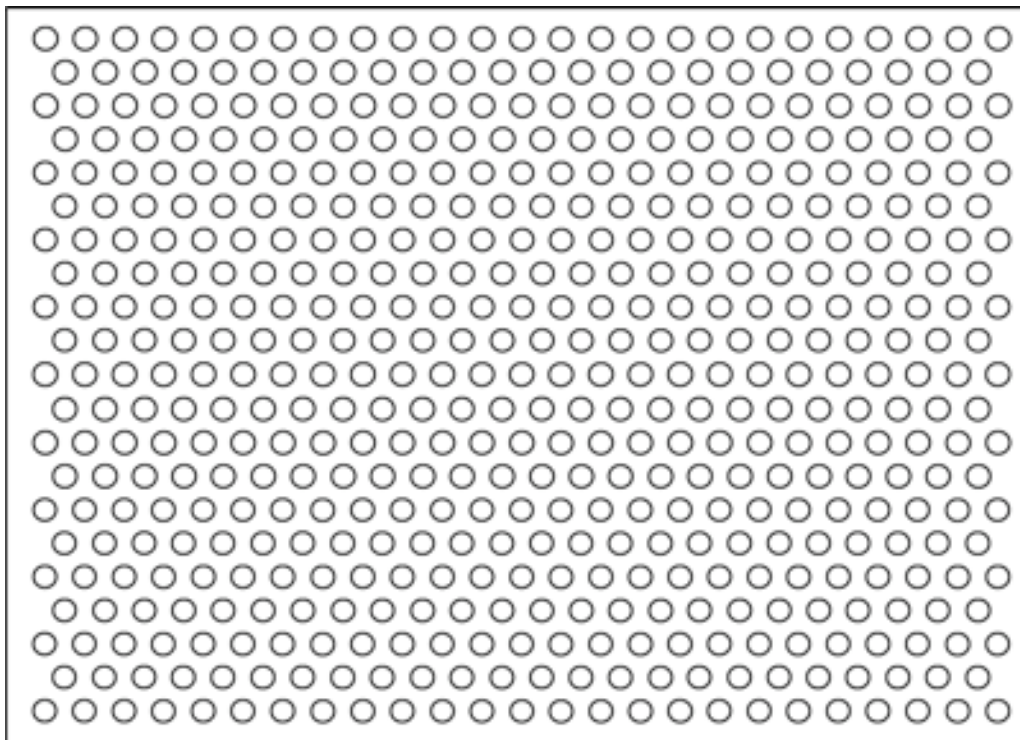
Application of all tables (red numbers = inert)

2,2455413:2,644144614542:5,2253:5:3:41:4:5:46:551:2:14:5:5:3:

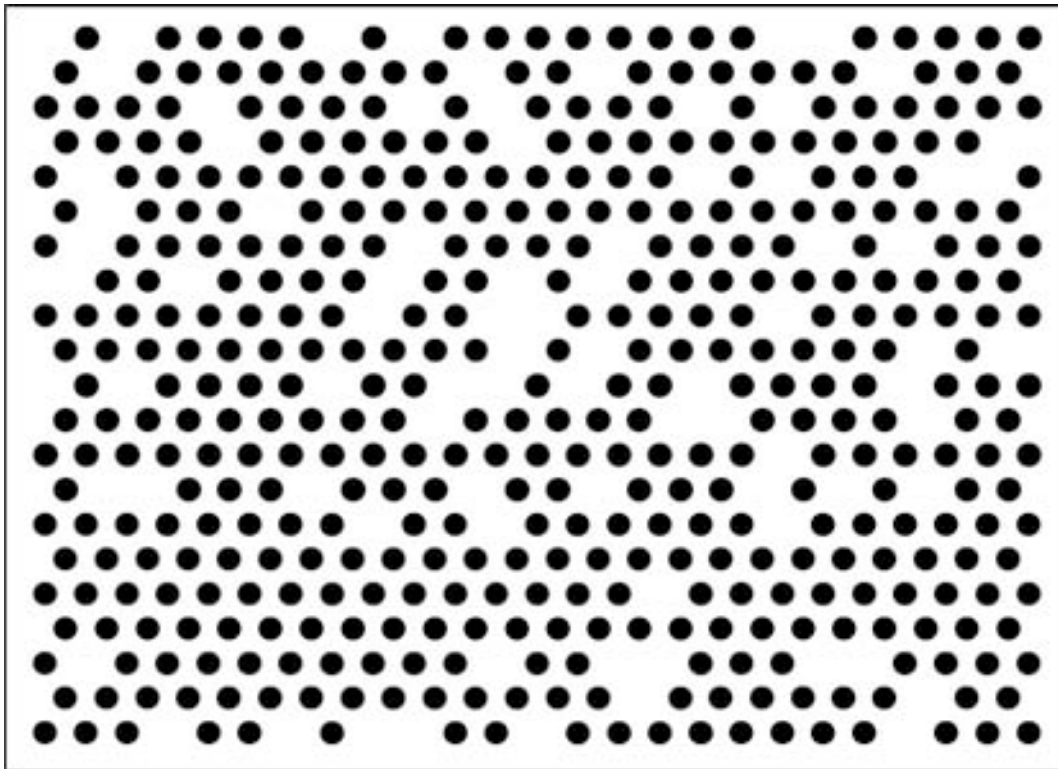
Placement of circles (red numbers = "no circle")

6263534616333335546625222.365434535361461513116325.34546224
 46263534616333332.125262332526442542453326.3613131253324413
 616224661.325116455553332325333134.462345423624326111165635
 5.611635426236164144155135.5312222161466222146531141.234121
 535526261412243626.6562415632664612645556234.13355541264414
 5664522612.5152414551515111246112542.2663326555645625565636
 33.4312222561465122146531141.133125523524251412131423.44513
 44521452356532223122.411322142532432353311451.4641343224364
 566133661415.145121544443236324443641.553655626642624535441
 6551:

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

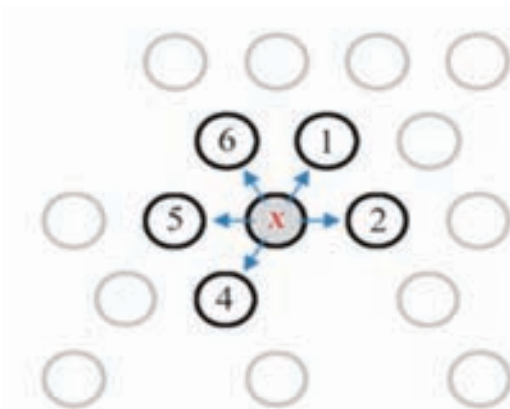


Specific pattern:



Placement of bridges (red numbers = no bridge possible)

6362334463345424624.426111265635511.16354266361236164244.33
 5154423663463536252.325353512154445345.643544464115465451.5
 533613626356544652.61223552236313346163.33332125262332526.4
 425424533263613131.25332441361622.466132513621645555.333163
 12334623346634124.542111166136.621163644263212311664.246633
 13454123236615662.23256642242243136634.53525141324253454623
 44.52255346163333312.3522433252664253245.33225615141353:

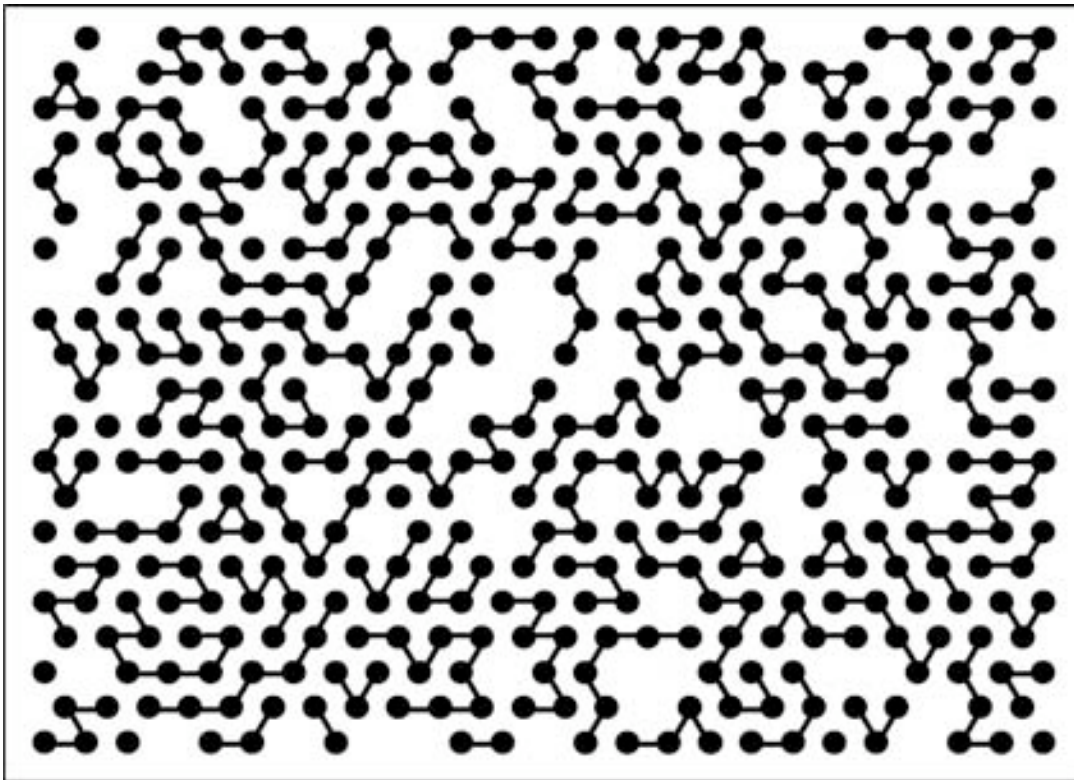


Each circle is assigned one number and thus given one chance to "grow" a connecting bridge to a neighboring circle, using this simplified clock-face diagram.

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)

6312334623346634124542111166136621163644263212311664246633
16244661425156232551454663521:

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

15344443236224:

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

41,53:614:25156:2315554:532:314245:541426:546:5461553:252353533
6554:6625:2223654:34535361:514:132425:2,2455413:2,644144614542:
5,2253:5:3:41:4:5:46:551:2:14:5:5:3:6263534616333335546625222.365
434535361461513116325.3454622446263534616333332.12526233252
6442542453326.3613131253324413616224661.325116455533323253
33134.4623454236243261111656355.611635426236164144155135.53
12222161466222146531141.234121535526261412243626.6562415632
664612645556234.133555412644145664522612.515241455151511124
6112542.266332655564562556563633.4312222561465122146531141.
133125523524251412131423.4451344521452356532223122.41132214
2532432353311451.4641343224364566133661415.1451215444432363
24443641.5536556266426245354416551:6362334463345424624.4261
11265635511.16354266361236164244.335154423663463536252.3253
53512154445345.643544464115465451.5533613626356544652.61223
552236313346163.33332125262332526.4425424533263613131.25332

441361622.466132513621645555.33316312334623346634124.542111
166136.621163644263212311664.24663313454123236615662.232566
42242243136634.5352514132425345462344.52255346163333312.352
2433252664253245.33225615141353:631233462334663412454211116
6136621163644263212311664246633162446614251562325514546635
21:15344443236224.

Complete raw number sequence:

4153614251562315554532314245541426546546155325235353365546
6252223654345353615141324252245541326441446145425225353414
5465512145536263534616333335546625222365434535361461513116
3253454622446263534616333332125262332526442542453326361313
1253324413616224661325116455553332325333134462345423624326
1111656355611635426236164144155135531222216146622214653114
1234121535526261412243626656241563266461264555623413355541
2644145664522612515241455151511124611254226633265556456255
6563633431222256146512214653114113312552352425141213142344
5134452145235653222312241132214253243235331145146413432243
6456613366141514512154444323632444364155365562664262453544
1655163623344633454246244261112656355111635426636123616424
4335154423663463536252325353512154445345643544464115465451
5533613626356544652612235522363133461633333212526233252644
2542453326361313125332441361622466132513621645555333163123
3462334663412454211116613662116364426321231166424663313454
1232366156622325664224224313663453525141324253454623445225
5346163333312352243325266425324533225615141353631233462334
6634124542111166136621163644263212311664246633162446614251
5623255145466352115344443236224