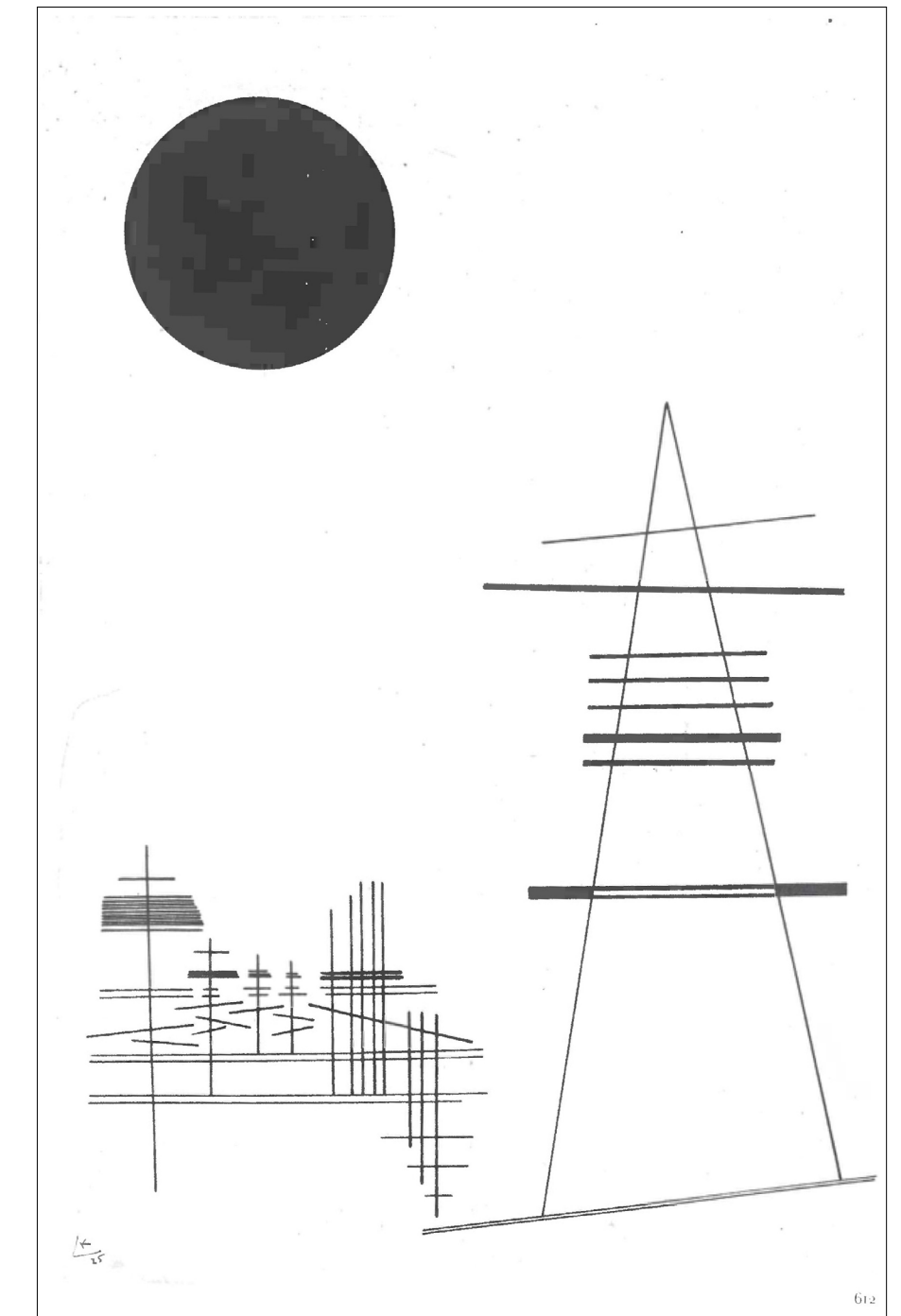
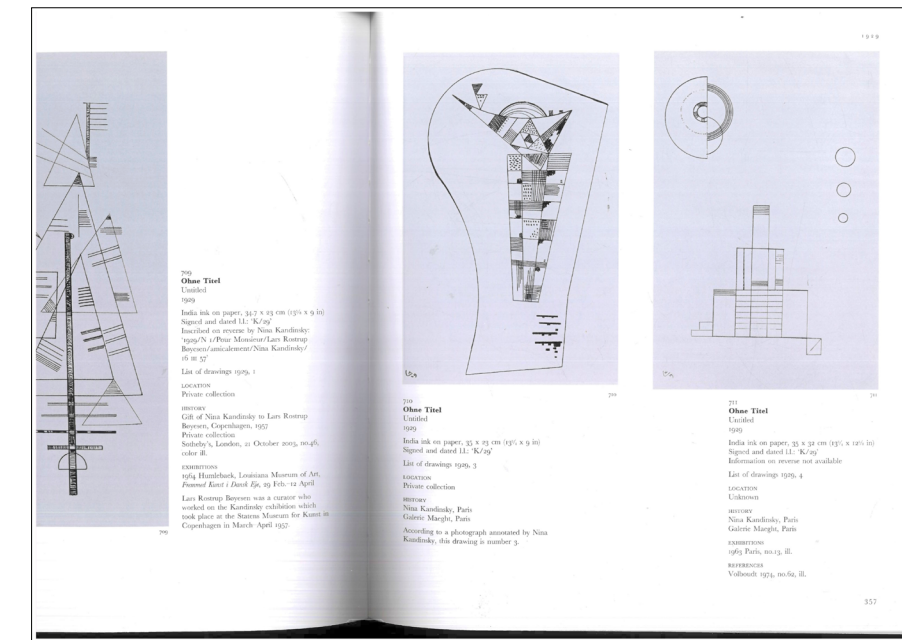
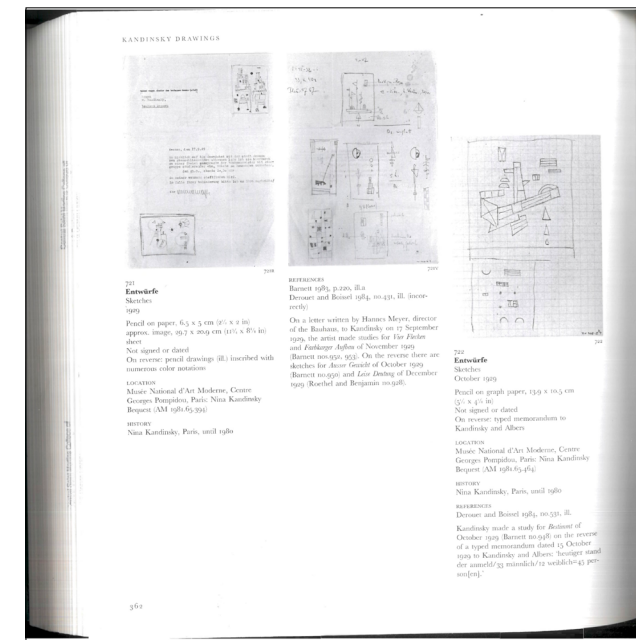
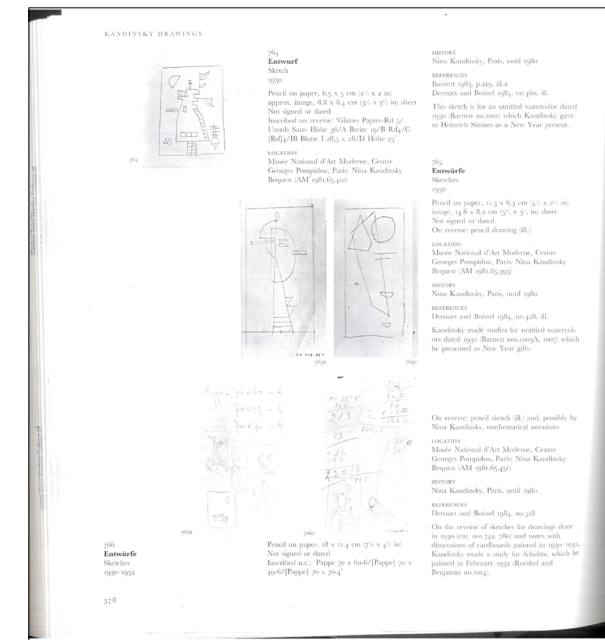
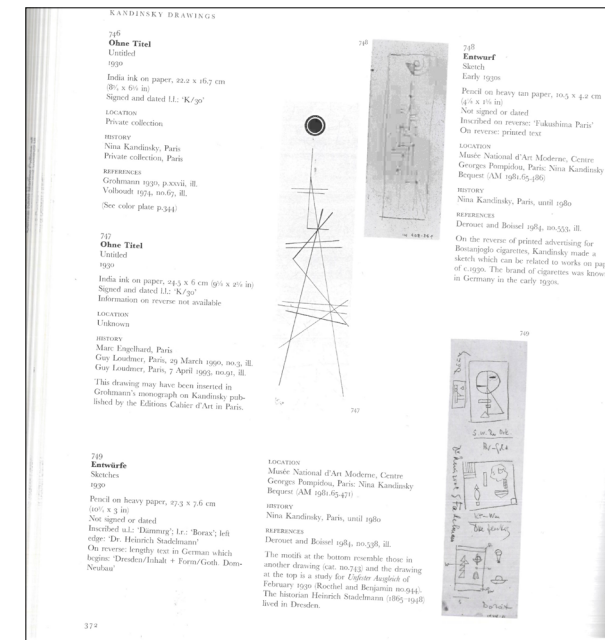
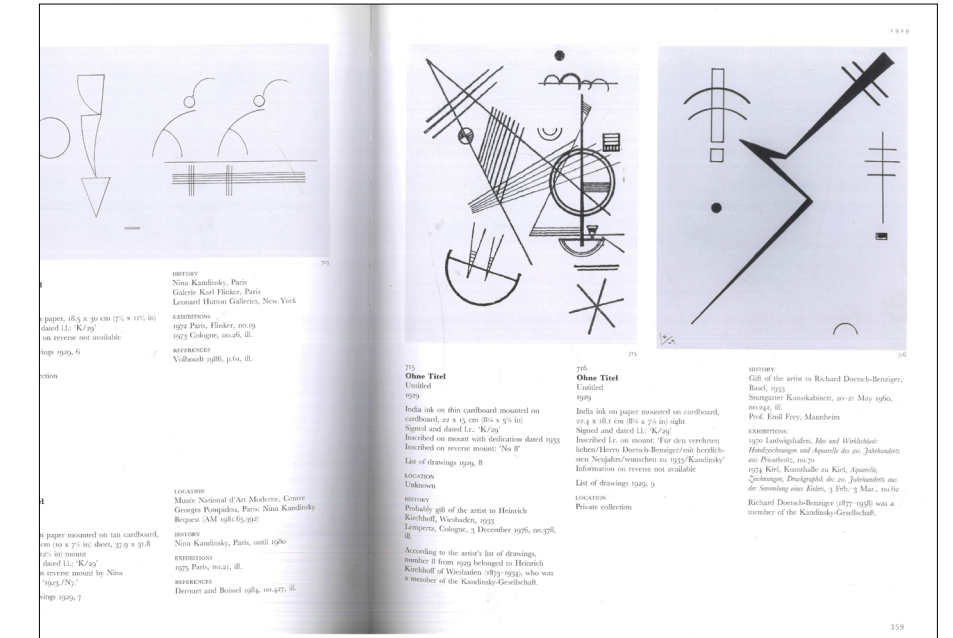
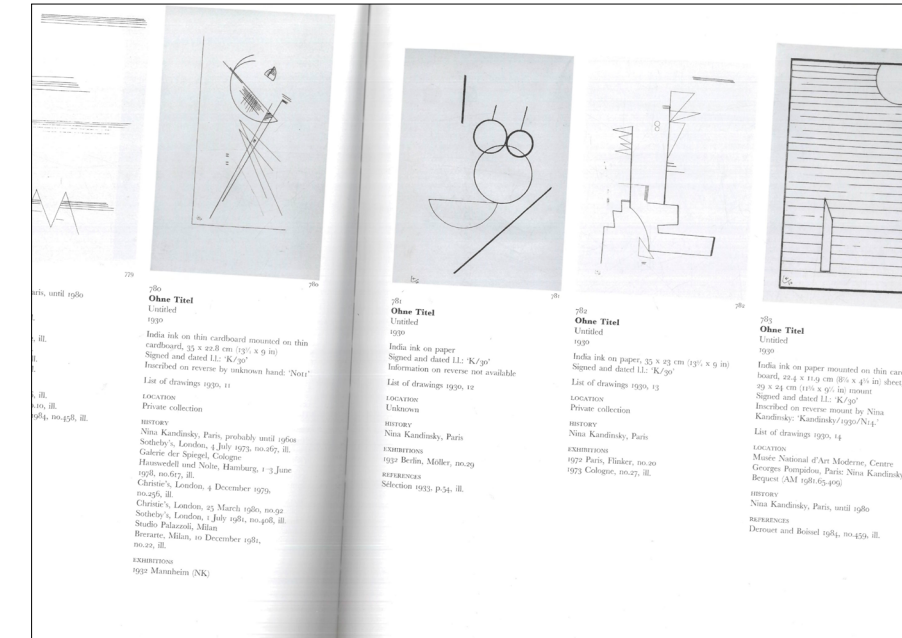
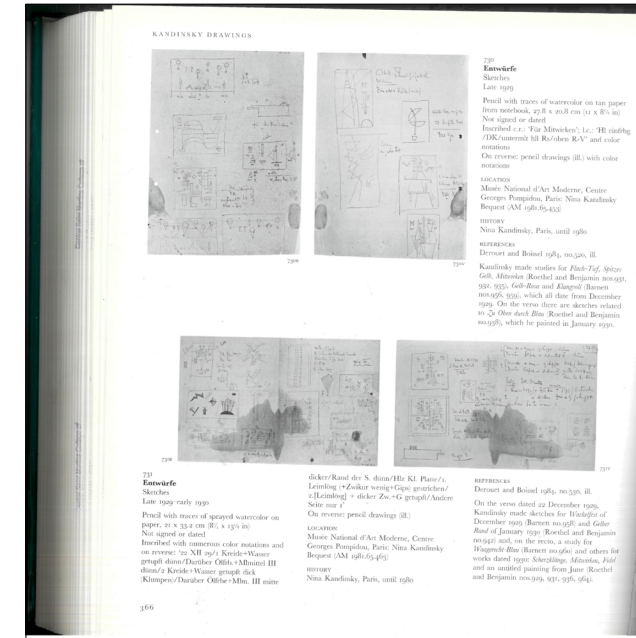
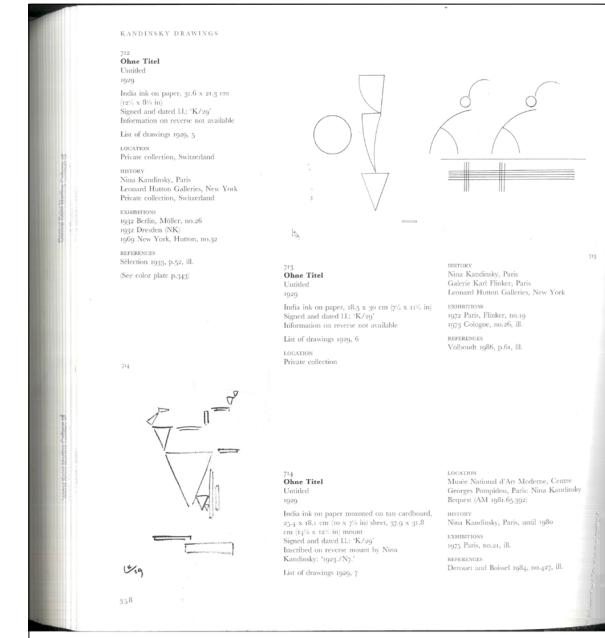
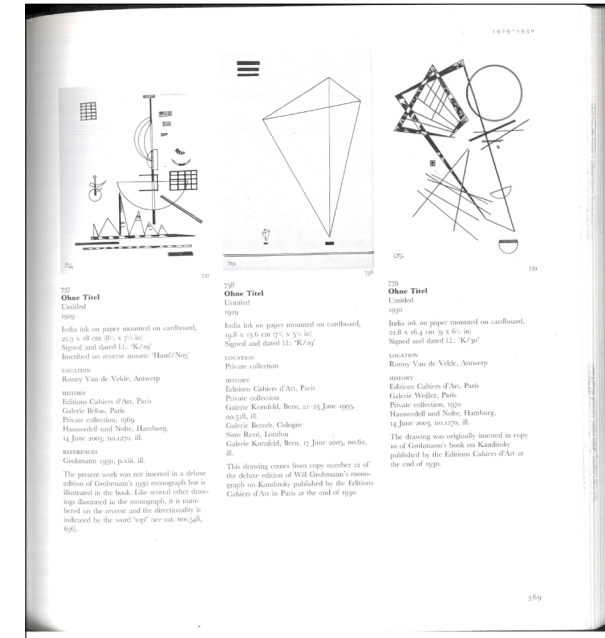
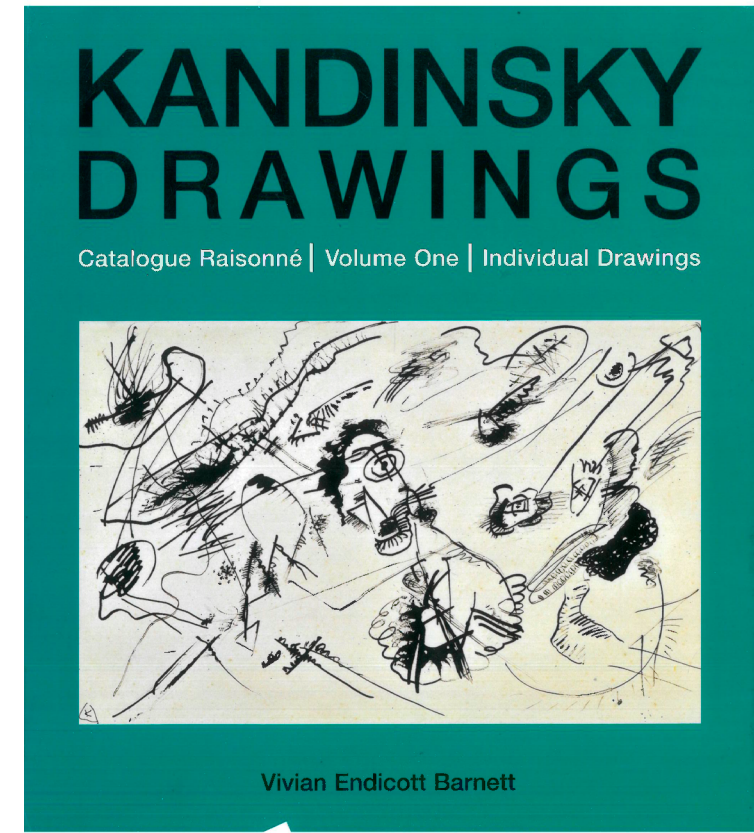


Position

Position Through Contextualising



Before Reference

&During

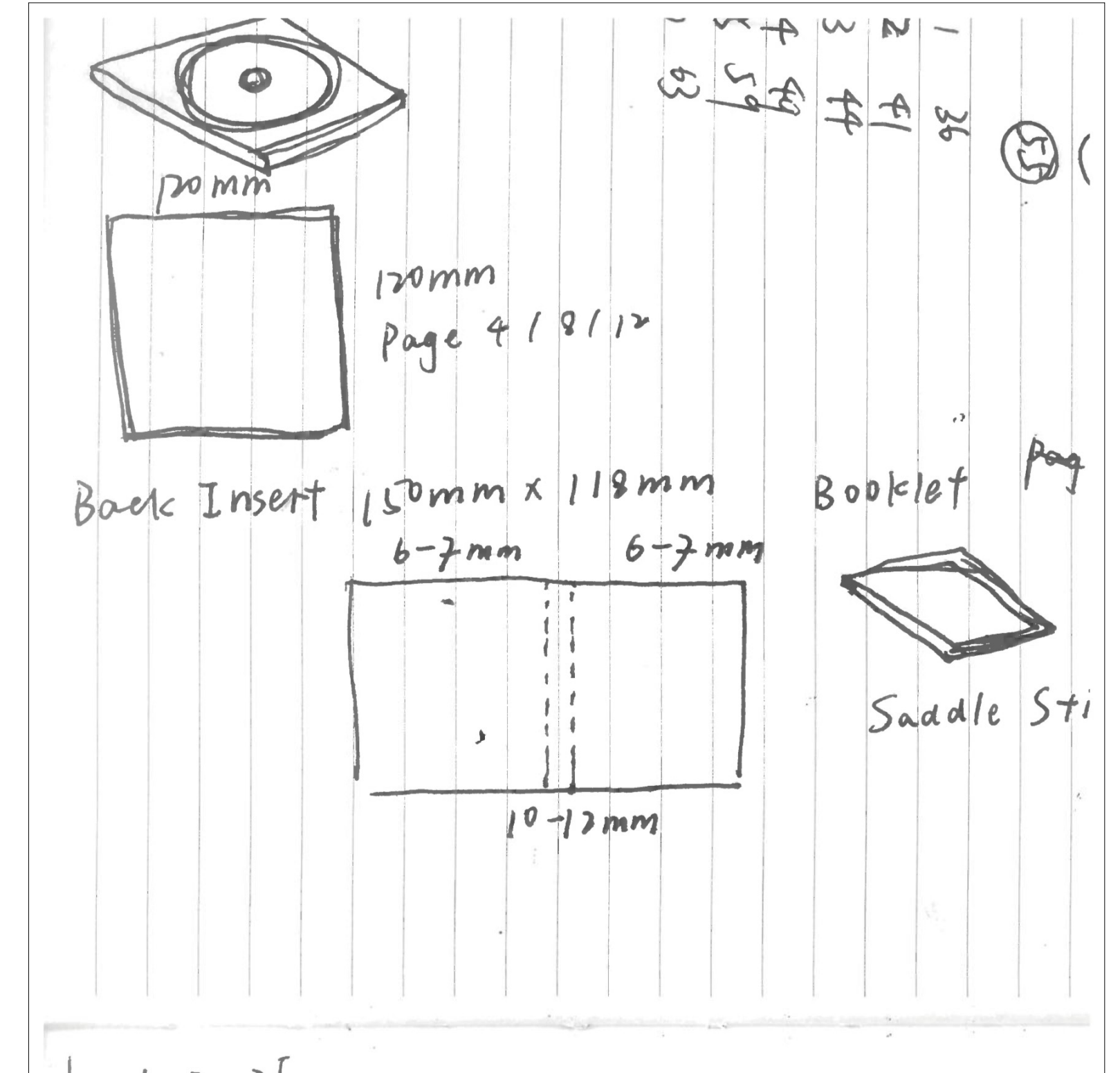
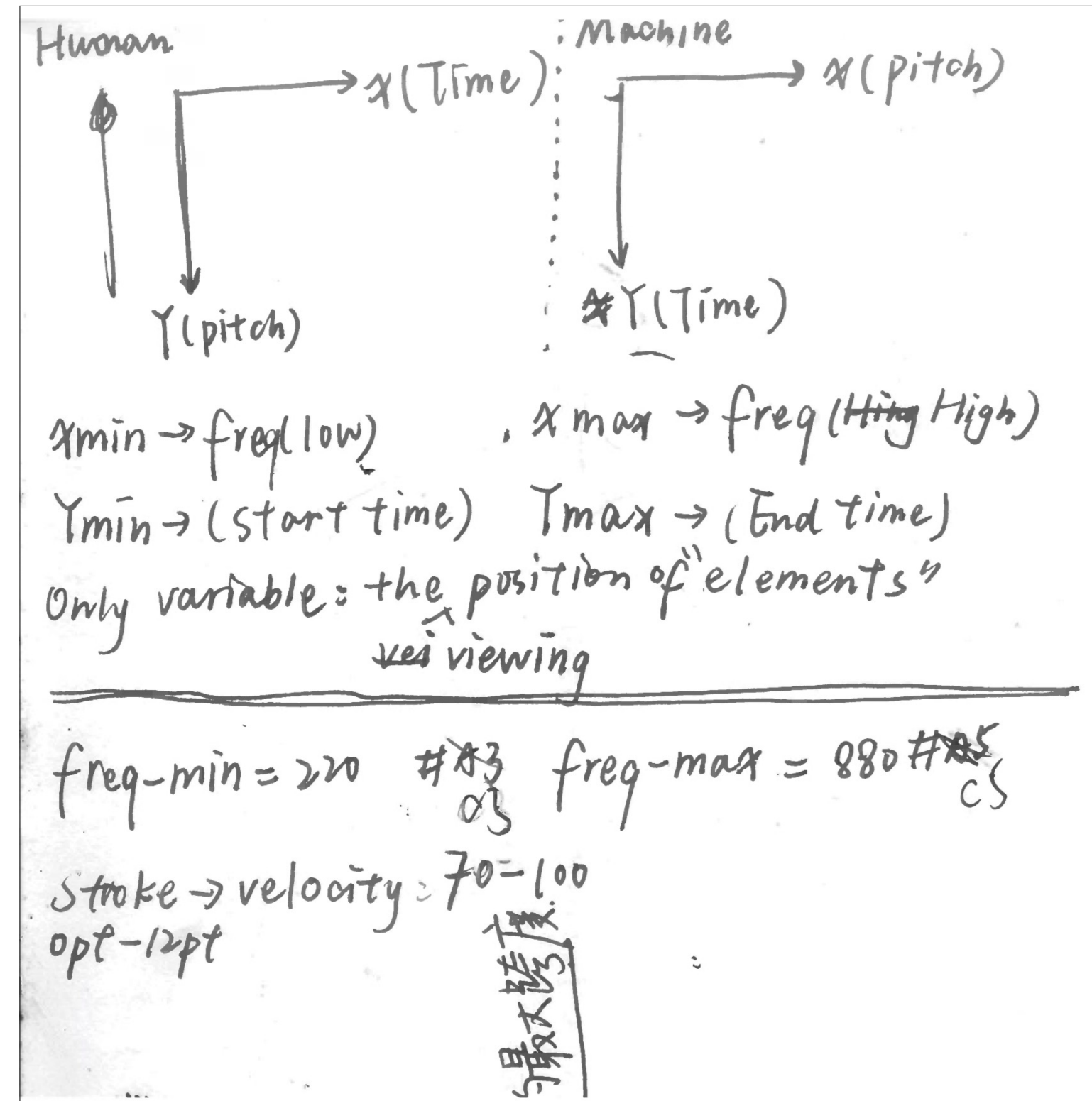
&After

Final Version.

Time = 0-30s
 Velocity = 70-100
 frequency = 220-880

\downarrow
 $\text{midi} = 69 + 12 \times \log_2(\text{freq} / 440)$
 整数

key = C
 point = Be pluck
 line = Strings
 slash = Pad
 plane = string pitch bend
 (neverous) (x start - x end)
 Pitch Bend Range = ± 12



Translating Kandinsky into Music: A Dual-Perspective Experiment

This experiment takes a painting by Kandinsky as its subject, attempting to translate it into music. Kandinsky's practice was built upon the correspondence between the visual and the auditory – he believed colour has temperature, form carries sound, and that visual elements share an intrinsic mapping with musical language. This provides the methodological basis for the experiment.

When something is translated, what gets lost – and what does that loss reveal?

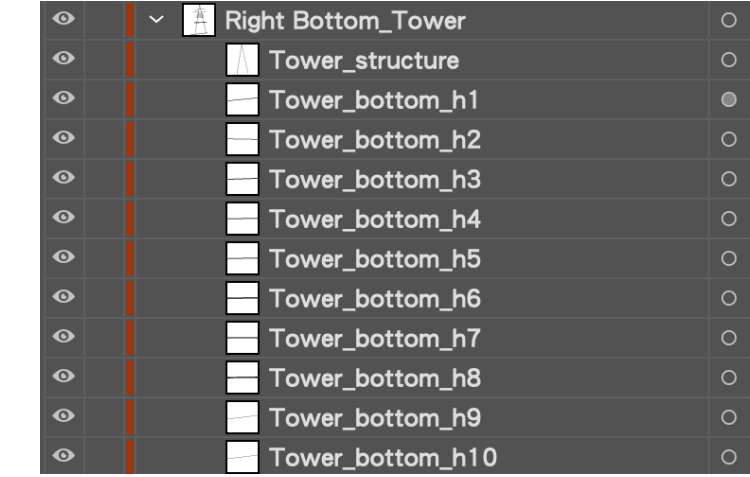
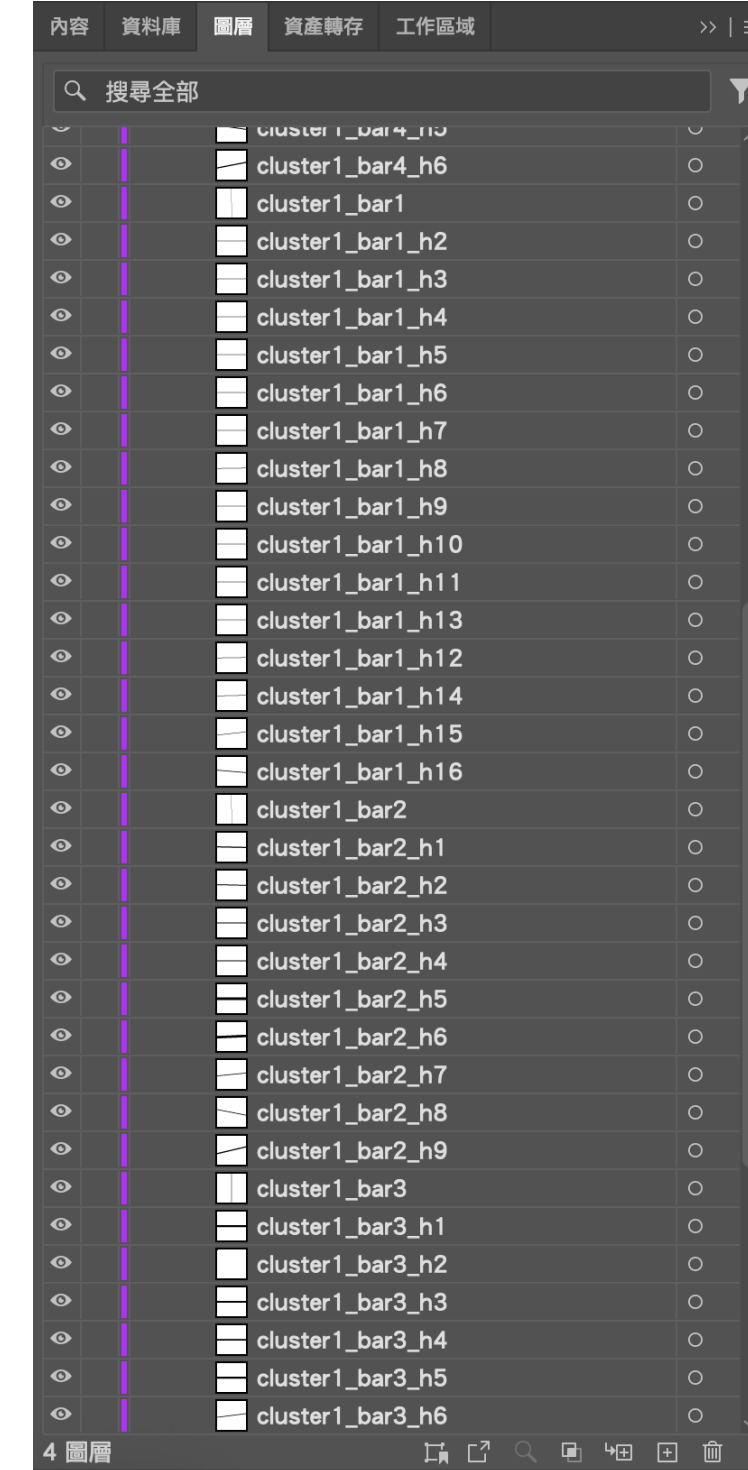
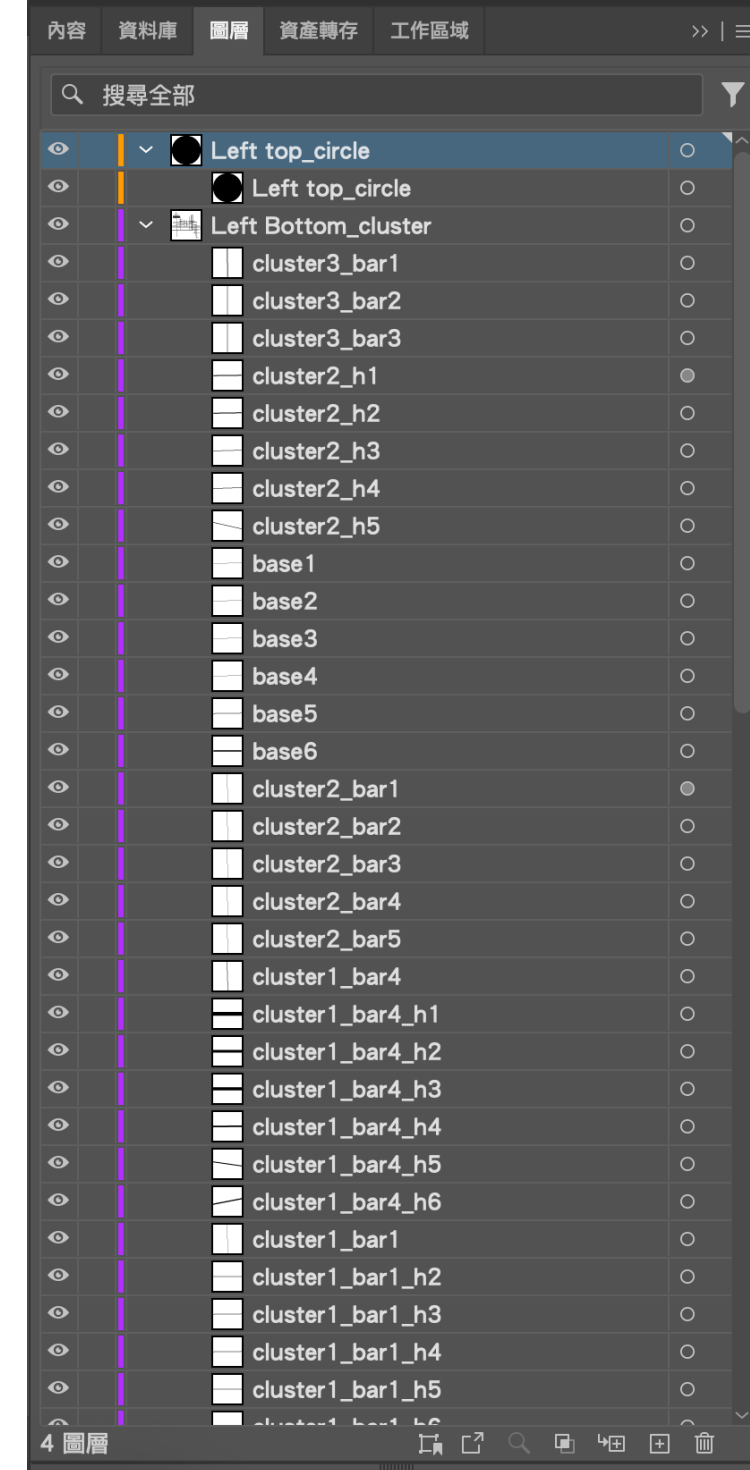
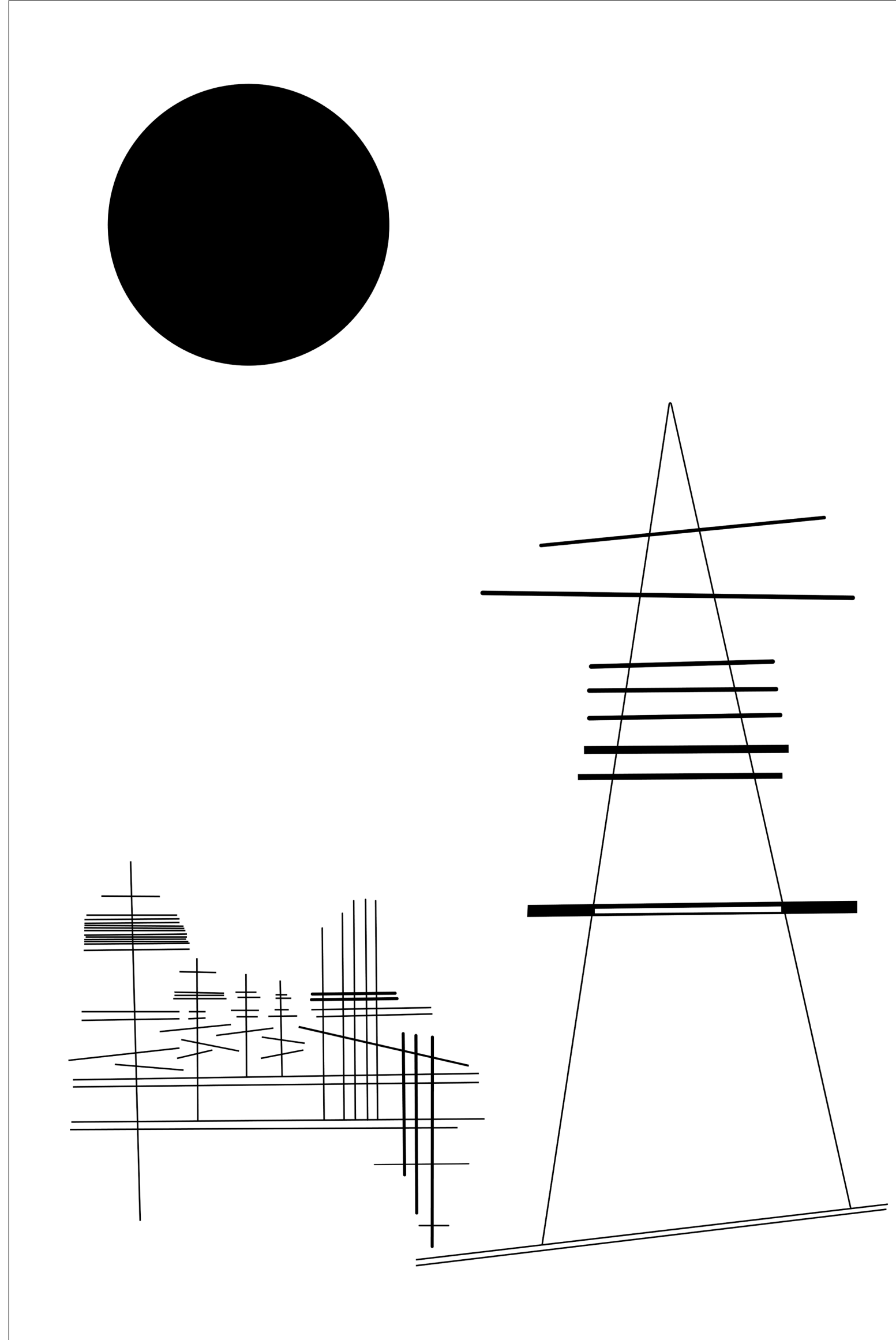
When both the machine and the human translate the same painting, neither result is the painting. The more interesting question is: does Kandinsky's logic survive the translation – and what gets systematically lost in the process?

Position Through Contextualising

Before

&During

&After



Parameters

Controlled Variables

Instrument assignment
(following Point and Line to Plane):
points -> percussion,
lines -> strings,
planes -> waveform synthesis

Pitch range: 220Hz – 880Hz
[Diagonal lines trigger pitch bend:range ± 12 semitones]
Key: C major
Duration: 0–30 seconds

Source image: the same Kandinsky painting across both versions

Independent Variables

Reading subject: machine vs. human
Logic of sequencing: pixel scan order vs. human visual grouping hierarchy

Dependent Variable

The resulting music

Parameters

Controlled Variables

Instrument assignment (following Point and Line to Plane):

points -> percussion,
lines -> strings,
 planes -> waveform synthesis

Pitch range: 220Hz – 880Hz
 [Diagonal lines trigger pitch bend:range ±12 semitones]

Key: C major

Duration: 0–30 seconds

Source image: the same Kandinsky painting across both versions

Both versions share the following fixed parameters:

Following Kandinsky's Point and Line to Plane, each visual element is assigned a corresponding instrument: points to percussion, for their instantaneous impact; lines to strings, for their direction, speed, and tension; planes to waveform synthesis, for their resonant, expansive quality. Pitch is mapped between 220Hz and 880Hz. Diagonal lines trigger pitch bend, kept within ±12 semitones. Both pieces are written in C major, duration 0–30 seconds.

Thus the realm of lines embraces all the expressive sounds from the cold lyric in the beginning, to the hot dramatic at the end.

Linear Translation Of course, every phenomenon of the external and of the inner world can be given linear expression—a kind of translation.¹

The results corresponding to the two categories are:

	Forces:	Products:
Point	1. two alternate, 2. two simultaneous,	angular lines. curved lines.

Angular Lines **I B. Angular Lines.** Since angular lines are composed of straight lines, they belong under heading I and are placed in the second class under the heading B.

Angular lines originate from the pressure of two forces in the following manner (Fig. 24):

¹ Aside from intuitive translations, systematic laboratory experiments should be made in this direction. It would be advisable to investigate first the lyric or dramatic content of every phenomenon chosen for translation, and then to seek in the corresponding linear realm, a form suitable to the given case. Furthermore, an analysis of the already existing "translated works" would throw a strong light on this question. There are numerous examples of such translations in music: musical "pictures" derived from natural phenomena, musical form for works of other arts, etc. The Russian composer, A. A. Schenschin, has made extremely valuable experiments in this direction—"Années de Pèlerinage" by Liszt which relates to Michael Angelo's "Pensieroso" and Raphael's "Sposalizio."

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Relativity At the beginning of this section, the square was called the most "objective" form of the BP. Further analysis has clearly shown, however, that even in this case the objectivity may be viewed as nothing other than relative, and that here, too, the "absolute" is unattainable. In other words: only the point, so long as it remains isolated, offers complete "rest." The isolated horizontal or vertical possesses, so to speak, a coloured rest, as warmth and coldness should be regarded as coloured. The square, therefore, cannot be designated as a colourless form.¹

Rest Of all the forms of the plane, the circle tends most toward colourless rest as it is the result of two forces which always act uniformly and because it lacks the violence of the angle. The point centered in the circle represents the most complete form of rest of the no longer isolated point.

As has already been suggested, the BP presents fundamentally two typical possibilities of carrying elements:

1. the elements lie so materially upon the BP that they give especial emphasis to the sound of the BP, or
2. they are so loosely knit with the BP that the latter's accompaniment is scarcely audible; it disappears, so to speak, and the elements "hover" in space which, however, knows no precise limits (especially in depth).

The discussion of these two cases belongs to the theory of construction and composition. The second case especially—the "destruction" of the BP—can be clearly explained only in connection with the inner characteristics of the individual elements: the recession and advance of the form elements draw the BP forward (toward the observer) and backward in depth (away from the observer) in such a manner that the BP, like an accordion, is pulled apart in both directions. The colour elements possess this power to a high degree.²

¹ Not without reason is the relationship of the square to red so evident: square ⇔ red.
² See "On the Spiritual in Art."

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Parameters

Independent Variables

Reading subject: **machine** vs. human

Logic of sequencing: **pixel scan order**

vs.

human visual grouping hierarchy

Axis assignment:

x=pitch / y=time

vs.

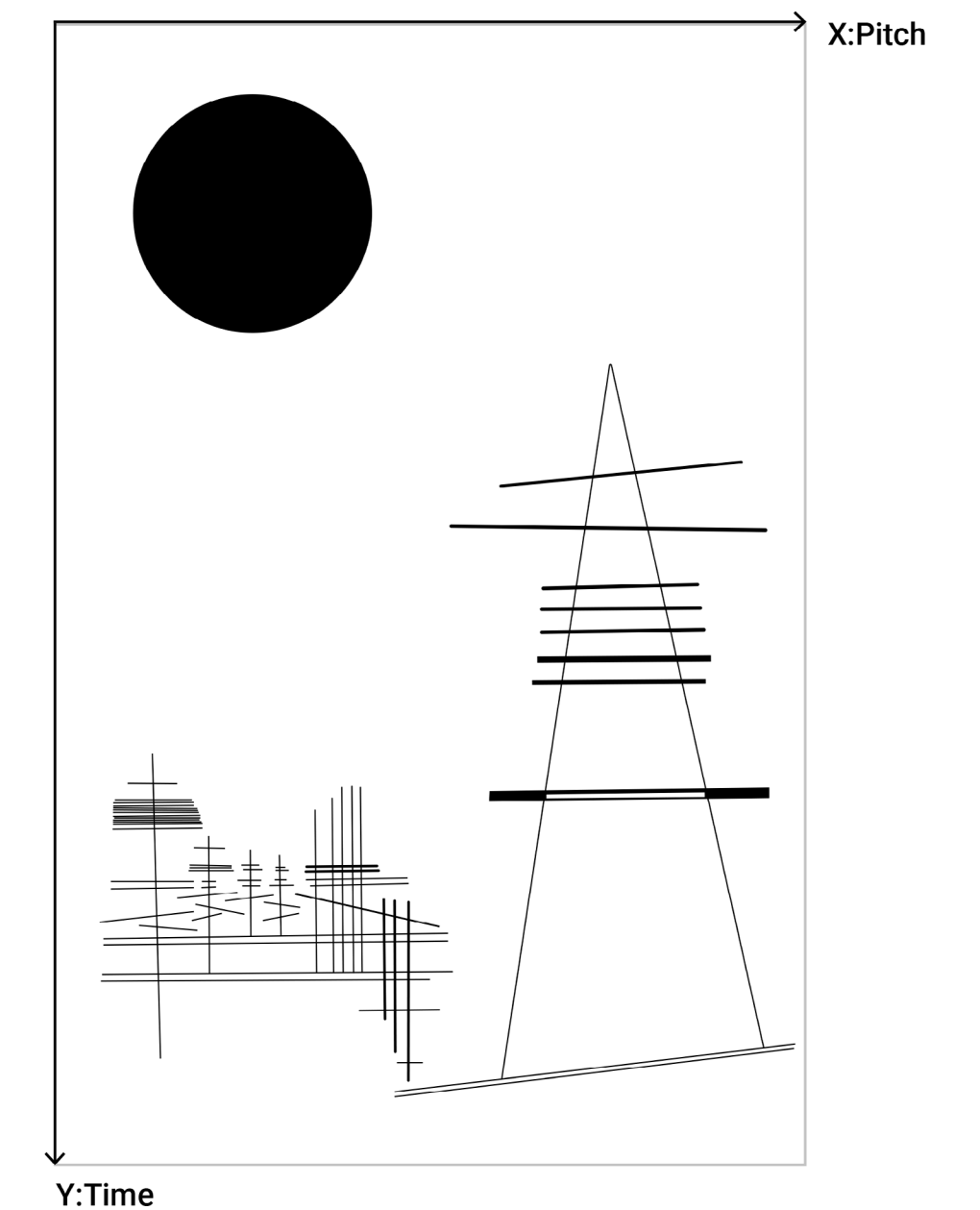
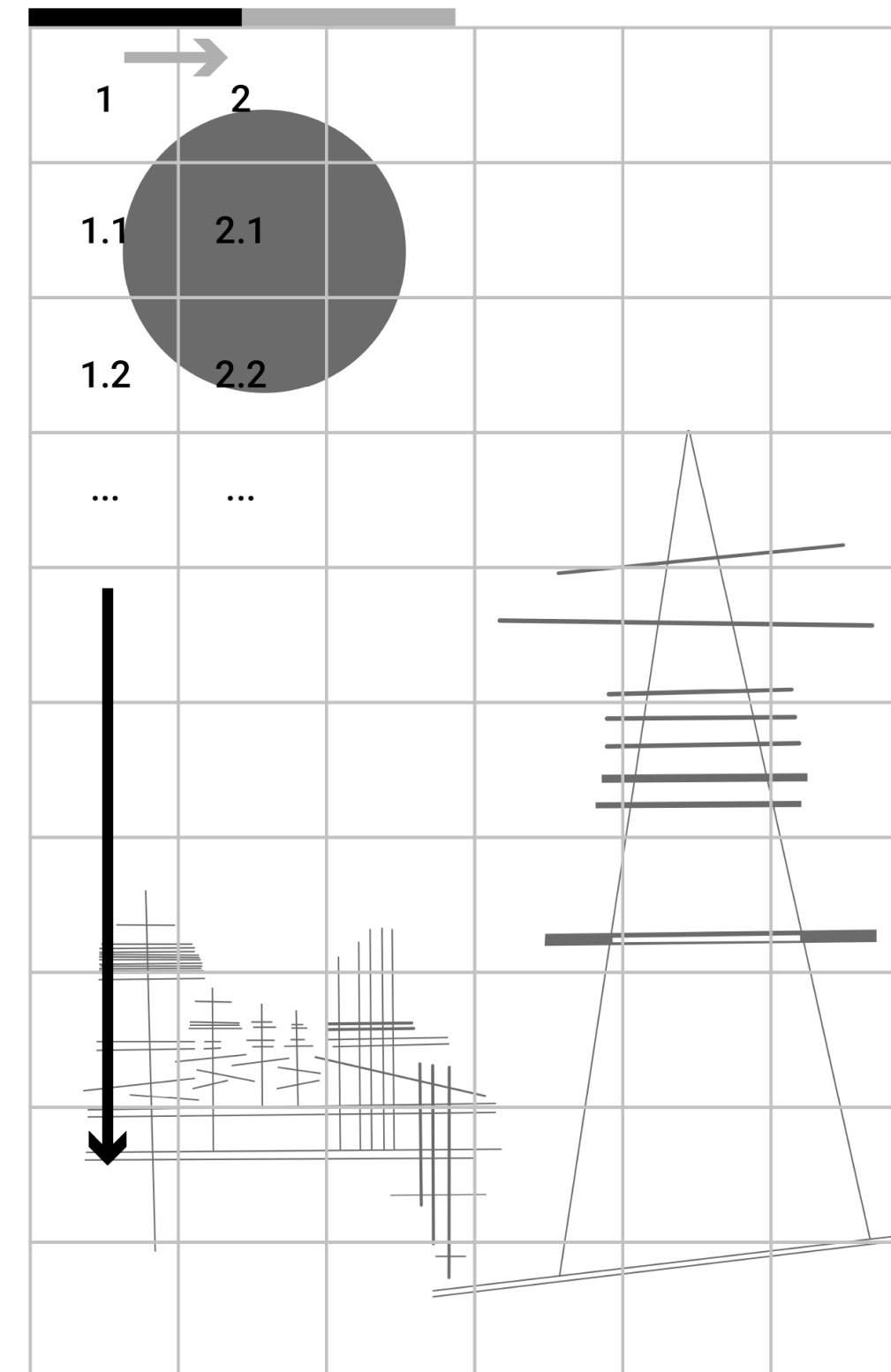
x=time / y=pitch

Dependent Variable

The resulting music

The machine reads the image following pixel-scanning logic: top to bottom, left to right, row by row. The position at which each element's first pixel appears in the scan determines its order of sounding – the earliest scanned element sounds first.

The axis assignment follows directly from the machine's scanning behaviour: vertical scanning (y-axis) determines the sequence of reading, so y-axis maps to time; horizontal position (x-axis), as a spatial value, is mapped to pitch, so x-axis maps to pitch.



Parameters

Independent Variables

Reading subject: machine vs. **human**

Logic of sequencing: pixel scan order vs.

human visual grouping hierarchy

Axis assignment: x=pitch / y=time vs.

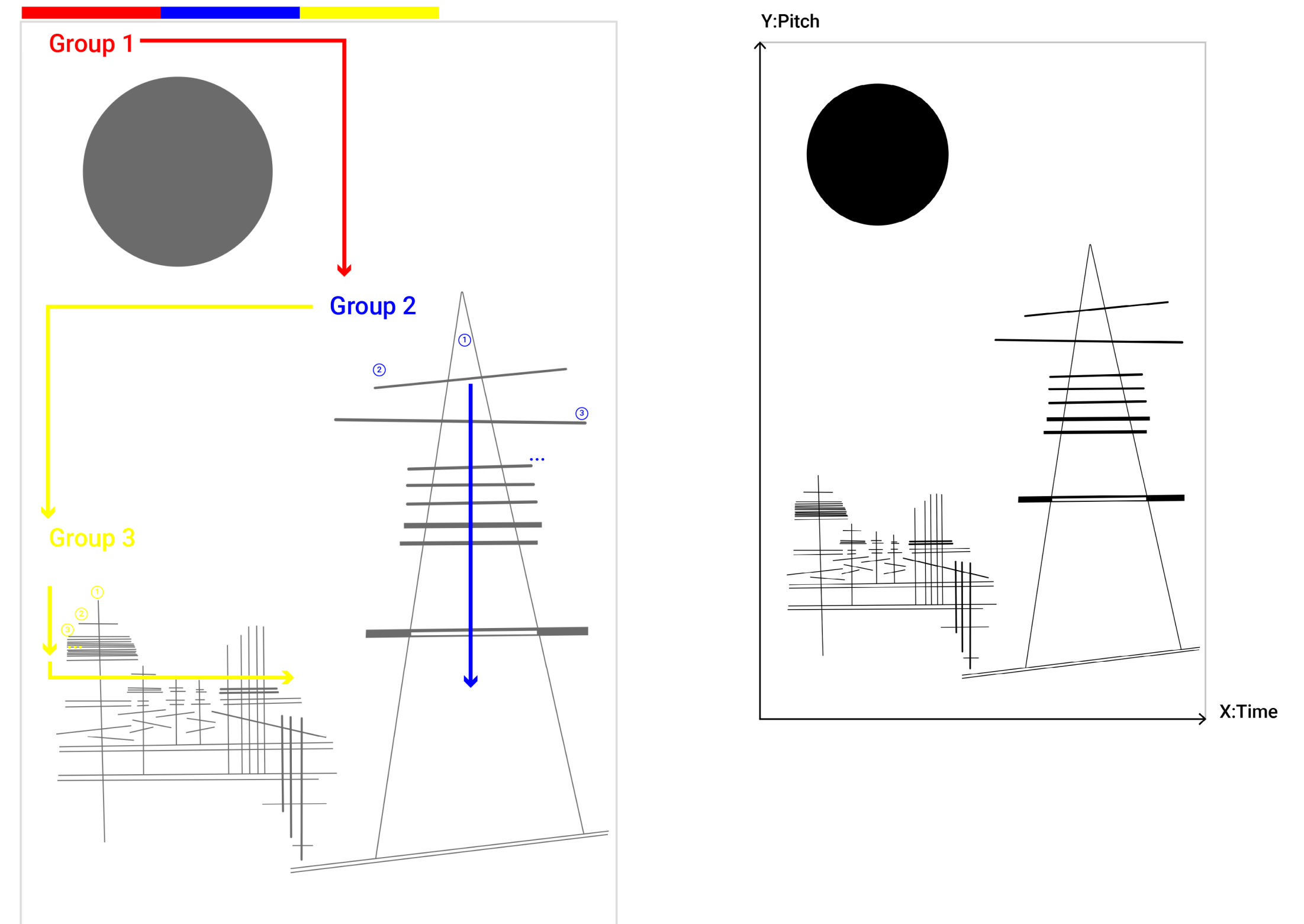
x=time / y=pitch

Dependent Variable

The resulting music

The human reading does not follow a uniform scanning rule, but is shaped by composition, visual weight, and the direction of attention. In this experiment, the painting was first divided into three broad visual groups, ordered generally from top to bottom; within each group, elements were further sequenced from top to bottom. This hierarchical grouping reflects the layered visual logic a viewer naturally forms when looking at a painting.

The axis assignment follows the logic of Western notation: a score is read left to right, with the horizontal axis representing the progression of time, so x-axis maps to time; pitch height corresponds intuitively in human perception to spatial height, so y-axis maps to pitch.



Position Through Contextualising

Data of machine version

element_id	element_name	...
1	Left top circle-2	...
2	Tower bottom h1	...
3	Tower bottom h2	...
4	Tower bottom h3	...
5	Tower bottom h4	...
6	Tower bottom h5	...
7	Tower bottom h6	...
8	Tower bottom h7	...
9	unnamed_001	...
10	cluster1_bar1	...
11	cluster1_bar2	...
12	cluster1_bar3	...
13	cluster1_bar4	...
14	cluster1_bar5	...
15	cluster1_bar6	...
16	cluster1_bar7	...
17	cluster1_bar8	...
18	cluster1_bar9	...
19	cluster1_bar10	...
20	cluster1_bar11	...
21	cluster1_bar12	...
22	cluster1_bar13	...
23	cluster1_bar14	...
24	cluster1_bar15	...
25	cluster1_bar16	...
26	cluster1_bar17	...
27	cluster1_bar18	...
28	cluster1_bar19	...
29	cluster1_bar20	...
30	cluster1_bar21	...
31	cluster1_bar22	...
32	cluster1_bar23	...
33	cluster1_bar24	...
34	cluster1_bar25	...
35	cluster1_bar26	...
36	cluster1_bar27	...
37	cluster1_bar28	...
38	cluster1_bar29	...
39	cluster1_bar30	...
40	cluster1_bar31	...
41	cluster1_bar32	...
42	cluster1_bar33	...
43	cluster1_bar34	...
44	cluster1_bar35	...
45	cluster1_bar36	...
46	cluster1_bar37	...
47	cluster1_bar38	...
48	cluster1_bar39	...
49	cluster1_bar40	...
50	cluster1_bar41	...

tick_name	start	count
nd_start	0	1
nd_0	0	25
nd_plus1	1	9
nd_plus2	2	6
nd_plus3	3	5
nd_plus4	4	2
nd_plus6	6	1
nd_minus1	-1	10
nd_minus2	-2	9
nd_minus3	-3	1
nd_minus4	-4	2
nd_minus5	-8	1

Before

&During

&After

svg_tag	start_sec_human	end_sec_human	duration_sec_hu	freq_low_hz	freq_high_hz	freq_center_hz	midl_note_center	bend_from_note	bend_to_note	bend_amount_semitones	bend_direction	pitch_trend_note	bend_range_semitones	x_min
circle	1.466	11.754	10.288	722.772	880.000	801.386	79					start		3.408
path	17.311	28.645	11.334	231.621	702.483	467.052	70	79	70	-9	down	79 → 70 (down)		19.208
line	17.235	27.709	10.475	621.398	638.942	630.170	75	70	75	5	up	70 → 75 (up)		0.482
line	15.084	28.773	13.689	591.909	597.178	594.543	74	75	74	-1	down	75 → 74 (down)		0.153
line	19.049	25.846	6.797	553.588	558.445	556.217	73	74	73	-1	down	74 → 73 (down)		0.164
line	18.981	25.969	6.988	540.113	543.449	541.781	73	73	73	0	same	73 → 73 (same)		0.107
line	18.724	26.492	7.768	505.912	511.155	508.533	72	72	72	0	same	72 → 72 (same)		0.179
line	18.537	26.231	7.695	491.445	495.565	493.505	71	72	71	-1	down	72 → 71 (down)		0.145
path	16.794	28.855	12.060	415.061	424.101	419.581	68					71 → 68 (down)		0.373
line	12.699	30.000	17.301	223.000	255.148	239.224	58	68	58	-10	down	68 → 58 (down)		2.308
line	12.699	29.950	17.251	220.000	252.317	236.158	58	58	58	0	same	58 → 58 (same)		2.373
line	2.272	2.675	0.403	245.006	446.516	345.761	65	58	65	7	up	58 → 65 (up)		10.391
line	1.204	3.395	2.191	426.079	427.137	426.608	68	65	68	3	up	65 → 68 (up)		0.043
line	0.656	4.028	3.372	415.625	416.468	416.047	68	68	68	0	same	68 → 68 (same)		0.035
line	0.587	4.115	3.528	413.151	414.435	413.793	68	68	68	0	same	68 → 68 (same)		0.054
line	0.587	4.115	3.528	411.065	412.348	411.706	68	68	68	0	same	68 → 68 (same)		0.054
line	0.587	4.260	3.673	409.481	410.758	410.119	68	68	68	0	same	68 → 68 (same)		0.054
line	0.578	4.287	3.709	408.222	409.427	408.825	68	68	68	0	same	68 → 68 (same)		0.051
line	0.578	4.326	3.748	407.015	407.857	407.436	68	68	68	0	same	68 → 68 (same)		0.036
line	0.578	4.384	3.806	404.451	405.942	405.196	68	68	68	0	same	68 → 68 (same)		0.064
line	0.630	4.384	3.754	403.482	404.324	403.903	68	68	68	0	same	68 → 68 (same)		0.036
line	0.578	4.354	3.776	402.035	403.108	402.572	67	68	67	-1	down	68 → 67 (down)		0.046
line	0.578	4.482	3.904	399.488	400.794	400.141	67	67	67	0	same	67 → 67 (same)		0.057
line	0.558	4.482	3.924	395.961	397.497	396.729	67	67	67	0	same	67 → 67 (same)		0.067
line	0.481	4.115	3.633	362.616	362.195	362.405	66	67	66	-1	down	67 → 66 (down)		0.040
line	0.481	4.115	3.633	356.909	358.648	357.778	65	66	65	-1	down	66 → 65 (down)		0.084
line	0.000	4.115	4.115	334.579	342.302	338.441	64	65	64	-1	down	65 → 64 (down)		0.395
line	1.696	4.260	2.564	329.142	333.183	331.163	64	64	64	0	same	64 → 64 (same)		0.211
line	0.578	4.433	3.855	400.878	401.721	401.300	67	64	67	3	up	64 → 67 (up)		0.036
line	0.163	15.052	14.889	323.730	328.125	325.928	64	64	64	-3	down	67 → 64 (down)		0.233
line	0.163	15.052	14.889	319.762	323.079	321.420	64	64	64	0	same	64 → 64 (same)		0.179
line	0.106	15.261	15.154	300.173	302.785	301.479	62	64	62	-2	down	64 → 62 (down)		0.150
line	0.057	14.274	14.217	295.960	297.861	296.911	62	62	62	0	same	62 → 62 (same)		0.111
line	4.694	4.783	0.089	392.450	394.651	393.550	65	62	65	3	up	62 → 65 (up)		4.601
line	4.060	5.452	1.392	383.632	384.901	384.266	67	65	67	2	up	65 → 67 (up)		0.057
path	3.874	5.739	1.865	373.538	372.801	373.169	66	67	66	-1	down	67 → 66 (down)		0.068
note	bend_amount_semitones	bend_direction	pitch_trend_note	bend_range_semitones_max-min	x_min	y_min	x_max	y_max	x_center	y_center	stroke_width	velocity	instrument	mapping_note
79		start	first element; no previous pitch		3.408	1112.00	166.43	1671.84	726.27	1391.92	446.35	0.00	70.00	waveform synth
70		-9 down	79 → 70 (down)		19.208	1974.22	798.51	2590.98	2475.10	2282.60	1636.81	3.00	78.00	strings
75		5 up	70 → 75 (up)		0.482	1970.07	1024.76	2540.06	1087.23	2255.07	1056.00	7.00	88.00	strings
74		-1 down	75 → 74 (down)		0.153	1853.04	1173.47	2597.91	1192.23	2225.48	1182.85	9.00	93.00	strings
73		-1 down	74 → 73 (down)		0.164	2068.81	1309.96	2438.66	1328.68	2253.74	1319.32	9.00	93.00	strings
73		0 same	73 → 73 (same)		0.107	2065.08	1364.78	2445.35	1376.66	2255.22	1370.72	9.00	93.00	strings
72		-1 down	73 → 72 (down)		0.141	2065.08	1416.24	2453.53	1431.49	2259.31	1423.87	9.00	93.00	strings
72		0 same	72 → 72 (same)		0.179	2051.12	1479.77	2473.82	1498.44	2262.47	1489.11	16.00	100.00	strings
71		-1 down	72 → 71 (down)		0.145	2040.93	1535.28	2459.63	1549.95	2250.28	1542.62	12.00	100.00	strings
68		-3 down	71 → 68 (down)		0.373	1946.12	1789.74	2602.37	1821.93	2274.25	1805.84	0.00	70.00	waveform synth
58		-10 down	68 → 58 (down)		2.308	1723.27	2391.33	2664.70	2504.73	2193.99	2448.03	3.00	78.00	strings
58		0 same	58 → 58 (same)		2.373	1723.27	2401.41	2661.98	2516.48	2192.63	2458.95	3.00	78.00	strings
65		7 up	58 → 65 (up)		10.391	1155.88	1709.93	1177.81	2427.44	1166.85	2068.69	3.00	78.00	strings
68		3 up	65 → 68 (up)		0.043	1097.78	1778.93	1216.98	1782.70	1157.38	1780.82	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.035	1067.94	1816.92	1251.43	1819.92	1159.69	1818.42	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.054	1064.17	1824.16	1256.15	1828.73	1160.16	1826.45	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.054	1064.17	1831.59	1256.15	1836.16	1160.16	1833.88	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.054	1064.17	1837.25	1264.05	1841.80	1164.11	1839.53	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.051	1063.70	1841.99	1265.53	1846.28	1164.62	1844.14	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.036	1063.70	1847.58	1267.67	1850.58	1165.69	1849.08	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.064	1063.70	1854.40	1270.79	1859.71	1167.25	1857.06	3.00	78.00	strings
68		0 same	68 → 68 (same)		0.036	1066.53	1860.16	1270.79	1863.16	1168.66	1861.66	3.00	78.00	strings
67		-1 down	68 → 67 (down)		0.046	1063.70	1864.49	1269.15	1868.31	1166.43	1866.40	3.00	78.00	strings
67		0 same	67 → 67 (same)		0.057	1063.70	1872.73	1276.15	1877.38	1169.93	1875.06	3.00	78.00	strings
67		0 same	67 → 67 (same)		0.067	1062.62	1884.47	1276.15	1889.94	1169.39	1887.21	3.00	78.00	strings
66		-1 down	67 → 66 (down)		0.040	1058.45	2008.67	1256.15	2011.67	1157.30	2010.17	3.00	78.00	strings
64		-1 down	66 → 65 (down)		0.084	1058.45	2022.80	1256.15	2028.99	1157.30	2025.90	3.00	78.00	strings
65		-1 down	65 → 64 (down)		0.395	1032.25	2081.00	1256.15	2108.50	1144.20	2094.75	3.00	78.00	strings
64		0 same	64 → 64 (same)		0.211	1124.53	2113.47	1264.05	2127.86	1194.29	2120.67	3.00	78.00	strings
67		3 up	64 → 67 (up)		0.036	1063.70	1869.43	1273.47	1872.43	1168.59	1870.93	3.00	78.00	strings
64		-3 down	67 → 64 (down)		0.233	1041.11	2131.48	1851.32	2147.13	1446.22	2139.31	3.00	78.00	strings
64		0 same	64 → 64 (same)		0.179	1041.11	2149.45	1851.32	2161.26	1446.22	2155.36	3.00	78.00	strings
62		-2 down	64 → 62 (down)		0.150	1038.03	2221.71	1862.66	2231.01	1450.35	2226.36	3.00	78.00	strings
62		0 same	62 → 62 (same)		0.111	1035.36	2239.24	1808.99	2246.01	1422.18	2242.63	3.00	78.00	strings
65		3 up	62 → 65 (up)		4.601	1287.69	1902.44	1292.52	2228.59	1290.11	2065.52	3.00	78.00	strings
67		2 up	65 → 67 (up)		0.057	1253.15	1929.32	1328.90	1933.84	1291.03	1931.58	3.00		

Position Through Contextualising

Data of human version

track_name	bend_pitch_semitones	element_total	element_ids	element_names
ck 1 bend -10	-10	1	Tower bottom h9	Tower bottom h9
ck 2 bend -9	-9	1	Tower structure	Tower structure
ck 3 bend -3	-3	2	Tower bottom h8, base1	Tower bottom h8, base1
ck 4 bend -2	-2	3	base3, cluster3_bar1, base6	base3, cluster3_bar1, base6
ck 5 bend -1	-1	17	Tower_bottom_h2, Tower_bottom_h3, Tower_bottom_h5, Tower_bottom_h7, cluster1_bar1_h10, cluster1_bar1_h13, cluster1_bar1_h14, cluster1_bar1_h15, cluster1_bar2_h2, cluster1_bar2_h6, cluster1_bar2_h9, cluster1_bar3_h5, cluster1_bar4_h5, cluster1_bar4_h6, cluster2_h5, cluster3_bar2, base5	Tower_bottom_h2, Tower_bottom_h3, Tower_bottom_h5, Tower_bottom_h7, cluster1_bar1_h10, cluster1_bar1_h13, cluster1_bar1_h14, cluster1_bar1_h15, cluster1_bar2_h2, cluster1_bar2_h6, cluster1_bar2_h9, cluster1_bar3_h5, cluster1_bar4_h5, cluster1_bar4_h6, cluster2_h5, cluster3_bar2, base5
ck 6 bend 0	0	37	Left_top_circle-2, Tower_bottom_h4, Tower_bottom_h6, Tower_bottom_h10, cluster1_bar1_h2, cluster1_bar1_h3, cluster1_bar1_h4, cluster1_bar1_h5, cluster1_bar1_h6, cluster1_bar1_h7, cluster1_bar1_h8, cluster1_bar1_h9, cluster1_bar1_h11, cluster1_bar1_h12, cluster1_bar1_h16, base2, base4, cluster1_bar2_h3, cluster1_bar2_h4, cluster1_bar2_h5, cluster1_bar2_h7, cluster1_bar2_h8, cluster1_bar3_h3, cluster1_bar3_h4, cluster1_bar3_h6, cluster1_bar4, cluster1_bar4_h2, cluster1_bar4_h3, cluster1_bar4_h4, cluster2_bar2, cluster2_bar4, cluster2_bar5, cluster2_h1, cluster2_h2, cluster2_h3, cluster2_h4, cluster3_bar3	Left_top_circle, Tower_bottom_h4, Tower_bottom_h6, Tower_bottom_h10, cluster1_bar1_h2, cluster1_bar1_h3, cluster1_bar1_h4, cluster1_bar1_h5, cluster1_bar1_h6, cluster1_bar1_h7, cluster1_bar1_h8, cluster1_bar1_h9, cluster1_bar1_h11, cluster1_bar1_h12, cluster1_bar1_h16, base2, base4, cluster1_bar2_h3, cluster1_bar2_h4, cluster1_bar2_h5, cluster1_bar2_h7, cluster1_bar2_h8, cluster1_bar3_h3, cluster1_bar3_h4, cluster1_bar3_h6, cluster1_bar4, cluster1_bar4_h2, cluster1_bar4_h3, cluster1_bar4_h4, cluster2_bar2, cluster2_bar4, cluster2_bar5, cluster2_h1, cluster2_h2, cluster2_h3, cluster2_h4, cluster3_bar3
ck 7 bend 1	1	5	cluster1_bar3, cluster1_bar3_h1, cluster1_bar4_h1, cluster2_bar1, cluster2_bar3	cluster1_bar3, cluster1_bar3_h1, cluster1_bar4_h1, cluster2_bar1, cluster2_bar3
ck 8 bend 2	2	1	cluster1_bar2_h1	cluster1_bar2_h1
ck 9 bend 3	3	3	unnamed_001 line, unnamed_002 line, cluster1_bar2	cluster1_bar1_h18, cluster1_bar1_h17, cluster1_bar2
ck 10 bend 5	5	1	Tower bottom h1	Tower bottom h1
ck 11 bend 7	7	1	cluster1_bar1	cluster1_bar1

shape_type	machine_order	element_id	group	svg_tag	start_sec	end_sec	duration_sec	freq_low_hz	freq_high_hz
plane	1	Left top circle-2	Left top circle	circle	1	6	5	493	631
line	2	Tower structure	Right Bottom Tower	path	7	22	15	705	857
line	3	Tower bottom h1	Right Bottom Tower	line	9	10	1	704	845
line	4	Tower bottom h2	Right Bottom Tower	line	10	10	0	676	859
line	5	Tower bottom h3	Right Bottom Tower	line	11	12	0	729	820
line	6	Tower bottom h4	Right Bottom Tower	line	12	12	0	728	821
line	7	Tower bottom h5	Right Bottom Tower	line	12	13	0	728	823
line	8	Tower bottom h6	Right Bottom Tower	line	13	13	0	724	828
line	9	Tower bottom h7	Right Bottom Tower	line	13	14	0	722	825
line	10	cluster1_bar1	Left Bottom cluster	line	15	21	6	504	510
line	11	unnamed_001 line	Left Bottom cluster	line	16	16	0	490	519
line	12	cluster2_bar4	Left Bottom cluster	line	16	20	4	619	620
line	13	cluster2_bar3	Left Bottom cluster	line	16	20	4	614	615
line	14	cluster2_bar5	Left Bottom cluster	line	16	20	4	624	625
plane	15	Tower bottom h8	Right Bottom Tower	path	16	16	0	699	860
line	16	cluster2_bar2	Left Bottom cluster	line	16	20	4	608	609
line	17	cluster1_bar1_h2	Left Bottom cluster	line	16	16	0	483	528
line	18	cluster1_bar1_h3	Left Bottom cluster	line	16	16	0	482	529
line	19	cluster1_bar1_h4	Left Bottom cluster	line	16	16	0	482	529
line	20	cluster1_bar1_h5	Left Bottom cluster	line	16	16	0	482	531
line	21	cluster1_bar1_h6	Left Bottom cluster	line	16	16	0	482	531
line	22	cluster2_bar1	Left Bottom cluster	line	16	20	3	598	599
line	23	cluster1_bar1_h7	Left Bottom cluster	line	16	16	0	482	532
line	24	cluster1_bar1_h8	Left Bottom cluster	line	16	16	0	482	532
line	25	cluster1_bar1_h9	Left Bottom cluster	line	16	16	0	482	532
line	26	cluster1_bar1_h10	Left Bottom cluster	line	16	16	0	482	532
line	27	unnamed_002 line	Left Bottom cluster	line	16	16	0	482	533
line	28	cluster1_bar1_h11	Left Bottom cluster	line	16	16	0	482	534
line	29	cluster1_bar1_h12	Left Bottom cluster	line	17	17	0	481	534
line	30	cluster1_bar2	Left Bottom cluster	line	17	20	3	537	538
line	31	cluster1_bar2_h1	Left Bottom cluster	line	17	17	0	528	547
line	32	cluster1_bar3	Left Bottom cluster	line	17	19	2	561	562
line	33	cluster1_bar4	Left Bottom cluster	line	17	19	2	577	579
line	34	cluster1_bar2_h2	Left Bottom cluster	path	17	17	0	526	551
line	35	cluster1_bar3_h1	Left Bottom cluster	line	17	17	0	556	566
line	36	cluster2_h1	Left Bottom cluster	line	17	17	0	593	635
line	37	cluster1_bar4_h1	Left Bottom cluster	line	17	17	0	575	582
line	38	cluster1_bar2_h3	Left Bottom cluster	line	17	17	0	526	551
line	39	cluster1_bar3_h3	Left Bottom cluster	line	17	17	0	556	568
line	40	cluster2_h2	Left Bottom cluster	line	17	17	0	592	636

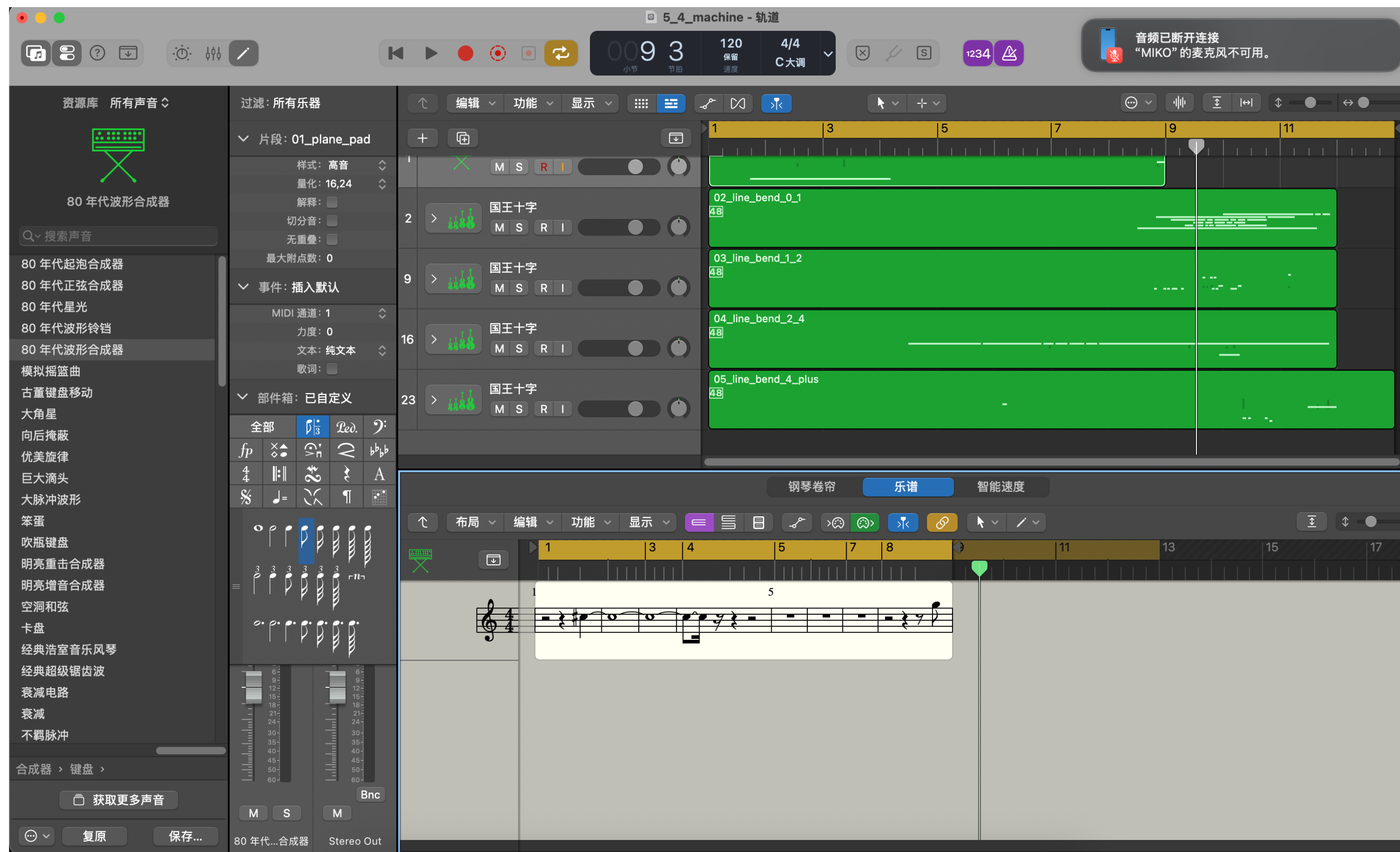
Before

&During

&After

svg_tag	start_sec_human_x_axis	end_sec_human_x_axis	duration_sec_human	freq_low_hz_y_axis	freq_high_hz_y_axis	freq_center_hz_y_axis	midl_note_center	bend_from_note	bend_to_note	bend_amount_semitones	bend_direction	pitch_trend_note	bend_range_semitones_max-min	x_min	y_min	x_max	y_max	x_center	y_center	stroke_width	velocity	Instrument	mapping_note
circle	1.466	11.754	10.288	722.772	880.000	801.386	79				start	first element; no previous pitch											
path	17.311	28.645	11.334	231.621	702.483	467.052	70	79	70	-9	down	79 → 70 (down)											19.208 197
line	17.235	27.709	10.475	621.398	638.942	630.170	75	70	75	5	up	70 → 75 (up)											0.482 197
line	15.084	28.773	13.689	591.909	597.178	594.543	74	75	74	-1	down	75 → 74 (down)											0.153 185
line	19.049	25.846	6.797	553.588	558.845	556.217	73	74	73	-1	down	74 → 73 (down)											0.164 206
line	18.981	25.969	6.988	540.113	543.449	541.781	73	73	73	0	same	73 → 73 (same)											0.107 206
line	18.981	26.119	7.139	524.714	528.997	526.856	72	73	72	-1	down	73 → 72 (down)											0.141 206
line	18.724	26.492	7.768	505.912	511.155	508.533	72	72	72	0	same	72 → 72 (same)											0.179 205
line	18.537	26.231	7.695	491.445	495.565	493.505	71	72	71	-1	down	72 → 71 (down)											0.145 204
path	16.794	28.855	12.060	415.061	424.101	419.581	68	71	68	-3	down	71 → 68 (down)											0.373 194
line	12.699	30.000	17.301	223.300	255.148	239.224	58	68	58	-10	down	68 → 58 (down)											2.308 172
line	12.699	29.950	17.251	220.000	252.317	236.158	58	58	58	0	same	58 → 58 (same)											2.373 172
line	2.272	2.675	0.403	245.006	446.516	345.761	65	58	65	7	up	58 → 65 (up)											10.391 115
line	1.204	3.395	2.191	426.079	427.137	426.608	68	65	68	3	up	65 → 68 (up)											0.043 109
line	0.656	4.028	3.372	415.625	416.468	416.047	68	68	68	0	same	68 → 68 (same)											0.035 106
line	0.587	4.115	3.528	413.151	414.435	413.793	68	68	68	0	same	68 → 68 (same)											0.054 106
line	0.587	4.115	3.528	411.065	412.348	411.706	68	68	68	0	same	68 → 68 (same)											0.054 106
line	0.587	4.260	3.673	409.481	410.758	410.119	68	68	68	0	same	68 → 68 (same)											0.054 106
line	0.578	4.287	3.709	408.222	409.427	408.825	68	68	68	0	same	68 → 68 (same)											0.051 106
line	0.578	4.326	3.748	407.015	407.857	407.436	68	68	68	0	same	68 → 68 (same)											0.036 106
line	0.578	4.384	3.806	404.451	405.942	405.196	68	68	68	0	same	68 → 68 (same)											0.064 106
line	0.630	4.384	3.754	403.482	404.324	403.903	68	68	68	0	same	68 → 68 (same)											0.036 106
line	0.578	4.354	3.776	402.035	403.108	402.572	67	68	67	-1	down	68 → 67 (down)											0.046 106
line	0.578	4.482	3.904	399.488	400.794	400.141	67	67	67	0	same	67 → 67 (same)											0.057 106
line	0.558	4.482	3.924	395.961	397.497	396.729	67	67	67	0	same	67 → 67 (same)											0.067 106
line	0.481	4.115	3.633	361.773	362.616	362.195	66	67	66	-1	down	67 → 66 (down)											0.040 105
line	0.481	4.115	3.633	356.909	358.648	357.778	65	66	65	-1	down	66 → 65 (down)											0.084 105
line	0.000	4.115	4.115	334.579	342.302	338.441	64	65	64	-1	down	65 → 64 (down)											0.395 103
line	1.696	4.260	2.564	329.142	333.183	331.163	64	64	64	0	same	64 → 64 (same)											0.211 112
line	0.578	4.433	3.855	400.878	401.721	401.300	67	64	67	3	up	64 → 67 (up)											0.036 106
line	0.163	15.052	14.889	323.730	328.125	325.928	64	67	64	-3	down	67 → 64 (down)											0.233 104
line	0.163	15.052	14.889	319.762	323.079	321.420	64	64	64	0	same	64 → 64 (same)											0.179 104
line	0.106	15.261	15.154	300.173	302.785	301.479	62	64	62	-2	down	64 → 62 (down)											0.150 103
line	0.057	14.274	14.217	295.960	297.861	296.911	62	62	62	0	same	62 → 62 (same)											0.111 103
line	4.694	4.783	0.089	300.852	392.450	346.651	65	62	65	3	up	62 → 65 (up)											4.601 128
line	4.060	5.452	1.392	383.632	384.901	384.266	67	65	67	2	up	65 → 67 (up)											0.057 125
path	3.874	5.739	1.865	372.064	373.538	372.801	66	67	66	-1	down	67 → 66 (down)											0.068 124

note	bend_amount_semitones	bend_direction	pitch_trend_note	bend_range_semitones_max-min	x_min	y_min	x_max	y_max	x_center	y_center	stroke_width	velocity	Instrument	mapping_note
79		start	first element; no previous pitch										70.00	waveform synth
70	-9	down	79 → 70 (down)										78.00	strings
75	5	up	70 → 75 (up)										88.00	strings
74	-1	down	75 → 74 (down)										93.00	strings
73	-1	down	74 → 73 (down)										93.00	strings
73	0	same	73 → 7											

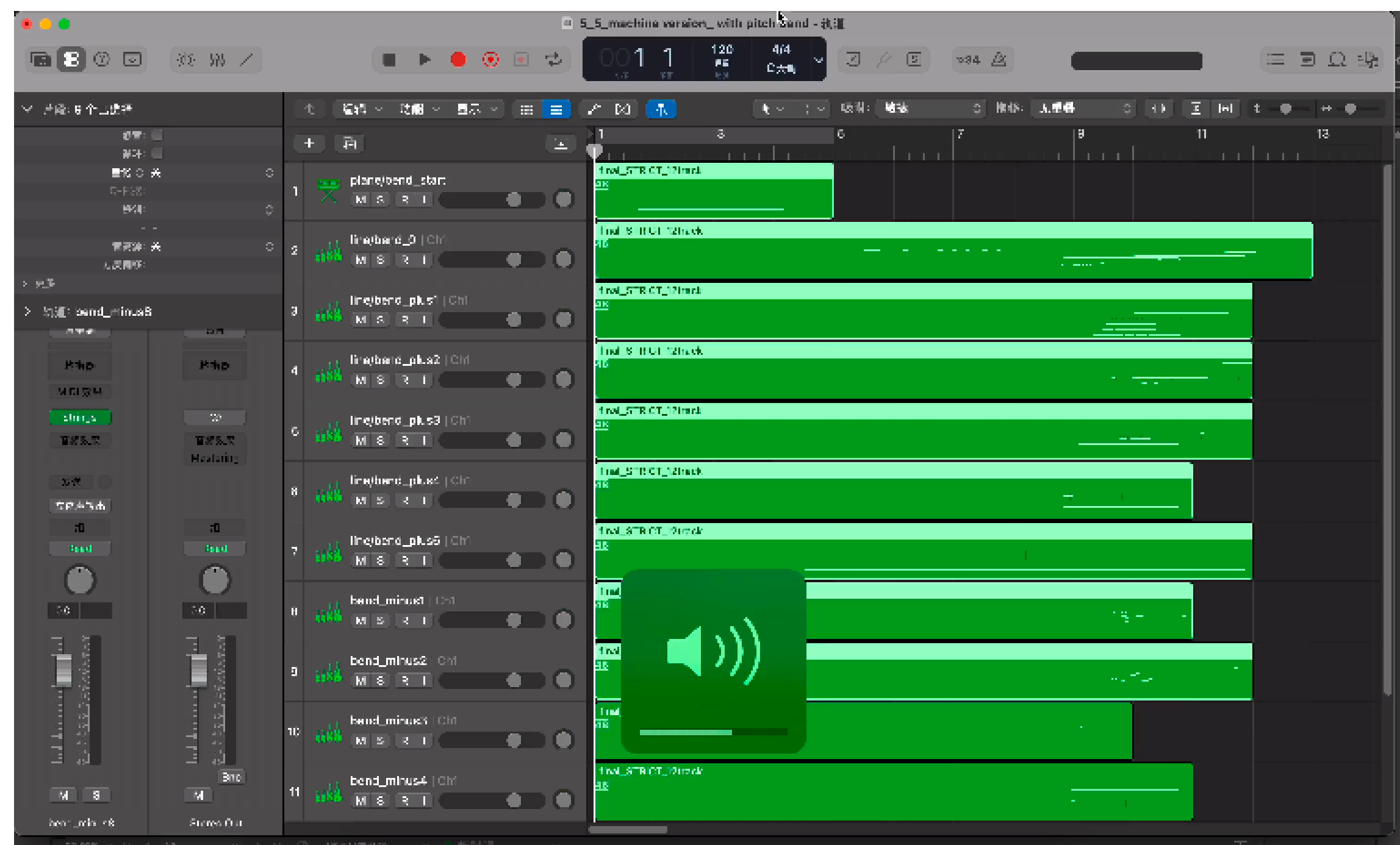


Position Through Contextualising

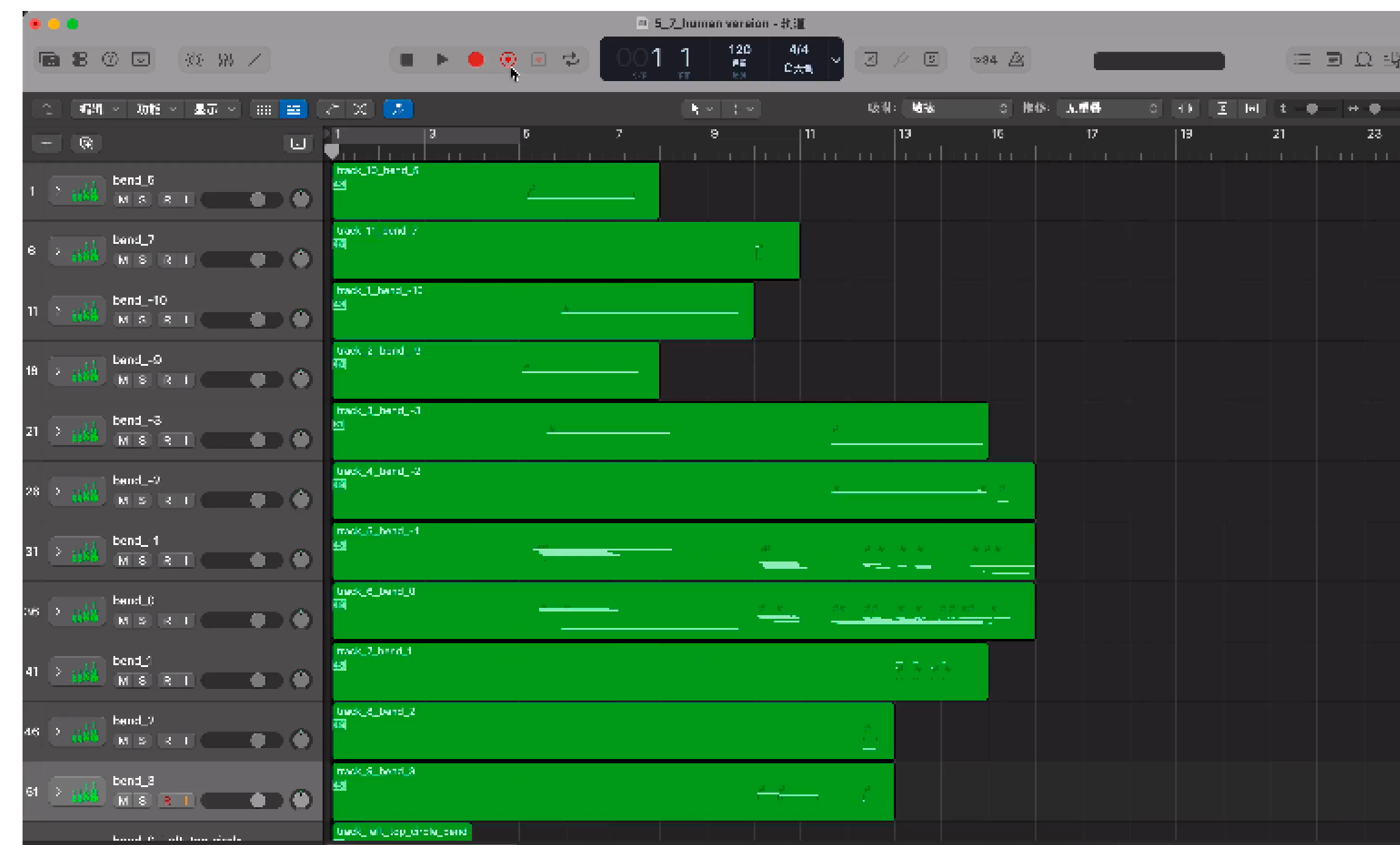
Before

&During

&After



Machine Version



Human Version