

Figure 1. Van der Laan's grouping experiment with pebbles. (Hans van der Laan OSB Archive.)

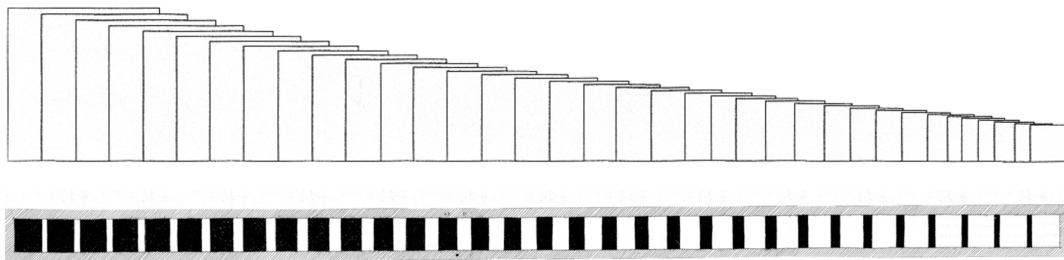


Figure 2. Progression of 36 squares from Van der Laan's experiments illustrating the growth of size across "types of size." (Hans van der Laan OSB Archive.)

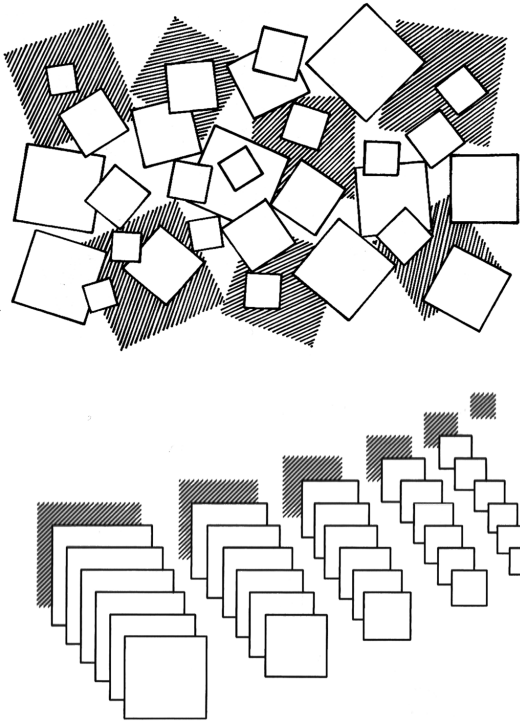


Figure 3. TOP: Van der Laan's grouping experiment. Squares growing of 1:25 one from another are randomly placed on a horizontal surface. BOTTOM: Six "types of size" of the plastic number system, each composed by seven members. (Hans van der Laan OSB Archive.)

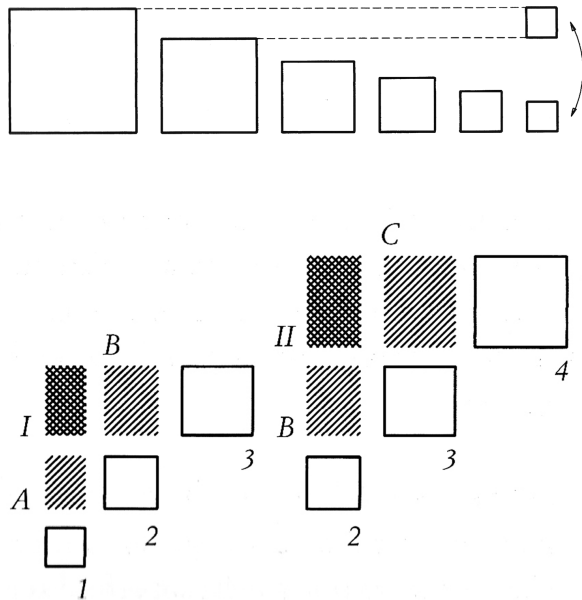


Figure 4. TOP: Six squares representative of consecutive types of size. The smallest measure is shown as equal to the difference between the last two representative sizes of two consecutive types of size. BOTTOM: Intermediate measures between types of size featuring different proportions. (Hans van der Laan OSB Archive.)

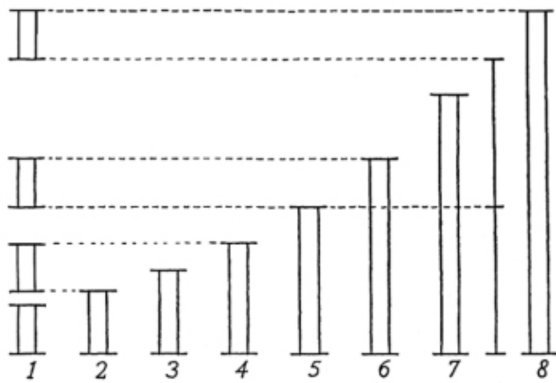


Figure 5. Proportional relationships among authentic measures of Van der Laan's plastic number system. (Hans van der Laan OSB Archive.)

S.0	S.I	S.II	
5226 5126 5026	730 716 702	102 100 98	14
7	1	1/7	1/49
6	6/7	1/8	12,5
4496 4410 4324	628 616 604	82,5 86 89,5	
3945,5 3869,5 3794	552 540,5 530	77 75,5 74	10,5
5 ^{1/3}	3/4	1/9	
4 ⁵	2/3	1/10	9
3394 3329 3264	474 465 456	66 65 64	
2978 2921 2864	416 408 400	58 57 56	8
4	4/7	1/12	
3 ⁵	1/2	1/14	7
2562 2513 2464	358 351 344	50 49 48	
2248 2205 2162	314 308 302	44 43 42	6
3	3/7	1/16	
1934 1897 1860	270 265 260	38 37 36	5
2 ⁵	2/5	1/18	
1697 1664,5 1632	237 232,5 228	33 32,5 32	4,5
7/3	1/3	1/21	
1460 1432 1404	204 200 196	25,5 28 27,5	4
2	2/7	1/24	
1264 1256,5 1232	179 175,5 172	25 24,5 24	3,5
7/4	1/4	1/28	
1162 1081 1060	154 151 148	21	3
1 ^{1/2}	2/9	1/32	
967 940,5 930	135 132,5 130	18,5	2,5
4/3	1/5	1/35	
832 816 800	116 114 112	16	2
7/6	1/6	1/42	
730 716 702	102 100 98	14	2
1	1/7	1/49	
628 616 604	87,5 86 84,5	12,5	1
6/7	1/8		

Figure 6. Chart of the Plastic number series with correspondent numbers and aspect ratios. The blue squares indicate the derived measures and the red circles the authentic measures. All members between the red circles constitute a type of size. Each column constitutes an order of size. The red and blue numbers are respectively the authentic and derived measures. The black numbers above and below each coloured number represent respectively the increased and reduced measures of 1/50. (Table by the author.)

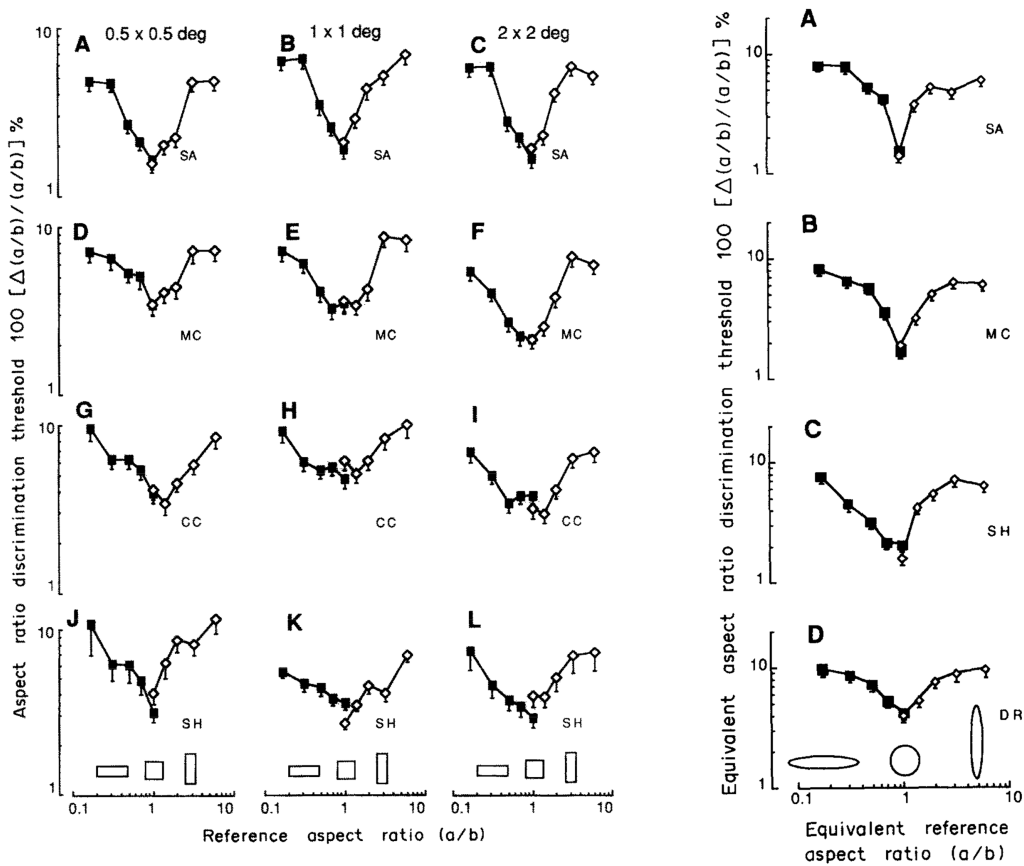


Figure 7. LEFT: Regan and Hamstra's results from experiment 1. Aspect ratio discrimination threshold percentage (y-axis) for rectangles of different aspect ratios (x-axis). RIGHT: Regan and Hamstra's results from experiment 5. Aspect ratio discrimination threshold percentage (y-axis) for ellipses of different aspect ratios (x-axis) (working on permission). (Regan and Hamstra 1992, 1848, 1850.)

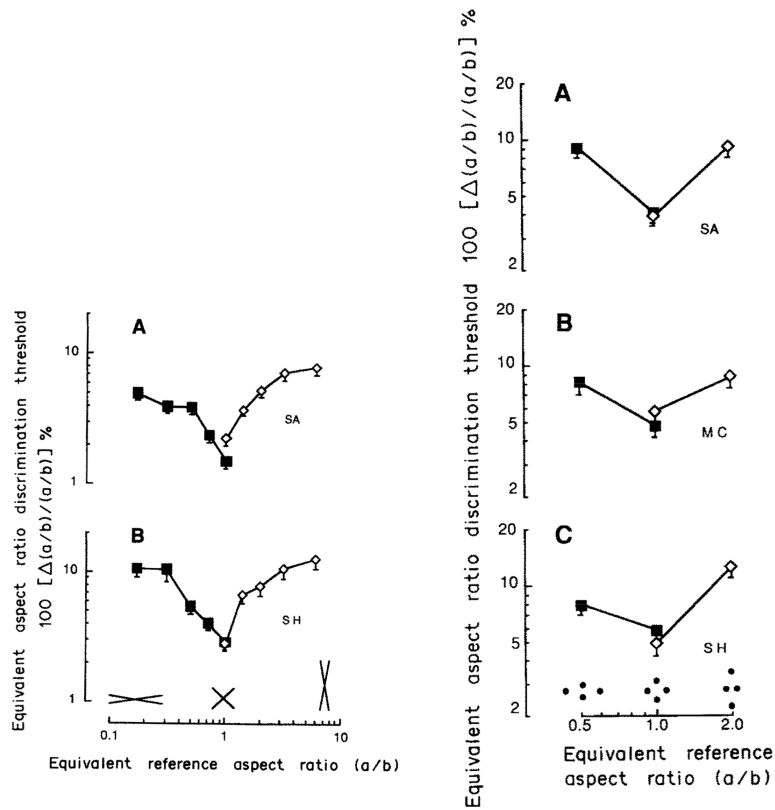


Figure 8. LEFT: Regan and Hamstra's results from experiment 3. Aspect ratio discrimination threshold percentage in angle subtended between two lines (y-axis) for different mean angles (x-axis). RIGHT: Regan and Hamstra's results from experiment 4. Aspect ratio discrimination threshold percentage in aspect ratio (y-axis) for the four dots array (x-axis) (working on permission). (Regan and Hamstra 1992, 1851-1852.)

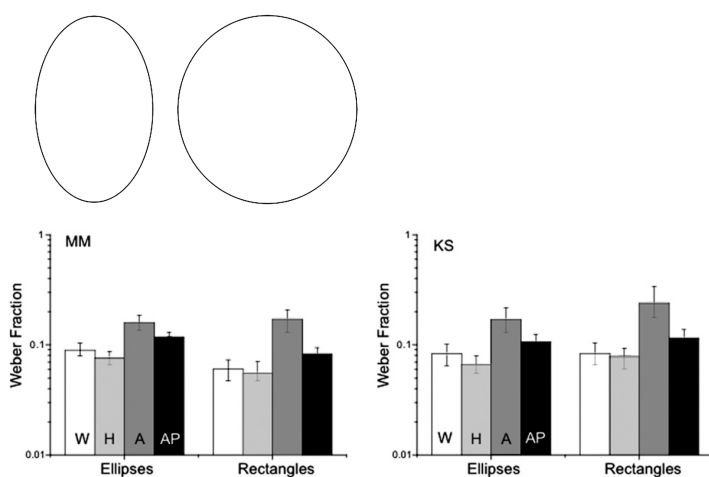


Figure 9. TOP: Schematic representation of the stimuli on an 'area' trial. In the case the ellipses on the right has the greater area. BOTTOM: Thresholds for Width (W), height

(H), area (A), and aspect ratio (AP) for two observers and for two different reference shapes (ellipses and rectangles) (working on permission). (Morgan 2005, 2566-2567.)

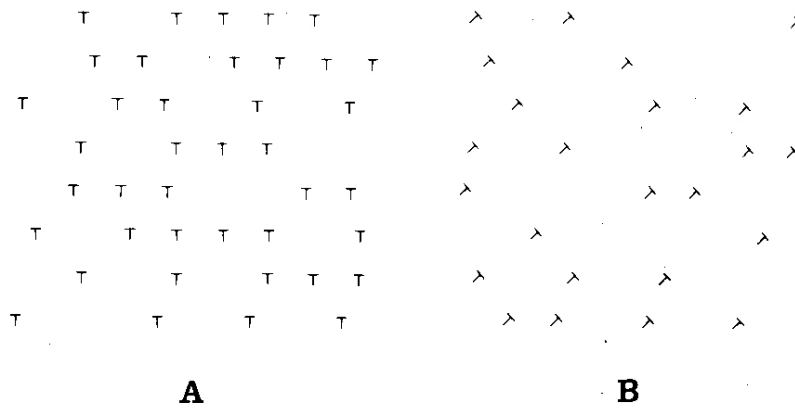


Figure 10. Sample patterns used in Beck's experiments. (A) pattern of upright Ts employed as standard in experiment 1 and 2. (B) Pattern of Ts tilted of 45°, one of a larger comparison patterns used (working on permission). (Beck 1967, 491.)

EXPERIMENT 1										EXPERIMENT 2			
MEAN RATINGS T =.039 ft.-L.										MEAN RATINGS T =.057 ft.-L.			
TT	T+	T-	Tx	T⊥	T┘	T∨	T∨	T∧		Tπ	TF	TH	T⋈
0.42	1.05	1.26	1.42	1.47	1.53	2.47	2.95	3.05		1.71	1.86	2.07	3.50
MEAN RATINGS T =.032 ft.-L.										MEAN RATINGS T =.047 ft.-L.			
TT	T+	T-	Tx	T⊥	T┘	T∨	T∨	T∧		Tπ	TH	TF	T⋈
1.05	1.68	1.79	1.84	2.05	2.63	2.95	3.32	3.58		1.93	2.36	2.57	4.14
MEAN RATINGS T =.025 ft.-L.										MEAN RATINGS T =.039 ft.-L.			
TT	T+	T⊥	T-	Tx	T┘	T∨	T∨	T∧		TH	Tπ	TF	T⋈
1.79	2.16	2.32	2.63	2.79	3.47	3.95	4.26	4.26		2.92	3.14	3.29	4.43
MEAN RATINGS DISREGARDING LUMINANCE										MEAN RATINGS DISREGARDING LUMINANCE			
TT	T+	T-	T⊥	Tx	T┘	T∨	T∨	T∧		Tπ	TH	TF	T⋈
3.26	4.89	5.68	5.84	6.05	7.63	9.97	10.05	10.89		6.78	7.35	7.72	12.07

Figure 11. LEFT: Results from Beck's experiment 1 (2-lines figures). Mean ratings of the degree to which the standard and comparison patterns were perceived to group. The Ts tilted of 45° result to perform better in the grouping task (last two members of each row). RIGHT: Results from Beck's experiment 2 (3-lines figures). Mean ratings of the degree to which the standard and comparison patterns were perceived to group. The Fs tilted of 45° result to perform better in the grouping task (last member of each row) (working on permission). (Beck 1967, 493.)

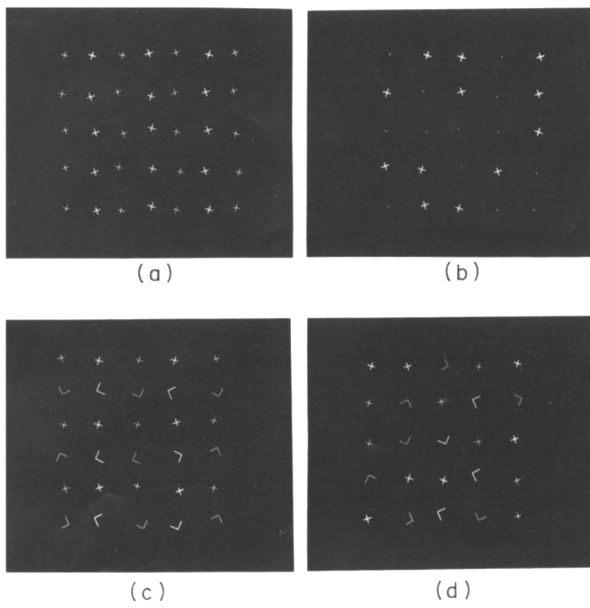


Figure 12. Stimuli used in Ben-Av and Sagi's experiments. (a) Uniform stimulus: pattern composed of Xs randomly oriented. (b) Possible mask for the uniform stimulus. (c) Possible pattern for combined stimulus, Xs or Ls in alternating rows. (d) Possible mask for the combined stimulus (working on permission). (Ben-Av and Sagi 1995, 854.)

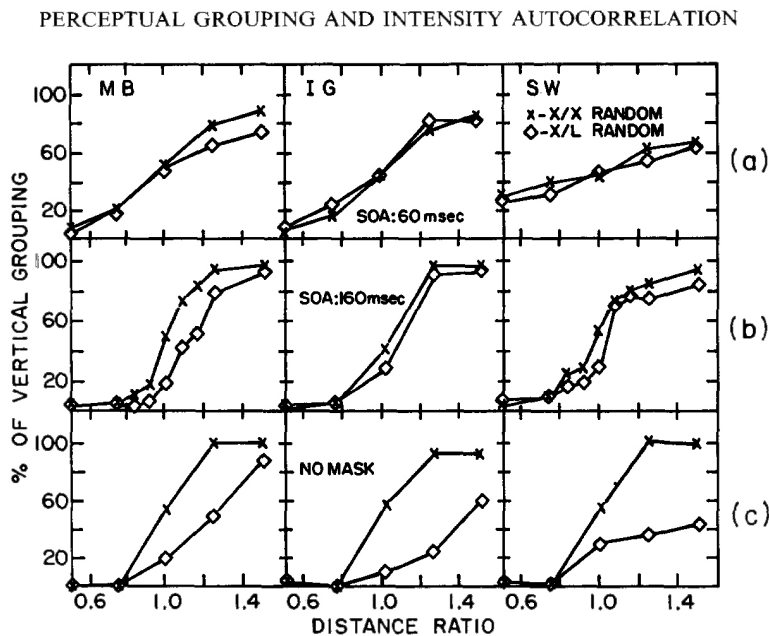


Figure 13. Results for Ben-Av and Sagi's experiment 1 for both uniform (x) and combined (void rhombus) stimuli plotted on the same axis. The graphs represent the

percent of vertical grouping (y-axis) as a function of the distance ratio (x-axis). (Ben-Av and Sagi 1995, 857.)

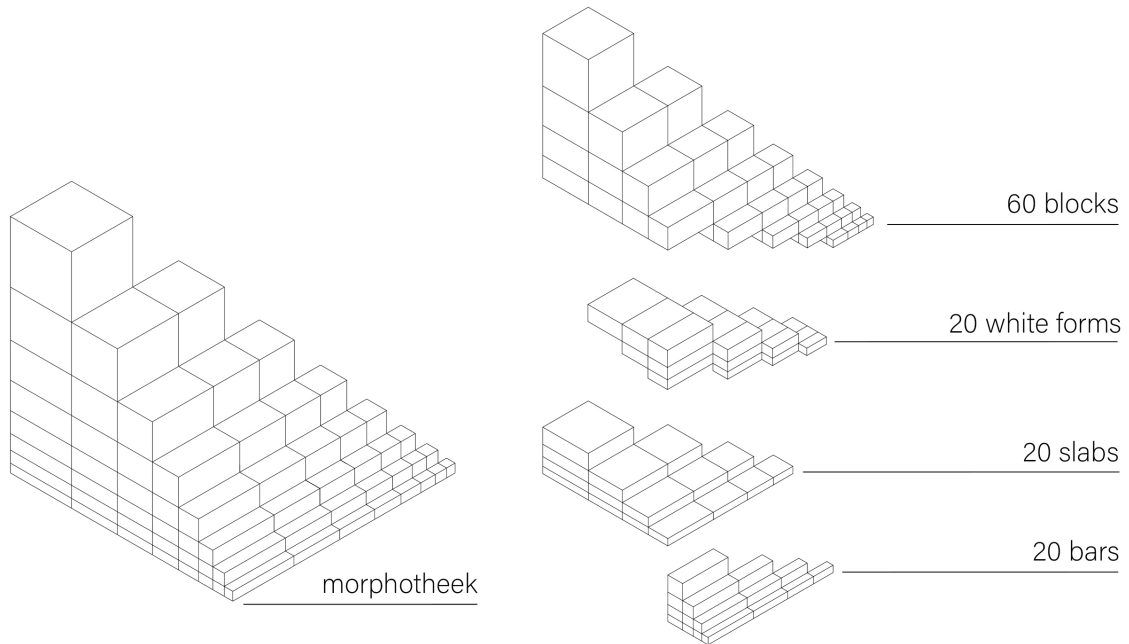


Figure 14. Van der Laan's morphotheek composed by 60 'blocks,' 20 'bars,' 20 'slabs,' and 20 'white forms.' (Drawing by the author.)