

Abstract from 'The role of Art in Science'

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The study of architectural, urban and related technical design struggles with its context sensitivity hampering a contextless and category-bound scientific generalisation. Many concepts describing design issues are different from the categories and variables of empirical science. Incomparable categories such as 'strong', 'useful' and 'beautiful' have to be combined in design. These combinations cannot be expressed in a 'statement-based' scientific discourse. Design annoyingly jumps through its sentences and statements that unroll primarily in time. Images are indispensable in communicating the spatial diversity observed or intended. Materialising spaces allows contradictions, but it is not irrational. It only transcends the categories of verbal language and classical logic. It uses the sources of imagination in a rational, but not always in a logical, and certainly not in a predictable way. Art shifts the boundaries of imagination. And imagination is the foundation of both science and design. Art transcends categories into new imaginations. New imaginations are required to find new categories as components of a composition. Design restricts itself to realisable imaginations. Its boundary is 'possibility', whereas science restricts itself to 'probability'.

Science is a human design, and design is an art. So, even science is an art, a human creation. After all, probability supposes possibility and that supposes imagination. Imaginations and designed instruments often have preceded scientific progress. Design is not a part of science, but science is a part of design. It is in particular a part of the realisation of a design. That shows the advantage of a scientific education for designers. It makes them less vulnerable in the company of specialists. A design concept will weigh up and integrate advice from the specialists. And these advices are often contradictory. Diverging specialisations result in an archipelago of sciences, no longer criticising each other. That is why science falls in the public's esteem. But, here is still a demand for imagination. That is the role of art and design.

The public imagination fails in solving actual problems. It fails by global homogenisation of culture, its everywhere generalised solutions. It fails by a decreasing awareness of real (bio)diversity. It fails by a lack of awareness of the combinatory explosion of possibilities imagination can produce. Design should explore the improbable possibilities. It should shift incomparable categories just as our senses combine different sensory impressions. That is the foundation of concept formation. It integrates the experience of moving your body into object constancies while the boundaries are shifting. These new objects may become the different components and details of a design composition. And every level of scale has its own composition causing an interesting tension if it does not break down into chaotic incoherence.

The legend of a drawing is the key of the composition, its vocabulary. It designates the components of the composition and its characteristic, crucial, connecting and marking details. To explore our possibilities, to extend our freedom of choice, we have to break down the limitations of our imagination, increasingly bounded in cliché's by the mass media. We have to study the hidden suppositions of our imagination to find improbable possibilities. Since science is broken up into specialisms, hiding themselves in subcultures, paradigms and jargon, art and design now have a task in science.