

based on an underlying background theory that corresponds with the designer's view of design problems and his or her personal goals. Schön contrasts this theory with the positivistic rational problem-solving approach, remarking that "although Simon proposes to fill the gap between natural sciences and design practice with a science of design, his science can be applied only to well-formed problems already extracted from situations of practice" (47).

The description of design as a reflective conversation concentrates on the structuring role of the designer, setting the task and outlining possible solutions all in one framing action. The strength of this framing action determines the amount of structure in the task. The central concept of *framing* was taken into the realm of organizations by Chris Argyris, who stressed the learning cycles ("single loop" and "double loop") in which framing takes a crucial role (Argyris 1992). These ideas have progressed in the work of Senge and others, emphasizing the importance of the "learning organization" (Senge 2006). Many people immediately recognize these theories as a description of an important aspect of the organizational lifeworld. But they have also been criticized as lacking the kind of structure that one needs to run an organization—the kind of structure that rational problem-solving seems to provide. The rational problem-solving methods start out with goal definition and build an extensive apparatus of planning and control methods to achieve this preconceived goal in the most efficient manner. This allows for structured working processes that can be controlled unequivocally and measured objectively.

The two paradigms established by Simon and Schön are representations of two fundamentally different ways of looking at the world—positivism and constructionism—and as such they are on opposite sides of a deep schism that runs through science and philosophy. They both have a role in understanding design practices (Dorst 1997).