PROJECT: HI > AI

Marybeth Shaw, WG Chief Creative Officer and Curator
Michael Loughlin, WG Design Director and Pattern Engineer

The Project: When wandering the aisles of a large trade show such as HD Expo in Las Vegas, one does not expect to encounter a provocative exhibition on artificial intelligence. However, that is precisely what Wolf-Gordon presented May 2–4, 2023, at the Mandalay Bay Convention Center. In the guise of a booth showcasing the company's digitally printed wallcoverings on PVC-free substrates, *Project: HI > AI* went deep: seven distinguished artists created original patterns that explored such diverse themes as the process of making, the uniqueness of human-generated art, and anxiety over impinging technology, surveillance, and control in our lives.

With the artists' original works in hand, Wolf-Gordon Design Studio (WGDS) extracted verbal prompts from the patterns that were input into AI imaging software with the aim of creating outputs that were as close as possible to the originals. Although the AI software could not match the humans' creations, the results were remarkable for their range of interpretation and, in some instances, outputs that delighted for their otherworldly takes on organic and traditional motifs, hand-drawn and -painted compositions, and multi-step art making processes.

To ensure a varied and lively set of works, curator Marybeth Shaw, chief creative officer at Wolf-Gordon, invited artists working in several different media, from conceptual art and printmaking to art jewelry, calligraphy, textiles, and interior design. Shaw launched the project with a song, *Human Behavior*, by Björk (1993), written from the perspective of an animal observing humans. She suggested that for *Project: HI > AI*, we might replace the animal with a machine. How would AI interpret a 48" x 48" pattern designed by a human?

Based on the results exhibited in Las Vegas, the artists delighted in devising different ways to fool the AI and made replicating their patterns as difficult as possible. Christine Tarkowski, artist and professor at the School of the Art Institute of Chicago, generated her pattern, *Large Square*, by folding water-soaked butcher paper over and over into a square and then drizzling 2000° F molten glass onto the folded paper. The glass burned through several layers, revealing a pattern when extinguished and unfolded. While Tarkowski's juxtaposition of geometry to entropic action—a persistent theme in her work—was impossible for the AI to match precisely, through several different sets of verbal prompts, the image of folded paper aflame in the AI version is relatable.

Calligrapher and sign painter Jen Mussari explored the foundational shapes of her art in *Pattern 2*. She writes, "My pattern is made of simple typographic building blocks. Trained human hands have made words for communication from these shapes for centuries, but what would a machine do with something seemingly so simple?" When WGDS input Mussari's prompt—'a linear pattern of calligraphy brushstrokes reminiscent of the building blocks of hand-drawn typographic forms'—the supergraphic output from the AI software was so compelling that they kept it as a large non-repeating mural.

The work undertaken with Midjourney and DALL-E by WGDS quickly revealed the importance of language in *Project: HI > AI*. In most cases, design director Michael Loughlin had to manipulate the artists' original prompts to get outputs that approximated the art. In other instances, the end goal shifted to enable the AI to express a strange new variation on the original art that the Studio found compelling. Because no AI is currently able to replicate the original art closely enough, WGDS acknowledges the essential presence of the human software operator to influence outcomes.

In several cases, the language needed to be rendered simpler and more straightforward. For designer Frank Tjepkema's exquisite floral,

Famossa, which he created on CAD software, a lengthy list of words yielded a better result when edited down. "Magnetic field, organic, parametric," as interpreted by Midjourney, output a fantastical, alien flower that one might encounter on Queen Amidala's planet, Naboo.

In another case, that of textile artist Raylene Marasco's hand-painted *Furrows*, the trick of the language was to rearrange the original prompt

and add a few cues like "brick-like layout" and "soft gray color." While less nuanced than Marasco's painting, which she executed by dragging pigment down an unevenly hand-dyed fabric with a vintage metal graining comb, DALL-E output a complex light-infused pattern that resembles a high-tech ikat.

Native American metalsmith Pat Pruitt's *Thunder & Lightning* pattern also proved too geometrically abstract for the AI software to replicate. In the Laguna Pueblo culture, the thunder and lightning symbolize the coming of the rain (Shiwana) and its importance to desert agriculture. Pruitt's particular pattern for lightning, also seen on his much-coveted wrist cuffs, was interpreted by DALL-E as a more cartoon-like zig zag.

Print media artist Hilary Lorenz's *Migration* is the ultimate demonstration of the uniqueness of each living being and of each work of art. Lorenz has created awe-inspiring installations of individually printed and cutout hawk moths, most recently at the Denver Botanic Garden, which celebrate these winged insects as pollinators and metaphors for the exchange of ideas. Midjourney generated a pattern of the moths in flight that could be said to be a distant cousin of Lorenz's concept, at a significantly lower degree of resolution and, notably, in a very cloned, serialized repeat.

Perhaps most directly answering the question posed in the program—"What makes human-designed work uniquely human?"—is *Playful*

Toile by Ghislaine Vinas. In her own words, she answers, "What is so inherently, indisputably human? Taking something 'good' and turning it on its head. This is our tableau of human-inflicted adversities existing in a developing or, controversially, collapsing world: surveillance, technology run amok, and domestication. It's a mash-up of misfortunes under the guise of a perfectly pleasing pattern, all penned by the very same human hand." Midjourney output a traditional wallpaper pattern but couldn't match the degree of threat designed by Vinas.

Project: HI > AI is a timely snapshot of the meeting of human intelligence and AI. Interestingly, the technology is evolving so quickly that AI patterns printed in April 2023 could already be rendered in higher resolution in May. Beyond the possibility of utilizing AI imaging software in commercial pattern design and the crucial role of language in the translation of imagery, this exhibition highlights what Shaw refers to as the cognitive rupture in viewing AI-generated art. She posits, "Visual elements in several of the patterns in the exhibition introduce something distinctively new. These inventions will undoubtedly influence human artists. Elements of AI imagery will make their way into human-generated works, thus setting up a potentially beneficial, or at least benign, symbiotic relationship between human and machine in writing, art, and design."

Project: HI > AI will be on display at Wolf-Gordon's Headquarters, 333 Seventh Avenue, New York, NY, beginning May 23, 2023, and continuing through the end of December.

Hilary Lorenz

Barbara Yoshida

Scott Dressel-Martin

Hilary Lorenz is a New Mexico-based multi-disciplinary artist specializing in large-scale printed and cut-paper installations. Her works in paper, wood, and mixed media revolve around a physical exploration and relationship with the natural world. Lorenz's artwork is exhibited internationally, including at the Denver Botanic Garden, CO; Scuola Internazionale di Grafica, Venezia, Italy; Bundaberg Regional Gallery, Australia; and the National Taiwan Museum of Fine Arts, Taichung, Taiwan. She is a Fulbright Scholar and NEA Mid-Atlantic Fellow with an MFA in Printmaking and Intermedia from the University of Iowa.

Inspiration
Lorenz's wallcovering pattern consists of physical layers of hand-carved linoleum blocks of various moth species printed on paper. Her idea originated in her Moth Migration Project, a multi-sensory art installation featuring thousands of handprinted grey-scale paper moths which fill entire rooms. Lorenz conceived the Moth Migration Project to celebrate moths as pollinators and metaphors for the exchange of ideas.

Migration
by Hilary Lorenz

Migration
generated by WG Design Studio using Midjourney

/imagine: hawk moth, 25 moths, various sizes, arranged in flight formation, flying randomly, black and white, block printing style, forms beautiful pattern

Raylene Marasco

As an artist, Raylene Marasco started her career working for a sculptor and eventually found her way to surface design. In 1991 she opened Dyenamix Inc, a custom textile studio creating some of the most experimental and high-profile projects in the fashion, fine art, interior, and entertainment industries. Designers collaborate with Marasco to conceptualize and develop innovative textiles for their collections, projects, and artworks. She approaches each project with creativity, passion, integrity, and artistic sensibility. The results are always unique and expressive of each client but with an added aesthetic sensitivity, thanks to Marasco's contribution.
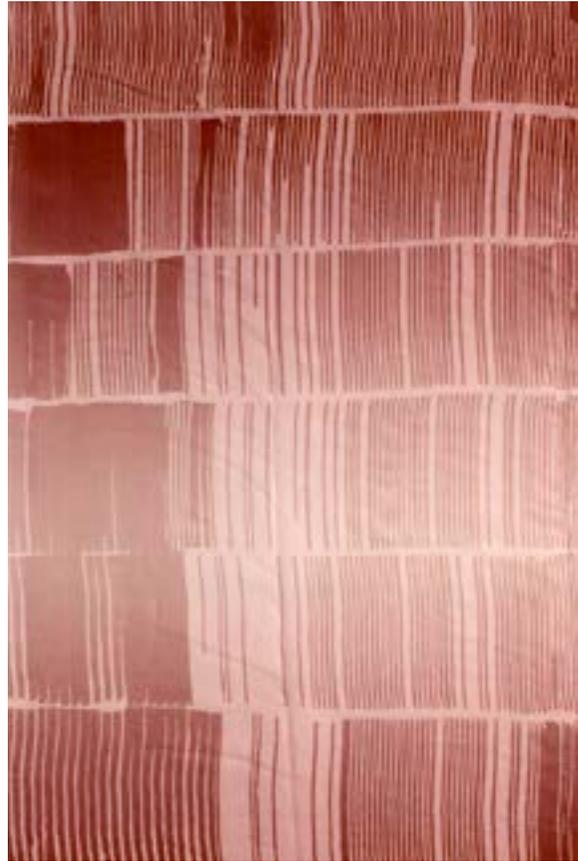
Artist's Statement

"I always begin with a hand-created original image or artwork. My inspiration for *Furrows* stemmed from an abstraction of the city's architecture caused by reflective light and shadows. The original art was created using a vintage metal 'graining comb,' used in faux finish painting to drag pigment down fabric. The irregularity of the line breaks the similarity of the rows, giving a more organic result. The uneven hand-dyed ground gave it a glowing, iridescent quality, circling back to my inspiration. I scanned and manipulated the art to create a repeat and recolored it to capture the silver city reflections, resulting in the final, undulating design of *Furrows*.
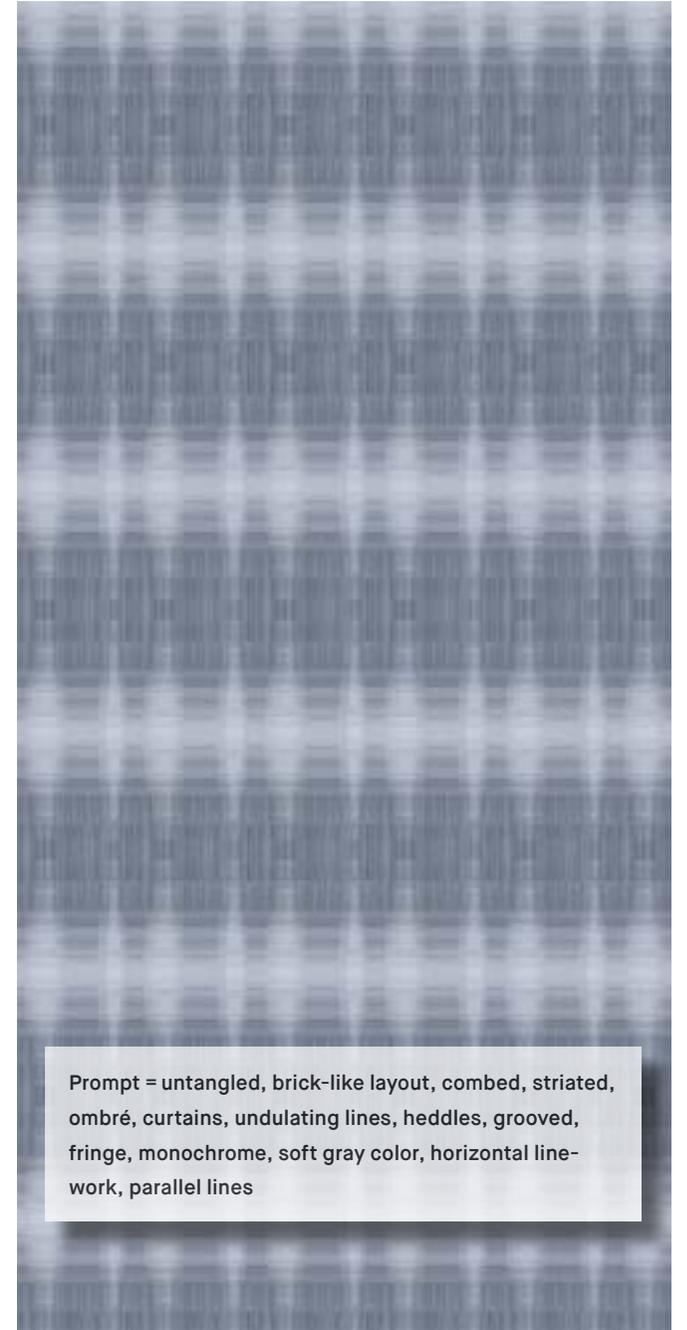
Furrows
by Raylene Marasco

Furrows
generated by WG Design Studio using DALL-E

Prompt = untangled, brick-like layout, combed, striated, ombré, curtains, undulating lines, heddles, grooved, fringe, monochrome, soft gray color, horizontal linework, parallel lines

Jen Mussari

Jen Mussari is a Commercial Artist from Brooklyn, NY. She specializes in taking classic hand-done techniques from calligraphy and sign painting and applying them in a commercial setting for clients that range from large companies to small businesses and individuals. Specializing in lettering allows Mussari's work to live in many formats, such as murals on buildings, as clothing, hand-painted on leather accessories, on motorcycles, and also suitcases. She hopes to eventually paint a transit van or design a flag for a small nation.
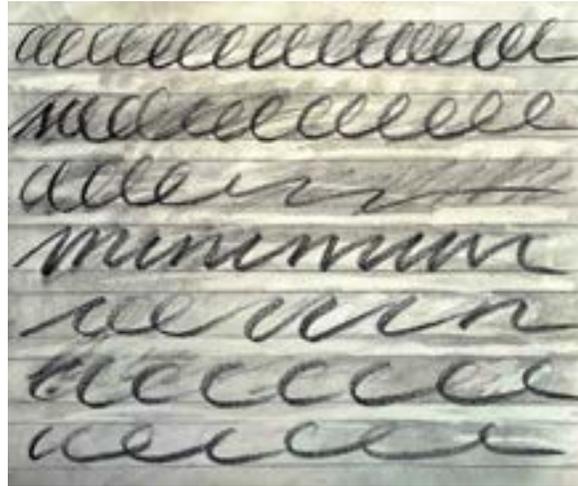
Artist's Statement
"When considering pattern styles that might be interesting for an AI to work with, I found myself drawn to the foundational shapes used in calligraphy and sign painting. My pattern is made up of simple typographic building block shapes. Trained human hands have made words from these shapes for centuries to communicate, but what would a machine do with something seemingly so simple?"

Pattern 2
by Jen Mussari

Pattern 2
generated by WG Design Studio using Midjourney

/imagine: a linear pattern of calligraphy brushstrokes reminiscent of the building blocks of hand-drawn typographic forms

Pat Pruitt

Pat Pruitt is a contemporary artist of Laguna, Chiricahua Apache, and Anglo descent, known for his cutting-edge work using innovative materials, design, and fabrication techniques. He learned jewelry-making by studying with Laguna jewelers Greg Lewis and Charlie Bird, who gave him a solid foundation in traditional materials like silver and copper and traditional techniques such as repoussé. In college, Pruitt studied mechanical engineering and worked as a machinist, an experience that led him to open Custom Steel Body Jewelry. With his knowledge of machining technology and his love of working in stainless steel, he developed his distinctive style of jewelry that challenges notions of what Native American jewelry is. Pruitt has served his people by holding key leadership roles within his pueblo and has served on the Laguna Pueblo Tribal Council for ten years collectively.
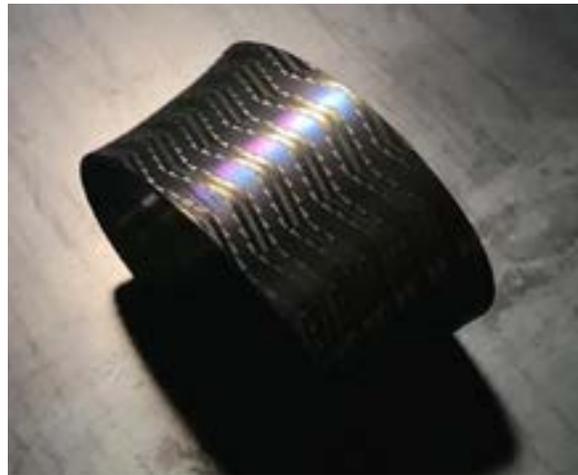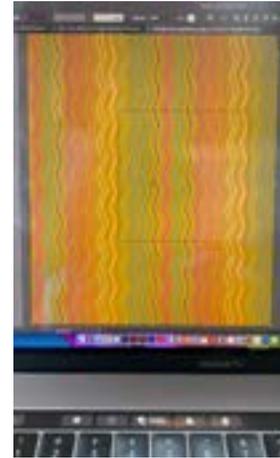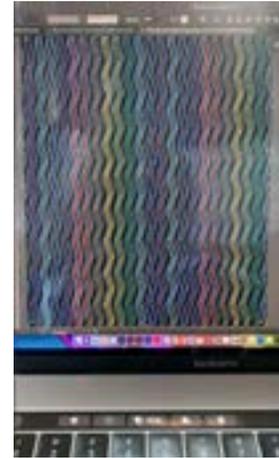
Inspiration

Native American metalsmith Pat Pruitt's Thunder & Lightning pattern also proved too geometrically abstract for the AI software to replicate. In the Laguna Pueblo culture, the thunder and lightning symbolize the coming of the rain (Shiwana) and its importance to desert agriculture. Pruitt's particular pattern for lightning, also seen on his much-coveted wrist cuffs, was interpreted by DALL-E as a more cartoon-like zig zag.
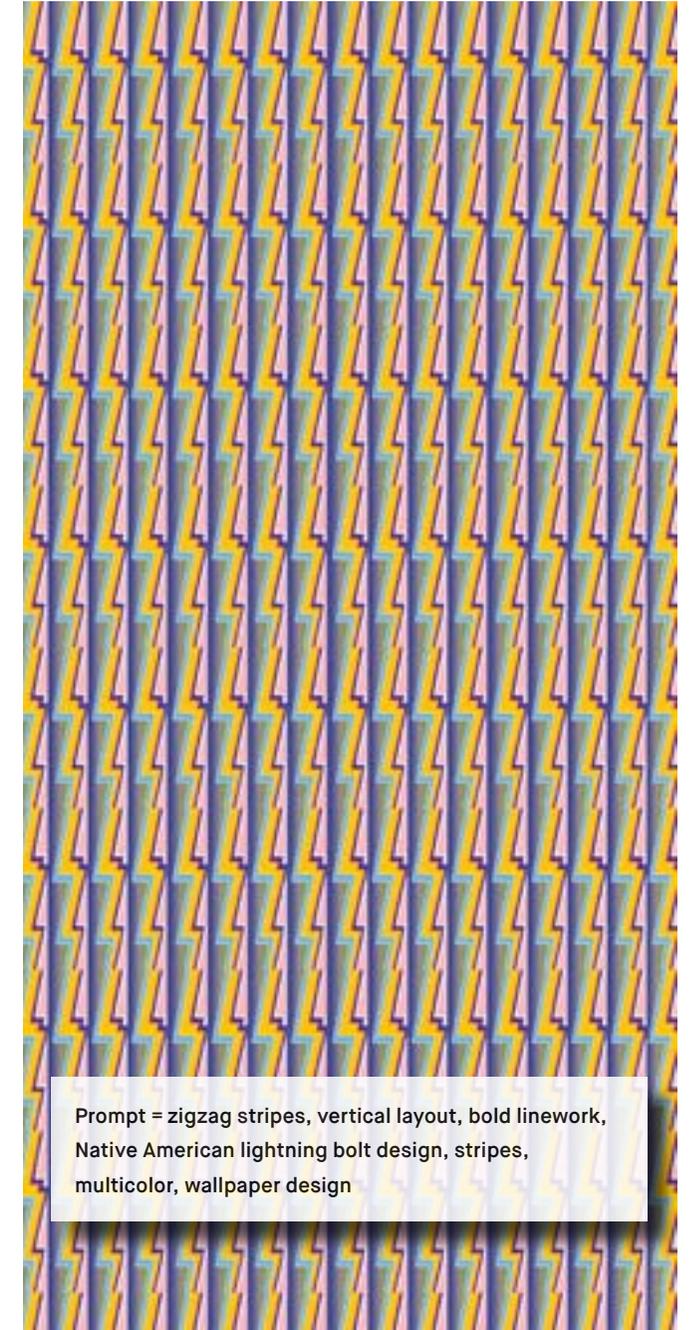
Thunder & Lightning
by Pat Pruitt

Thunder & Lightning
generated by WG Design Studio using DALL-E

Prompt = zigzag stripes, vertical layout, bold linework, Native American lightning bolt design, stripes, multicolor, wallpaper design

Christine Tarkowski

Christine Tarkowski is an artist that works in various formats, including making permanent public sculptures, propositional drawings, cast glass models, and textile yardage. Her current works are in pursuit of the abstract, drawing on history, craft tectonics, and archetypes. She employs methods of dimensional abstraction to evolve narrative elements that refer to the dissolution of order through processes of alchemy or heat. Tarkowski's works have been exhibited in cultural spaces, including the Cooper-Hewitt Design Museum, Museum of Contemporary Art Chicago, and Corning Museum of Glass. She's a professor in the Fiber and Material Studies Department at the School of the Art Institute of Chicago.

Artist's Statement

"A large sheet of butcher paper is folded in half, then half...halved until it measures roughly a square. I use a ladle that's an iron cup attached to a steel pole to gather a scoop of 2000°F glass out of a furnace. The molten glass is quickly drizzled and drawn onto the folded paper, where it burns away several layers of the paper. The paper is extinguished and unfolded to reveal the pattern.

"As an artist, I look to geometry to explore what the literal cannot. The physical traces of geometry are often a superstructure of my making, yet always paired with an entropic action. Actions that transform and sublimate through heat and alchemy. A system represented through geometry is willfully destroyed to expose an alternative form of knowledge. The original system is still visible yet transformed and sublimated by the viscous, the other, the heat, or the will to transform."

Large Square
by Christine Tarkowski

Large Square
generated by WG Design Studio using Midjourney

/imagine: unfolded paper that has been folded to diamond shapes, white paper edges charred from burning

Frank Tjepkema

Frank Tjepkema is a highly regarded Dutch designer based in Amsterdam. He founded his award-winning design agency, Tjep., in 2001 and has since become known for his work in various disciplines, including sculpture, architecture, interior design, and exhibition design. His provocative art and exhibition pieces have captivated audiences worldwide. Tjepkema was an early collaborator with the renowned Dutch design collective, Droog. His work is included in the permanent collections of the Stedelijk Museum in Amsterdam, the Centre Pompidou in Paris, and the Cooper-Hewitt in New York. In recent years, Tjep. has completed several major sculptural projects for public spaces, including Zwerm in Eindhoven and Air Cells in Amsterdam. Tjepkema has recently been involved in the emerging field of NFTs, generative art, and AI-driven concept development.
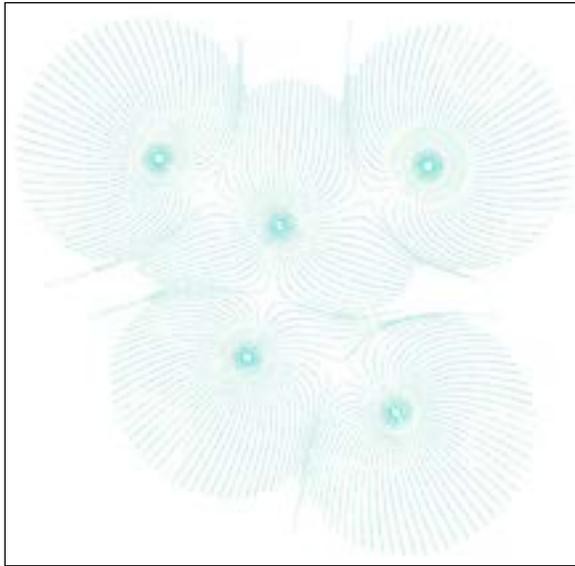

Artist's Statement

"*Famossa* was inspired by the rich musical and visual world of Björk. Not literally, but by controlling computer algorithms to generate a fantastical game of geometry uniting computer algos and a classical flower pattern. Nature and advanced computer technology are recurring themes in the work of Bjork. The algos are programmed by myself; the mathematical precision enables me to direct the composition intuitively and with extreme accuracy, simultaneously. Although generative algorithms and AI both rely on computers, I suspect AI like Midjourney is based on language; it does not have an edge when it comes to mathematics and geometry in a design process. Naturally, this is an experiment, and I am curious to see if I will be proven wrong."

Famossa
by Frank Tjepkema
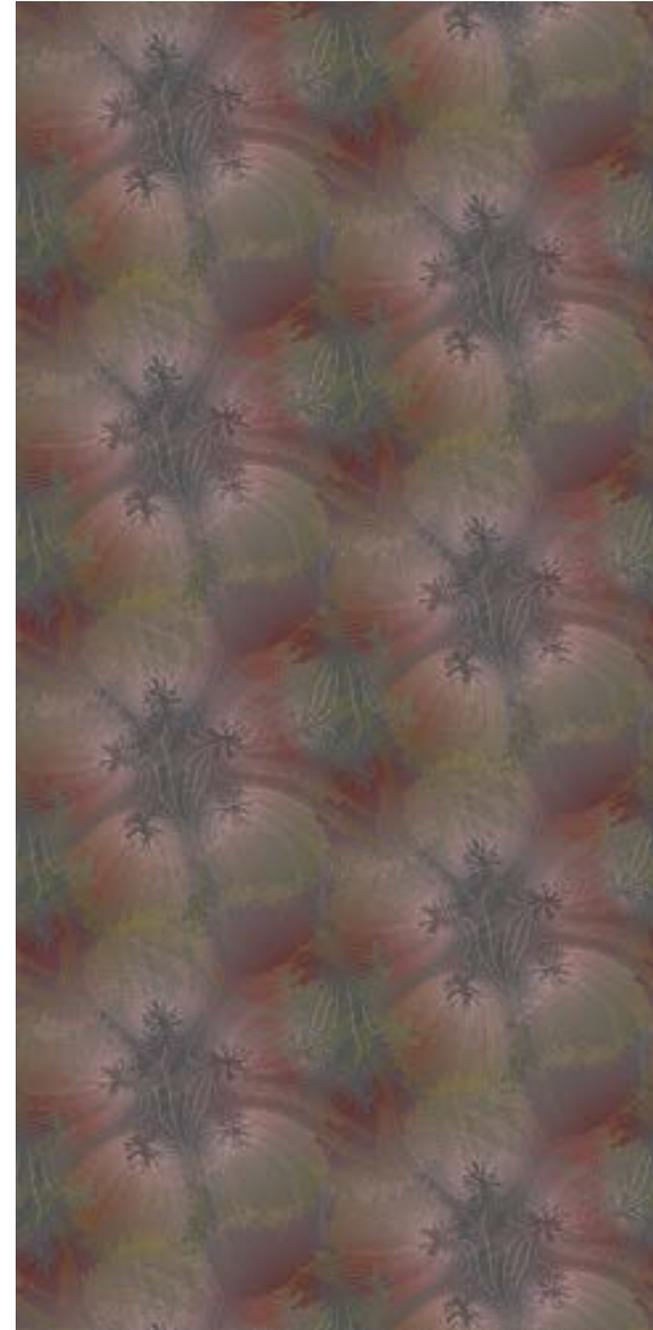
Famossa
generated by WG Design Studio using Midjourney

/imagine: magnetic field, organic, floral, parametric

Ghislaine Viñas

Ghislaine Viñas is a radical visionary whose renown stems from her studio's award-winning, international interior design, product design, and creative direction. Her work is celebrated for its playfulness, joy, and spontaneity. Methodical but unrestrained, the firm's creative outputs are guided by Ghislaine's premonitory engagements with space, form, scale, composition, and proportion. Located in downtown New York City, the studio welcomes commissions and projects globally.
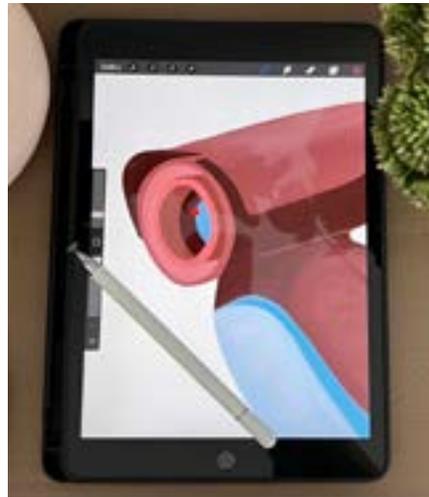
Artist's Statement
"What is so inherently, indisputably human? Taking something "Good" and turning it on its head. We're not typically pessimists, but the writing is on the wall(paper). This is our tableau of human-inflicted adversities existing in a developing or controversially collapsing world: surveillance, technology, and domestication. It's a mash-up of misfortunes under the guise of a perfectly pleasing pattern, all penned by the very same human hand."
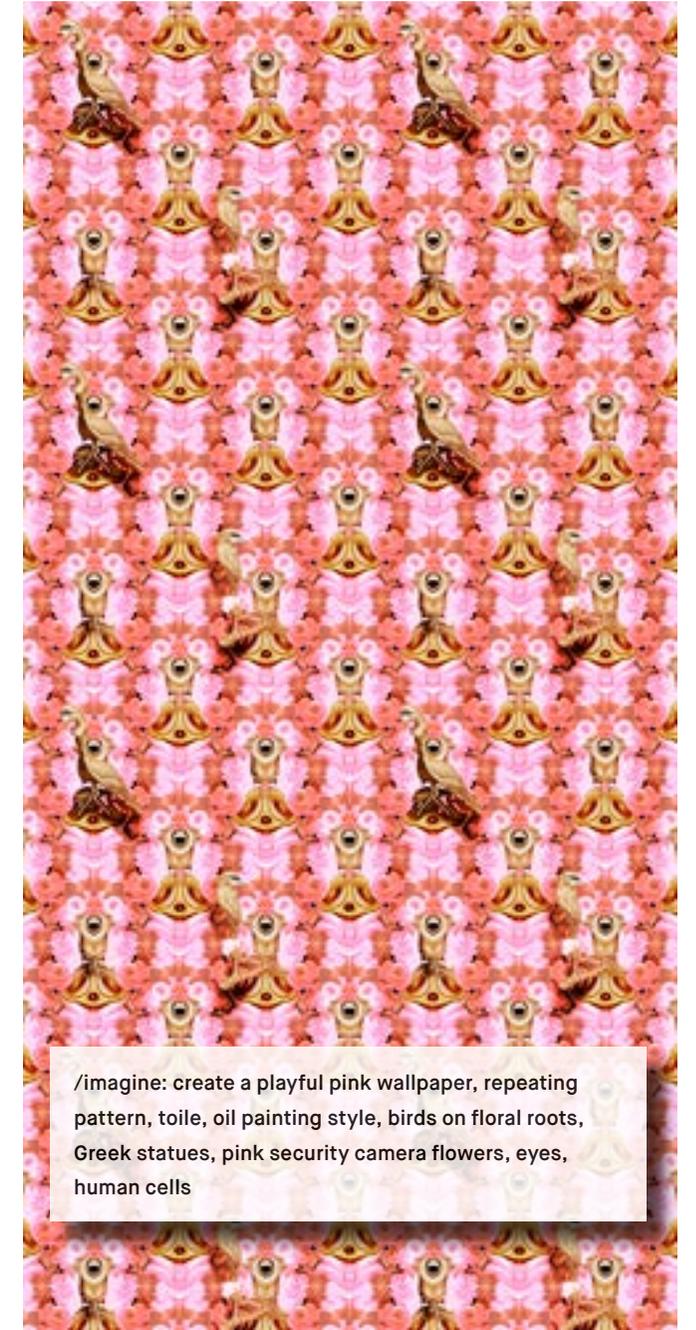
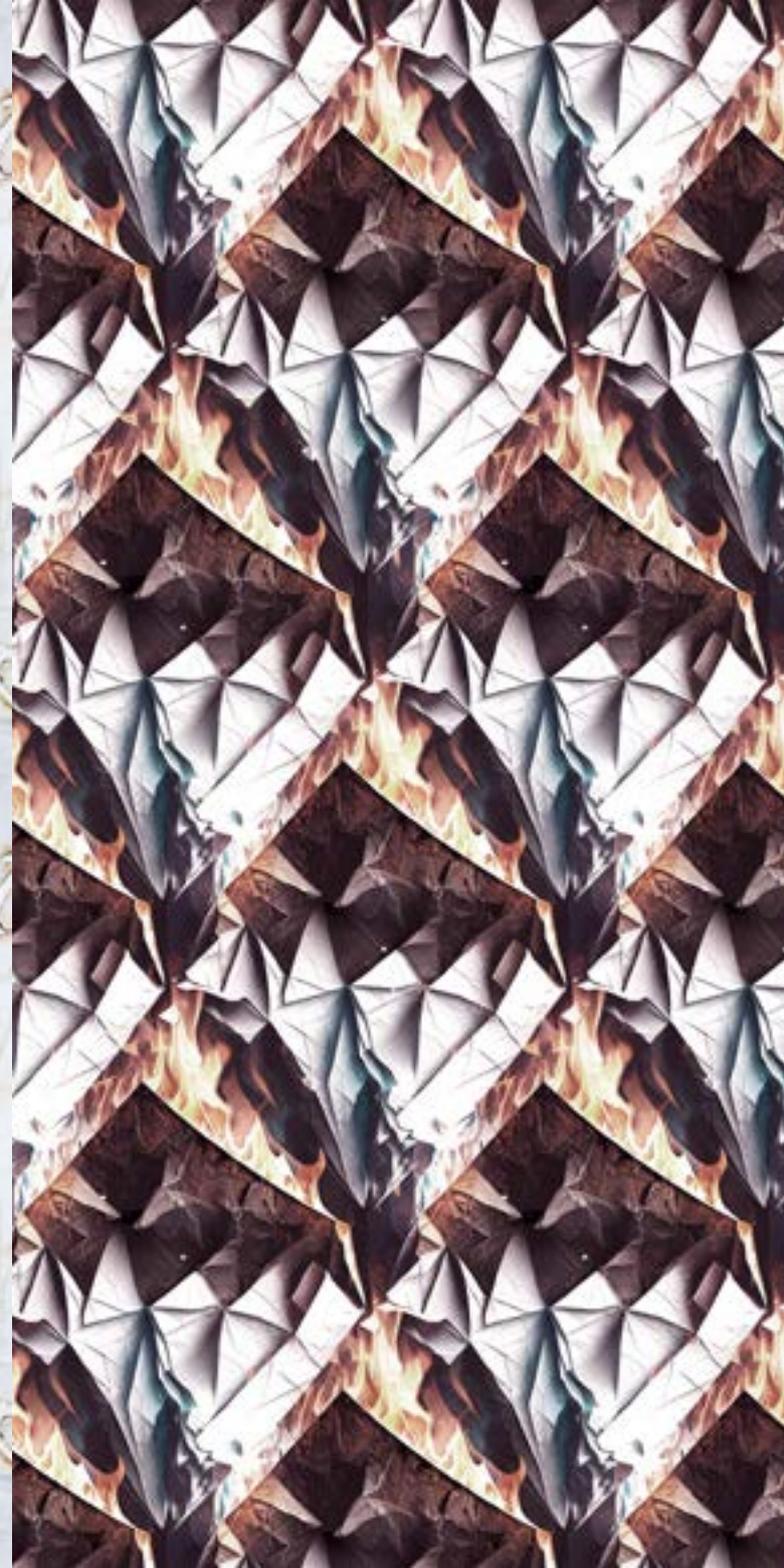## *Playful Toile*
by Ghislaine Viñas

Playful Toile
generated by WG Design Studio using Midjourney

/imagine: create a playful pink wallpaper, repeating pattern, toile, oil painting style, birds on floral roots, Greek statues, pink security camera flowers, eyes, human cells

Wolf-Gordon is an American design company dedicated to inspiring the creation of outstanding interiors. Founded in 1967 as a commercial wallcovering resource, our high-performing product line has expanded to include PVC-free and natural wallcoverings, RAMPART® wall protection, upholstery textiles, Scuffmaster® paint, Wink® dry-erase surfaces, digitally printed materials, and GATHER® Acoustical. We develop products that are provocative and of our time. WG Design Studio regularly collaborates with leading international designers to bring fresh perspectives to our A&D clients. Our growing portfolio includes designs by Laurinda Spear, Karim Rashid, Petra Blaisse, Grethe Sørensen, Kevin Walz, Boym Partners, Frank Tjepkema, Mae Engelgeer, Aliki van der Kruijs, and V Starr/Venus Williams. We focus on the aesthetic, technical, and sustainability issues essential to being a trusted supplier to the commercial design industry. WG Customs Lab works closely with clients to design and produce custom and digital print concepts for signature, site-specific environments. Wolf-Gordon account executives are based in all major markets in the United States.