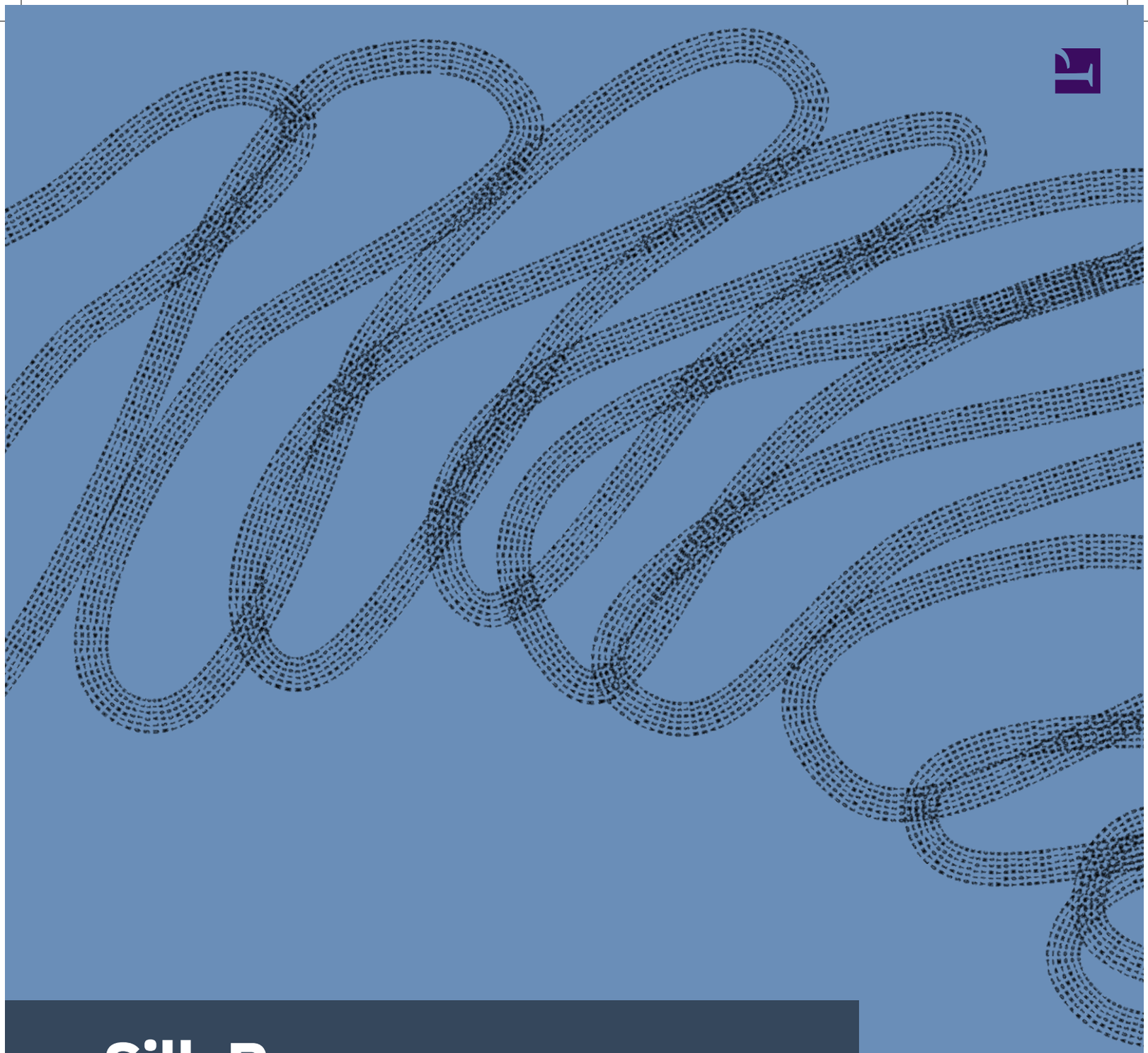

Silk Poems

Jen Bervin

UMAG

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UMAG

UNIVERSITY MUSEUM AND GALLERY, UNIVERSITY OF HONG KONG, HONG KONG

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Jen Bervin's Silk Poems

Silk Poems began as a six-year research project developed with expertise from more than thirty international textile archives, medical libraries, nanotechnology and biomedical labs, and sericulture sites. Jen Bervin first visited the Bioengineering Department at Tufts in 2010, where David Kaplan and Fiorenzo Omenetto were working on a new form of the material—reverse-engineered liquefied silk. Among the research outputs from the Tufts group has been a silk biosensor etched nanoscale on clear silk film that can be implanted in the body to provide diagnostic readings.

Jen Bervin holding a silk cocoon and silk film

Using this research as a springboard, Bervin started to write a poem to be inscribed on a silk biosensor. The poem acts as a talisman, written from the perspective of the silkworm, addressed to the person with the biosensor implanted in their body. From this evolved the first few elements of the Silk Poems project—an etched version of the poem viewed through a microscope, Charlotte Lagarde's short film and book published by Nightboat Books.

The inaugural display of work related to Bervin's Silk Poems was as part of a group show at MASS MoCA (May 2016–April 2017). The solo exhibition of Silk Poems at UMAG (November 2019–February 2020) was staged as part of the 10th anniversary celebration of the IPNHK literary festival.

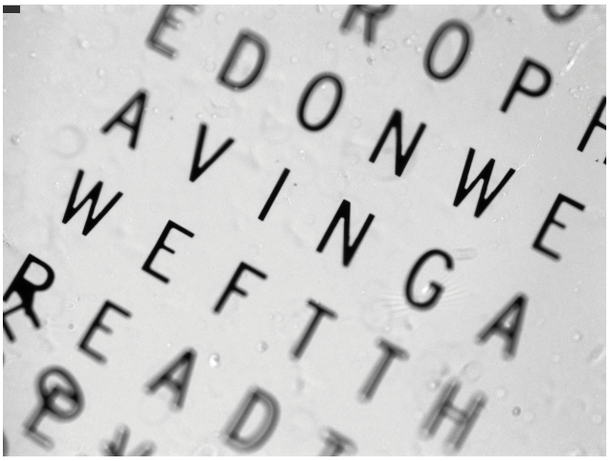
https://vimeo.com/187955041

Jen Bervin's Silk Poems -Video by Charlotte Lagarde - 10 minutes, 2016

II

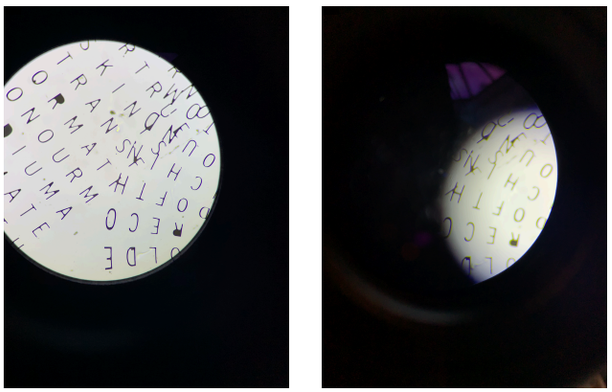
Poetry at Nanoscale

Nanoscale science is concerned with physical interactions at extremely minute dimensions—one nanometer is equal to one-billionth of a meter. A strand of human DNA is 2.5 nanometers in diameter, while a sheet of paper is nearly 75,000 nanometers thick. Nanostructures can be made by reacting chemicals in liquids or gasses, or by etching with electrons. In nature, the iridescent colors of some butterfly wings contain nanostructures that affect light waves.



Detail of poem strand suspended in silk film, microscopic view of letters

In 2016, Bervin began working with Tufts' scientists on fabricating her poetry at nanoscale. In this process, a mask is used to etch the poem in gold spatter onto a silicon wafer, and then liquid silk is poured over the wafer. As the silk dries, the letters remain suspended in the film. The etched version of Bervin's poem could be viewed at the exhibition's microscope station.



Photographs of poem through the microscope

Bervin's poem is modeled on silk at the DNA level—the six-character repeat of the silk genome is the basis for the poem's six-letter line. The shape of the strand reflects both the filament pattern that silkworms create when making their cocoons and the genetic structure of silk, which forms like the weft thread in weaving.

Silkworm patterned filament in a cocoon

Ongoing research includes scientists dating the genetic split between domestic silkworms and their wild cousins (Bombyx mandarina), as well as a focus on altering the genetic code of silkworms to create fibers from cocoons that can be woven into a material stronger than steel and more flexible than Kevlar. Other recent innovations involve developing materials from silk fibers that are naturally antimicrobial, and the fabrication of silk screws for stabilizing broken bones.

III

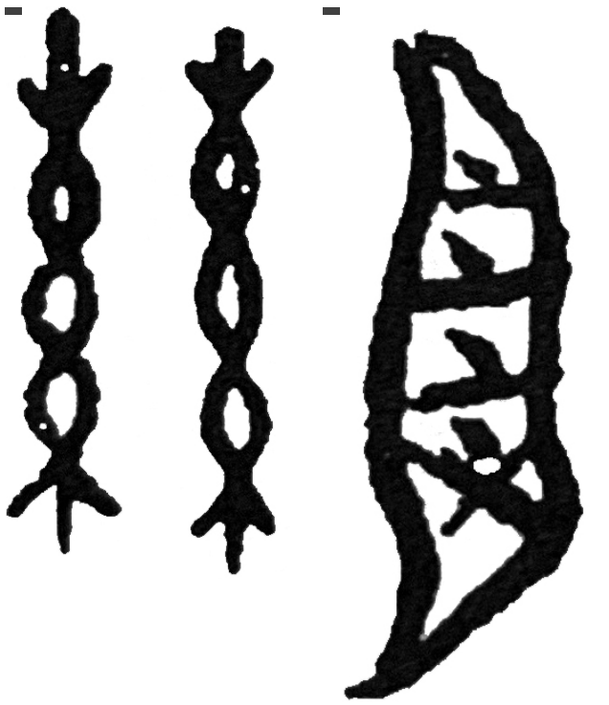
Traditions in Silk

Sericulture refers to the production of silk fibers through the domesticated farming of silkworms. Chinese legend attributes the origins of sericulture to the wife of the mythical Yellow Emperor, Lady Xiling, around 3000 BCE. Recent archaeological discoveries suggest that silkworms were domesticated in China as early as 3500 BCE.

Silkworms feeding on mulberry leaves

Silkworm (Bombyx mori) caterpillars feed exclusively on mulberry leaves (Morus) which contain a type of latex toxic to other herbivores. The silk is produced as long fibers excreted as a gel during the larval stage. These fibers create the cocoon that silkworms use when transforming into moths. To collect the silk fibers, farmers unravel the cocoons; when unwound a single cocoon can stretch from 100 to 300 meters long.

Silk as a traditional medium for writing dates back to at least the seventh century BCE, while references in the Confucian Analects and other Zhou dynasty works suggest an even earlier origin for texts written on silk. Oracle bone script on Shang dynasty turtle plastrons and ceremonial bones often include inscriptions for a core group of animals and goods, such as silk, silkworm, book and writing brush.



Oracle bone inscriptions for Silk and Silkworm based on the work of Sinologist Herrlee G Creel

IV

Excerpts from the book Silk Poems

Jen Bervin's book Silk Poems was originally published by Nightboat Books in 2017. The cycle of poems is written from the perspective of a silkworm, exploring the cultural, scientific, and linguistic complexities of silk written inside the human body. A selection of poetry from the book was translated into Chinese for the IPNHK festival in November 2019. Translations here are by . . .

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SILK 絲

PRECEDES HUNDREDSOFWORDS

WORDSFORPAPER 紙

TEXTILE 紡織品

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WORDSFORWARP 經

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PARALLEL 緯線

ROUTE 線路

[Silk_Poems_mov]

V

Installation and Exhibition Photos

Need a day to go back through our photos from the set-up and exhibition, and try to put them in an order. Will also have more detailed caption information about each object in the show.

About

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The online publication of Silk Poems was designed by Darcy Christ in the Getty's Quire platform. UMAG gratefully acknowledges the generous support of the U.S. Consulate General Hong Kong and Macau for funding the Silk Poems exhibition at UMAG and in this digital environment. Follow this link to explore more of UMAG's digital world.

Contributors

Jen Bervin

Poet and visual artist - Jen Bervin's multidisciplinary work results from research and collaboration with artists and specialists ranging from literary scholars to material scientists to activate the intersections of art and scholarship, text and textiles, science, technology, and craft in works that range from poems written nanoscale to large-scale museum installations.

Charlotte Lagarde

Filmaker and Visual Artist

Christopher Mattison

UMAG Curator

Darcy Christ

Information Architect and Web Developer

Rae Hong

Kikki Lam