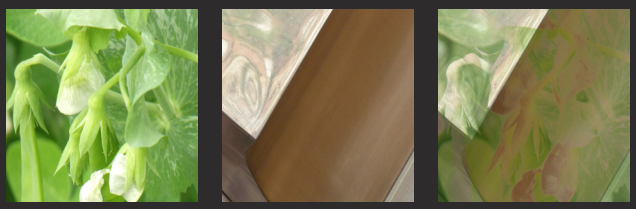
Educational Guide
Janice Lourie: The Woven Image

Exhibition Overview

Janice Lourie: The Woven Image features the artist and computer scientist's 21st-century work in conversation with her earlier achievements at IBM in computer programming and design. Lourie, a Tufts graduate (J57), began weaving on a hand loom at age seven. In the decades since, she has cultivated a career and practice defined by the weaving together of mediums, disciplines, and technologies. With training in music, philosophy, mathematics, graphic arts, and computer science, Lourie makes work that clarifies the relationships between each field's respective languages through collage, transposition, and the interaction of images. She relates this artistic process to the way in which she sees the world: as a collection of superimpositions and transparencies. Her process in working with photographs involves play and experimentation, transforming the individual photographs within a composition from a medium into a material.

Lourie's 1970 patent for the computer-aided design of textiles was the first software patent obtained by IBM. The software, patented as Graphical Design of Textiles, allowed designers to preview and edit their textile designs before producing them on the loom, saving them considerable time and effort. Lourie's program is a formative example of computer-aided design, which is now a massive industry that we rely on for 21st-century manufacturing, architecture, and engineering. In turn, the patenting of Lourie's work helped shape the idea of intellectual property in the United States. Her more recent artistic endeavors feature digitally manipulated photographic images, of which she is also a pioneer.

The presence of multiple technologies, mediums, and disciplines in Lourie's work—some of which are often seen as disparate—offers students many angles from which to engage with the exhibition.



Lourie used the first two photographs to make the final digital composite image from *The Agreement*, 2019–20.

Lourie's Process

This series of images illustrates Janice Lourie's process for creating her layered digital compositions. Lourie starts by choosing one photograph—from thousands that she has taken over time—and considering what role it could play in a composite. Once she identifies a photo that can serve as a base layer, Lourie ensures that the subsequent images she superimposes are the same size and have the same resolution.

Lourie's preferred program for manipulating digital imagery is Elastic Reality, discontinued in 1999, which was used primarily in the film industry to create digital special effects. In order to keep using the program, the artist maintains old Windows operating systems on multiple computers in her home studio. #

Lourie's work also provides students a point of entry into a lesser-known yet highly impactful moment in the history of software and computer-aided design.

Left: Lourie at IBM in 1970. Right: Lourie examining her patent at the IBM offices. A pattern created with her Graphical Design of Textiles software is displayed on the monitor. Courtesy of International Business Machines Corporation, © International Business Machines Corporation.

Key Questions

What musical, mathematical, or computational elements can you observe in these images?

In what ways does Lourie's work show what can be gained from transcending or blurring disciplinary boundaries?

How does Lourie's use of the photographic image—not as a final product, but as a material in creating a final product—affect conventional attitudes towards the medium?

What connections can you make between Lourie's 1970 patent and textile design or computer science today, fifty years after it was granted?

Recommended Resources

Bernadette Carey, **"Quick, Compute Me a Nice Tapestry,"** *New York Times*, November 17, 1966.

Janice Lourie, John J. Lorenzo, and Abel Bomberault, **"On-line Textile Designing,"** 1966.

Janice Lourie, **Graphical Design of Textiles Patent**, 1970.

Useful Videos

Explanation of Jacquard weaving process from the V&A, predecessor to Lourie's tech (3:24 min.; no audio)

History of loom weaving pre-Jacquard (4:46 min.)

Explanation of Jacquard loom's connection to early computer technology (1:56 min.)

Videos of Lourie **demonstrating textile graphics in 1968** (1:51 min.) **and 1971** (36 sec.). Courtesy of International Business Machines Corporation, © International Business Machines Corporation.

Key Terms

CAD/CAM (computer-aided design / computer-aided manufacturing): This describes the use of computer software to operate machines or tools in creating a product.

Software: The collection of data that instructs a computer on operating specific functions.

Textile graphics: Lourie's design process, in which a designer uses a light-sensing pen connected to a computer to create a textile pattern. This process allowed for trial-and-error in computer-aided textile design, increased artist involvement, and more options for weave patterns.

Artist Timeline

1930: Lourie is born in Chelsea, MA.

1957: Lourie graduates from Tufts University with a degree in philosophy. She also begins working at IBM this year.

1966: IBM files a patent for Lourie's textile design software, their first ever patent for such a program.

1968: IBM features Lourie's textile design program at their booth for the San Antonio HemisFair, an official World's Fair. Visitors were able to try out Lourie's program and use a computer to create their own patterned fabric samples.

1970: The US Patent and Trademark Office grants IBM a patent for Laurie's Graphical Design of Textiles program.

1973: Lourie publishes *Textile Graphics / Computer Aided*, a book on the relationship between computer applications and the textile industry.

1986: Lourie leaves IBM.

1996: Lourie publishes *The Wealthy Tortoise: How to Get Rich without Risk—Slowly*.

2000: Lourie begins exhibiting her composite images, first at the National Arts Club in New York.

2019: Lourie begins her new project, *The Agreement*, an exploration of the relationship between American authors Norman Mailer and Sinclair Lewis.