PHOTOGRAPHY AS A GRADUAL PROCESS

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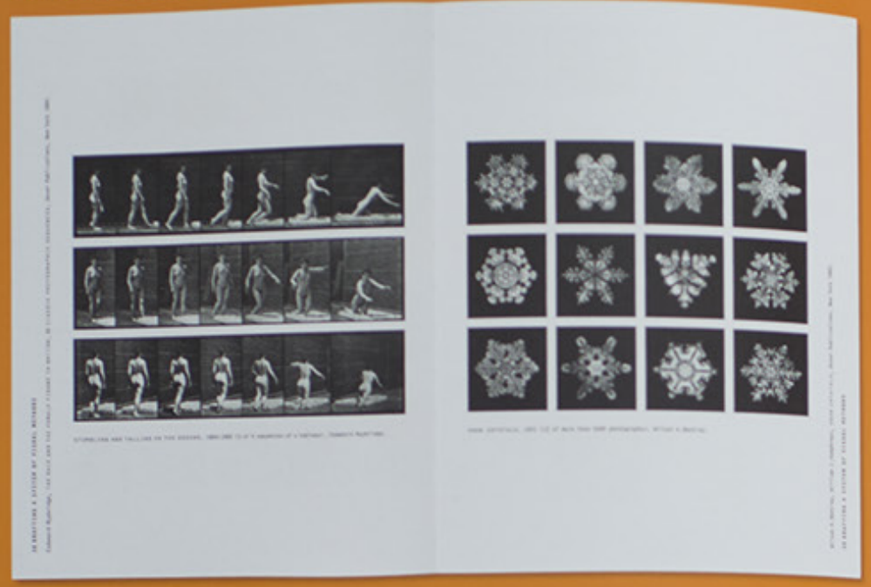
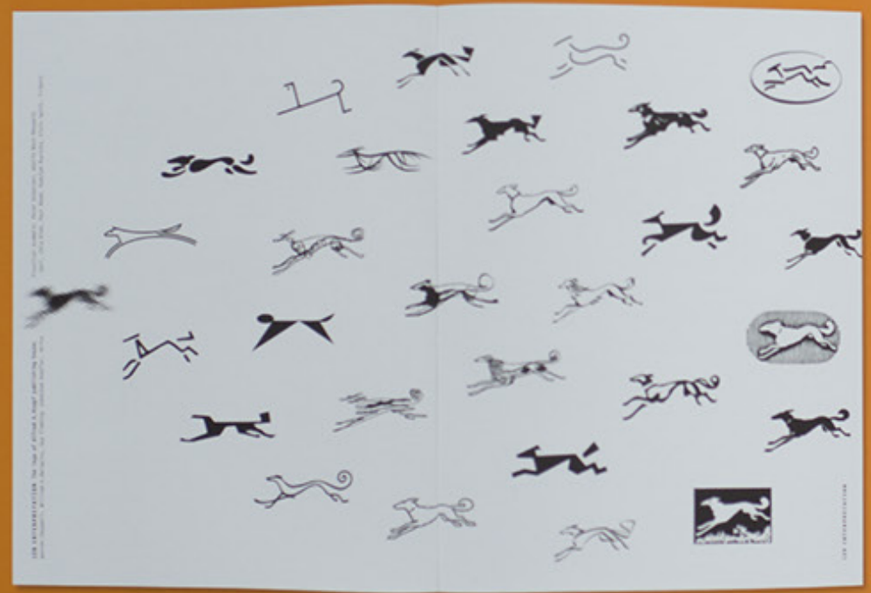


This page and p.73. Spreads from the book *Experimental Design: Visual Methods and Systematic Play* (Niggli Publishing, 2015) by Armin Lindauer and Betina Müller. See niggli.ch

INTERPRETATION AND INTENT

The perception of the designer always shapes the message communicated by their work. Each interpretation of the Alfred A. Knopf logo (including drawings by Triboro, see pages 74-83 and Jonathan Hoefler) investigates expression by means of representational style.



SYSTEMATIC PLAY

Using intuition, research and process, the work of Armin Lindauer and Betina Müller revitalises connections between art, design and science. By Kevin J. Hunt

Driven by human invention and targeted change, artists and designers select which adaptations and variations enable their work to evolve. Josef Albers' *Homage to the Square* series includes more than 1000 explorations of colour perception and colour relationships. Bernd and Hilla Becher's typologically organised *Water Towers* show the diversity of their subjects within tightly controlled representational boundaries.

Graphic designers and educators Armin Lindauer and Betina Müller have a vision for 21st-century design. Passionate about the connections between art and science, they propose a 'Copernican Revolution' in the ways we think about creativity, advocating a central role for systematic play that combines rationality with invention. At the heart of their approach is admiration for the creativity that drives science forward, as well as a recognition that some kind of structure exists within even the most open-ended artistic practice. In other words, scientists are much more creative than they are often given credit for and artists intuitively use some kind of structure within their creative practice. There is more common ground between art and science, in terms of process, than is often acknowledged. Lindauer and Müller share an acute awareness of the expansive meeting point between structured and intuitive thought where scientific and artistic processes become integrated. They see huge potential for experimental design as a means of bridging the perceived gap between art and science, revitalising the fundamental connections between these too often falsely separated worlds.

The legacy of Helmut Lortz

What Lindauer and Müller propose is nothing new. As they write in the introduction to their meticulously crafted book, *Experimental Design: Visual Methods and Systematic Play* (2015), there are 'more similarities and connections between scientific and artistic work than generally supposed.' And yet, if their approach were to inspire a re-evaluation of design thinking and arts education the results could be revolutionary, sparking a paradigm shift based around the deceptively simple question: 'How do you use a system to tap into creativity?' To understand the implications of Lindauer and Müller's research it is purposeful to consider where their fascination with scientific process comes from and how this became embedded within their creative practices.

Lindauer and Müller first met as design students in the Hochschule der Künste Berlin (HDK, later Universität der Künste Berlin, UdK) where they were both taught by Professor Helmut Lortz. Lortz (1920-2007) taught for 29 years as head of the class for Experimental Graphics. As well as being an inspirational teacher, he was a graphic designer and illustrator who produced book covers, illustrations, posters, signs and stamps. He also published books of his distinctive hand-drawn studies. His work systematically and unpredictably explores relationships, structures and the power of visual communication, often showcasing the evolution of an idea from a simple concept or starting point through a complex range of multi-faceted possibilities. Seeing Lortz's work brings to mind the brilliantly inquisitive line drawings of Saul

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Lindauer and Müller believe the term 'experimental', with its implication of something 'inexplicable', is often used to gloss over work that is merely arbitrary or nonsensical.

(1950-76) produced more than a thousand studies of colour perception and colour relations in a range of media (paintings, drawings, prints and murals). And Bernd and Hilla Becher's multiple series of black-and-white documentary photographs, such as *Water Towers* (1972-1987), regularise the impact of composition and light in order to focus upon the history and character of industrial architecture.

Equally, the world of science is full of influential thinkers who embrace artistic processes by adopting creative visualisation, open-ended play and non-linear or lateral reasoning. The mathematician Benoit Mandelbrot, renowned for his work on fractal geometry, stated that 'my whole life long I have dealt not with formulae but pictures in my mind.' Einstein would visualise signs or images in his mind's eye before converting conceptual ideas into conventional scientific language at (what he considered) a laborious secondary stage of interpretation. And Arthur Koestler described similar (visually led) processes in scientists such as Max Planck, the father of quantum theory, who wrote about the need for 'a vivid intuitive imagination', and Michael Faraday, who would visualise the lines of force within the universe as curves in space 'as real as if they consisted of solid matter.' In his book *The Act of Creation*, Koestler cites a study of leading mathematicians and physicists whose processes are revealed to be visionary in both the metaphorical and literal sense, with a majority defined as 'visual thinkers' who would work primarily with images (on paper or in the mind's eye) to develop ideas.

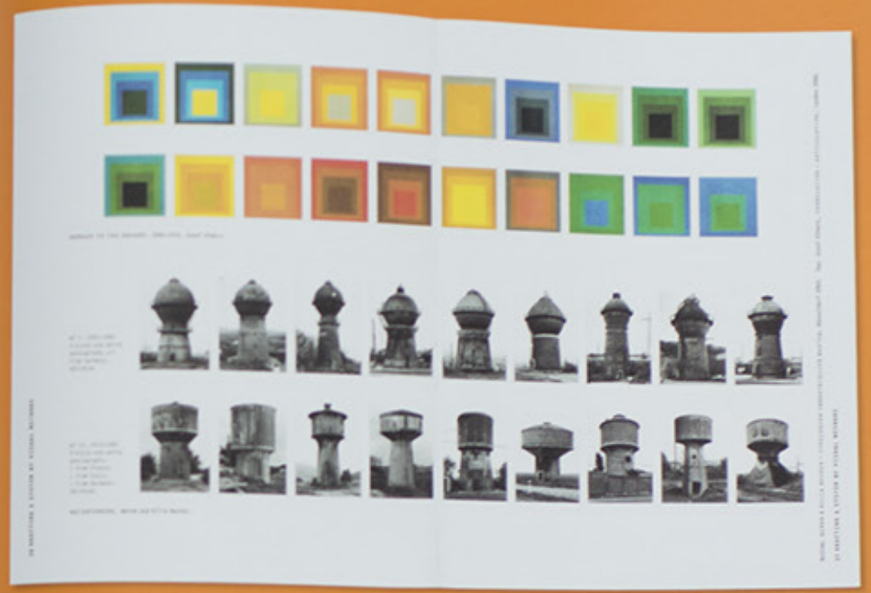
Drawing upon these and other examples, selectively chosen from an extensive range of reference points, Lindauer and Müller build a compelling case for the power of visual thinking as an essential part of the experiment-led design methodology their work espouses. One of the neatest ways of condensing this dialogue between art and science is through Edward de Bono's familiar terms 'vertical thinking' and 'horizontal thinking', which Lindauer and Müller revisit to help conceptualise their fusion of logical and selective progression (a vertical depth of purpose) with lateral and discursive thinking (a horizontal and playful breadth of possibilities). But the heart of the process lies in giving oneself the creative freedom to '[do your] thinking with a pencil in your hand.' Designers must be willing to plunge into the absurd and the unrealisable in order to return surprising results and new directions, and then have the patience to explore the variables until something unpredictable but usable evolves. As Müller says, 'you don't judge anything initially, but permit every single idea, after which you make a selection.'

Design theory as practice

Exploring the experimental design process of Lindauer and Müller is both familiar and exceptional. Each page of their 2015 book *Experimental Design* engenders a slow-burning sense of revelation that nothing is new but everything is new. The premise includes invention and development, but it is the layering of content that reaffirms and reveals a depth of understanding about the creative process seldom articulated so clearly in a visual format. From the beginning, Lindauer and Müller implore the reader to experience the carefully constructed flow of ideas in sequence, especially if they are students and beginners. The sense of linearity feels important because the lateral connections and visual rhythms on display are intrinsic to the fluid relationship between system and play being explored. *Experimental Design* communicates its core ideas by being idiosyncratic, selective and adaptable in a first-hand example of design theory as practice.

While Lindauer and Müller refrain from making predictions about how design processes and education will continue to develop, their project seems perfectly attuned to a culture that is increasingly embracing convergence and interdisciplinary thinking. Lindauer talks about 'disruptive innovations', when an idea breaks free of convention while providing a purposeful direction to evolve further. This way of thinking applies to the development of ideas beyond visualising concepts on the drawing board. What Lindauer and Müller propose is that all designers and artists recognise their new definition of the experimental concept – to place a method of evolving creativity at the core of teaching and practice to help art and science become fully reintegrated within 21st-century design. ©

CULTURAL EVOLUTION



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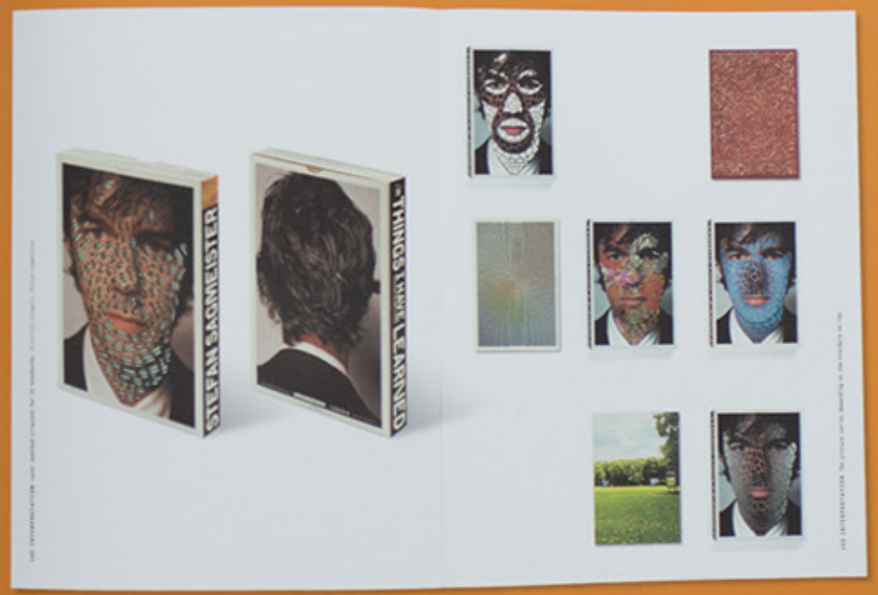
EXPANDING A VISUAL VOCABULARY



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