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Each of the eight sections is laid out by a rule taken from its own argument. The layout changes from page to page because the argument does.

Measuring the Standard

On Josef Müller-Brockmann's Grid Systems in Graphic Design (1981)

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MA Graphic Communication Design, Unit 2 — Δ2 Writing
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1. Premise — 已編輯

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1.Premise

My research asks a question I call “the reason for form”: can the form of a layout be decided by something other than the designer’s subjective taste?

To explore this question, I chose Swiss Style as my subject. Swiss Style is a method of graphic design developed in Switzerland after the Second World War (Müller-Brockmann, 1981, p.7), and the grid system is at its core: it divides the page into a regular grid, and every piece of text and every image is placed in it with a specific position and size. It claims to be an objective and rational method, because form follows rules rather than the designer’s preference.

Grid Systems in Graphic Design (1981) by Josef Müller-Brockmann is one of the most complete books on this system. Its author was a leading Swiss Style graphic designer. The book explains step by step how to build a grid and how the system works, and in its foreword it sets out the position behind the system. The words the book uses to describe the grid, such as objective, rational, democratic, economical and efficient, are what I want to discuss and question.

What my approach shares with the grid system is that we both decide the size and position of text by rules, not by taste. However, there is a fundamental difference between us. The grid system assumes that every reader is the same: an average reader. In reality, people differ in their background, nationality and understanding of language. My work asks: what happens when a specific person faces a rule that works like a standard?



Fig.2 — 已編輯

Fig. 1. Josef Müller-Brockmann, *Grid Systems in Graphic Design*, cover (Niggli, 1981).

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2
My Approach

I chose reading to test this question because reading is the final act that layout serves. However a page is arranged, if there is text on it, it is there to be read.

Swiss Style posters assume an average reader who can understand the text fluently. But when I read the German text on a Swiss Style poster, I read more slowly than an average German reader: there are words I do not know, and some I can hardly pronounce. My process is as follows:



A

I chose a Swiss Style poster, Opernhaus Zürich 1966/67 (designed by Josef Müller-Brockmann).

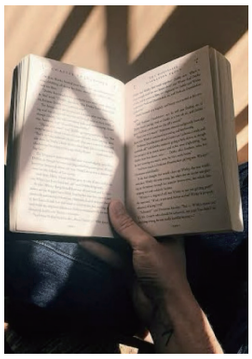
Fig. A. Josef Müller-Brockmann, Opernhaus Zürich: Eröffnung der Spielzeit 1966/67, poster, 1966.



B

In the grid system, text is organised line by line: the height of each grid field is a number of lines of text, and titles are aligned to multiples of this line height (pp.11, 59). So I also used the line as my unit for timing.

Fig. B. Grid analysis of Opernhaus Zürich 1966/67: line heights and grid fields drawn over the original poster. By the author, 2026.



C

I read the poster aloud one line at a time, stopping after each line to record how long it took.

Fig. B. Grid analysis of Opernhaus Zürich 1966/67: line heights and grid fields drawn over the original poster. By the author, 2026.



New standardised texts for assessing reading performance in four European languages

Abstract

Aims: To develop standardised texts for assessing reading speed during repeated measurements and across languages for normal subjects and low vision patients.

Methods: 10 texts were designed by linguistic experts in English, Finnish, French, and German. The texts were at the level of a sixth grade reading material (reading ages 10–12 years) and were matched for length (830 (plus or minus 2) characters) and syntactic complexity, according to the syntactic prediction locality theory of Gibson. 109 normally sighted native speaking volunteers aged 16–35 years (25 per language) read each text aloud in randomised order. The newly designed test battery was then applied to test the reading performance of 109 normally sighted native speaking volunteers aged 60–85 years (25 per language).

Results: Reading speed was not significantly different with at least seven texts in all four languages. The maximum reading speed difference between texts in the same language was 6.8% (Finnish). Average reading speeds (SD) in characters per minute are, for the young observer group: English 1234 (147), Finnish 1265 (142), French 1214 (153), German 1126 (106). The group of older readers showed statistically significant lower average reading speeds: English 965 (97), Finnish 1014 (179), French 1131 (163), German 934 (117).

Conclusion: The authors have developed a set of standardised, homogeneous, and comparable texts in four European languages (English, Finnish, French, German). These texts will be a valuable tool for measuring reading speed in international studies in the field of reading and low vision research.

D

I then took the average reading aloud speed of native German speakers, 1,126 characters per minute, and used it to calculate how long an average reader would take to read the same line.

Fig. D. Abstract of Hahn, G.A. et al. (2006) 'New standardised texts for assessing reading performance in four European languages', British Journal of Ophthalmology, 90(4).

Text (line on poster)	Scaled ratio 1 + k(ratio − 1)
Opernhaus	2.25
Zürich	2.13
Eröffnung	2.93
der Spielzeit	2.76
1966/67	2.04
Tannhäuser	2.47
Bluthochzeit	3.01
Romantische Oper von Richard Wagner	1.83
Musikalische Leitung: Christian Vöchting	1.59
Inszenierung: Hans Hotter	1.91
Bühnenbild und Kostüme: Max Röthlisberger	1.94
Choreographie: Renate Ebermann	1.84
Chöre: Hans Erismann	2.05
Lyrische Tragödie von Federico Garcia Lorca	1.93
Musik von Wolfgang Fortner	1.81
Musikalische Leitung: Armin Jordan	1.88
Inszenierung: Kurt Ehrhardt	2.30
Bühnenbild und Kostüme: Toni Businger	2.02
Samstag, 3.September	2.45
19.00 Uhr	2.78
Neuinszenierung	2.81
Mittwoch, 7.September	2.12
20.00 Uhr	2.04
Erstaufführung	2.65

E

I divided my reading time by the average reader's time to get a ratio for each line. The bigger the ratio, the more time I needed compared with the average reader.

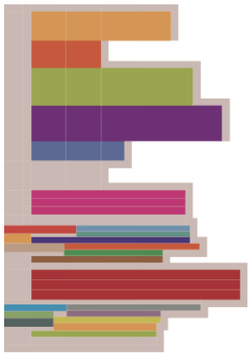
Fig. E. Reading-time ratios for the 24 lines of the poster, my time divided by the average reader's time. 2026.



F

I used these ratios to change the size of each line's cell in the grid. The longer I took, the larger the cell became, and the text inside it was enlarged with it.

Fig. F. Design process: each line's cell enlarged by its reading-time ratio. By the author, 2026.



G

As the cells grew, the text went beyond the original edge of the paper. I did not cut it off.

Fig. G. Design process: the enlarged cells extending beyond the original edge of the paper. By the author, 2026.

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3 The Position of Grid Systems : Will

In the foreword of the book, the author claims that using the grid system means a series of “wills” (p.10).

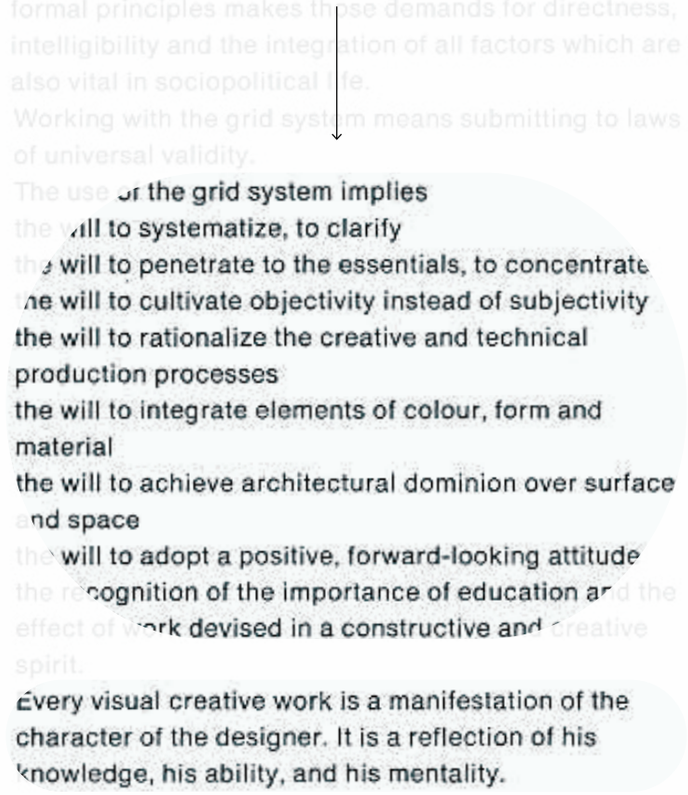


Fig. 3. Müller-Brockmann, J. (1981) Grid Systems in Graphic Design, p.10: ‘Grid and design philosophy’, English and German text.

Significantly, when he describes the grid in these phrases, he is talking not about technique but about values. If using a grid represents clarity, system, objectivity and rationality, then not using one means the opposite. In this context, “subjectivity” becomes a negative word. Therefore, the grid is not only a layout tool; it also becomes a standard for judging the quality of a designer.

The reason the author believes this can be understood in its historical context. In the 1930s, the Nazis suppressed modernist design and the Bauhaus was closed, so neutral Switzerland became a place where this design method could continue (Hollis, 2006). After the Second World War, some designers, such as Max Bill in 1946, explicitly regarded modernist layout as the opposite of Nazi ideology (Bosshard, 2012). In this context, his link between objectivity and democracy can be understood as a wish to convey information in the most neutral and unobtrusive way possible, and to let readers judge for themselves.

However, I believe there is a contradiction in his claim. “Cultivating objectivity instead of subjectivity” is itself a decision made by a person. In the same passage, he also writes that every visual work is a manifestation of the designer’s character (p.10). Even his method begins with a designer’s decision: the designer draws several sketches, compares them, and eliminates the unsuitable ones until only one is left, and only then starts to calculate precisely (pp.57–58). This choice follows criteria, but the criteria include judgements such as “harmonious” and “aesthetically pleasing” (p.34), made by the designer’s eye rather than by measurement. So this objective system actually starts from the designer’s subjective judgement, a judgement that is never stated.

My position is that I also wish to replace complete subjectivity with rules. However, I do not think subjectivity can be removed entirely, so I choose to state it clearly. In my practice, some things are chosen by me: using reading as the measurement, reading aloud, and using the average German reading speed as the baseline for comparison. These are all my decisions. But some things are not chosen by me: how long I take to read each line depends on real measurement; it is not designed.

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4 Form and Content

Here, there is a commonality between us: we both use rules rather than taste to decide form, and we follow the same order: first we decide the size of the grid, then we put the text into it.

The difference is in how the size of the grid is decided. In his book, designers need to know the content before they start designing: how much text, how many images, and what kind they are (p.49). Based on this information, designers decide how many columns and grid fields to use.

Within one project, once the grid system is decided, the form is fixed, and the text placed in it afterwards will not change the grid. In other words, the designer depends on the amount and size of the content, that is, how much space it will occupy.

In my practice, the size of the grid depends not on the amount of content but on how long the content takes to be read. The same line occupies a fixed space in his grid, while in my grid its size depends on one individual's experience of reading it. Therefore, his grid system is based on space, and mine is based on reading time.

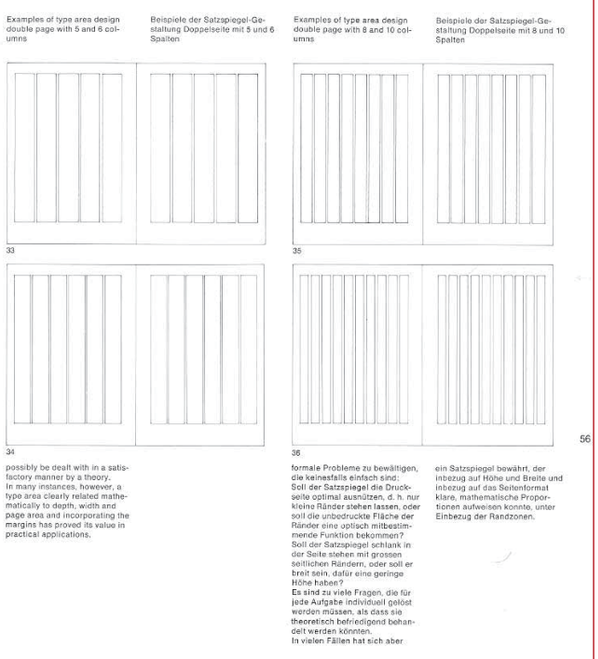


Fig. 4. Müller-Brockmann, J. (1981) Grid Systems in Graphic Design, p.56 : examples of type area design with 5 to 10 columns.

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5 Liberation and a New Standard

At the beginning of the book, the author presents modern typography as a liberation. He traces it back to Mallarmé, Rimbaud and Apollinaire, who were “released from conventional prejudices and fetters”, and to the pioneers of the 1920s and 1930s, who “breathed new life into an unduly rigid typography” (p.7). Words such as prejudices, fetters and rigid describe the old; words such as released and new life describe the new. Like the “wills”, this is a contrast between good and bad.



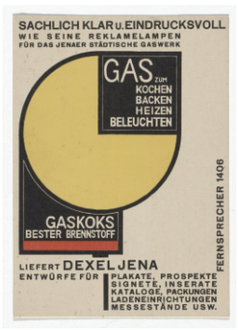






Fig. 5. Guillaume Apollinaire, Lettre-Océan, 1914. Published in Les Soirées de Paris. | Fig. 6. Walter Dexel, advertisement for gas and coke, Jena, c.1925. Fig. 7. El Lissitzky, 1919–23. | Fig. 8. Kurt Schwitters, Merz 1: Holland Dada, magazine cover, January 1923.

However, once the grid system replaced earlier conventions, it became a new standard. It emphasises efficiency and rules, and the book itself is written for educators and students to learn it (p.9). The standard here is not a fixed layout but a method of building grids: the author says that for every new problem, the grid must be “conceived afresh” (p.50). What has been standardised is the assumption behind this method. It is worth noting that Jan Tschichold, one of the pioneers he names and whose Die neue Typographie (1928) he praises for its “objective typography” (p.7), later criticised this obsession with order as too absolute, carrying a quality of authoritarianism (Bosshard, 2012).

p.50 “Just as every problem is novel and different from others, so the grid must be conceived afresh every time so as to meet requirements.”



Fig. 9. Jan Tschichold, prospectus for Die neue Typographie, 1928.

My approach does not escape this standard; on the contrary, it needs it. I use the grid system as a starting point and a measuring tool, so that I can measure the difference between me and the average reader. Therefore, I do not consider my work another liberation, because that would only repeat his claim. My approach tries to reveal the assumption hidden by the standard: the average reader.

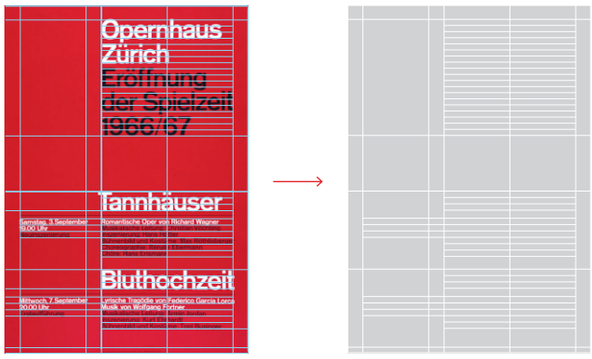


Fig. 10. From standard to measuring tool: the original grid of Opernhaus Zürich 1966/67 (left) and the same grid extracted without text (right). By the author, 2026.

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6 Unit and Economy

The order of the grid system is based on a smallest unit. In this book, the unit is the height of one line of text. The sizes of titles and captions are multiples of this height; as a result, the size of every element in the layout is calculated from that one line of text (pp.58–59).

The purpose of building this order is economy, in other words, efficiency; the author himself speaks of “the greatest possible order and economy” (p.7). This works on several levels. First, once the unit is decided, designers can use it to calculate all other sizes, and a series of works can keep the same framework, which saves design time (p.12). Second, the page can be used precisely, which saves paper. Third, because of the regular pattern, readers know where the next line is, so they read faster and get less tired (p.34). In short, the unit is the means, and economy is the purpose.



pp.58–59 “Let us assume that in our draft the column is 57 lines deep. We want 4 grid fields in a column … We divide the number of lines 54 by 4 and obtain 13.5 lines per field. As there are no half lines in typography, we look for the next smallest number which is divisible by 4. If each of the 4 fields contains 13 lines, we now have, including the 3 empty lines, a column depth of 55 lines, 4 × 13 + 3 = 55.”

In my work, I replace the unit with reading time, and reading time is exactly what his economy tries to reduce.
This brings a direct difference. In a Swiss poster, the size of an element represents importance: the book says that the size of pictures is “determined according to their importance for the subject” (p.13), and a bigger title should be seen first. In my layout, however, the size of the text represents how much time I spent on it: bigger text means I read that line more slowly, because it was hard to read or pronounce.

The economy he describes is designed for the average reader. For them, the grid system makes reading effortless. The author himself admits that reading has a cost: badly sized type “costs the reader an effort” (p.30). But for a reader who is far from the average, for example a non-native reader, the cost of reading is higher even when the type is the right size. My ratio measures this extra cost: how much longer did it take me than the average reader?



p.30 “Both too small and too large a type costs the reader an effort. He tires more rapidly.”

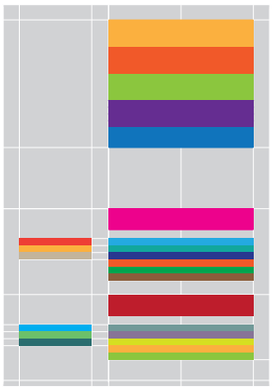
Fig. 11. Opernhaus Zürich 1966/67 reconstructed on its original grid, in which every field is a whole number of lines. By the author, 2026.

Fig. 12. Reading time: the same poster rebuilt with reading time as the unit. By the author, 2026.

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7
Reader

The author says that objective design is “committed to the common weal” and “constitutes the basis of democratic behaviour” (p.10). His point is that if everyone receives the same neutral form, then everyone is equal. The book does describe its reader, but only as a pair of eyes: printed matter is “generally read with the eye at a distance of 30–35 cm” (p.30). This reader has a distance and gets tired, but has no language and no background.



p.10 “Design which is objective, committed to the common weal, well composed and refined constitutes the basis of democratic behaviour.”

Fig. 13. Reading time: line cells at the average reader’s reading time. By the author, 2026.

My work claims that when the same form is given to everyone, the cost of reading is not the same. As a non-native reader, I spent about 3.2 times as long as the average reader on the same poster (86.0 seconds compared with 27.2), and between 2.2 and 5.0 times as long on individual lines . The form is equal, but the cost of understanding it is not.
Some people believe Swiss Style is democratic, while others, such as Tschichold in 1946, see it as authoritarian. My work does not need to judge which is true. It does something more concrete: it applies this grid system to a reader it never imagined and observes how much it deforms. The degree of deformation shows the distance between this specific reader and the imagined average reader.

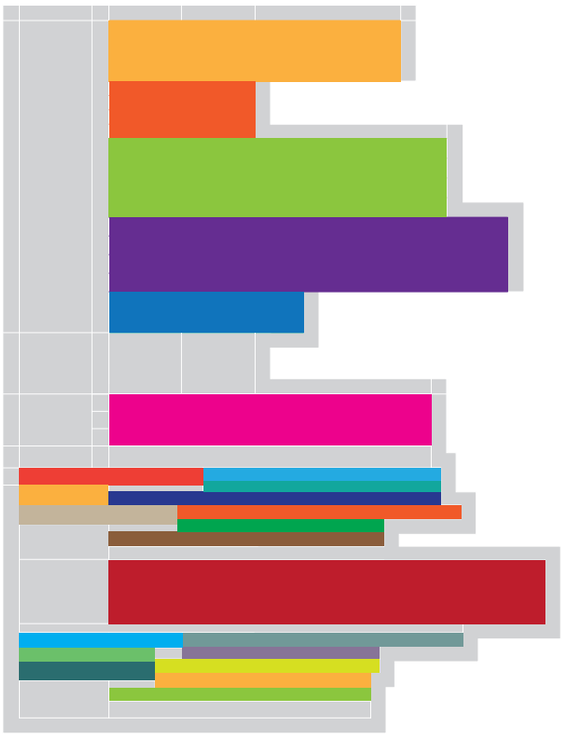


Fig. 14. Reading time: line cells at my reading time, about 3.2 times longer in total. By the author, 2026.

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8 (38 pt / Akzidenz-Grotesk Pro Regular)

New Question

(9 pt / Akzidenz-Grotesk Pro Regular)

What is a standard? I think a standard is a convention that is no longer noticed. For example, the size of A4 paper, the format of a letter, or the grid system: when we use them, we assume they have always existed, without thinking that someone designed them.

A standard works in two places. When designing, designers start from it directly, without questioning it. When reading, readers do not notice the framework behind the page and focus only on the content, as if the form had disappeared. The book describes exactly this aim: a rhythm of reading “which enables the reader to relax and concentrate wholly on the content” (p.30). This is where its economy lies: readers do not need to pay attention to the form.

My grid does the opposite. It keeps drawing attention to the form itself and keeps showing where it came from. By the standard of the grid system, it is neither economical nor neutral; instead, it carries the physicality of a specific person.

Therefore, a new question arises from these comparisons: can a grid that refuses to disappear, and keeps showing its origin, become a standard? And when the form no longer disappears, do readers read the content itself, or the grid?

Next, I want to test this question in two ways: by asking other people to read the same poster and observing their grids, and by using my grid to set other texts, to see what happens once it is separated from its origin.

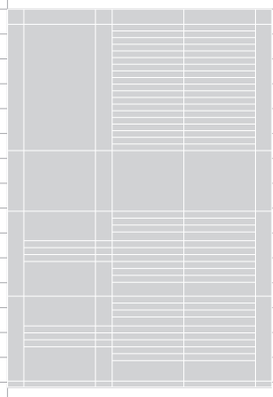




Fig. 15. The original grid, with the specifications left visible. By the author, 2026.

Fig. 16. Reading time: the deformed grid without text. By the author, 2026.

(8 pt / Akzidenz-Grotesk Pro Regular)

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