資　　料

552.1

Color Index

By

Ken-ichi TANAKA* & Masato KATADA**

The figures showing "Color Index" were originally made to estimate the quantity of the constituent minerals in rock specimens by the grade of color in the field or under the microscope. These figures were revised and reprinted from the figures made as a trial in this Bulletin, vol. 17, no. 5, p. 300, 1965.

Percentage added on the figure shows the ratio of the area occupied by the black part to the whole area of the circle. For example, color index, 20 percent means

$$\frac{\text{area of black part}}{\text{area of whole circle}} \times 100 = 20$$

The way to make this figure was to paste the black film on the circle of white film. The area of the black part was determined by the practical measurement of the area and the measurement of weight of the black film.

The film used was the Fujigraph Autopositive Film made by the Fuji Photo Co., Ltd. It was known by the checks of various ways that the facts written below were almost negligible to make these figures: the elasticity of film by temperature and humidity, difference of weight caused by the quantity of emulsion left on the film, and the difference of thickness of film in each part.

According to the catalogue of the Fuji Photo Film Company, changes of lengh of the film are 0.004 percent by the difference of 20 percent in humidity and 0.002 percent by the difference of 10 degrees C in temperature. The thickness of the film is 0.075 mm.

Table 1 shows a result of the checks made by us. In these checks, we measured 0.3697 gr. to the square having color index of 75 percent. This square was made exactly as possible, and used as a standard of calculated values of each square in the different color indexes. Figures in the column 1 of Table 1 show those values of calculation using this standard. Those in the column 2 of Table 1 show the values of each square of different color indexes practically made by weighing of the squares. In comparison of the values in the columns 1 and 2, it is clear that both values are approximate and there is no trouble to make ratio of black and white parts by using the ratio in weights of the both areas in the practical use.

* Publication & Library Section

** Geology Department

Table 1

color index (%)	[1] calculated value (g)	[2] weighed value (g)
0.33	0.0016	0.0016
0.66	0.0032	0.0032
1	0.0049	0.0046
2	0.0099	0.0097
3	0.0148	0.0156
5	0.0246	0.0238
7.5	0.0370	0.0366
10	0.0493	0.0514
15	0.0740	0.0745
20	0.0986	0.0991
30	0.1479	0.1477
40	0.1972	0.1966
50	0.2464	0.2458
75		0.3697*

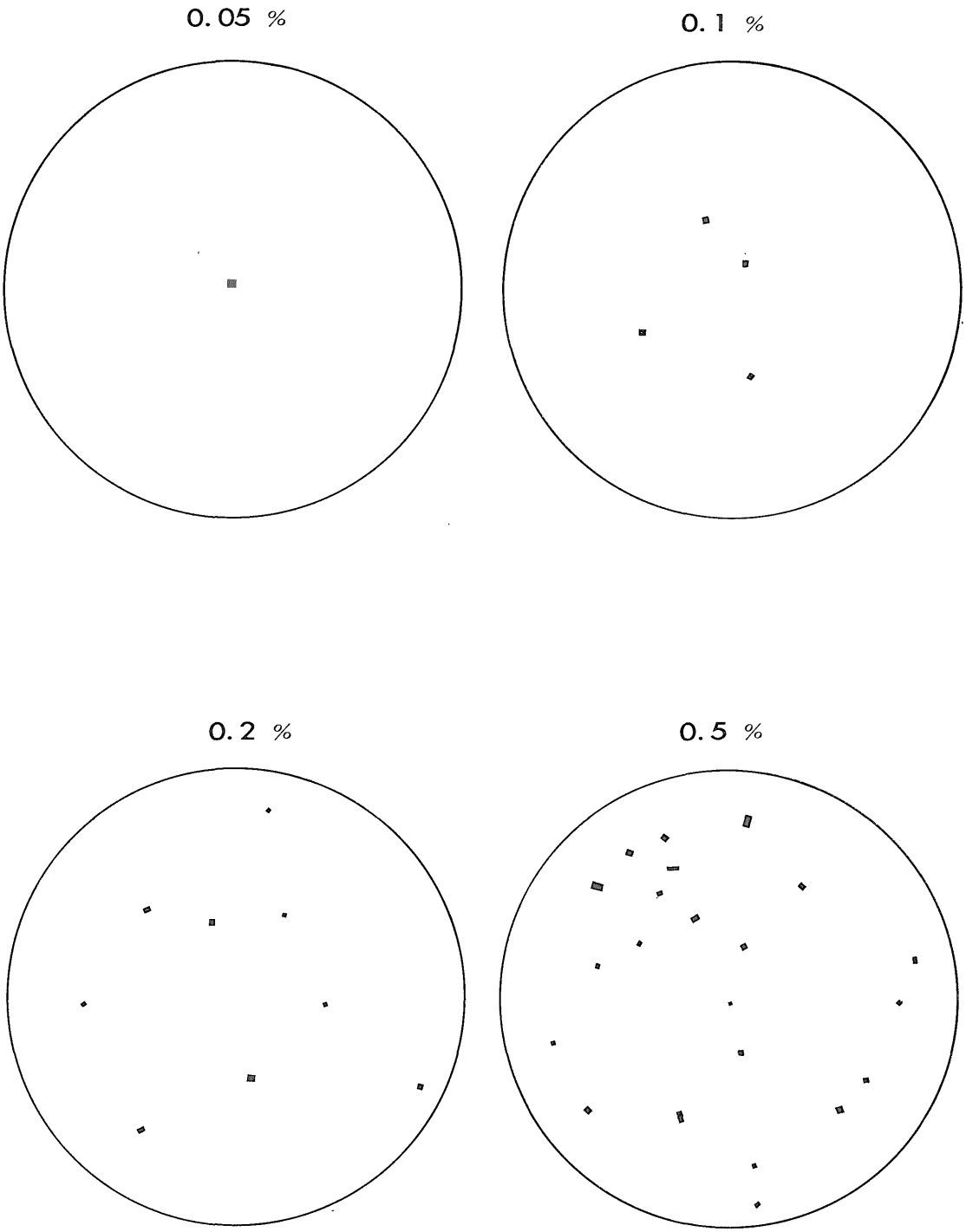
* Standard of calculation

カ ラ ー イ ン デ ッ ク ス

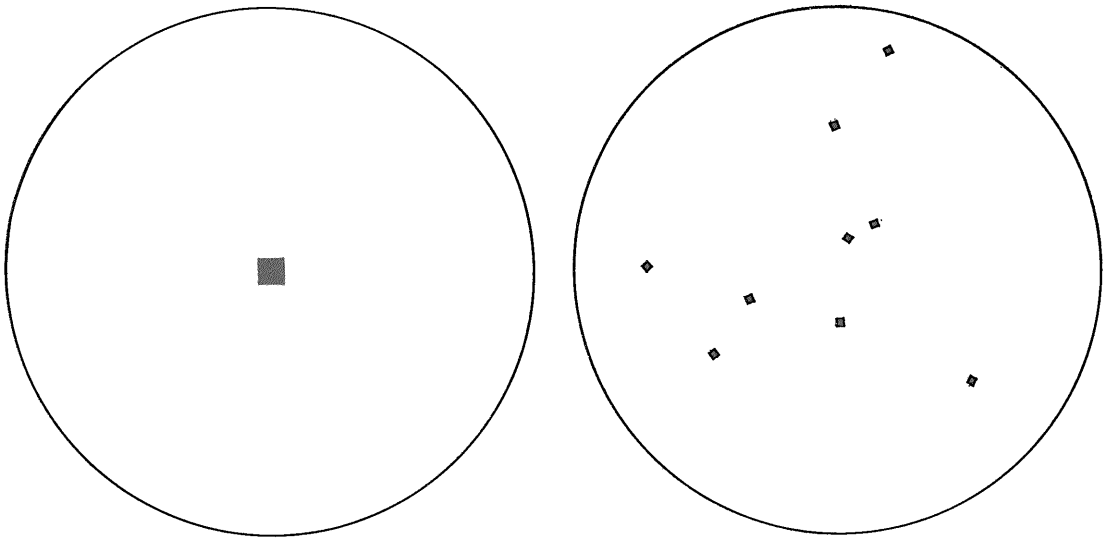
田 中 憲 一　片 田 正 人

要　旨

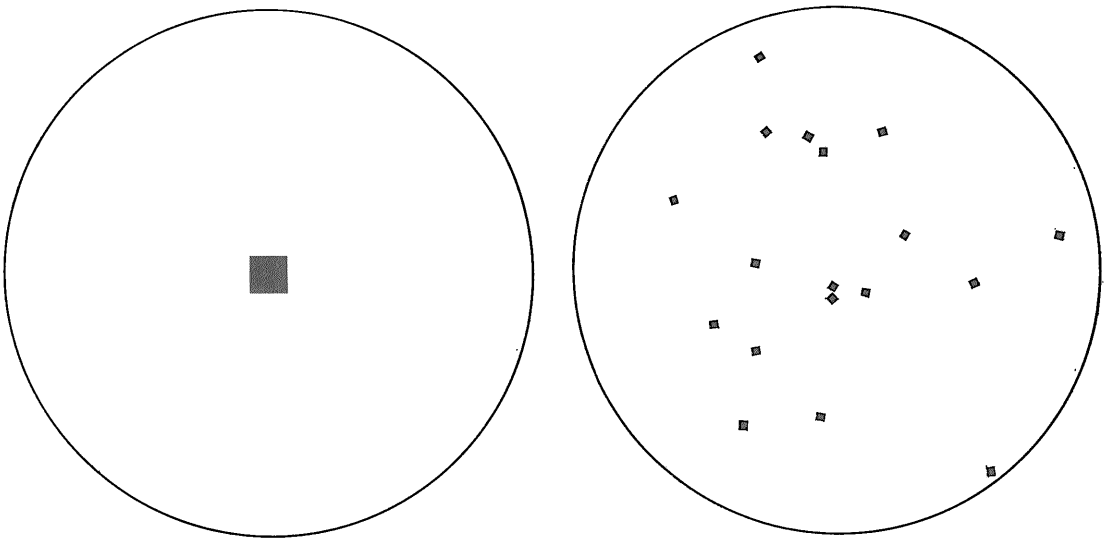
岩石薄片を観察する際，鉱物の量比を簡便に測定し得る目的で作成した。各図のパーセント数は円全体に対する暗色部の面積比である。作成材料は合成樹脂フィルムで，切片の重量を測定することによって面積を求め，各円内に貼付した。計算値と実測値との誤差はきわめて小さい。


0.05 %
0.1 %
0.2 %
0.5 %

0.33 %



0.66 %



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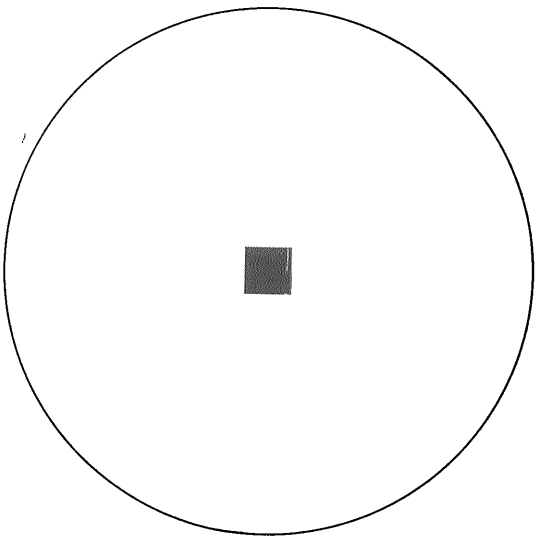

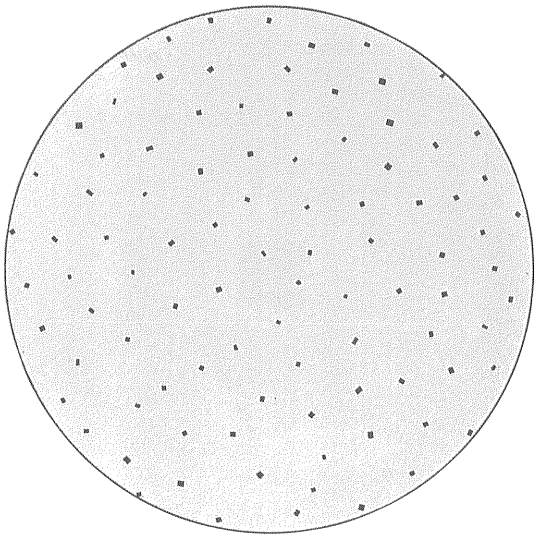

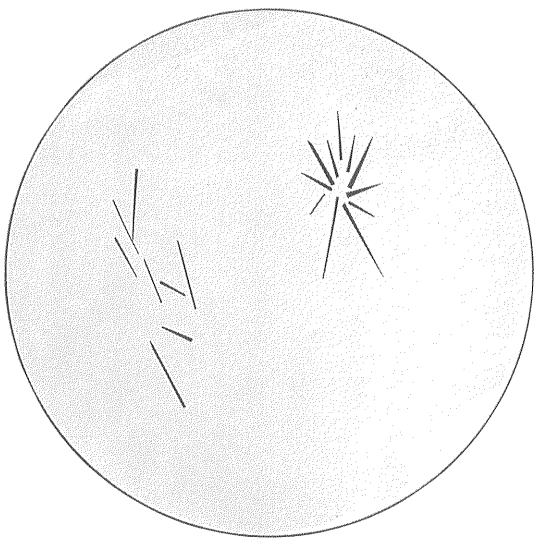

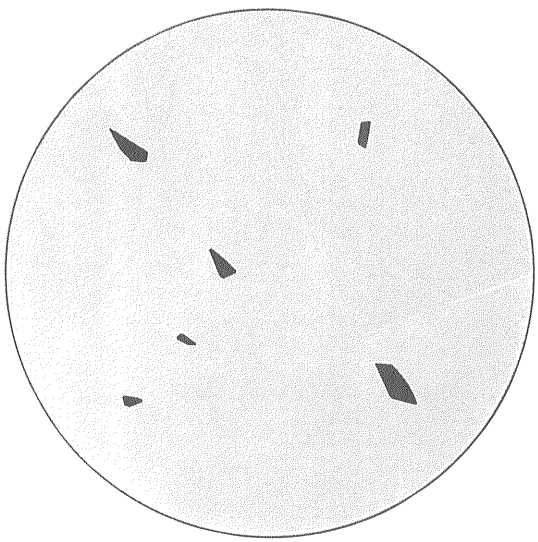

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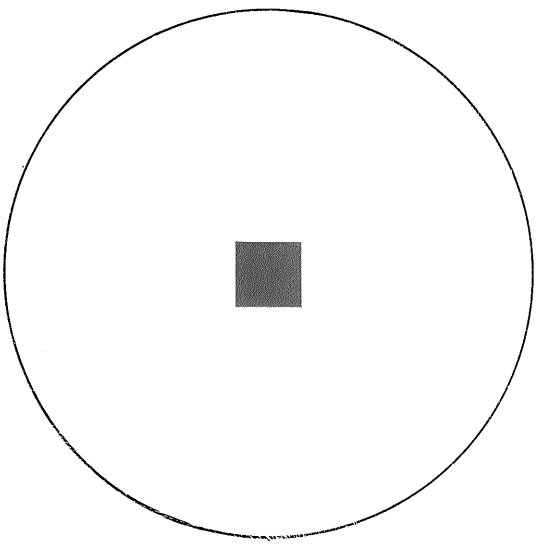

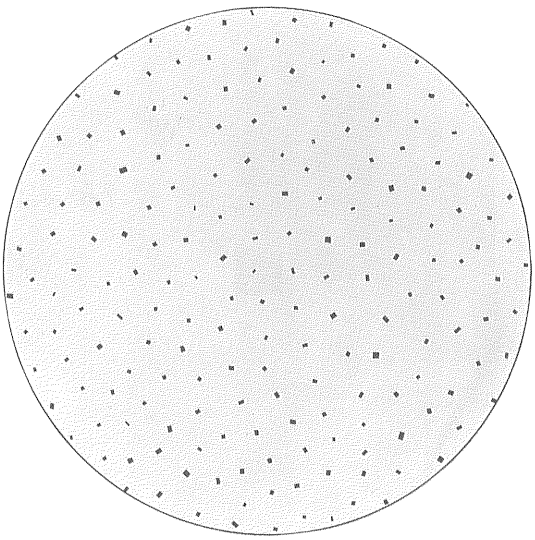

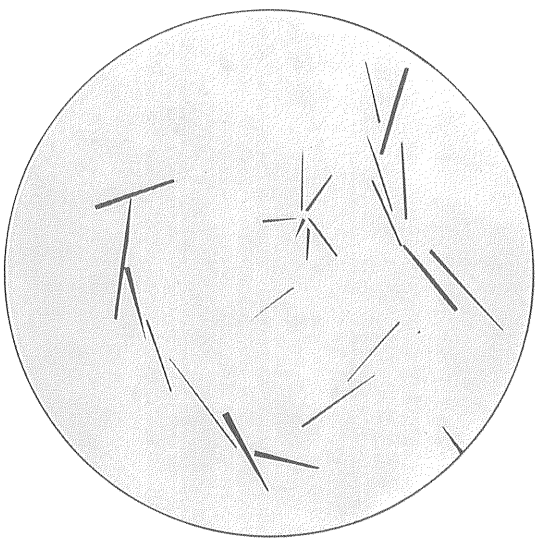

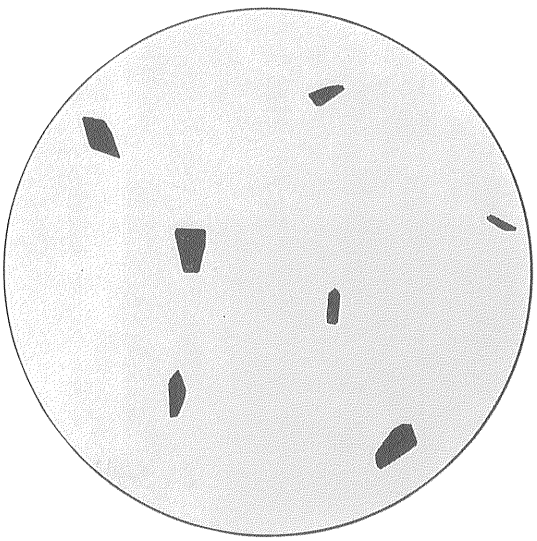

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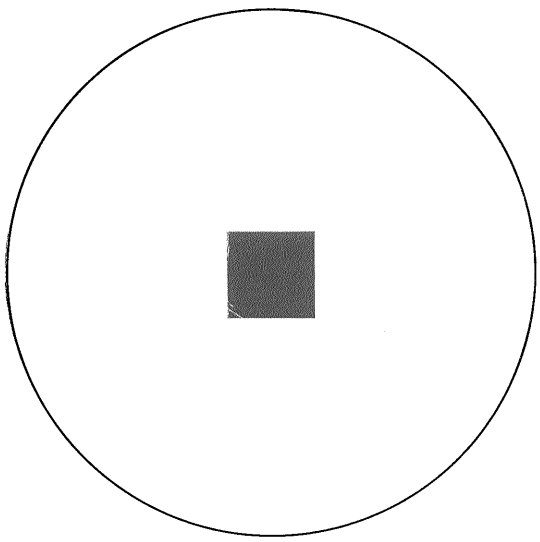

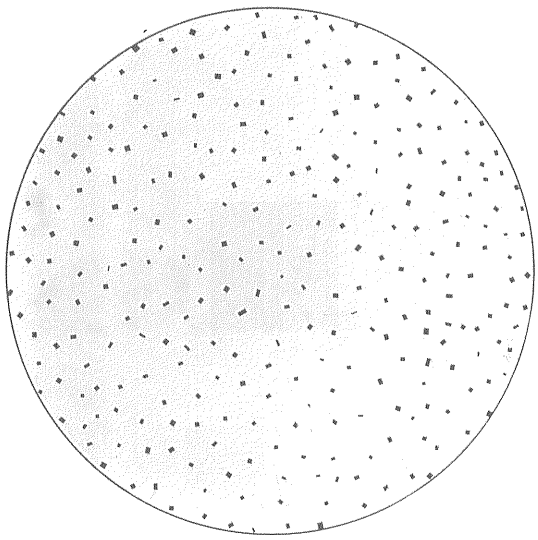

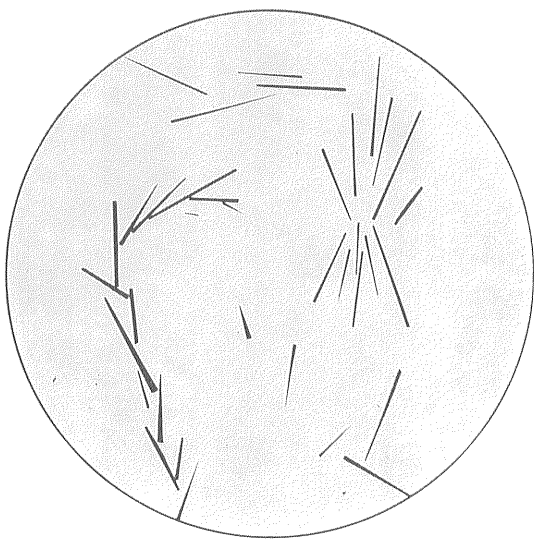

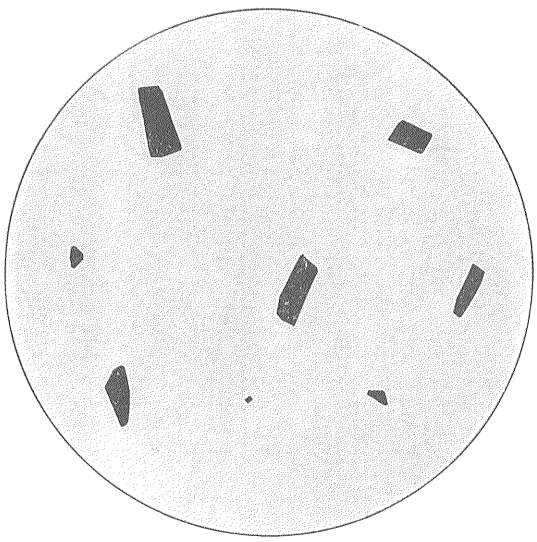

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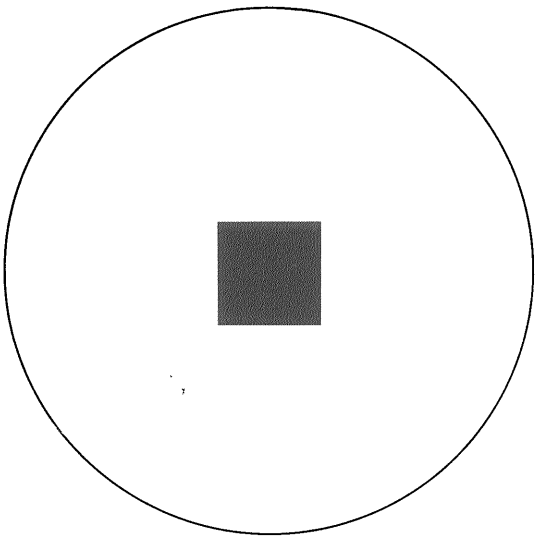

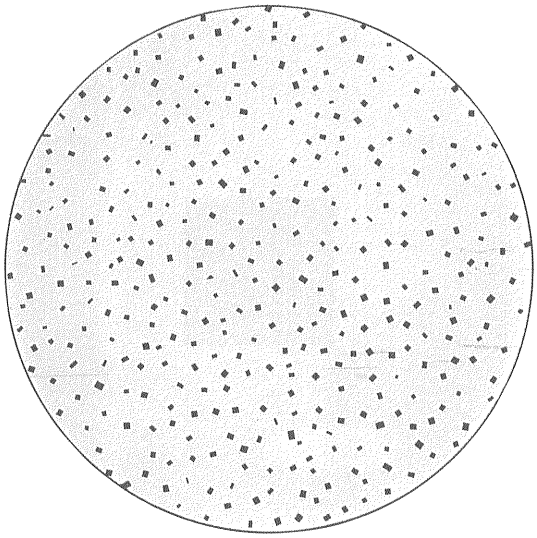

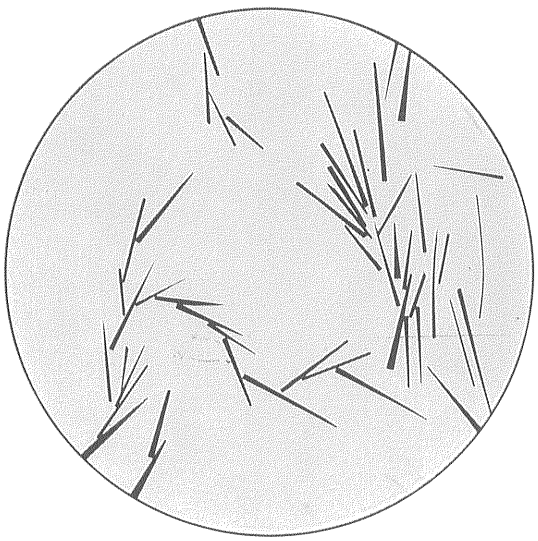

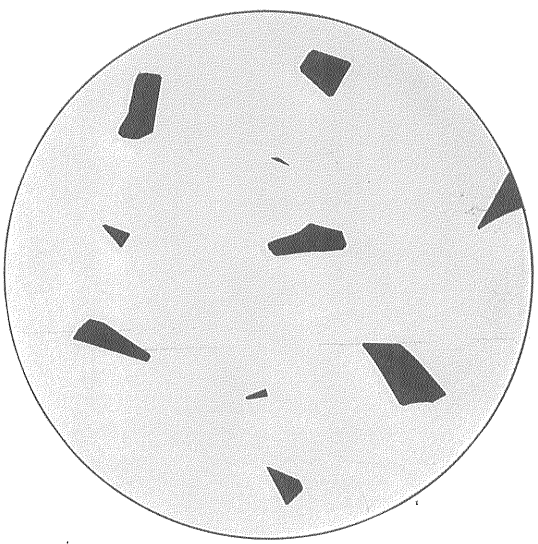

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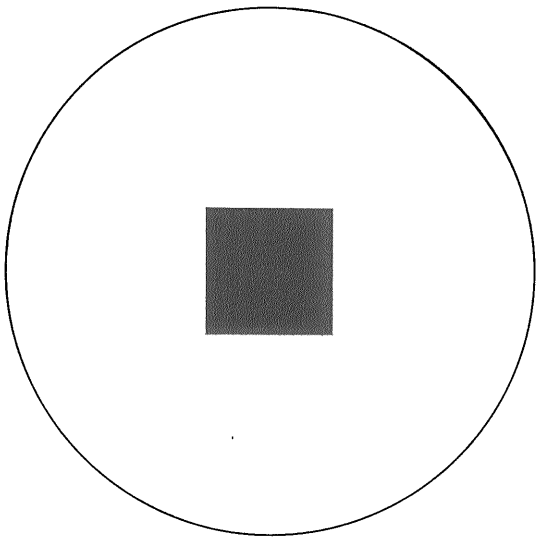

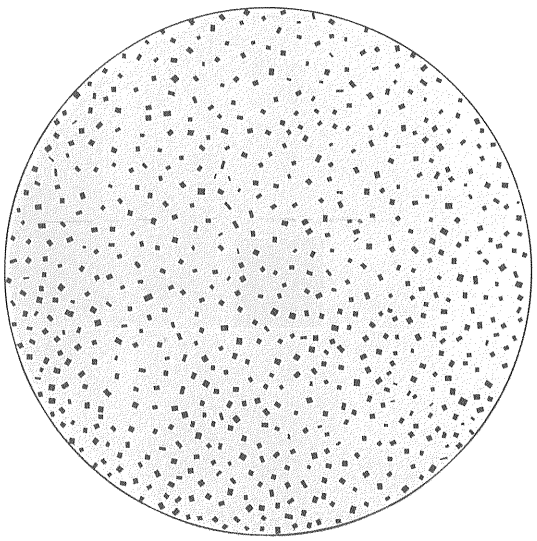

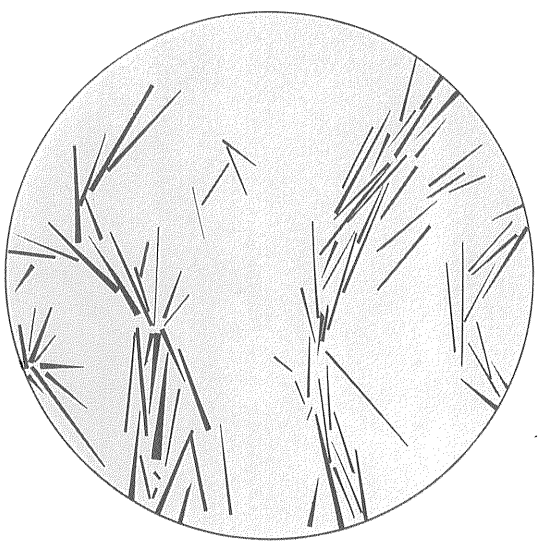

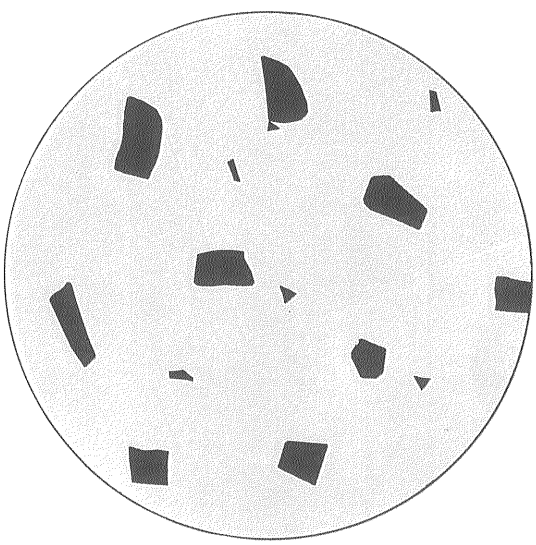

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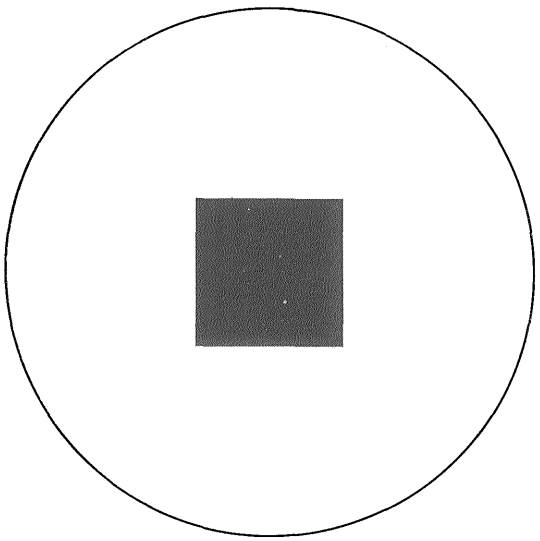

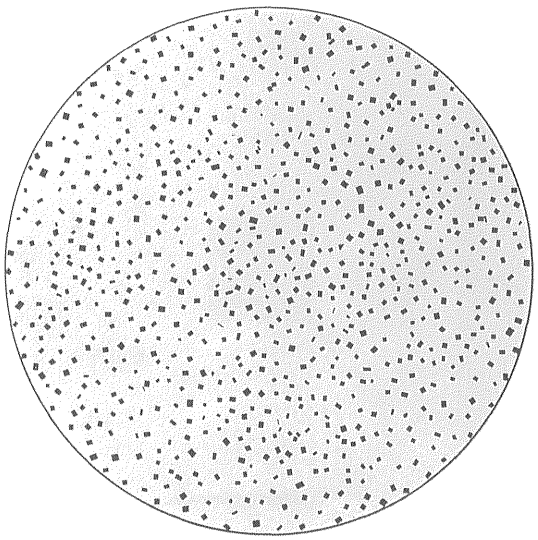

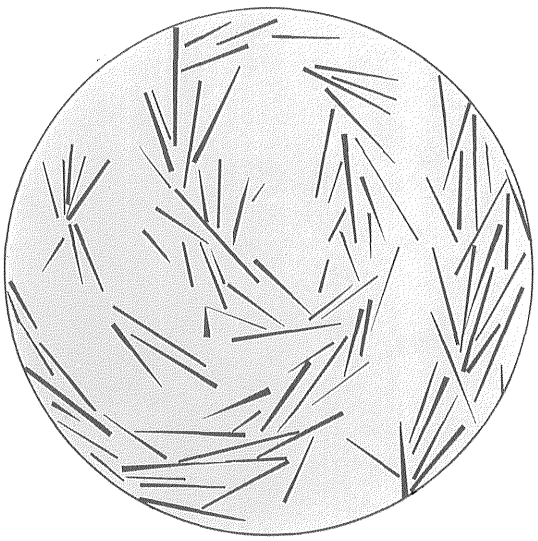

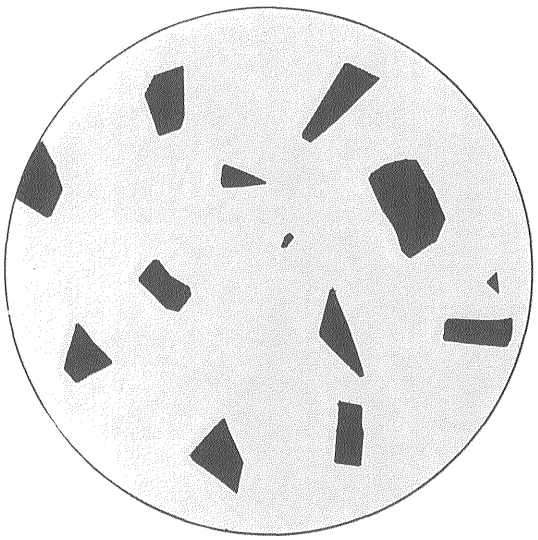

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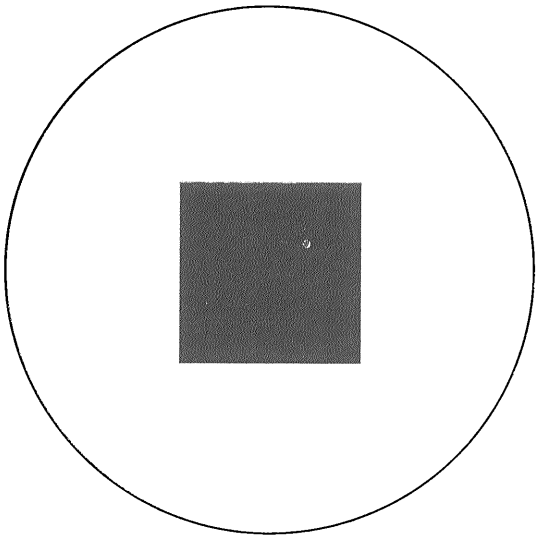

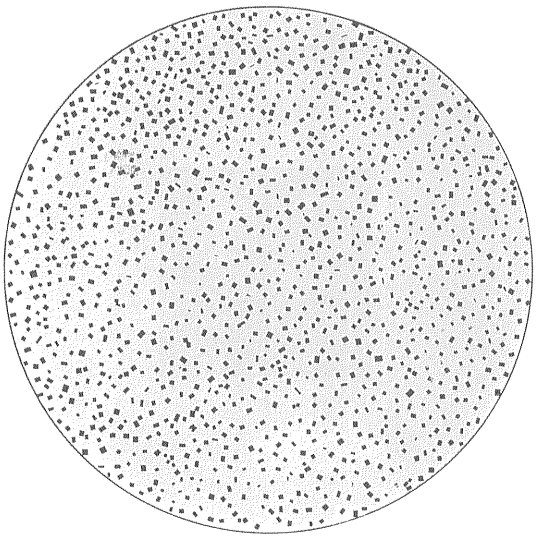

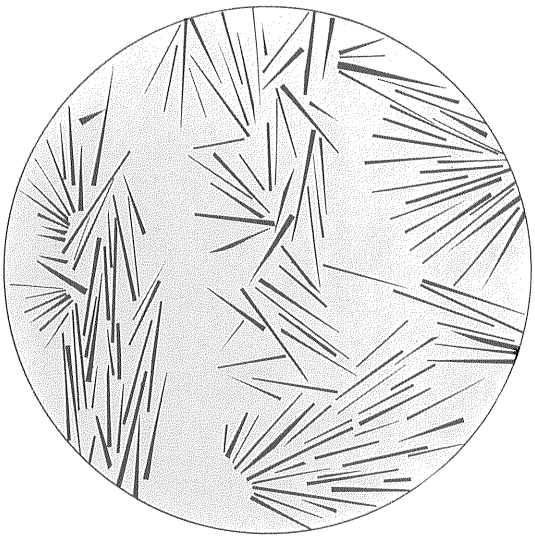

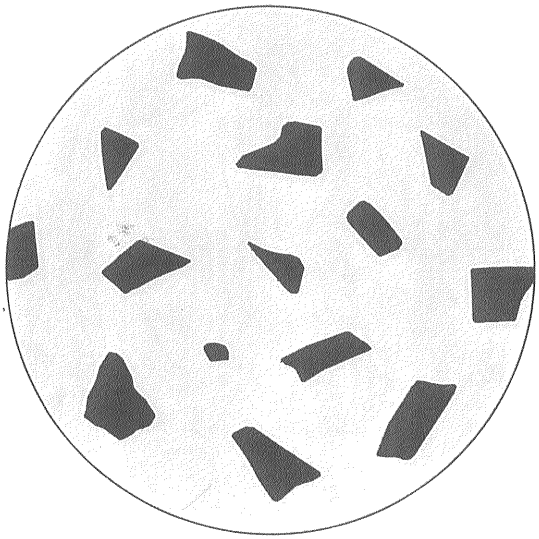

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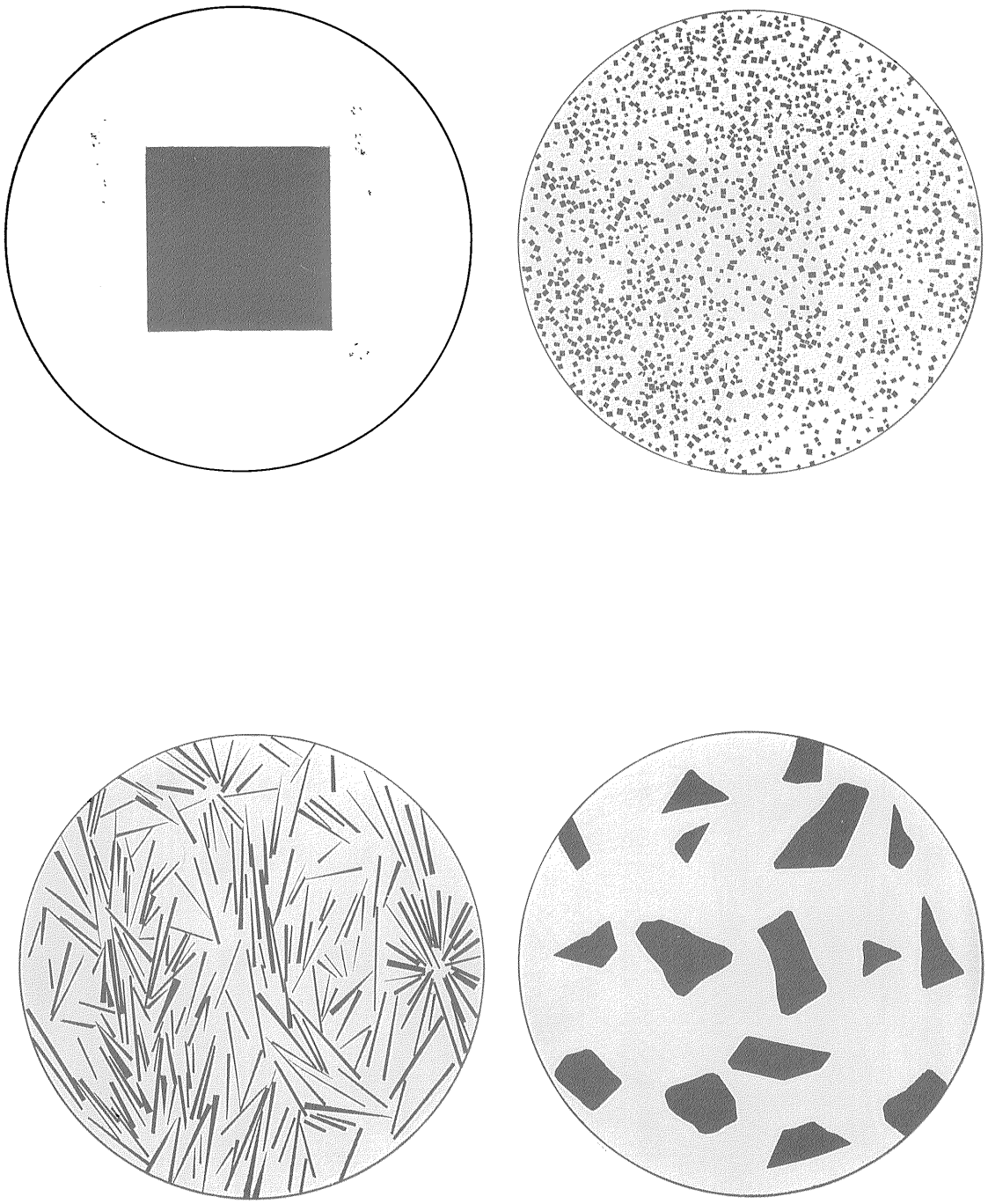

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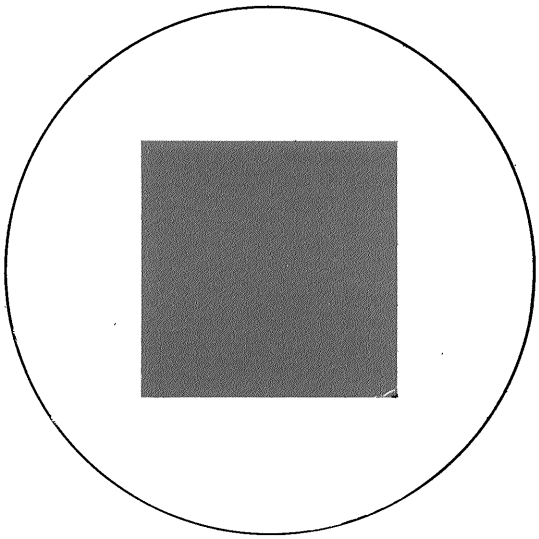

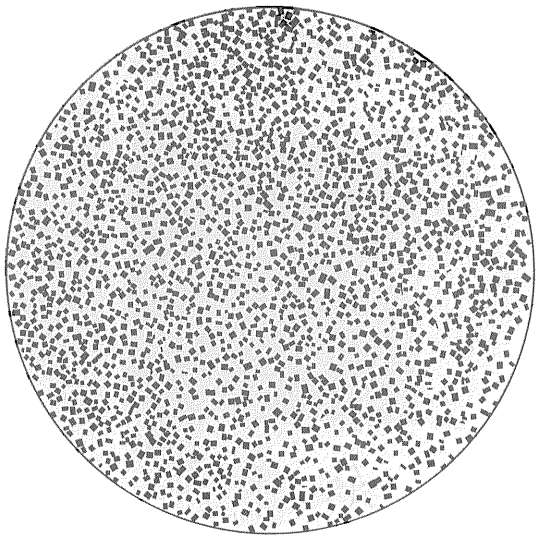

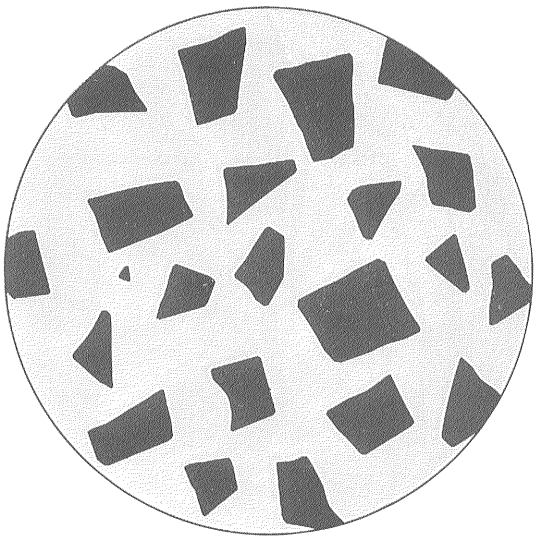

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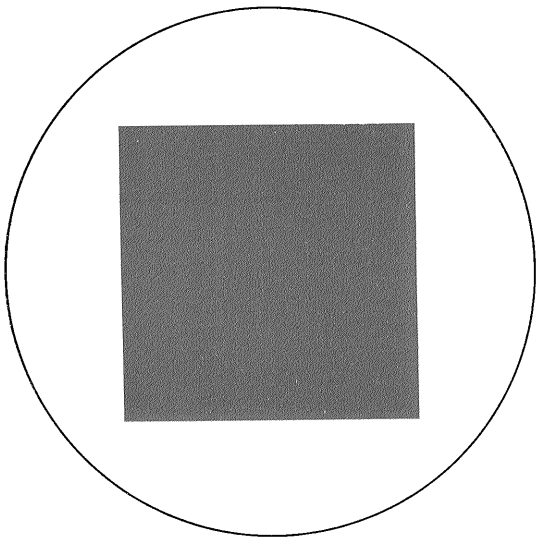
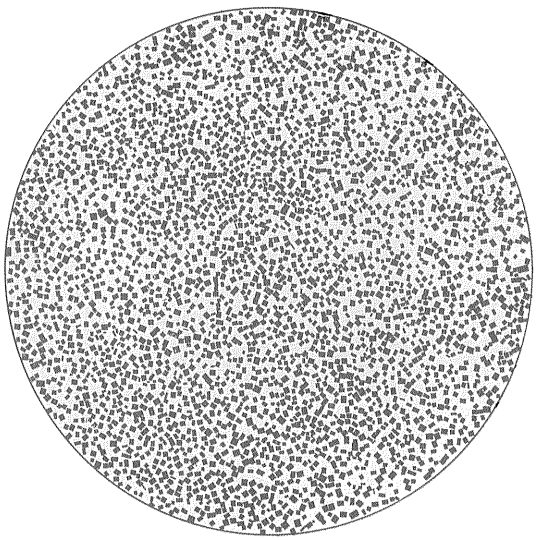
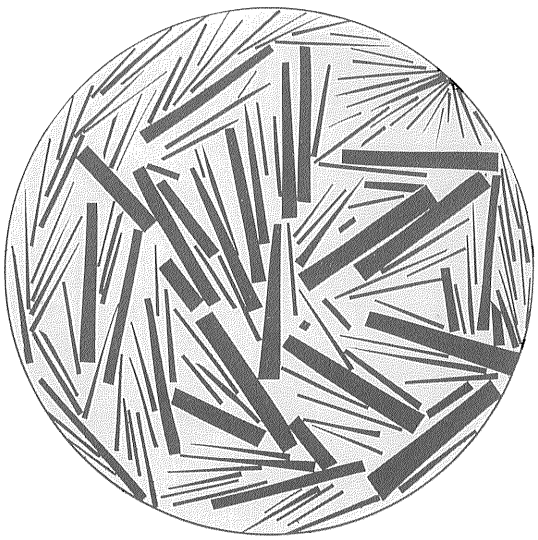
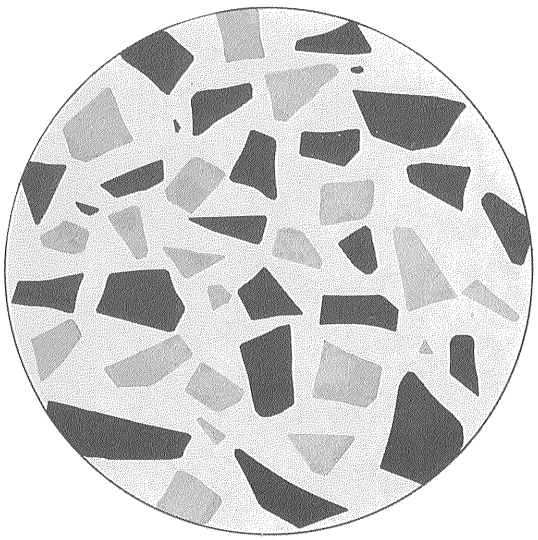


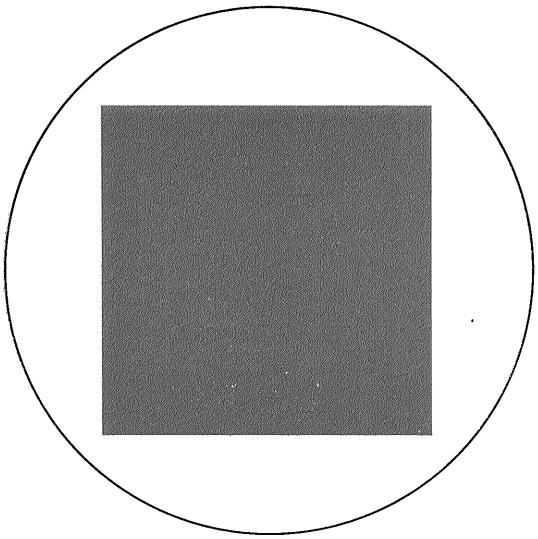


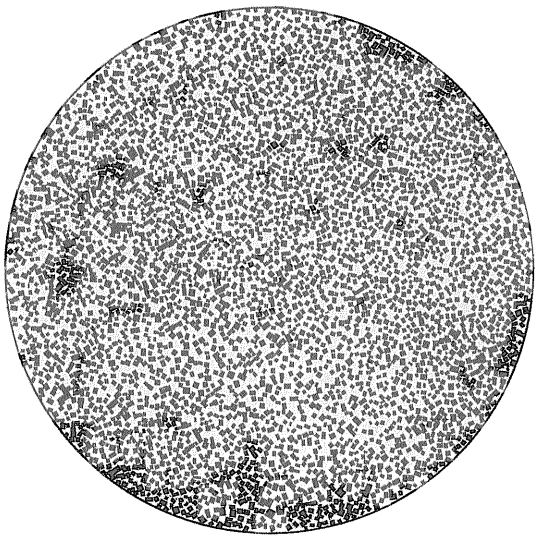


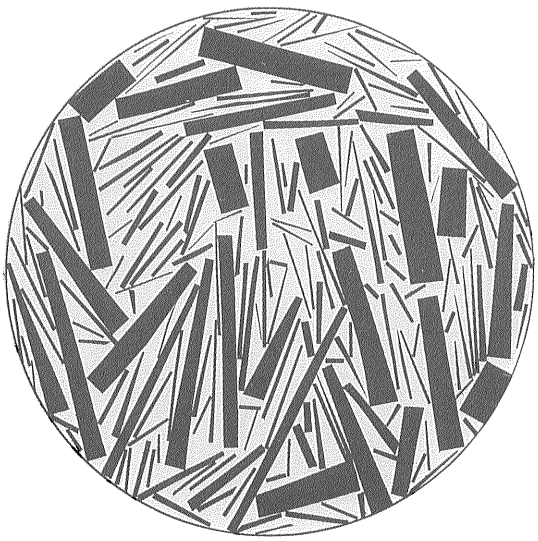


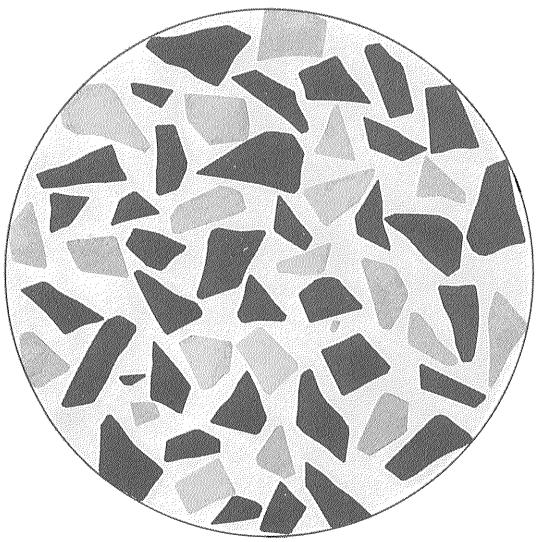
black 25 %
gray 15 %

50 %



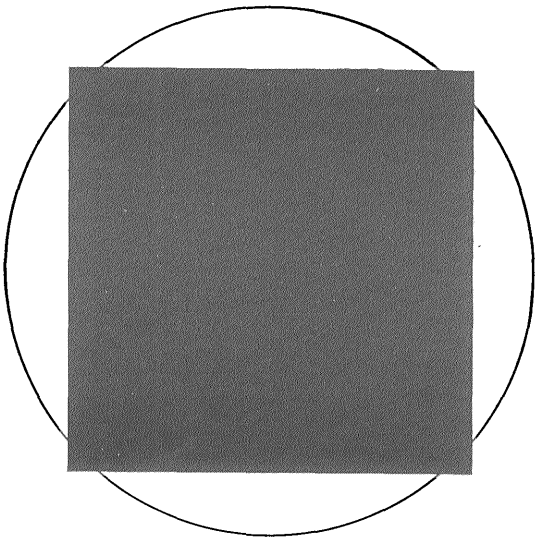


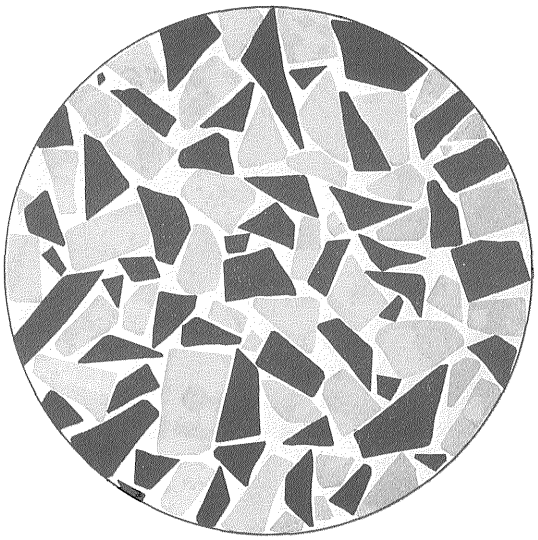




black 33.3 %
gray 16.7 %

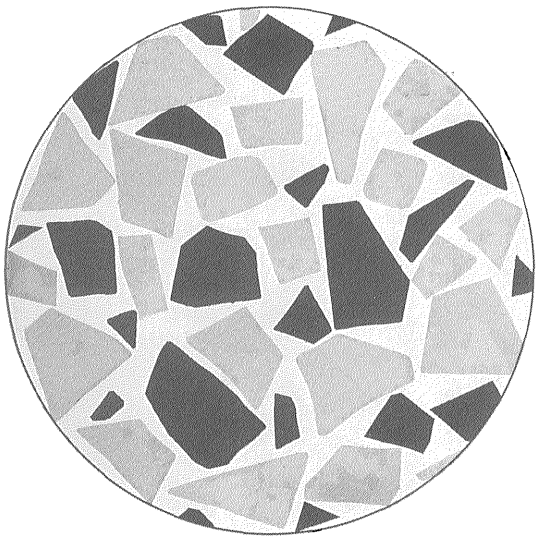
75 %





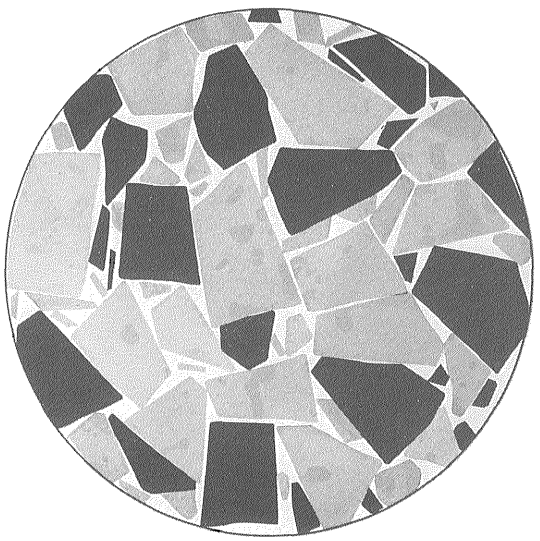
black 37.5 %
gray 37.5 %

65 %



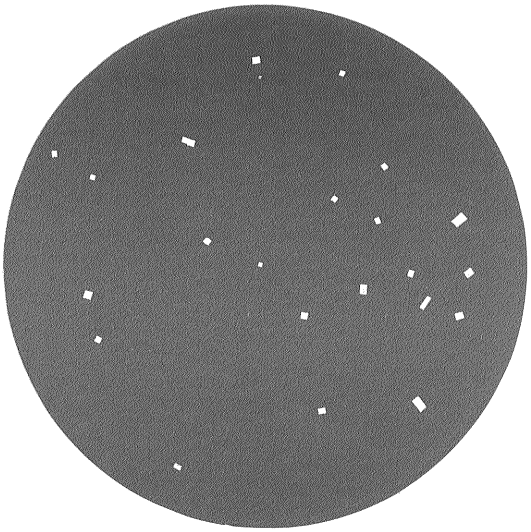
black 25 %
gray 40 %

85 %

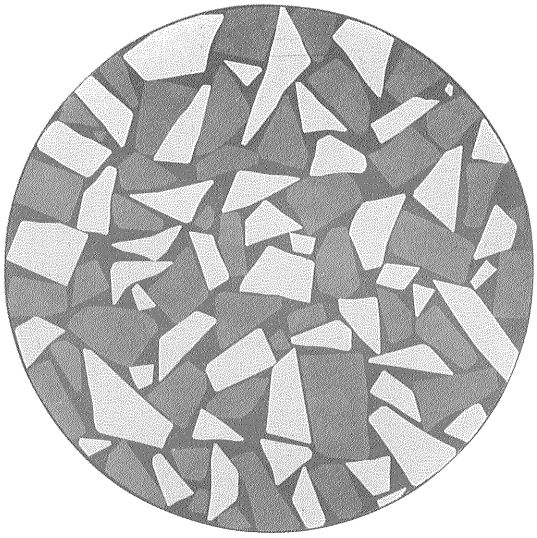


black 35 %
gray 50 %

0.5 %

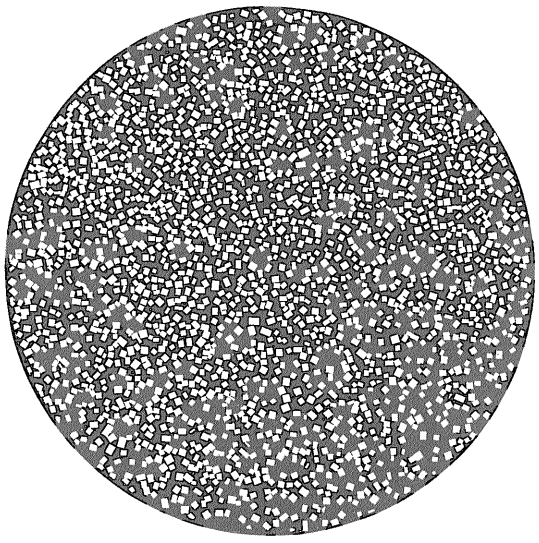


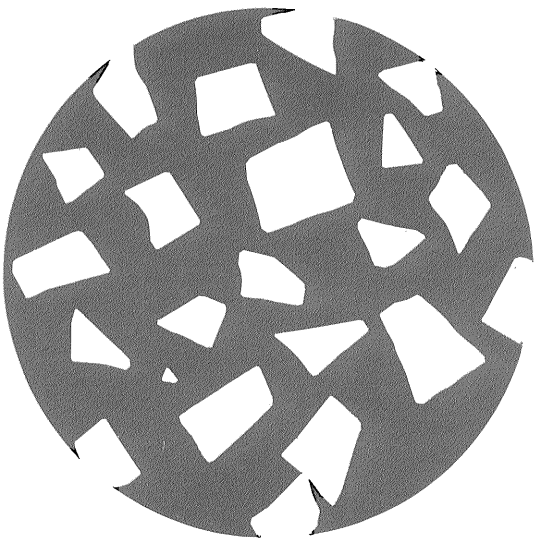
75 %



white 37.5 %
gray 37.5 %

30 %





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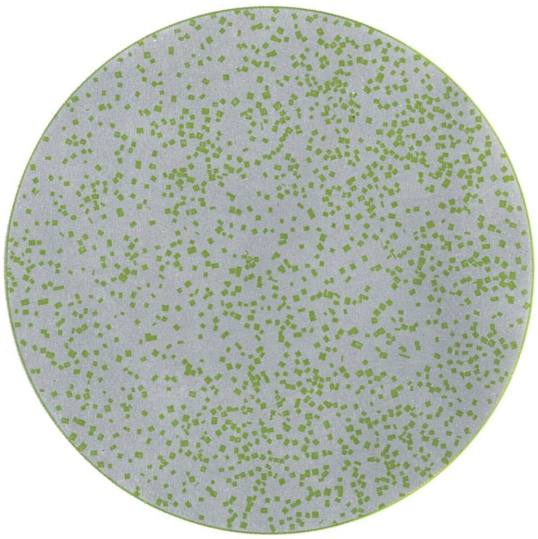

40 %

deep 25 %
light 15 %