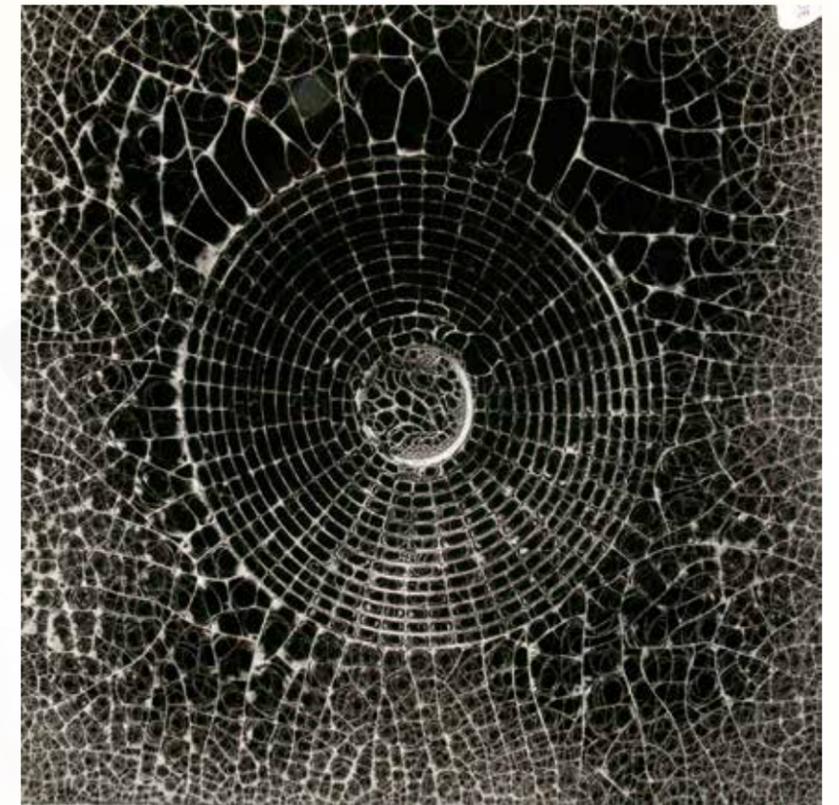


LASSE ANTONSEN

# THE ALCHEMY OF SCIENCE & ART

## DANISH TEXTILE CHEMIST JOY BOUTRUP

BY LASSE ANTONSEN



OPPOSITE PAGE  
BACKGROUND: Dye samples  
from Dye Retreat 2015,  
Asheville NC

INSET: A discussion at the Dye  
Retreat 2015, Asheville NC.  
Standing, from left to right: Ana  
Lisa Hedstrom, Yoshiko Wada,  
Elin Noble, Jay Rich. Seated  
from the left: Barbara Zaretsky,  
Catharine Ellis, Joy Boutrup

THIS PAGE  
TOP RIGHT: A unique crackle  
effect is achieved when potato  
dextrin is mixed with hot water  
to make a paste, which is then  
applied to stretched fabric. Once  
the dextrin is dry and shrunk, it  
has created a pattern of cracks.  
In this example by Michael  
Mrowka, bleach was applied to  
remove the original black dye  
from the exposed cracked areas  
of fabric that was not covered by  
dextrin. Photo by artist.

TOP LEFT: Wool devoré  
(burnout) is the process  
of "eating" away the wool  
cloth. In this example, Ana Lisa  
Hedstrom stitched wool onto  
acrylic fabric with polyester  
thread. The cloth was gathered  
and a lye paste was brushed  
on top of the wool folds. Lye  
destroys wool. After the wool  
was eaten away, the work was  
washed, rinsed in vinegar, and  
partially opened so the orange  
threads are visible.

Visiting the Danish textile chemist Joy Boutrup—in a peaceful residential area in the town of Sorø, 20 miles outside Copenhagen—it comes as no surprise that her home and garden are overflowing with creative projects. Boutrup possesses an infectious energy, which manifests itself in everything around her.

Joy Boutrup has grown historical dye plants in her garden for years, and one of her longtime research projects has focused on medieval and renaissance braids. Indeed, in between teaching, Boutrup was also head of textile, paper, and leather conservation at the Danish National Museum in Copenhagen, and there, among many other projects, focused on the strings that hold parchment together in official historical documents. She not only determined the dyes used, but also how the strings were loop braided.

The best way to describe Joy Boutrup is as a crossover scientist and technician, and as a free-spirited individual who has an endless fascination with how fibers and dyes and process engage in a never-ending triadic dance. People studying with her come away with the amazing realization that results are only limited by the degree to which they are willing to explore.

Equally important, a significant aspect of Boutrup's career has been her focus on a holistic analysis of all aspects of safety within the textile industry, and especially on how different chemical processes affect the individual and the environment.

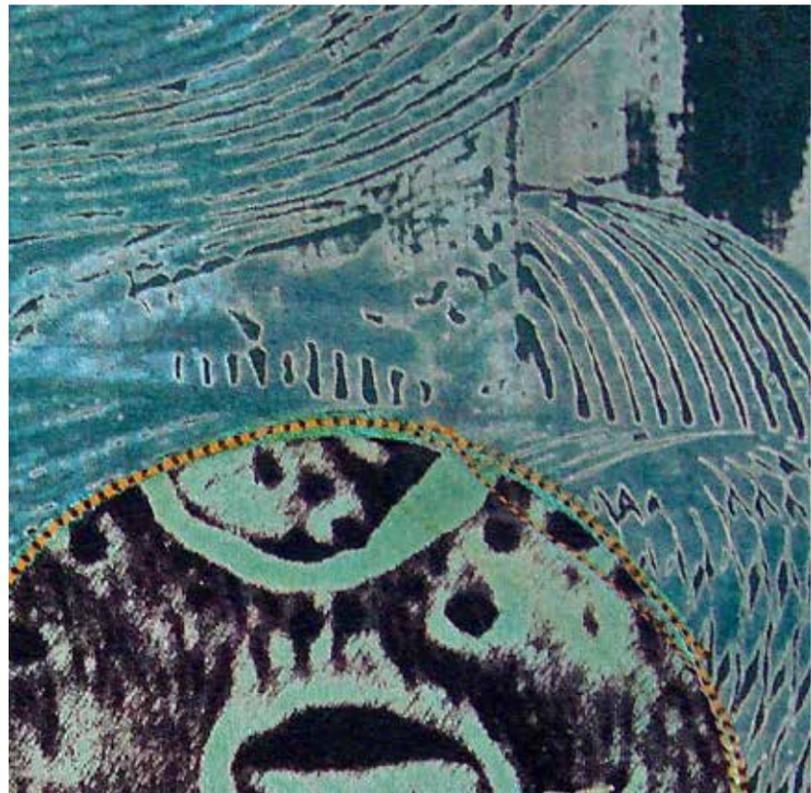
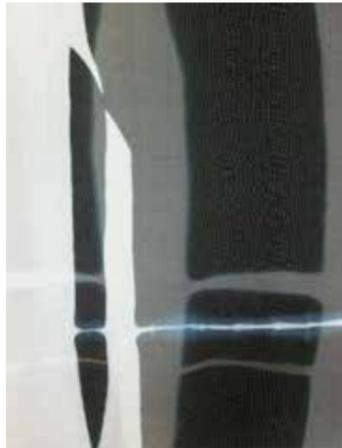
After years of teaching at the Royal Academy in Copenhagen and after retiring as Associate Professor from Kolding School of Design, Boutrup still travels extensively for teaching and research, all related to textile history.

Born in Lyngby, north of Copenhagen, Boutrup did her graduate studies in Germany in the late 1960s at Fachhochschule Niederrhein in Krefeld, where she received her engineering degree in textile chemistry in 1970. For another three years she remained in Germany, researching color formulation and definition at Deutsches Textilforschungszentrum Nordwest in Krefeld.



BELOW: Degumming silk is the process of removing the natural sericin layer surrounding the silk filament fiber in a water bath with dissolved soda ash. The white area in the image has been degummed, resulting in a less transparent, almost opaque, area. In this example by Elin Noble the moiré pattern and imagery were produced by combining two layers of itajime shibori silk organza. Photo by artist.

RIGHT: A detail of a collage by Jason Pollen illustrating vat dye discharge on silk. When the vat dye is applied, it simultaneously removes the original color of the fabric and replaces it with the vat dye color. An attractive halo is created in the space between the original color and the new color. Photo by artist.



## Lasse Antonsen

was born in Copenhagen, Denmark. He is an art historian and artist. His most recent installation, "Carried by the Wind," was presented in 2015 at the Kunst Kraft Werk in Leipzig, Germany. The performance, "How to Explain the Anatomy of Melancholy," was presented at King's College in London, also in 2015. An exhibition of collages, sculptures and books was featured at the Van Vessem Gallery in Tiverton, Rhode Island, in December of 2016.

## A RETURN TO NATURAL DYES

Recently there has been a renewed interest in the study of natural dyes. This field of study has gained new attention through the research undertaken by the dyer Michel Garcia in Southern France. He has rediscovered and re-established 18th century French dye techniques, a knowledge which had died out in Europe after the introduction of synthetic dyes.

Garcia's methods have been intensely studied by a growing group of international dyers within the fiber and textile community. DVDs produced, filmed, and distributed by Yoshiko Wada (Slow Fibers Studio), documenting Garcia's research, are now making his methods widely available.

A group of master dyers in the US have added Michel Garcia's sustainable natural dye approaches to their vocabulary. The new methods and approaches have been especially important in terms of hand painting mordants and dyes.

### LINKS

[www.yoshikowada.com](http://www.yoshikowada.com)

Fiber Art Now Eco Dye Resource Guide  
<http://ecodye-ebook.pagedemo.co/>

[www.michelgarcia.fr](http://www.michelgarcia.fr)

Boutrup's passion has not only been the history of textile technology, but also the introduction of present and past historical techniques to practitioners within the artistic textile field. Besides her 28-year tenure at the Royal Academy in Copenhagen, she has been a frequent lecturer and repeatedly taught semester-long courses throughout Scandinavia, and her teaching has taken her to Nova Scotia, New Zealand, Australia, and Japan. In the midst of building her expertise in the alchemy of dyeing, she also fostered an interest and knowledge base in backyard mushroom farming, publishing a book on the topic in 1983.

For Boutrup, her passion isn't just a question of making industry knowledge available to a wide circle of practitioners, it is also about experimentation and an exploration of things you supposedly shouldn't do, such as burning holes in fabric with acid. Her focus is always on the complex interaction between weave structure, surface design, and texture.

The Kansas City Art Institute professor Jason Pollen attended a presentation Boutrup gave at the Nordic Textile Printing Conference in Helsinki, Finland, in 1989. He was immediately struck by the innovative range of new textile techniques she presented. He knew that chemicals used within the textile world are quite different from country to country, and from continent to continent. After a period of mailing back and forth, spending considerable time matching the chemicals that Boutrup used in Denmark, and visiting Boutrup in Copenhagen, he invited her to the US to teach a workshop.

The first workshop featuring Boutrup in the US took place in 1993 at the Kansas City Art Institute. Jason Pollen had organized the class so that it was specifically for advanced textile teachers and practitioners, in order for the new research, and the new application of chemicals and processes, to be spread as widely as possible within the textile community.

For the wearable and textile arts community, Boutrup's focus was on printing techniques, on how to work with lye crimping or shrinkage, devoré or burn-out, chemical and mechanical resist printing, felting resist, degumming silk, and vat-dye discharge, as well as a number of other techniques commonly used today.

This first workshop led to a larger and more comprehensive workshop the following year at Penland School of Crafts in North Carolina, co-taught with Pollen. It was attended by an even wider range of practitioners. The two workshops mark the beginning of a widespread application of Boutrup's methods in the US.

Meeting the weaver Janet Taylor at Penland led to Boutrup teaching a range of new applications for weavers, focusing on treating cloth after it is woven—what Boutrup refers to as after-treatment or finishes—especially chemical, mechanical, and thermal processes which can significantly alter the look and feel of the handwoven cloth.

Boutrup has taught regularly at Penland since the 1990s, and that is where I first met her in the summer of 2012, when my wife, Elin Noble, was teaching another textile course at the same time. That summer, Boutrup was co-teaching with Catharine Ellis. Besides Jason Pollen and Janet Taylor, Boutrup has also team-taught at Penland with Yoshiko Wada.

Boutrup finds the co-teaching format works best, since it joins her technical knowledge with the approach of an experienced dyer. For her, technique is something to be mastered and then challenged, and personally, the true satisfaction is when textile and fiber artists incorporate the new methods and insights into their artistic vocabularies.

Since 2011 a group of these dyers have met annually to share their studio explorations. In the spring of 2015 they met in Asheville, North Carolina, and this time they invited Boutrup to be part of the research. Her expertise in the history of textile technology was clearly an important asset.

I had the privilege of watching the participants as they created samples and discussed the implications of the use of different dyes, mordants, and fabrics. The impression was one of watching a group of alchemists transforming matter into, not gold, but extraordinary ranges of color. I was reminded of the prodigious impact her work has had on the dyeing community.

ABOVE: Examples of discharge on indigo. The samples are by Catharine Ellis and feature woven shibori on cotton. Left to right: 1. Traditional resist dyed indigo, no discharge. 2. Indigo dyed cotton that was tied and discharged. 3. Indigo dyed cotton that was tied and discharged with manganese brown remaining. Photo by artist.

BELOW: Ana Lisa Hedstrom explores cloqué (lye shrinking) by applying corn dextrin resist over arashi folds on cotton gauze. The corn dextrin resist prevents the lye from coming in contact with the fabric and prevents shrinkage in these areas.

