

Holmes, Kevin, "Hand-knit Paintings Weave DNA into Algorithms," *Vice*, 30 May 2017.



You may not think knitting, quantum physics, and human DNA have much in common, but they have in the work of LA-based artist Channing Hansen. Hansen has an upcoming solo show at London's Stephen Friedman Gallery which will feature his woven and mesh-like algorithmically designed canvases, which he hand-knits himself.

Hansen, who is the brother of musician Beck, is also heavily involved in the sourcing and production of the yarn he uses in his artworks. The handspun fiber comes from breeds of sheep, "conservation breeds," that are endangered by monoculture and factory farming. The artist often also shears the sheep himself, then skirts, washes, dyes, blends, and spins the wool he uses.

This handcrafted, folk element is complemented and juxtaposed with techniques involving contemporary science and technology. For his new show, Hansen has based the designs of these "knitted paintings" on his own DNA. This is used to generate an algorithmic program he wrote in Python. Hansen notes that this then acts like a Fluxus score in that the performance-ready script can guide him as he knits, informing changes in color, fiber blend, stitch, pattern, even whether to make a mistake.



CHANNING HANSEN, K²:JA:04, 2015. IMAGE COURTESY: THE ARTIST

"I am interested in the idea that humans themselves embody an infinite number of potential algorithms," Hansen tells *Creators*. "We are essentially data-processing machines that possess consciousness. 99% of the DNA humans possess is shared; what differentiates each of us and gives us our unique traits is known as single-nucleotide polymorphism, or SNP for short. I used my own SNP (pronounced 'snip') as a seed for the algorithm on which each work is structured; I identified twenty-three variables that were then put through a random function to generate the set of instructions that I followed when knitting."

For the new show Hansen also developed custom dyes using a spectrometer in a collaboration with his friend Betsy Pugal, a Planetary Protection Officer at NASA. "I am partially colorblind, so am keenly aware that color is subjective, no two people see the same color," he says. "Scientifically, 'red' doesn't mean anything, but the wavelength of 623nm does."

As a result of this collaboration, the fibers of the yarn used in the new show have been treated with a photoluminescent pigment, which gives them a fluorescent appearance.

The artist explains that he first got into knitting after wanting to keep his restless hands busy when away from his studio. He'd been working with performance art and sculpture, then

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began to use knitting itself an art form, understanding how it was connected to drawing, painting, and kinetic sculpture.



CHANNING HANSEN, FLUID DYNAMICS, 2017. IMAGE COURTESY: THE ARTIST

Along with Fluxus (Hansen's grandfather was artist Al Hansen, a member of the Fluxus movement), the artist also cites many other artists who have worked with yarn and tapestries as inspirations and influences for his knitted pieces. "While Robert Rauschenberg's *Combines* are often credited with breaking beyond the picture plane into the three-dimensional field of sculpture, creating a sense of continuity between 2D and 3D, the wall-hung weavings and tapestries of artists such as Magdalena Abakanowicz, Olga de Amaral, Sheila Hicks, and Ritzi and Peter Jacobi also explored similar territory using fiber," notes Hansen. "Recognizing yarn's capacity to denote a line, a plane, or a volume also has precedents in the work of artists such as Elsi Giauque and Fred Sandback."

This sense of knitting shifting in terms of its definition as a medium also plays into Hansen's interest in quantum physics. For Hansen his knitted artworks are in a quantum-like state of uncertainty—being drawings, paintings, and sculpture. It's only when the audience sees the pieces that they become defined as one or the other.



CHANNING HANSEN, 42, 2014. IMAGE COURTESY: THE ARTIST

"In my stretched knitted works, I leave the frame at least partly visible through the knits, suggesting a physical continuum in which a work of art exists in two, three, and even four dimensions," notes Hansen. "Each dimension existing as the shadow of the next. In this way, what might look like a painting is actually a portal—flexible, functional, provisional—with the knitted fields being far less measurable to the observer than the more obviously defined frame that they are stretched around. What is framed is essentially a question."

Hansen further elaborates, noting how in the quantum realm electrons and photons can exist in different quantum states and different locations (their wave function), seemingly at the same time.

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"This situation is known as quantum superposition," Hansen explains. "It is the act of measuring said particles that collapses its 'wave function' or all of the possibilities and probabilities, into one state or another. In other words, by bringing consciousness into the equation, we create the universe around us. So in this way, I see my works in superposition between paintings, drawing, and sculptures. It is when someone brings their consciousness to bear on the perception of my works that its uncertainty becomes certain and it becomes, for them, a painting, a drawing, or a sculpture. It's a kind of decoherence where my work shifts from a quantum state to a classical one."



CHANNING HANSEN KNITTING. PHOTO CREDIT: JOSHUA WHITE

Channing Hansen's solo show opens at Stephen Friedman Gallery, Old Burlington St, London W1S 3AN on June 8, and runs through July 29, 2017.