What media arts can teach us about technology and its use

In January 1984, during the televised American Superbowl, Apple aired a one-minute advertisement to promote a product that introduced personal computing to the world. Launching Apple’s first Macintosh computer, and made by film director Ridley Scott, the advertisement took its theme from George Orwell’s dystopian novel 1984. The message? Unlike the stagnated world of Big Brother, Apple’s innovative technology heralded freedom, not control.

It’s an analogy and message that still holds true for Professor Sha Xin Wei. He wants us to re-discover pre-Newtonian ways of thinking, when art and science were not regarded as separate disciplines, but came together in the realisation of imaginative potential – the creativity that Aristotle meant by ‘poiesis’ combined with the ‘praxis’ of skilled execution.

Professor Sha is a theoretical mathematician who studied at Harvard and Stanford in the United States, and also pioneered technologies that showed what was beyond the worldwide web. In addition to his scientific training, he maintains a lifelong interest in media arts, philosophy, and social impact. In true Renaissance man style, he is as happy discussing quantum mechanics as experimental theatre. He is currently Professor of Arts, Media and Engineering at Arizona State University, where he also directs the Synthesis Center.

Weaving the strands of his professional and extra-curricular life together, Professor Sha describes the Synthesis Center as an ‘atelier for creative research’. Combining aspects of art studio and science lab, the atelier is a ‘home for adventurous people to invent new ways of thinking and imagining about things’.

The ‘Internet of things’ – the network of physical objects that make use of sensors, software, and other technologies to connect and exchange data with other devices and systems over the internet – is an increasingly familiar concept. However, Professor Sha believes it is now time to also think about the ‘ecology of things’ as the so-called ‘wicked problems’ of the 21st century – seemingly insolvable issues such as climate change, environmental pollution and global poverty.

The Synthesis Center is where such thinking can take place in what Professor Sha calls a ‘fresh kind of practice, blending process philosophy, computer media and theatre arts, and critical studies of technology, ecology and economy’. In this way the center seeks to produce new knowledge about how people, technology and society interact creatively and expresively in the 21st century.

The Synthesis Center for Transversal Art, Philosophy and Technology renews the vision of knowledge and fuses specialized know-how to tackle questions that cut across academic disciplines.

**ORIGINS**

The Synthesis Center for Transversal Art, Philosophy and Technology builds on concepts Professor Sha developed previously at the Topological Media Lab at Concordia University in Montreal, Canada. The lab applied the mathematical concept of topology - how the properties of geometric objects are preserved under deformations such as stretching or twisting, to computational media. Researchers worked on various projects and installations, for example a video art project on the concept of fire which combined camera-based motion tracking and gesture-oriented programming software to help viewers interact with projections on screen. Sudden movements by participants created the on-screen but palpable illusion that they had caught elemental fire.

The Synthesis Center is an equally creative, transdisciplinary space for the exploration of a new generation of computer-augmented responsive environments. The atelier is modelled on the workshops of the Renaissance and also draws on contemporary concepts of experimental technology labs, physical action theatre, media labs and design studios.

**PEOPLE AS WELL AS SPACE**

More than a physical space, the Synthesis Center is a group of people who come together and use technologies and techniques to work collectively and create meaning through projects of non-anthropocentric design. As Professor Sha explains, it is about finding ways ‘to design and build environments in which we would like to live, in which we are not the most important beings in the world’.

Researchers from different arts, humanities, science and technology backgrounds work on projects and events which create enriched experience and cultural value. They go beyond art as creative experience to look at how artistic methods can inform technological research. For example, lighting, rhythm and improvisation workshops have explored how theatrical grade digital technology can be used to enliven everyday public spaces. In addition, animated materials have been produced such as textiles that emit sounds when touched, and light sculptures have been created that respond to movement and gesture.

The Synthesis Center is also about transformation and changing the way people do things. Professor Sha explains: ‘Transdisciplinary research is more than merely sitting an engineer and an artist in a room; it means transforming each discipline’s own ways of doing things, with care.’

**RESEARCH CLUSTERS**

The Synthesis Center’s output is based on a series of ‘research clusters’ or themes.
It would be like to live in a city without problems like urban pollution and what that look at seemingly intractable ‘wicked’ problems. For example, projects could be developed to shape it by imagining worlds other than human limits of comprehension. We face the limits of effectively managing the technologies that activate our everyday life. Our challenge is how to build and inhabit environments that leverage the power of emerging technologies for shelter, sociality and play.

A fresh kind of practice, blending process philosophy, computer media and theatre arts, and critical studies of technology, ecology and economy.

Sha Xin Wei Ph.D.

Research Objectives

Professor Sha’s core research concerns topological approaches to poiesis, play and process. His art and scholarship range from gestural media, movement arts, and real-time media installation through interaction design to critical studies and philosophy of technology. Sha pursues speculative philosophy, experimental art, and visionary technologies that are reciprocally informed to equal depth.

Research Staff

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References


Personal Response

Of all the research clusters that the Synthesis Center is working on, which do you think has the greatest potential for global social impact?

"Our Prototyping Social Forms stream offers ways to harvest the work we’ve done with experimental art and technology to work with people to not only imagine other ways to live in the world but to create and try them out, to prototype worlds."