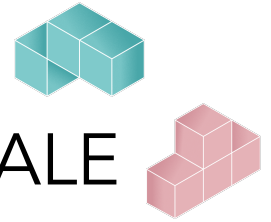


NORDES 2021



RESEARCHING MATTERS OF SCALE THROUGH THE COLOUR OF INDIGO

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POSITION

This Ph.D.-project looks into the site of old textile-dyeing industries in Denmark to explore possible future ways of making and managing careful design practices with ecology. Throughout this paper, I aim to unravel how matters of scale can be researched through the lens of the textile color Indigo. Indigo is a colour of blue and the base of all-natural blue textile dyes. As a part of my research project, I aim to explore the production of Indigo through anthropologist Anna Tsing's article ON NONSCALABILITY The Living World Is Not Amenable to Precision-Nested and Senior Researcher Ditte Hededam Welner's innovative Indigo-dyeing method.

PRODUCTION OF INDIGO

According to Tsing, scale has become a verb that requires precision. Tsing argues, to scale well is to develop the quality called scalability, that is, the ability to expand — and expand, and expand — without rethinking basic elements (Tsing. A., 2012). Since antiquity, Indigo has been expanded and spread globally, taking part in scales of color ranges, resources, production, infrastructure, territories, and social-economical hierarchical power dynamics.

Humans have dyed textiles since antiquity where agriculture and domestic animals were established in homes. Essential for dyeing blue is space, physical space for growing, harvesting, processing, and dyeing Indigo. Indigo is a plant that originated from India, containing an enzyme that transforms indoxyl to indicant, for dyeing blue textiles. Dyeing Indigo requires a big pot of water, dyes, and textiles stirred in several hours for the colour to arrange itself nicely and cover the entire surface. Indigo is a difficult colour to dye, while the actual colour only appears after oxidation(Historical archive 10). During the dyeing

process, the colour appears with tones of yellow and green. Natural-dyed Indigo involved the sense of smell; a sweet smell results in a light blue, and a sharp smell results in a dark blue(historical archive 9).

SCALE OF PROFESSION

In the 1600th century, the first textile dyer came to Denmark to create blue textiles for the Royal and Nobel families (Vedsted, J., 1993). Dyeing textiles was a highly recognised profession, and the colour of Indigo a sign of status. According to Farvegården Ebeltoft, an old danish textile-dyeing industry I am investigating, colours were divided within a hierarchical scale. Indigo was an expansive dye dyed in the industry's most giant pot in a room for itself compared to more regular dyes, such as green and brown dyed in smaller pots in a shared room(Historical Archive 2). Today, one of the world's most widespread pieces of cloth is blue jeans produced on a massive scale(Welner. H. D., 2021).

Textile dyes are part of the fashion industry, commonly known as the second most polluting industry worldwide(Redress., 2021). Today most danish textile-dyeing industries are distributed overseas, taking part in a modern eagerness for scalability, a constant expansion of production. Today, an expansion that produces over 50.000 tons of blue annually through chemical synthesis, a production method that, according to Welner, is environmentally harsh; involving chemicals, heavy metals, acid waste, and massive water consumption(Welner. H. D., 2021).

POSITION THE AFTERMATH – NEW TOOLS, METHODS, AND TECHNIQUES

Scalability, came into being with the European colonial plantation, as it emerged between the fifteenth and seventeenth centuries(Tsing. A., 2012).

The article on non-scalability Tsing describes the plantation of timber, where unwanted tree species and other species were sprayed with poison to give space for single scalable timber production (Tsing. A., 2012). The production was moved when the nutrition in the soil no longer could follow the required scalability.

According to Tsing, we need a non-scalability theory that pays attention to the mounting pile of ruins that scalability leaves behind. In parallel to the scale of Indigo, Welner is researching possible ways of creating Indigo from bacteria and other microorganisms instead of using chemical synthesis as a pose to a green transition for the fashion industry(Welner. H. D., 2021). This new technique start to sustain the blue jeans production, but what is the effect of this change? According to Tsing, the aftermath of timber production became a landscape for diversity and use. Today, this landscape holds desirable matsutake mushrooms, which environments are too specific to industrialise(Tsing. A., 2012). The aftermath became a landscape of non-scalability. Tsing argues that it is an important time to develop a non-scalability theory to reconceptualise the world - and perhaps rebuild it.

Welner is reconceptualising Indigo with the use of bacteria instead of chemicals. Their research team rethinks a basic element within the fashion industry, leaving an open question for making and managing future tools and methods to push forward a non-scalable and rebuild fashion industry.



Fig. show the Indigo plant and a colour-scale of woolen yarns dyed in Indigo, samples I found in the Historical Archive in Løgstør 2021.

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