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Karl Gerstner and Design Programmes

Karl Gerstner was born in Basel, Switzerland in 1930. His life was divided between being a painter and a graphic designer in which he saw success in both pursuits. Gerstner studied design at Allgemeine Gewerbschule in Basel under Emil Ruder. In 1959, he partnered with Markus Kutter, a writer and editor, to form the agency Gerstner+Kutter which then became GGK with the addition of architect Paul Gredinger. GGK became internationally successful as a design agency.

Figure 1: Advertisement for Endress + Hauser, a company which sold measuring equipment. (Mid-1960s)

Gerstner's influence on typography is significant to the history and theories of graphic design. He popularized the use of unjustified ragged-right text in typography (Hollis 2002). He also proposed what he called *Integral Typography* which extended Max Bill's ideas on typography (Müller-Brockman and Müller 2000). A message in the form of text can convey a meaning or some information, however, when typography is used in an informed manner, Gerstner felt that it could greatly contribute to the connection between the words and the actual meaning (figure 1). Gerstner saw typography as a way to express a whole greater than the sum of the words and the meanings. For example, the large headline of one of his Citroën advertisement stated "Don't buy this car" which was followed with "if you don't expect something out of the ordinary in a car" in smaller type. While this may seem commonplace or trite today, Gerstner + Kutter trailblazed the clever use of type to make a point (Gerstner 2001). In other words, Gerstner knew that the aesthetics of typography can aid the communication of ideas and information and that was the foundation of Integral Typography. Gerstner extended this idea beyond typography to the point where it was more important to consider the whole of the organization/company/project instead of the individual design elements or pieces (Müller-Brockman and Müller 2000). This is echoed in Gerstner + Kutter's principles brochure which speaks of the necessary connection between word and illustration in design pieces (Hollis 2006). His contribution to graphic design may be this holistic pursuit of understanding a design problem within a context to find its solution.

Gerstner defines design as picking out determining elements and combining them. Much of his design theory hinges on the designer's

ability to make informed choices based on understanding of the problem and the combinations of elements. To come to a problem's solution, the designer must be able to describe and understand the problem. By then developing a set of intellectual criteria, the designer is able to make 'creative decisions' which are based on a systematic approach instead of instinct (Gerstner 1964).

The set of 'intellectual criteria' that Gerstner speaks about can also be seen as a set of consciously derived parameters which directly address the problem the designer has identified. These parameters can then be used to work through the problem to find a solution which is a combination of the determining elements which convey the intended message. For Gerstner, these criteria took the form of a systematic set of rules or parameters which he referred to as a programme. In 1964, Gerstner wrote *Designing Programmes* which outlined his theories.

Defining Programmes

In reference to computers, a programme is defined as "a sequence of instructions that a computer can interpret and execute" (Free Dictionary 2010). While computers were in their infancy in Gerstner's time, his approach to programmes is very similar to that of computers. In his theories, a programme is a systematic approach to solving a problem which comes from an understanding of a problem. It is important to note that the approach is responsive and often unique to the specific problem. Interestingly, Gerstner illustrates that a programmatic approach to problems is not limited to graphic design but many vocations from literature to music to photography to architecture. For each, a programme is different but in all cases, it comes from defining the problem and then enables the designer, musician, writer, photographer or architect to systematically try to solve that problem. With Gerstner's pursuits as a graphic designer and a painter, we can see his programmatic approach manifest itself in two different, but equally systematic ways.

To remain in the realm of graphic design, I will outline two examples of how Gerstner used programmes in different ways.

Gerstner's Morphological Typogram system

The development of logos or wordmarks is a common task for the graphic designer. Invariably, it involves experimentation and generation of many variations to find the best solution for the logo. Gerstner's (1968) morphological typogram programme (Figure 2) was intended as a way for designers to systematically produce a number of variations of a wordmark. It lists a number of parameters of type on the left column and then each one is broken into how that particular parameter can be modified or treated. For example, typeface is broken down into san-serif, roman, german, some other or a combination of typefaces.

a   Basis

1. Components	11. Word	12. Abbreviation	13. Word group	14. Combined	
2. Typeface	21. Sans-serif	22. Roman	23. German	24. Some other	25. Combined
3. Technique	31. Written	32. Drawn	33. Composed	34. Some other	35. Combined

b   Colour

1. Shade	11. Light	12. Medium	13. Dark	14. Combined	
2. Value	21. Chromatic	22. Achromatic	23. Mixed	24. Combined	

c   Appearance

1. Size	11. Small	12. Medium	13. Large	14. Combined	
2. Proportion	21. Narrow	22. Usual	23. Broad	24. Combined	
3. Boldness	31. Lean	32. Normal	33. Fat	34. Combined	
4. Inclination	41. Upright	42. Oblique	43. Combined		

d   Expression

1. Reading direction	11. From left to right	12. From top to bottom	13. From bottom to top	14. Otherwise	15. Combined
2. Spacing	21. Narrow	22. Normal	23. Wide	24. Combined	
3. Form	31. Unmodified	32. Mutilated	33. Projected	34. Something else	35. Combined
4. Design	41. Unmodified	42. Something omitted	43. Something replaced	44. Something added	45. Combined

Figure 2: Gerstner's Morphological Typogram

By generating variations with this programme, the designer does not have to rely on randomly creating variations, but can systematically create variations. From these, the designer can quickly determine a good approach to the wordmark and then develop a solution.

intermöbel

Figure 3: Wordmark for Intermöbel

With Gerstner's example of the Intermöbel wordmark, we see his final solution was derived from the combination: a-11, 21, 33; b-14, 22; c-12, 22, 33, 41; d-11, 22, 31, 43.

The strength of this programme is that it allows the designer to develop a number of wordmarks through the systematic combinations of a list of defined parameters. This keeps the designer from having to randomly think of type variations for developing iterations of a wordmark. The programme is not a replacement for creativity, however. Once designer generates a version that has something interesting about it or addresses the design problem, they can then focus on refining that idea. The programme allows the designer to expend their creative energy on the refinement of a good idea instead of a large number of ideas which may not address the problem.

Grid for the Capital

The use of grids was popularized and refined by Swiss designers like Josef Müller-Brockmann and is one of the signature characteristics of Swiss style of graphic design (Hollis 2006). Grids are a programme that sets a number of parameters through columns, gutters and margins which allow designers to generate creative layouts quickly but also maintains a consistency in between elements on a page or between pages of a document. Karl Gerstner was the first to truly exploit grids and create them with unmatched complexity which yielded incredible flexibility.

In 1962, Gerstner was commissioned to design a quarterly magazine called Capital (figure 4). It was a magazine intended to put the ideas of economics into a human perspective and so it needed to be clear, aesthetically pleasing, and engaging. He considered grids to be a "…reliable regulating tool for layout, tables, pictures, etc., a formal program, a priori, for a give quantity of unknown content" (Gerstner 2001). The grid provides a set of guidelines to consistently lay out unpredictable content.
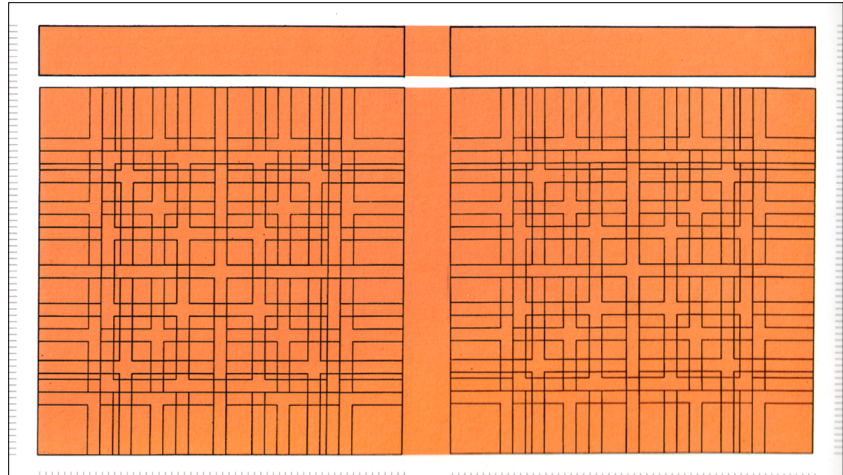
Figure 4: Grid for Capital magazine. 1962

Grids can turn design into a simple act of placement of elements into a series of column. While this can provide the consistency, grids can be a trap for designers; creating uninspired, homogenous layouts. This is especially the case with simple grids. For Capital, Gerstner developed an complex grid which was flexible and allowed rapid, creative and consistent layouts. As a grid grows in complexity, it provides "a maximum number of constants with the greatest possible variability" (Gerstner 2001).

The grid looks incredibly complex at first, but upon examination, shows itself as a number of grids overlaid upon each other (figure 5). While each grid overlay was often used separate, they were designed so if columns were mixed together, they would still maintain a harmony between each other. This way the magazine's layout is consistent from page to page and between the different grid versions, separate or combined.
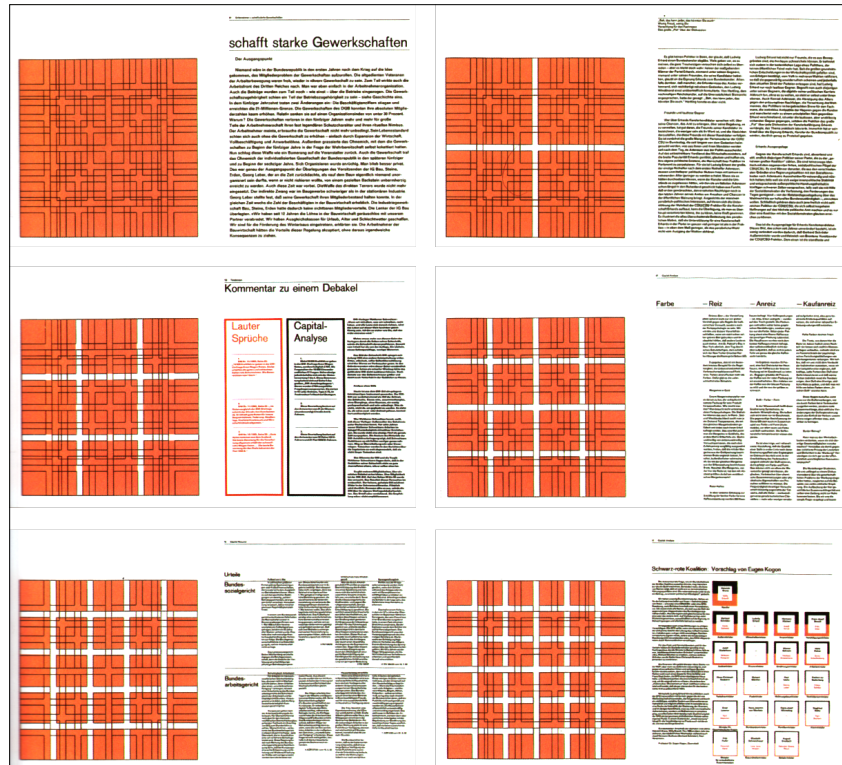
Figure 5: Variations within grid layers.

Application of Programatic Principles to Design

What is interesting about Gerstner's concepts of programmes is how they were conceived well before the impact of computers was truly felt by humanity. The ideas that Gerstner had laid out in *Designing Programmes* are almost more relevant to design in the computer age than they were when he wrote them (Cooper 1989). The connotations of program(me)s in regard to creativity and the links between generative programs and aesthetics have been debated in the past (Franke 1989). More recently, the idea of programmes in design are commonplace as designers are more involved in the web and digital mediums. Understanding and utilizing this approach has become deeply connected to design process (Lupton and Cole Phillips 2008). With the necessity to learn languages like html or systems like css (cascading style sheets), the designer becomes more comfortable within structure and Gerstner's concepts start to make sense and apropos to the design process.

Beyond the implications of computers and technology, why are Gerstner's concepts of programmes important to designers?

Programmes are a way to introduce economy into a design process. Gerstner asserted that programmes are a means of developing a structure to be creative in. While a structure can be seen as limiting, it can also be seen as establishing the parameters of a design problem which can keep a designer focused. By integrating a systematic approach to ideation, iteration or composition, a designer can reduce the time spent on randomly arriving at solutions. This time saved in the early stages can then be used later on to refine and improve concepts. For example, Gerstner's typogram programme allows for rapid and systematic generation of a number of possibilities for a wordmark. The programme itself, does not offer the answer or anything new, but it clears the designer's mind of needing to conceive iterations so they can focus on the design problem and its needs.

Programmes allow designers to keep from starting from scratch every time. A grid provides the designer with something that they can use from layout to layout for a magazine or document as a starting point. The success in any programme relies on its adequacy and robustness in addressing the design problem. As a grid is developed, it is important that its design is informed by the design problem it is addressing. The grid allows the designer to rapidly lay out pages in an informed manner. In the case of Capital magazine, the grid was also complex enough that it was flexible and provided ample opportunity for the designer to be creative in their explorations laying out the pages. This complexity liberates the designer from the constraints of the simple grid by offering incredible possibilities and variations for layouts while maintaining consistency between elements, pages and issues. The creativity that the Capital grid affords is proof in itself that rules can provide a framework to solving a design problem without determining the final result (Lupton and Cole Phillips 2008). The grid is never the answer to the design problem, it is just provides informed guidelines to arrive at the answer.

Conclusion

There are two aspects of design process which are central to Gerstner's theories. First is creativity. Gerstner's evangelism for introducing programmes into design process is not to limit creativity, but to ensure creative energy is efficiently allocated to the stages where it most benefits answering the design problem. Instead of

energy expended during the preliminary stages, clever use of programmes and frameworks can allow the designer to operate systematically and quickly. Once the seed of an idea or solution has presented itself through a systematic approach, creativity can take over to improve and refine the idea.

The second fundamental aspect of Gerstner's theories is the importance defining and understanding of the design problem. Gerstner (1968) saw describing the problem as intrinsic to arriving at a solution and he saw a problem as never having a single solution:

> *"Instead of solutions for problems, programmes for solutions — the subtitle can also be understood in these terms: for no problem (so to speak) is there an absolute solution. Reason: the possibilities cannot be delimited absolutely. There is always a group of solutions, one of which is the best under certain conditions." (Gerstner 1968)*

Once the design problem has been carefully defined, then an appropriate programme could be developed to explore solutions. The failure of a programme comes when it is not developed comprehensively enough or does not regard the design problem adequately. For example, the morphological typogram programme (Gerstner 1968) uses the matrix of parameters and variations of type to derive a wordmark. This programme may not produce a decent design solution if it is not comprehensive enough to address the design problem or its solutions. This is especially relevant now, as the vast number of typefaces available to a designer today is not satisfied with Gerstner's "24. Some other" category for typeface choice. The lesson from this is that a programme must always be reactive to the design problem, and also to what cannot be predicted as in the case of grids which may house any variety or combination of content. The complexity or flexibility that a designer works into a programme by thoroughly understanding the design problem should reduce or eliminate the cases where programmes fail.

In the end, programmes can never be considered the answer to a solution; they are just a tool to help the designer arrive at a solution to a design problem. In the case of the wordmark programme, the programme falls away as soon as the solution is found but in the case

of the grid, it's always there in the background that enforces the design. The preceding quote really gets to the paradox in Gerstner's ideas and in design as a whole. Gerstner sought to find a systematic way to find solutions to problems which implies that there is an absolute and singular answer to any problem. However, in this quote he denies the absolute solution on the grounds that there is no way of systematically ever fully understanding a problem. For me, any problem that merits a solution that requires creativity and analysis is central to the act of design. These sorts of problems are rarely static and its impossible to believe that there could be a single solution. They can change through time and become harder to solve as technology advances as in the case of Gerstner's typogram versus the number of typefaces which exist or they can become incredibly relevant as in the case of grids and their incredible importance in web design. As with time, cultures, aesthetics, politics and perceptions change which also alter problems and their solutions. The ongoing project in Design 396 illustrated that there could easily be three to five different solutions that addressed the assigned problem. Each designer created a different design solution which was well-considered, researched and proven to be effective. While the four assigned problems seem straightforward, each designer interpreted the problem differently and created a different solution proving there is never a singular answer to any problem.

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