Foreword

*Projective Processes and Neuroscience in Art and Design* arrives at a particularly cogent moment in the history of human culture. If the last scientific revolution focused on the digital, this one is centred on the technologies of mind. There is a perfect “brain storm”: cognitive computing follows and amplifies the logic of the human mind at amazing speed; advances in neuroscience reveal and potentially manipulate brain function, and precision in data gathering and analytics allow us to express our behaviors and actions in as a quantified self, including the outputs of our minds. The moment offers the opportunity of deploying these new technological capacities to better study and understand what it is to be human, while altering the very nature of humanness.

*Projective Processes and Neuroscience in Art and Design* is an important contribution to this new era. As several writers suggest artists and designers tend to be early adopters of emerging technologies, providing critical and heretical insights, adapting technologies such as neuroimaging as a new material, inventing new tools, and creating new forms of expression. Science and technology studies remind us that scientific discovery and its applications are driven by structures of power that reside within and outside the apparatus of scientific cultures and effect the ways that science is technologized and socialized. Artists and designers ask fundamental questions about where human agency is positioned and should be positioned as powerful technologies, such as affordable virtual reality systems emerge. In the case of neuroscience there is a pas de deux.

As artists and designers have turned their gaze upon neuroscience, so has neuroscience increasingly turned its gaze onto art history, artists and design, seeking understandings of the ways that perception, pleasure, attention through the study of neuroaesthetics, and seeking to understand the neurological processes that accompany the production of art or design products. Studying the neurological processes of creative individuals can help analytics to understand how creativity per se operates and what the optimal conditions might be for these expressions.

In the research and applications described in this book collaboration between the arts and sciences, design and engineering are essential. These experiments now exit from a peripheral position and move to the centre. The stakes are high. Societies are beginning to realize that it is of critical importance to place human needs and desires at the centre of emerging technologies. STEM disciplines are increasingly dependent upon the mediation of design and art, on one hand, to create new applications, as discussed in this book.

One of the significant challenges for neuroscience in the field of contemporary art and design is to understand the complex weaving of cultural influences, context, the accrued language of a highly global yet equally localized art world side by side with the perceptual neurological processes of art-viewing. While some fields such as data visualization have long engaged with cognitive science, others such as
conceptual art rely heavily on linguistic and psychoanalytic interpretation at odds with a neurological analysis than can reduce art experience to pleasure. This book takes the opportunity to weave together colliding philosophical traditions, interpretations of cognitive science and neurobiology and creative practices.

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