Digital Abstraction (Bremen, 7-8 May 15)

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Digital Abstraction at the Interface between Electronic Media Arts and Data Visualization

Abstraction emerged as a fundamental artistic practice and visual experience of European modernism at the beginning of the twentieth century and reached its pinnacle in the post-World War II period, becoming one of the most dominant artistic idioms of the twentieth century in painting, sculpture, and architecture. Modernist abstraction has not only changed our understanding of the production, meaning, and reception of art with respect to aesthetics and art history, it has decisively contributed to the scientific and social discourse in fields such as philosophy, religious studies, psychology, visual and media studies, and even politics.

The more recent use of digital media by visual artists in parallel with the application of new methods of data visualization in the life sciences, medical research, statistics, and nanotechnology have moved the modern analogue concept, language and method of visual abstraction into the digital realm. Transformed into a computer-based code, abstraction has experienced manifold reinvigorations as a universal language of information visualization, specific to the global information and network society of the twenty-first century. In recent decades, the application of scientific visualization practices by contemporary artists has sparked investigations into the complex role of digital visual representation in relation to forms and functions of abstraction. The growth in digitally native information visualization has led to a greater use of techniques of abstraction to dynamically visualize large data sets in order to better navigate the complexities of life and knowledge processing. Many aspects of artistic visualization now overlap with the study of science and technology more than ever before, sharing in common their use of computational abstraction. Such visualizations are meanwhile recognized not only as products of knowledge-producing technology, but also as expressions of art and design, and as cultural artifacts. This transdisciplinary valuation makes it possible and even necessary to look more closely at the practice and meaning of digital abstraction at this interface between digital art and data visualization.

By drawing on a historical, media-related distinction between analogue forms of modern abstraction and digitally native contemporary forms of abstraction, the conference searches to trace the new digital connectivity between digitally mediated art, information visualization, and network science. Its main goal is to conceptualize the new double-bind relationship between abstraction and re-concretion in virtual reality by taking into account modeling and mapping as practices of com-

plexity reduction. Since contemporary software abstraction works in both directions, from complexity to abstraction, and from abstraction to complexity, research will also focus on digital abstraction as a method of universal transcoding.

The conference theme of digital abstraction, viewed as an information-processing condition and conceptual paradigm of digital visual culture and science will be addressed in three sessions:

1) The first session will explore the qualities and particularities of digital abstraction in comparison to analogue abstraction in modern art, society and science. A combined science- and art-historical perspective is chosen in order to compare modern abstraction – informed as it was by the scientific paradigm of atomization and universalization – to digital abstraction, incorporating the new network paradigm of complexity reduction. One of the main challenges of this sort of historical analysis is to find out where new links between modern and contemporary, analogue and digital abstraction are established. Particular attention will be paid to visual processes of abstraction in the history of computational art.

2) The second session is devoted to researching digital abstraction in computational art and design. An increasing number of computer artists and designers are relying on algorithmic approaches to create static, dynamic, and interactive abstractions of data sets. Data visualization techniques are often appropriated for these processes of abstraction. This raises the question of how artists and designers apply data visualization to aesthetic concerns in the creative process. What are the components involved in creative digital abstraction? How are artists building or expanding new visual language systems? How is the complexity of life simplified by the (abstract) visualization of patterns, connections, and structures?

3) The third session addresses the issue of complexity reduction through digital abstraction from the computer informational perspective of data visualization. Relating to chaos, emergence, and complexity theory, it will explore how we navigate and visually map the diverse complexity of life, ranging from natural and artificial systems of life to social networks and knowledge production. The primary focus of the inquiry is the digital analysis of the graphic language of abstraction in visualization. Are their parallels to the language of modern abstraction, including its laws and gestalt concepts of geometric, organic, ornamental, or gestural abstraction? Are new patterns of dynamic, interactive, and (re)generative abstraction developing? Do these fuse with the analytical or even synthetic principles of modern abstraction?

This formal investigation of abstract information visualization will be framed by the overall question of what kinds of new relations between visual data representation and digital abstraction are being construed and what this signifies with regard to digital art theory and visualization studies for the reevaluation of existing theories of abstraction and representation.

We invite paper proposals to these sessions from a variety of fields, including art history, visual and media studies, life sciences, informatics, and computer science. Please submit an abstract (300 words) plus a brief CV (300 words) along with your contact information in one single Word or PDF file by August 31, 2014 to abstraction@jacobs-university.de.

<https://arthist.net/archive/7821>.