

06th January- 31st Januaury 2025

Textile & Apparel Design 2022

Woven Design Project

Guided By- Rudranil Das

Mehak Singh

2021ug033

FORK

- tool, tableware accessory
- common eating utensil

handle and prongs/tines

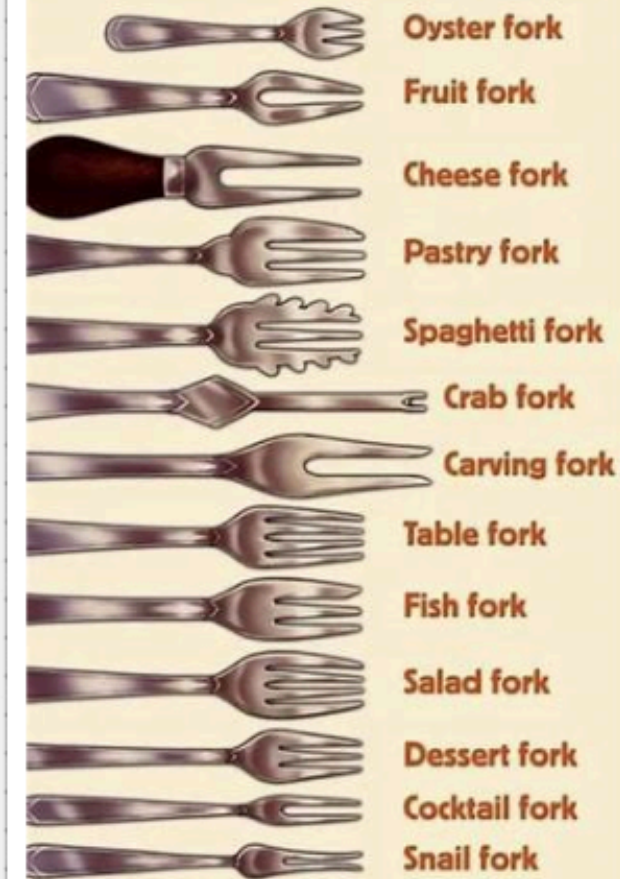
- 2-4 tines
- long, narrow, slightly curved or straight

primarily made of metal

- stainless steel
- other materials include, wood, plastic, etc.



Types of forks



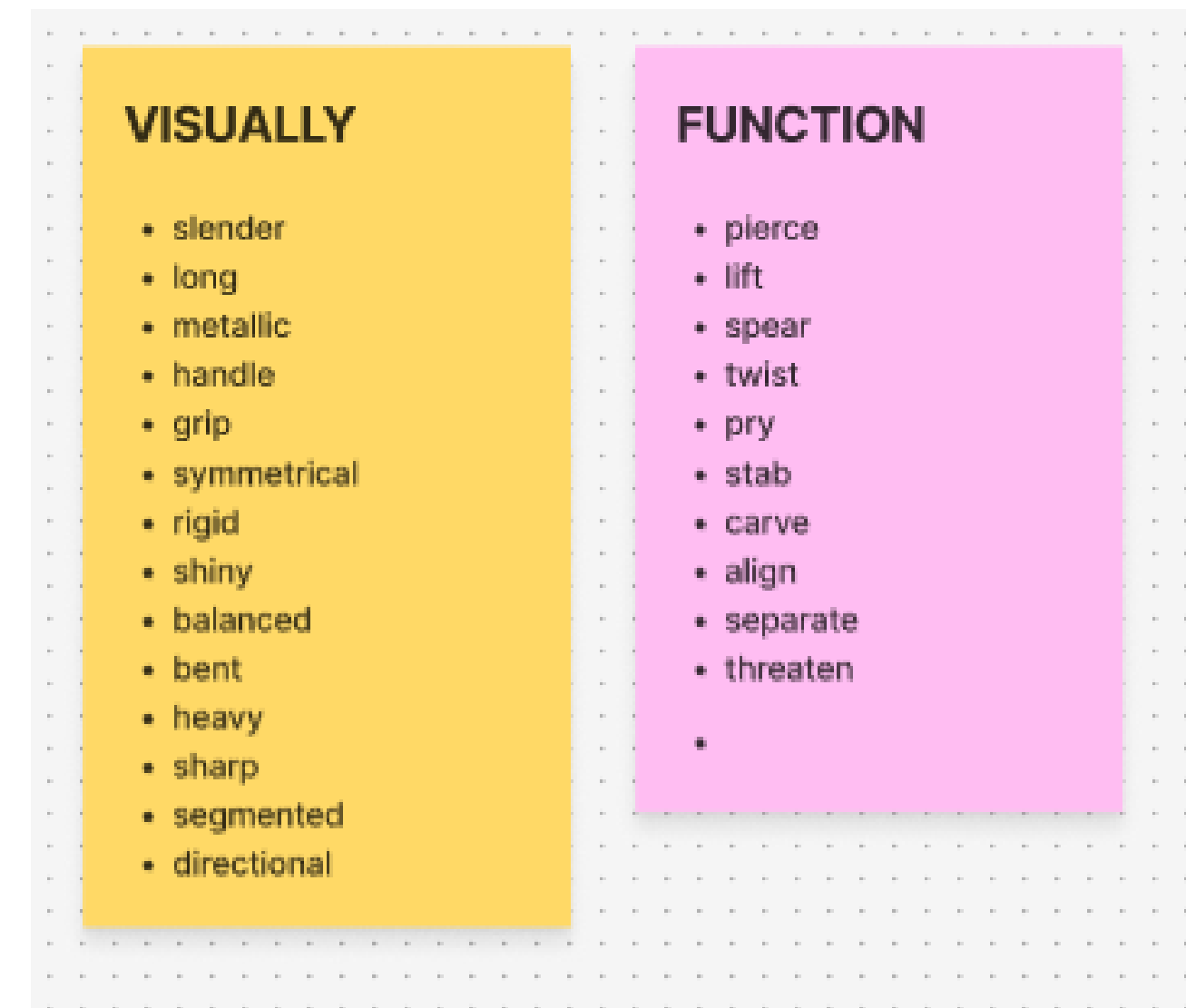
Conventional uses

- piercing and lifting foods
- cutting soft foods
- mixing and stirring
- tasting
- mashing
- serving

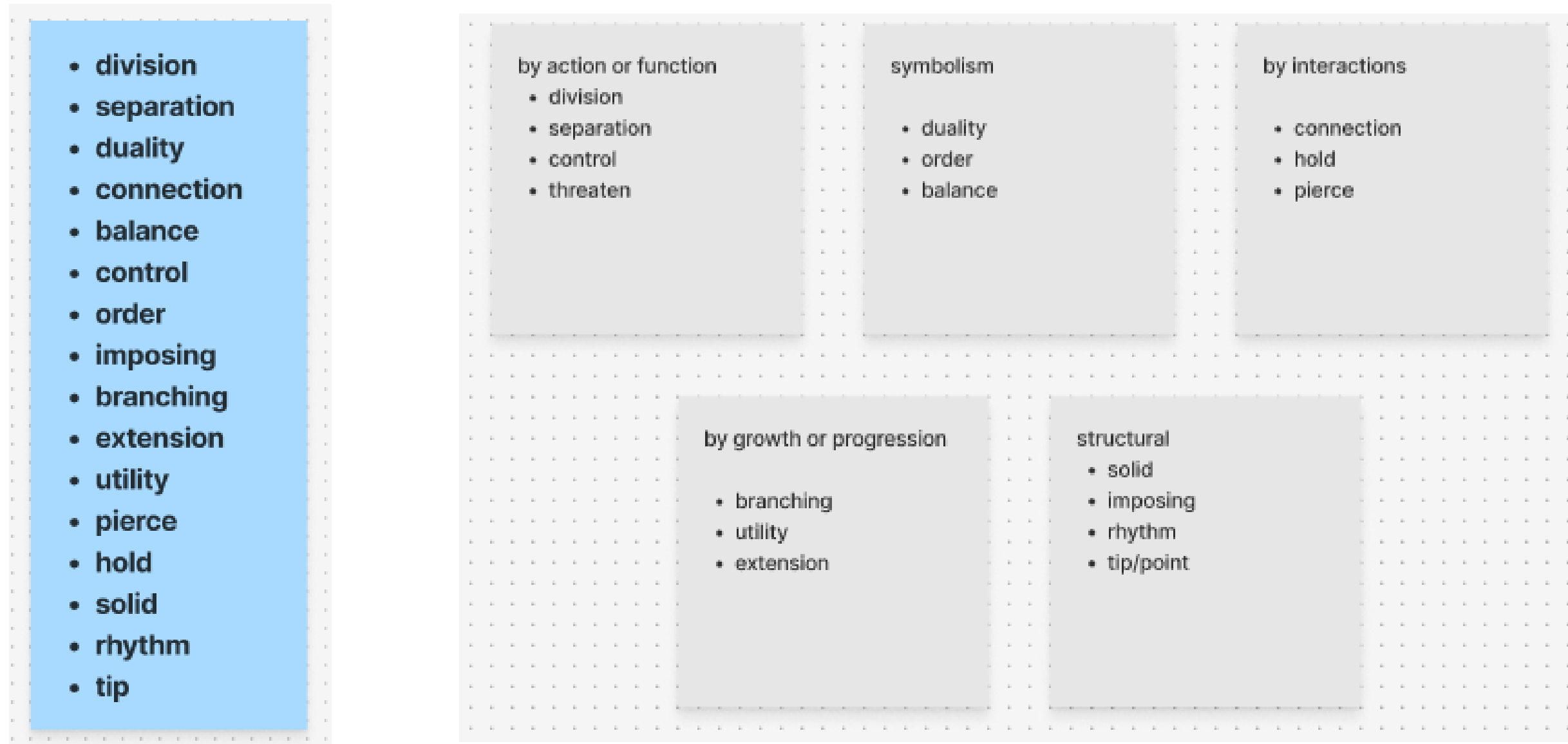
CONCEPT BUILDING

The project began with an exercise in developing concepts through abstraction. By picking a random everyday object and investigating its conventional and unconventional uses, novel connections and ideas could be developed. Since this particular exercise had nothing to do with tussar as a material, a subconscious bias in terms of what is already commonly available in the market could be avoided and a new potential concept could be explored.

The fork as an object has inherent uses as a handheld object, in various arenas from food to gardening and as a utility tool.



A multitude of unconventional uses can be found for a fork. Abstracted words following this step, seemed to fall under two categories, visual and functional. The fork has a clear and distinctive form as well as a distinctive purpose.

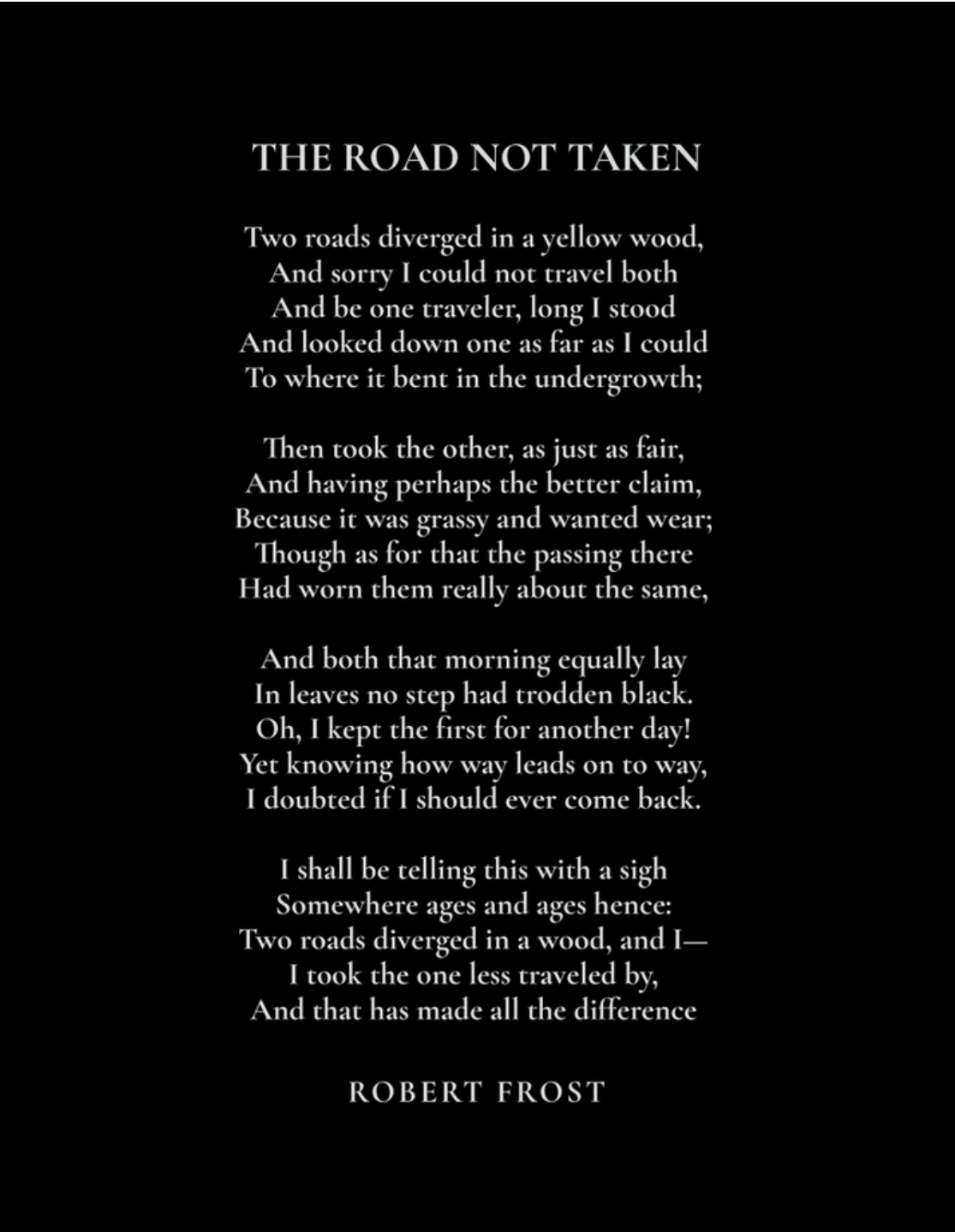


After some more levels of abstraction, these words were finalised and further categorised into sections. This enabled a deeper dive into associations that could be made within this set of words and these words with their antonyms or synonyms, through word association brainstorming and a thesaurus exercise.

| | | | | | |
|---|---|--|---|--|---|
| Separation vs. connection <ul style="list-style-type: none">• Division (separating into parts)• Separation (creating distance between elements)• Connection (linking or joining elements) | Direction vs. Stagnation <ul style="list-style-type: none">• Directional (movement or orientation in a specific direction)• Branching (spreading in different directions)• Pierce (penetrating or moving through, suggesting forward motion) | Growth vs. Restriction <ul style="list-style-type: none">• extension (the act of increasing or expanding)• Utility (the practical function, often expanding possibilities)• Imposing (forcing limitations or boundaries, restricting) | Balance vs. Imbalance <ul style="list-style-type: none">• Balance (equilibrium or harmony)• Threaten (imposing potential danger or disturbance, upsetting balance)• Order (systematic arrangement, implying stability) | Duality vs. Unity <ul style="list-style-type: none">• Duality (two contrasting or complementary elements)• Balance (harmony, often involving unity)• Control (imposing an overall system or unity) | Solid vs. Segmented <ul style="list-style-type: none">• Solid (unbroken, firm structure)• Segmented (divided into parts, not whole)• Metallic (associated with firmness and durability, often unyielding) |
| <ul style="list-style-type: none">• Fragmentation• Disconnection• Isolation• Disjunction• Detachment• Parting <ul style="list-style-type: none">• Link• Bond• Unification• Joining• Relationship• Union | <ul style="list-style-type: none">• Motion• Progression• Guidance• Orientation• Heading• Navigation <ul style="list-style-type: none">• Standstill• Stasis• Immobility• Dormancy• Inactivity• Recession | <ul style="list-style-type: none">• Expansion• Development• Increase• Progress• Rise• Flourishing <ul style="list-style-type: none">• Constriction• Limitation• Suppression• Confinement• Reduction• Restraint | <ul style="list-style-type: none">• Harmony• Stability• Equilibrium• Symmetry• Proportionality• Alignment <ul style="list-style-type: none">• Disarray• Disorder• Instability• Asymmetry• Chaos• Unevenness | <ul style="list-style-type: none">• Dichotomy• Contradiction• Opposition• Polarity• Disparity• Separation <ul style="list-style-type: none">• Oneness• Integration• Cohesion• Wholeness• Solidarity• Synthesis | <ul style="list-style-type: none">• Firm• Unyielding• Compact• Sturdy• Dense• Stable <ul style="list-style-type: none">• Fragmented• Broken• Divided• Dispersed• Sectioned• Partitioned |

The set of words seemed to have pairs that could be compared to discover further links. These could also be treated as individual concepts themselves for specific samples or other projects. The contrast within a fork is very clear, that opens up a lot of opportunities to play around with material, texture, feel and uses of the fabric samples to be made.

A more symbolic association of a fork seemed to connect with the poem, ‘The road not taken’, primarily through the third set of abstracted words. But for the purposes of this project, this is a more artistic interpretation of an already existing piece of media, that doesn’t fit into the boundaries of developing surfaces for a client, with basic structures but an interesting approach to the material.



THE BRIEF

To develop simple to successively complex fabrics with tussar silk that can be learnt and woven by a novice weaver, while maintaining aesthetic interest and functionality for it to be sold in the market and in due course, provide employment to the native people of the area of Bhadrachalam in Andhra Pradesh.

THE MATERIAL

Tussar silk is produced by wild silkworms, mainly of the genus *Antheraea*. These larvae are known for spinning irregular, wild silk that is coarser and stronger than domesticated silks. Tussar silkworms feed on a variety of host plants, including species of *Terminalia*, *Shorea*, and *Bauhinia*, which impart distinct characteristics to the silk.

Tussar silk is predominantly cultivated in central and eastern India, particularly in states such as Bihar, Jharkhand, West Bengal, and Odisha.

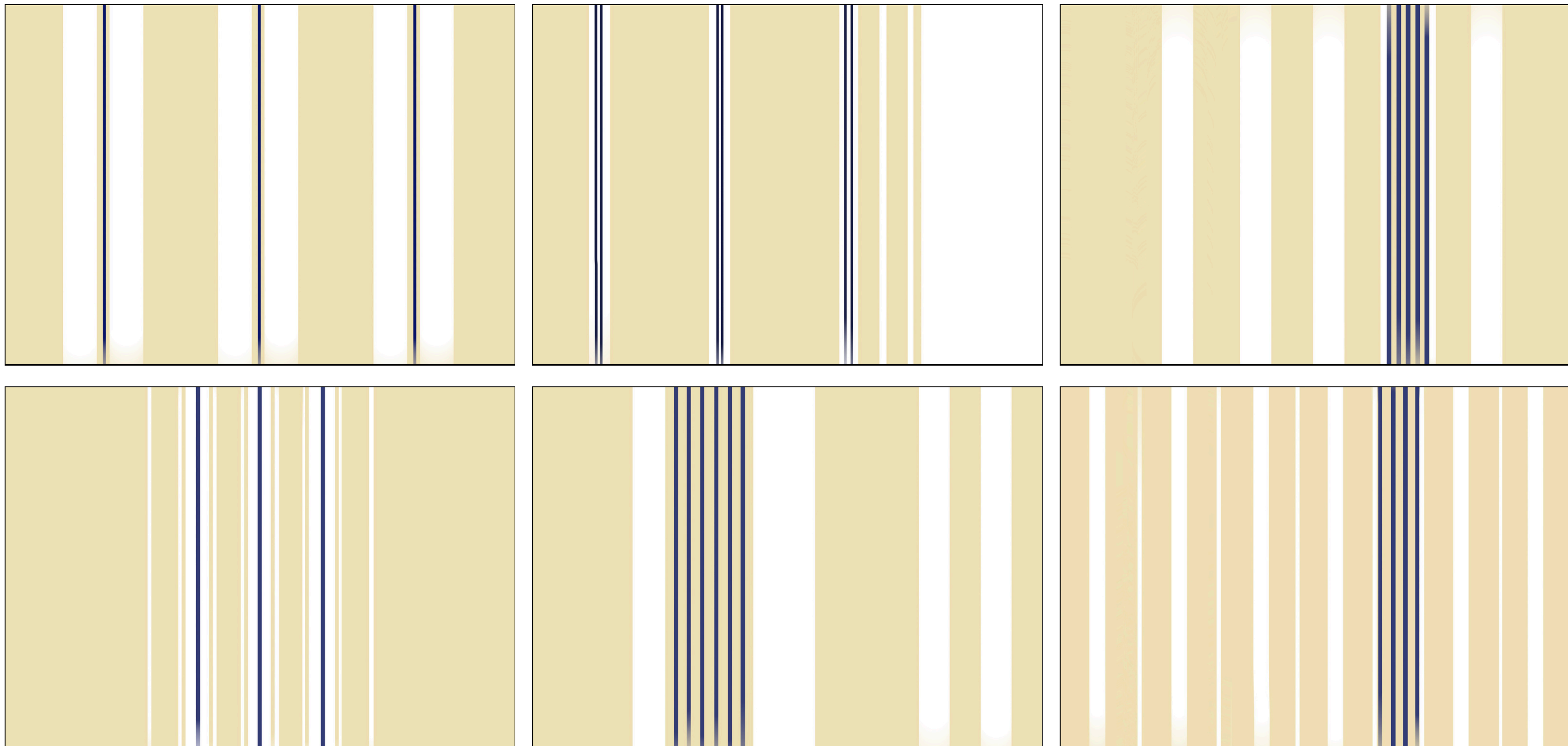
Properties

- **Texture:** Tussar silk is slightly coarser which gives it a unique, rich texture. The fiber tends to have a slightly rougher feel, which adds to the authenticity and rustic appeal of the fabric.
- **Lustre:** One of the distinguishing features of Tussar silk is its natural golden sheen.
- **Durability:** Its inherent strength makes it less prone to damage and wear, which contributes to the longevity of garments made from Tussar silk.
- **Tensile Strength:** Tussar silk fibers possess moderate tensile strength.
- **Breathability:** Tussar silk is highly breathable, allowing air to circulate through the fabric. It also has excellent insulating properties, keeping the wearer warm in cold temperatures while remaining cool in hotter climates due to its moisture-wicking capabilities.

Dyeing and Finishing

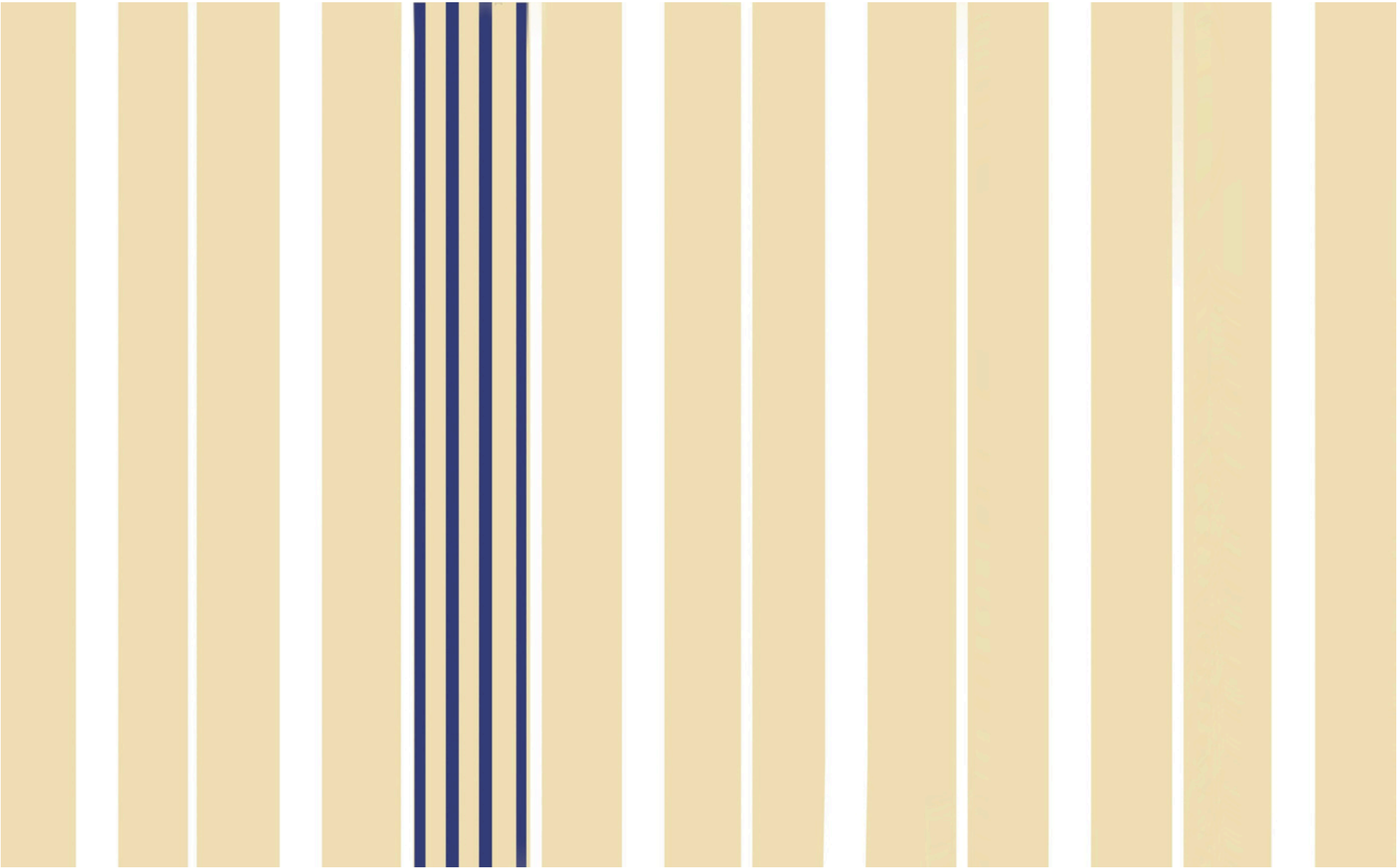
Tussar silk can be dyed using both natural and synthetic dyes, although it is often left undyed to retain its natural golden hue. The dyeing process for Tussar silk is more complex due to its coarse texture, requiring care in dye absorption. Tussar is often finished with handloom weaving, which gives it a distinct appearance that enhances its rustic charm.





Stripe Rhythm trials inspired by a fork with different amounts of tussar and cotton composed within the potential warp pattern.

FINAL STRIPE RHYTHM



imposing, extension, rhythm, order, separation

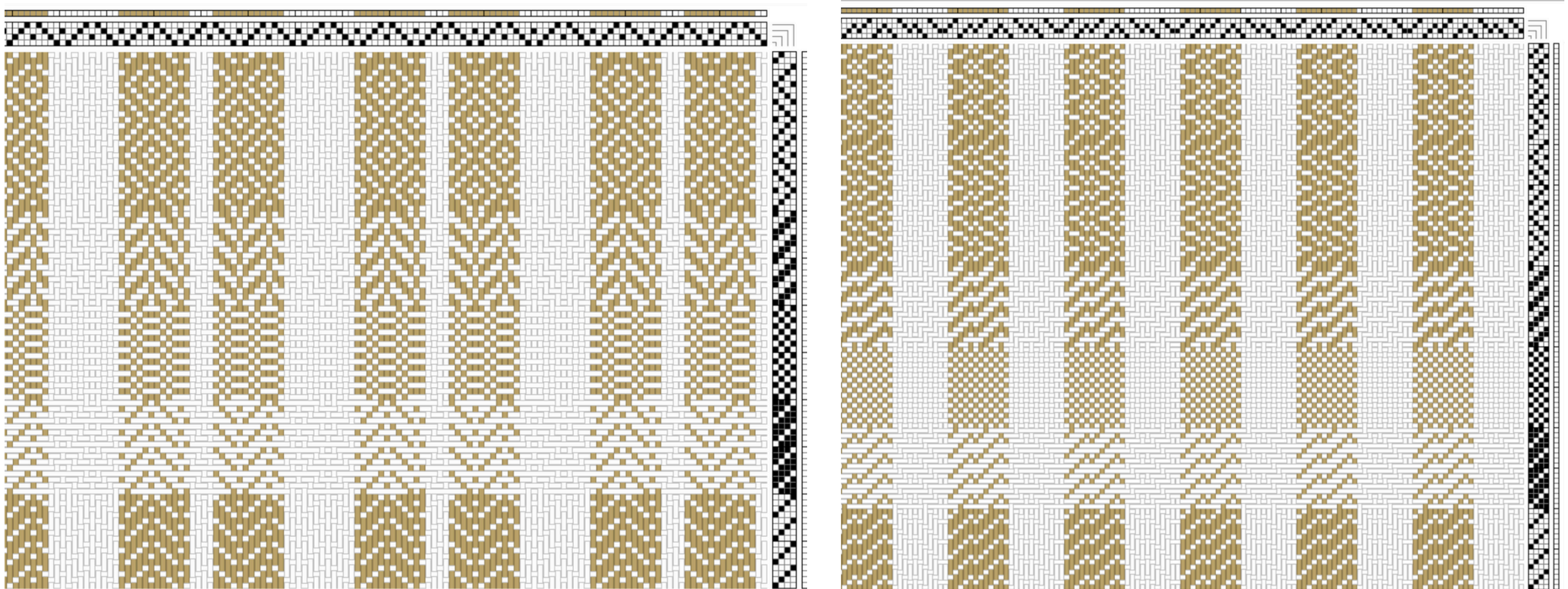
The final chosen rhythm has a regular white and tussar stripe design with repeating thinner and thicker lines of white on a primarily tussar surface. This focuses on the regularity of the spokes of a fork, while still making sure its a tussar dominant composition. The stark blue stripes almost feel uncomfortable and jarring, and bring out the sharpness and imposition of the fork.

WARPING PATTERN

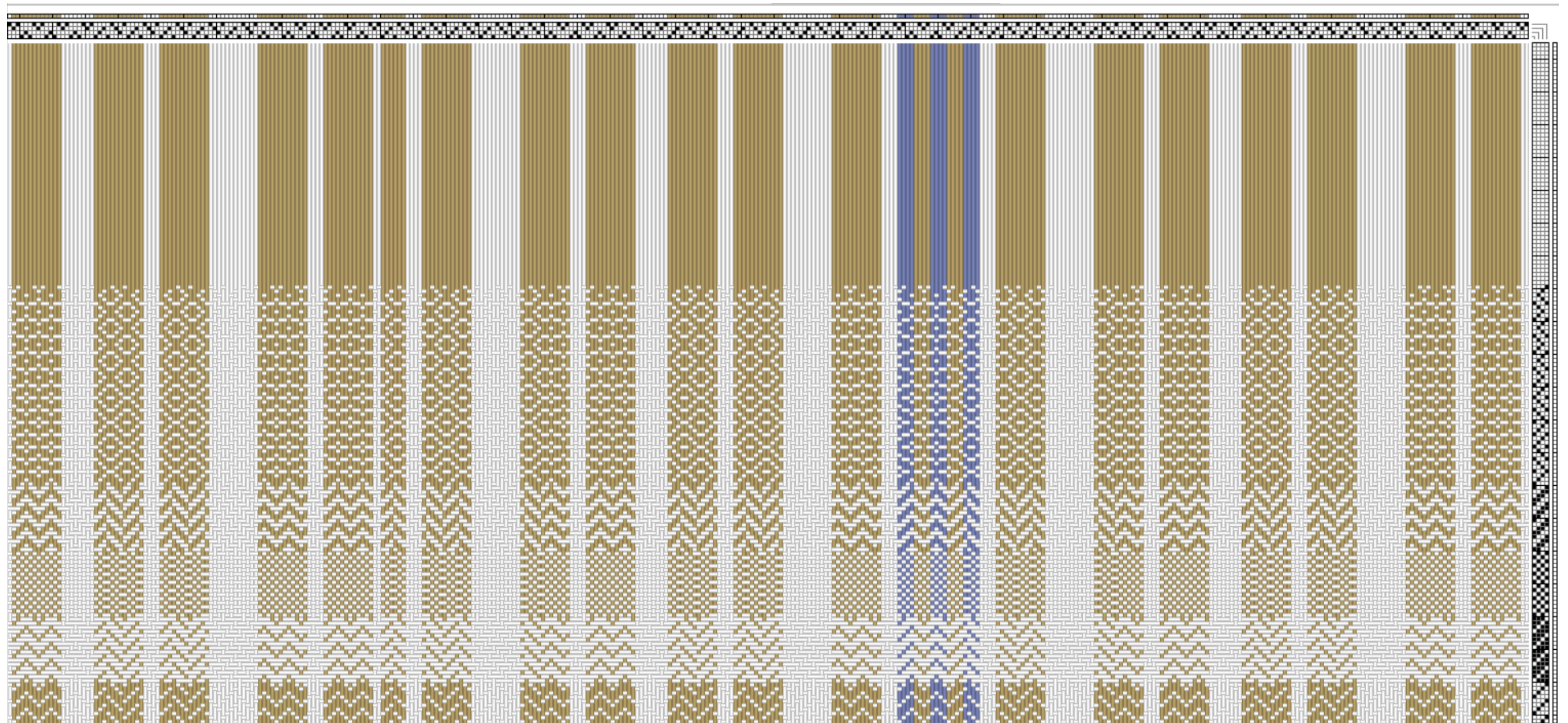
| | |
|------------------------|-----------------------|
| 20 Tussar, single ply | 12 Tussar |
| 04 White, 2/40s cotton | 04 White |
| 12 Tussar | 04 Blue, 2/40s cotton |
| 10 White | 04 Tussar |
| 12 Tussar | 04 Blue |
| 04 White | 04 Tussar |
| 12 Tussar | 04 Blue |
| 10 White | 04 Tussar |
| 12 Tussar | 04 Blue |
| 04 White | 04 Tussar |
| 12 Tussar | 04 White |
| 10 White | 12 Tussar |
| 12 Tussar | 10 White |
| 04 White | 12 Tussar |
| 12 Tussar | 04 White |
| 10 White | 12 Tussar |
| 12 Tussar04 White | 10 White |
| 12 Tussar | 20 Tussar |
| 10 White | |

WARP CALCULATION FOR THE 4 SHAFT LOOM

Reed- 38
Required Width- 8 inches
Required length - 3 meters
No. of ends - 38 (2 per dent) * 8 = 304 ends
Required Selvedge - ¼ inches on either side, ½ total
Yarns in ¼ inches (4 per dent) = 40 (20+20)
Total warp + selvedge - 304 + 20 = 324 ends
Yarn used: 2/40s blue cotton yarn, single ply silk yarn



Multiple drafting orders within a 4 shaft loom set up were tried, using basic weave structures as well as more decorative designs to explore potential samples. Broken orders seemed to work better for the chosen inspiration, since it created sharp and distinct lines and forms that fit well with the chosen abstracted word library.



The final drafting order combines two designs that repeat in sets of five alternately through the warp rhythm, creating different weaves with the interaction of the weft. The order is easy and repetitive enough for a beginner to follow and successfully draft, without major mistakes.



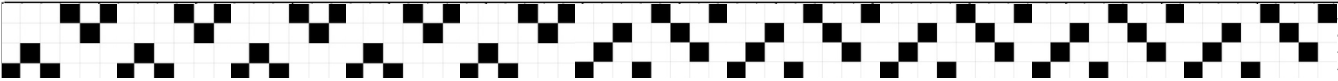
Handling the silk takes some practice to understand its tensile strength and quality. Some hanks had good, neatly spun silk that was easy to handle, while some had too many broken filaments that would stick together and make the task difficult.

Ideally nylon heddles and a reed made of bamboo are preferred when working with silk but within the limitations of the available loom, the reed was properly cleaned with kerosene to remove rust and newer heddles were used. Maintaining tension between the cotton and silk while warping and setting up the loom is key to a warp with even tension for neat samples.

| | | | | | |
|-----------------------|-------------|----------------------|--|--|--|
| DESIGN NUMBER: WDP001 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| | Single beam | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 84 |
| FABRIC WIDTH: 7 10/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

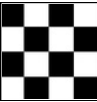
DRAFTING ORDER :



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | | |
|--------------------|----------------------------|--------------|----|
| COLOR | COMPOSITION | NO. OF ENDS | |
| Tussar | single ply 2/40s cotton | 20 | |
| White | | 04 | |
| Tussar | | 12 | |
| White | | 10 | |
| Tussar | | 12 | |
| White | | 04 | |
| Tussar | | 12 | |
| White | | 10 | |
| Tussar | | 12 | |
| White | | 04 | |
| Tussar | | 12 | |
| White | | 10 | |
| Tussar | | 12 | |
| White | | 04 | |
| Tussar | | 12 | |
| White | | 10 | |
| Tussar | | 12 | |
| White | | 04 | |
| Tussar | | 12 | |
| White | | 10 | |
| Tussar | | 12 | |
| White | | 04 | |
| Blue | | 2/40s cotton | 04 |
| Tussar | | | 04 |
| Blue | | | 04 |
| Tussar | | | 04 |
| Blue | | | 04 |
| Tussar | | | 04 |
| Blue | | | 04 |
| Tussar | | | 04 |
| Blue | | | 04 |
| Tussar | | | 04 |
| White | | | 04 |
| Tussar | | | 12 |
| White | | | 10 |
| Tussar | 12 | | |
| White | 04 | | |
| Tussar | 12 | | |
| White | 10 | | |
| Tussar | 20 | | |
| | | | |
| TOTAL | | 324 | |

| WEFT / PICK PATTERN | | |
|---------------------|-------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | Single Ply | 84 * 8 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 3 |
| | 2 4 |

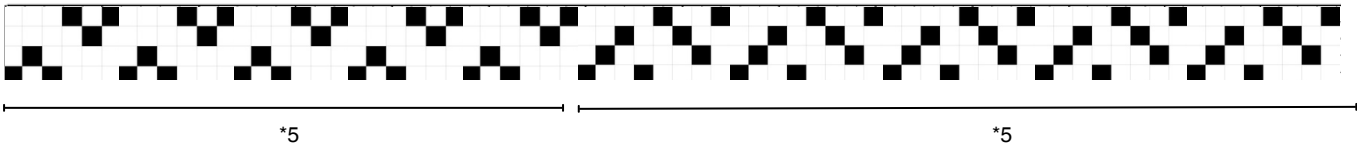


solid, hold

| | | | | | |
|-----------------------|---|----------------------|--|--|--|
| DESIGN NUMBER: WDP002 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| Single beam | | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 40 |
| FABRIC WIDTH: 7 12/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

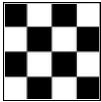
DRAFTING ORDER :



DENTING ORDER :



DESIGN

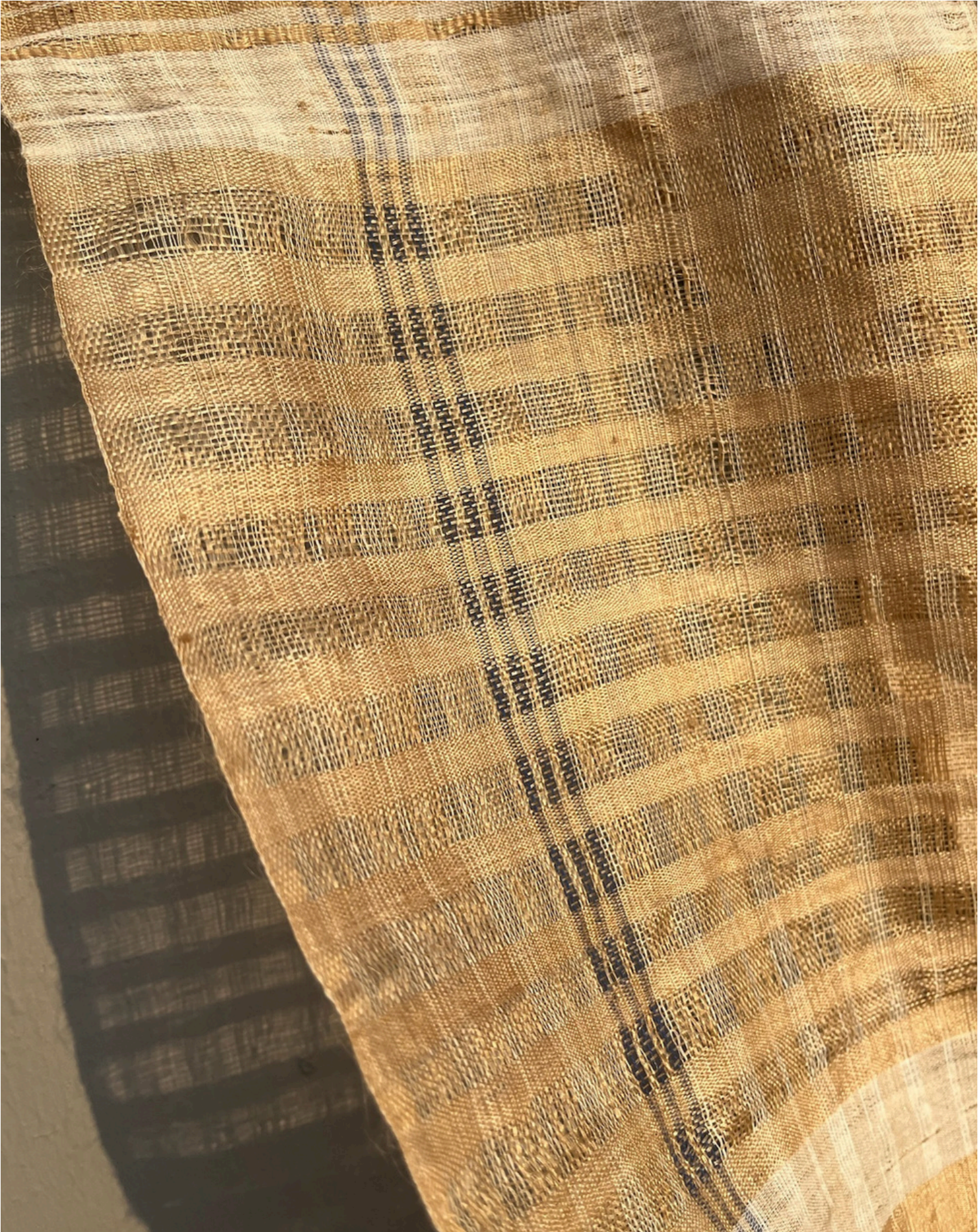


WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| Tussar | single ply 2/40s cotton | 20 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | 04 | |
| Blue | 2/40s cotton | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | 10 | |
| Tussar | 20 | |
| | | |
| TOTAL | | 324 |

| WEFT / PICK PATTERN | | |
|---------------------|-------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | 02 Ply | 40 * 8 |

| LIFTING ORDER | |
|---------------|---|
| PICKS | HEALD SHAFTS |
| | 1 3 2 4 |
| | Tight beating * 20 Light Beating *10 |

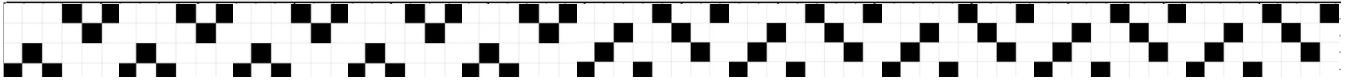


Rhythm, order, duality

| | | | | | |
|-----------------------|-------------|----------------------|--|--|--|
| DESIGN NUMBER: WDP003 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| | Single beam | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 64 |
| FABRIC WIDTH: 7 12/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

DRAFTING ORDER :



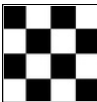
*5

*5

DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| Tussar | single ply 2/40s cotton | 20 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | 04 | |
| Blue | 2/40s cotton | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | 10 | |
| Tussar | 20 | |
| | | |
| TOTAL | | 324 |

| WEFT / PICK PATTERN | | |
|---------------------|--------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | Single Ply | 12 |
| White | 2/40s cotton | 10 |
| Tussar | Single Ply | 12 |
| White | 2/40s cotton | 04 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 3 |
| | 2 4 |

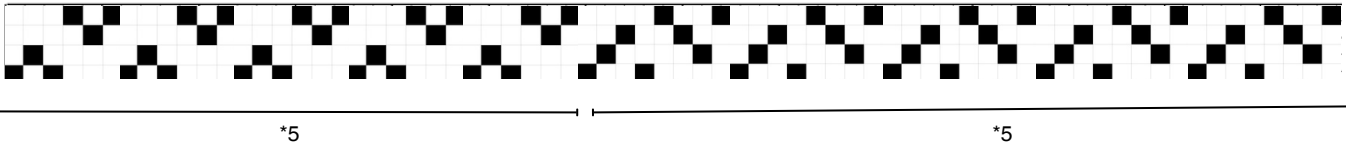


Rhythm, separation vs connection

| | | | | | |
|-----------------------|---|----------------------|--|--|--|
| DESIGN NUMBER: WDP004 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| Single beam | | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 56 |
| FABRIC WIDTH: 7 10/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

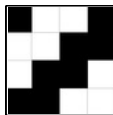
DRAFTING ORDER :



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| Tussar | single ply 2/40s cotton | 20 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | 12 | |
| White | 04 | |
| Blue | 2/40s cotton | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | 20 | |
| TOTAL | | 324 |

| WEFT / PICK PATTERN | | |
|---------------------|--------------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | 02 Ply, thin yarn | 20 |
| Tussar | 01 Ply, thick yarn | 04 |
| Tussar | 02 Ply, thin yarn | 20 |
| Tussar | 01 Ply, thick yarn | 02 |
| Tussar | 02 Ply, thin yarn | 20 |
| Tussar | 01 Ply, thick yarn | 01 |
| Tussar | 02 Ply, thin yarn | 20 |
| Tussar | 01 Ply, thick yarn | 01 |
| Tussar | 02 Ply, thin yarn | 20 |
| Tussar | 01 Ply, thick yarn | 02 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 2 |
| | 2 3 |
| | 3 4 |
| | 4 1 |

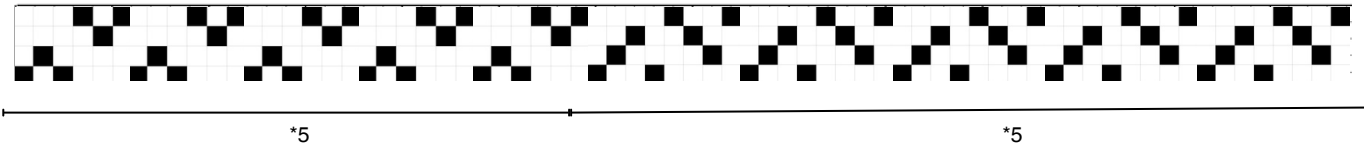


Duality vs Unity, solid, imposing, pierce

| | | | | |
|-----------------------|-------------|----------------------|--|--|
| DESIGN NUMBER: WDP005 | | | | |
| REED: 38 | | REED SPACE: 8 inches | | |
| NUMBER OF SHAFTS: | | | | |
| | 4 | | | |
| | 3 | | | |
| | 2 | | | |
| | 1 | | | |
| | Single beam | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 56 |
| FABRIC WIDTH: 7 06/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

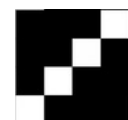
DRAFTING ORDER:



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | | WEFT / PICK PATTERN | | | LIFTING ORDER | |
|--------------------|--------------|-------------|---------------------|--------------|--------------|---------------|--------------|
| COLOR | COMPOSITION | NO. OF ENDS | COLOR | COMPOSITION | NO. OF PICKS | PICKS | HEALD SHAFTS |
| Tussar | single ply | 20 | | | | | |
| White | 2/40s cotton | 04 | Tussar | 02 Ply | 40 | | 2 3 4 |
| Tussar | | 12 | Blue | 2/40s cotton | 04 | | 1 3 4 |
| White | | 10 | Tussar | 02 Ply | 08 | | 1 2 4 |
| Tussar | | 12 | Blue | 2/40s cotton | 04 | | 1 2 3 |
| White | | 04 | Tussar | 02 Ply | 08 | | |
| Tussar | | 12 | Blue | 2/40s cotton | 04 | | |
| White | | 10 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 04 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 10 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 04 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 10 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 04 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 10 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 04 | | | | | |
| Blue | 2/40s cotton | 04 | | | | | |
| Tussar | | 04 | | | | | |
| Blue | | 04 | | | | | |
| Tussar | | 04 | | | | | |
| Blue | | 04 | | | | | |
| Tussar | | 04 | | | | | |
| Blue | | 04 | | | | | |
| Tussar | | 04 | | | | | |
| White | | 04 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 10 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 04 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 10 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 04 | | | | | |
| Tussar | | 12 | | | | | |
| White | | 10 | | | | | |
| Tussar | | 20 | | | | | |
| TOTAL | | 324 | | | | | |

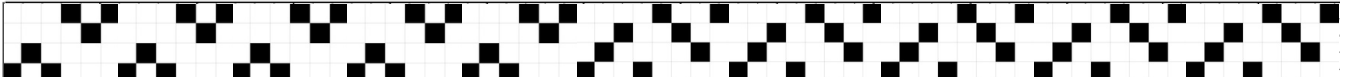


order, Solid vs segmented

| | | | | | |
|-----------------------|-------------|----------------------|--|--|--|
| DESIGN NUMBER: WDP006 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| | Single beam | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 46 |
| FABRIC WIDTH: 7 1/2 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

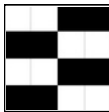
DRAFTING ORDER :



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|------------|
| COLOR | COMPOSITION | NO.OF ENDS |
| Tussar | single ply 2/40s cotton | 20 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | 04 | |
| Blue | 2/40s cotton | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 20 |
| | | |
| TOTAL | | 324 |

| WEFT / PICK PATTERN | | |
|---------------------|--------------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | 02 Ply | 30 |
| | 01 Ply, thick yarn | 01 |
| | 02 Ply | 01 |
| | 01 Ply, thick yarn | 01 |
| | 02 Ply | 06 |
| Tussar | 02 Ply | 16 |
| | 01 Ply, thick yarn | 06 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 2 |
| | 3 4 |

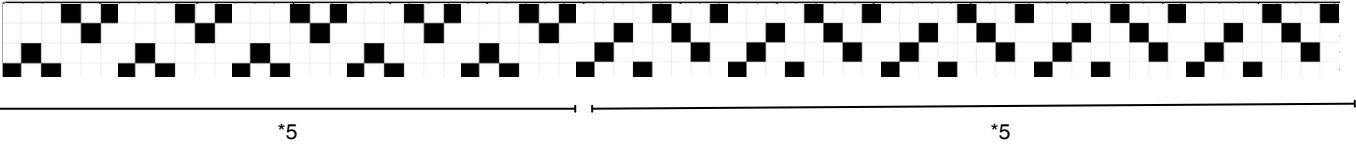


Growth vs restriction, balance, division

| | | | | | |
|-----------------------|-------------|----------------------|--|--|--|
| DESIGN NUMBER: WDP007 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| | Single beam | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 22 |
| FABRIC WIDTH: 7 1/2 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

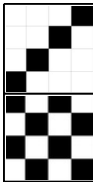
DRAFTING ORDER :



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| Tussar | single ply 2/40s cotton | 20 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | 04 | |
| Blue | 2/40s cotton | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | 10 | |
| Tussar | 20 | |
| | | |
| TOTAL | | 324 |

| WEFT / PICK PATTERN | | |
|---------------------|--------------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | 02 Ply | 20 |
| | 01 Ply, thick silk | 40 |

| LIFTING ORDER | |
|---------------|--------------------|
| PICKS | HEALD SHAFTS |
| | 1 3 |
| | 2 4 |
| | 1 |
| | 2 |
| | 3 |
| | 4 |
| | Light Beating *20 |
| | Tight beating * 40 |

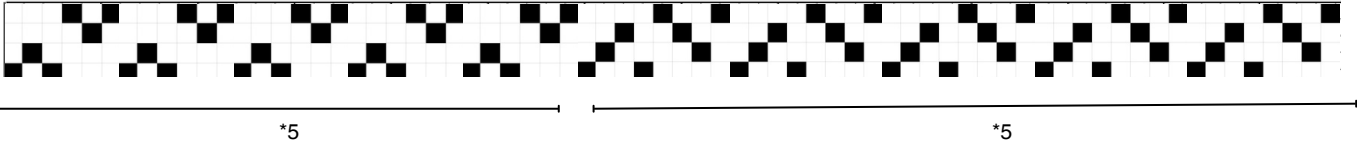


solid vs segmented, balance vs imbalance

| | | | | | |
|-----------------------|-------------|----------------------|--|--|--|
| DESIGN NUMBER: WDP008 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| | Single beam | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 48 |
| FABRIC WIDTH: 7 1/2 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

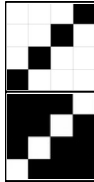
DRAFTING ORDER :



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| Tussar | single ply 2/40s cotton | 20 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | 04 | |
| Blue | 2/40s cotton | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 20 |
| | | |
| TOTAL | | 324 |

| WEFT / PICK PATTERN | | |
|---------------------|---------------------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Mixed | 2/40s cotton, 02 ply silk | 24 |
| Tussar | | 24 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 |
| | 2 |
| | 3 |
| | 4 |
| | 2 3 4 |
| | 1 3 4 |
| | 1 2 4 |
| | 1 2 3 |

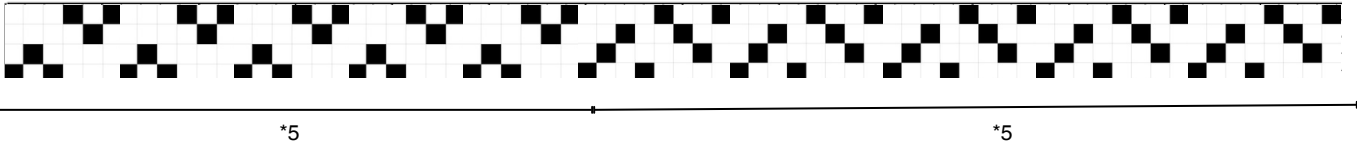


dulaity vs unity, order, rhythm, hold

| | | | | | |
|-----------------------|-------------|----------------------|--|--|--|
| DESIGN NUMBER: WDP009 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | | | | |
| | 1 | | | | |
| | Single beam | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 42 |
| FABRIC WIDTH: 7 10/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

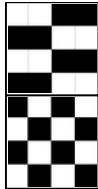
DRAFTING ORDER :



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| Tussar | single ply 2/40s cotton | 20 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | 2/40s cotton | 12 |
| White | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| Blue | | 04 |
| Tussar | | 04 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 12 |
| White | | 04 |
| Tussar | | 12 |
| White | | 10 |
| Tussar | | 20 |
| TOTAL | | 324 |

| WEFT / PICK PATTERN | | |
|---------------------|-------------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | 02 Ply | 24 |
| White | 40s cotton | 06 |
| Tussar | 01 Ply thick yarn | 06 |
| Tussar | 02 Ply | 10 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 2 |
| | 3 4 |
| | 1 3 |
| | 2 4 |
| | 1 3 |
| | 2 4 |
| | 1 2 |
| | 3 4 |



direction vs stagnation, pierce, imposing, order



Irregularities within the silk yarn, leads to a lot of breakage. The warp needs to constantly be looked after and handled delicately to make sure that the yarns remain separate, with the loose silk fibres leading to tangles both within the silk, and between the silk and cotton as well.



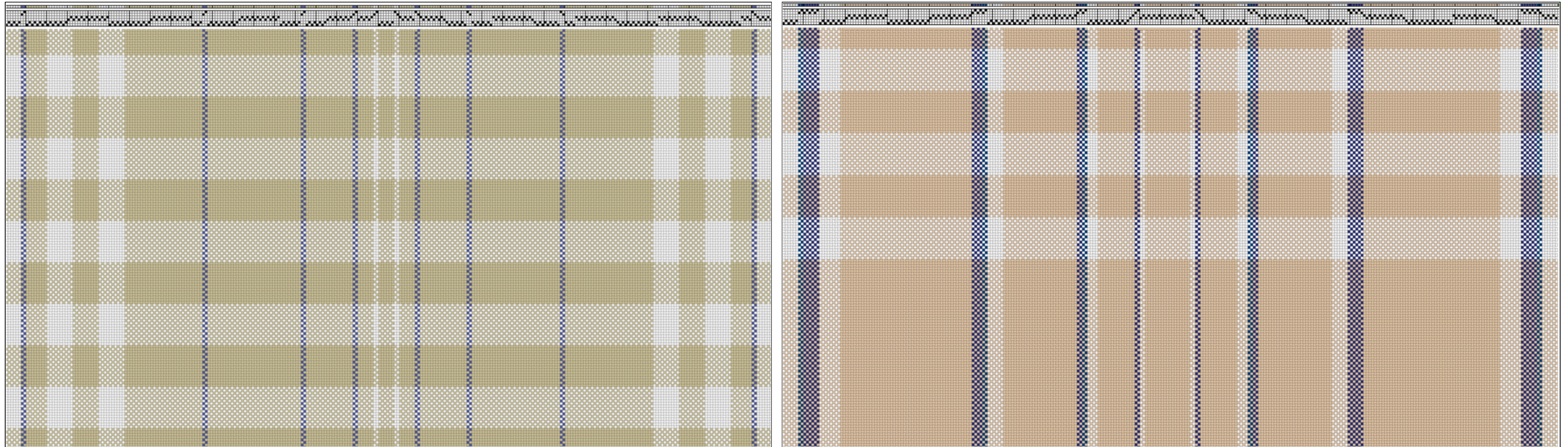
Sizing the Warp

Treating the warp with Kerosene, candle wax and rice water, helps the silk stay tidy and binds the loose fibers back to the surface of the yarn.

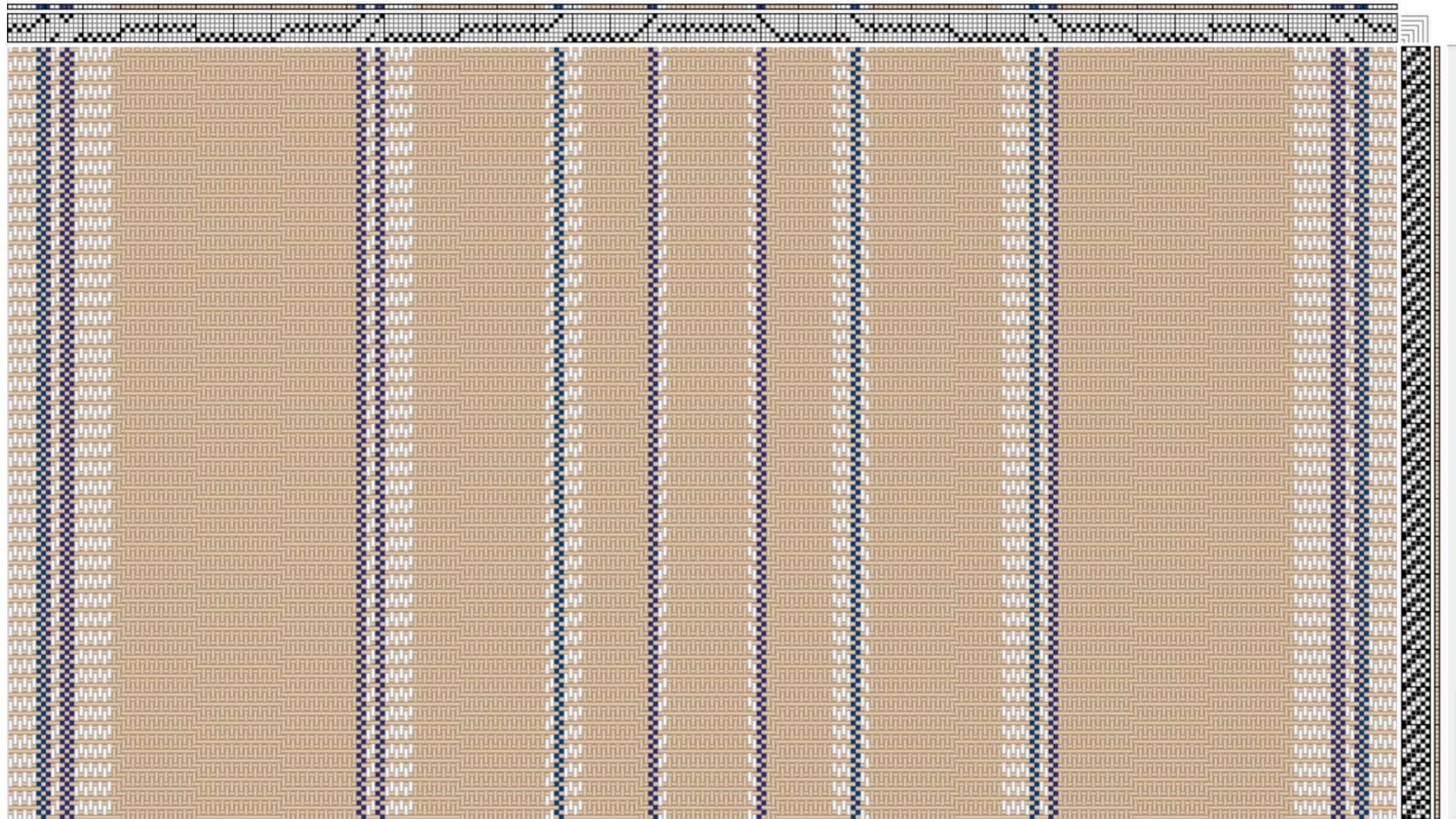
Kerosene and paraffin wax are quicker solutions while, a mixture of rice water and coconut oil needs to be brushed through while separating the threads in each shaft and waiting for it to dry.

A six shaft loom opened up further possibilities in terms of the surfaces that could be woven. By combining basic base weaves like plain and twill within four shafts, the other two could be used as extra warp to do figuring, or be removed entirely to serve as dent gaps.

The word library derived from a fork and a paperclip were merged to create a new composition. Blue was chosen as the colour.

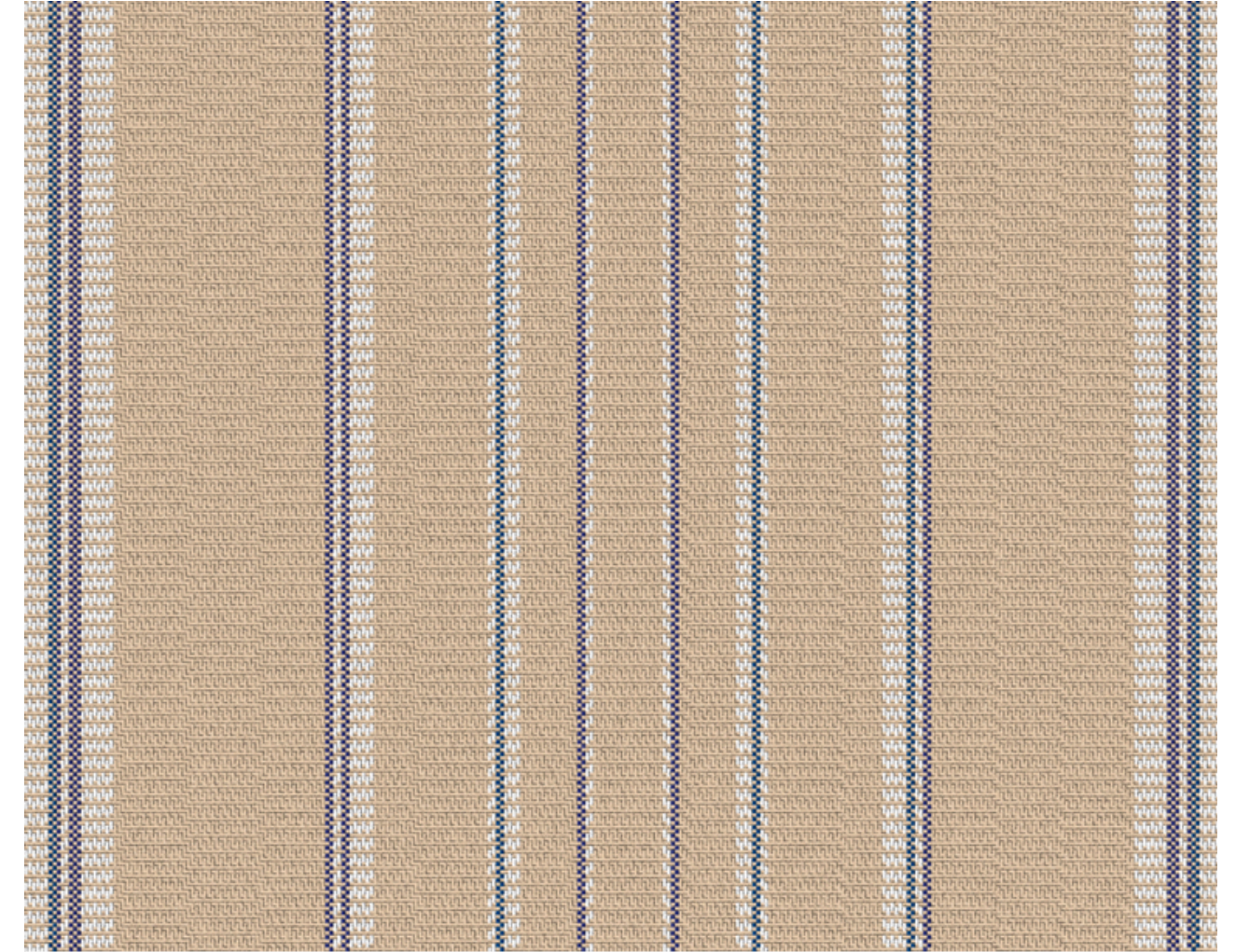


The ratio between the extra warp and the base warp needed to be carefully calculated, since a dent gap would lead to slippage within the silk threads. Cotton was placed around the extra warp since its surface abrasion is higher and thus it would hold the threads together better, reducing slippage. This would make sure that the dent gaps would remain an aesthetic addition to the fabric but not take away from its functionality.



The final warp rhythm has a gradation of white and blue lines, suggesting the curvature within the form of the object as well as denoting the reflection of the metal material.

However, the blocks created within the drafting are too large for anything except a plain weave to be woven on this loom, where the fabric would remain structurally sound to be used in apparel. Interesting exploratory samples are possible with more artistic applications, since the floats would be very lengthy for functionality.



Fabric simulation on weavepoint

Calculations for the Six-Shaft loom setting up

Reed- 38

Required Width- 8 inches

Required length - 3 meters

No. of ends - $38 (2 \text{ per dent}) \times 8$
= 304 ends

Required Selvedge - $\frac{1}{4}$ inches on either side, $\frac{1}{2}$ total

Yarns in $\frac{1}{4}$ inches (4 per dent) = 40 (20+20)

Total warp + selvedge - $304 + 20 = 324$ ends

Yarn used: 40s blue cotton yarn, single ply silk yarn



The chemically dyed blue threads were too fragile under the tension of the shafts. Initially the placement of the extra warp on the beam added too much pressure on the threads, but even after resetting it onto the loom, the tension was too high, rendering the extra warp unusable as it was.

| | | | | | |
|-----------------------|--------|----------------------|--|--|--|
| DESIGN NUMBER: WDP011 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | | | | |
| | 2 | 6 | | | |
| | 1 | 5 | | | |
| | Beam A | EW | | | |

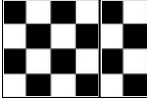
DRAFTING ORDER :

Refer to the preceding page

DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|--------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| White | 2/20s cotton | 12 |
| Blue | 2/40s cotton | 04 |
| White | | 04 |
| Blue | | 04 |
| White | | 16 |
| Tussar | 01 Ply | 54 |
| Blue | | 02 |
| White | | 04 |
| Blue | | 02 |
| White | | 12 |
| Tussar | | 30 |
| White | | 04 |
| Blue | | 02 |
| White | | 08 |
| Tussar | | 16 |
| Blue | | 02 |
| White | | 04 |
| Tussar | | 18 |
| White | | 04 |
| Blue | | 02 |
| White | | 16 |
| Tussar | | 08 |
| Blue | | 02 |
| White | | 04 |
| Tussar | | 30 |
| White | | 12 |
| Blue | | 02 |
| White | | 04 |
| Blue | | 02 |
| Tussar | | 54 |
| White | | 16 |
| Blue | | 04 |
| White | | 04 |
| Blue | | 04 |
| White | | 12 |
| TOTAL | | 324 |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 56 |
| FABRIC WIDTH: 7 10/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |



duality vs unity, solid, balance

| | | | | | |
|-----------------------|--------|----------------------|--|--|--|
| DESIGN NUMBER: WDP012 | | | | | |
| REED: 38 | | REED SPACE: 8 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | | | | |
| | 3 | 6 | | | |
| | 2 | 5 | | | |
| | 1 | | | | |
| | Beam A | EW | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 48 |
| FABRIC WIDTH: 7 10/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 324 | |
| GSM: | |

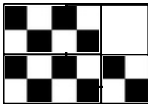
DRAFTING ORDER :

Refer to the preceding page

DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|--------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| White | 2/20s cotton | 12 |
| Blue | 2/40s cotton | 04 |
| White | | 04 |
| Blue | | 04 |
| White | | 16 |
| Tussar | 01 Ply | 54 |
| Blue | | 02 |
| White | | 04 |
| Blue | | 02 |
| White | | 12 |
| Tussar | | 30 |
| White | | 04 |
| Blue | | 02 |
| White | | 08 |
| Tussar | | 16 |
| Blue | | 02 |
| White | | 04 |
| Tussar | | 18 |
| White | | 04 |
| Blue | | 02 |
| Tussar | | 16 |
| White | | 08 |
| Blue | | 02 |
| White | | 04 |
| Tussar | | 30 |
| White | | 12 |
| Blue | | 02 |
| White | | 04 |
| Blue | | 02 |
| Tussar | | 54 |
| White | | 16 |
| Blue | | 04 |
| White | | 04 |
| Blue | | 04 |
| White | | 12 |
| TOTAL | | 324 |

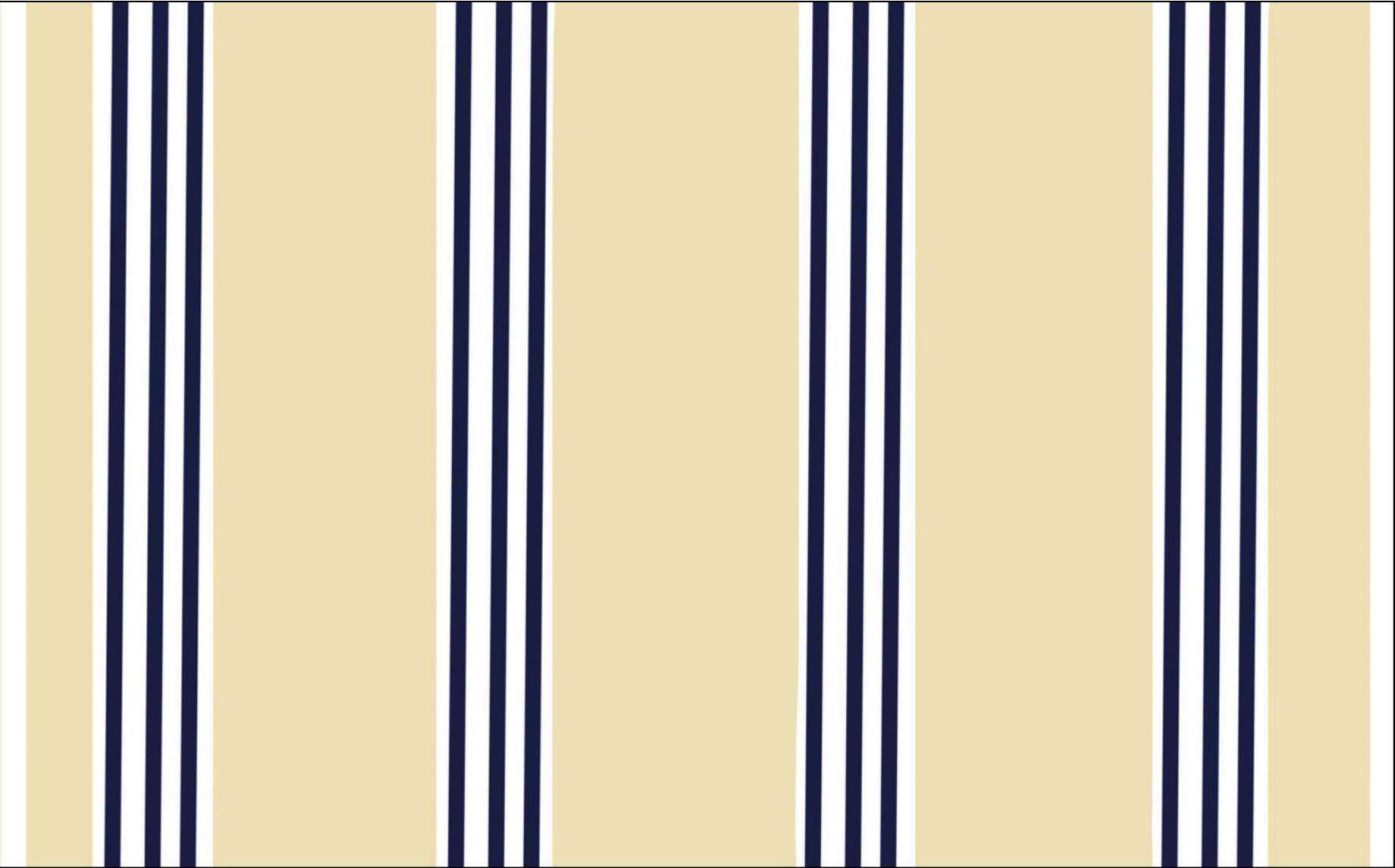
| WEFT / PICK PATTERN | | |
|---------------------|--------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | 02 Ply | 60 |
| White | 2/40s cotton | 12 |
| Tussar | 02 Ply | 32 |
| White | 2/40s cotton | 08 |
| Tussar | 02 Ply | 18 |
| White | 2/40s cotton | 04 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 3 5 |
| | 2 4 6 |
| | 1 3 |
| | 2 4 |



order, stagnation vs growth

FINAL STRIPE RHYTHM



balance , imposing, solid, rhythm, order, control

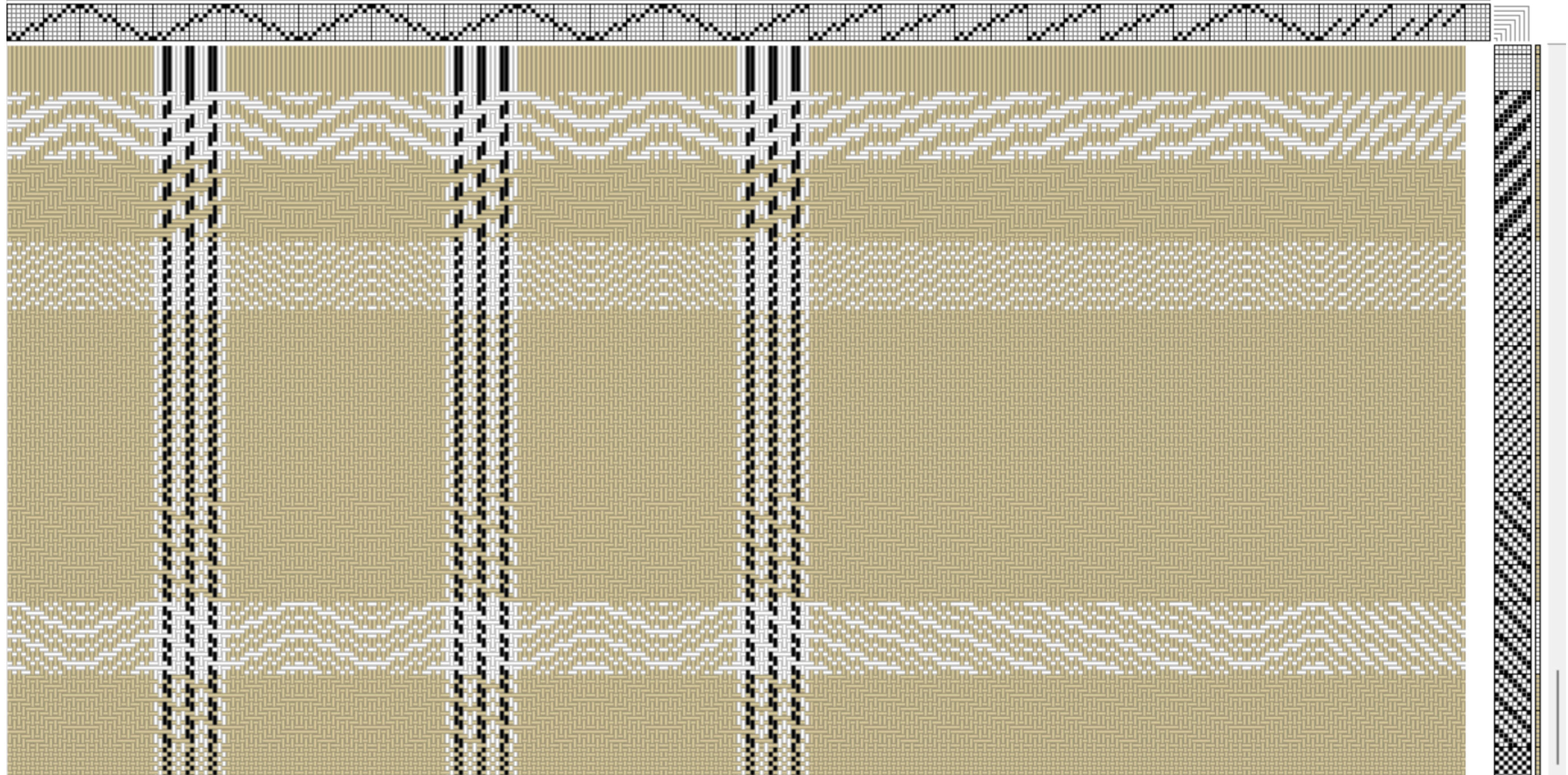
The final chosen rhythm has a regular white and black stripe design repeating on a primarily tussar surface. The use of blue with the tussar did not have enough contrast, while the black enhanced the jarring effect. A completely regular stripe offers a lot more variety in terms of what can be done with the weft, by introducing extra weft and the possibility of checks and colour and weave designs.

WARPING PATTERN

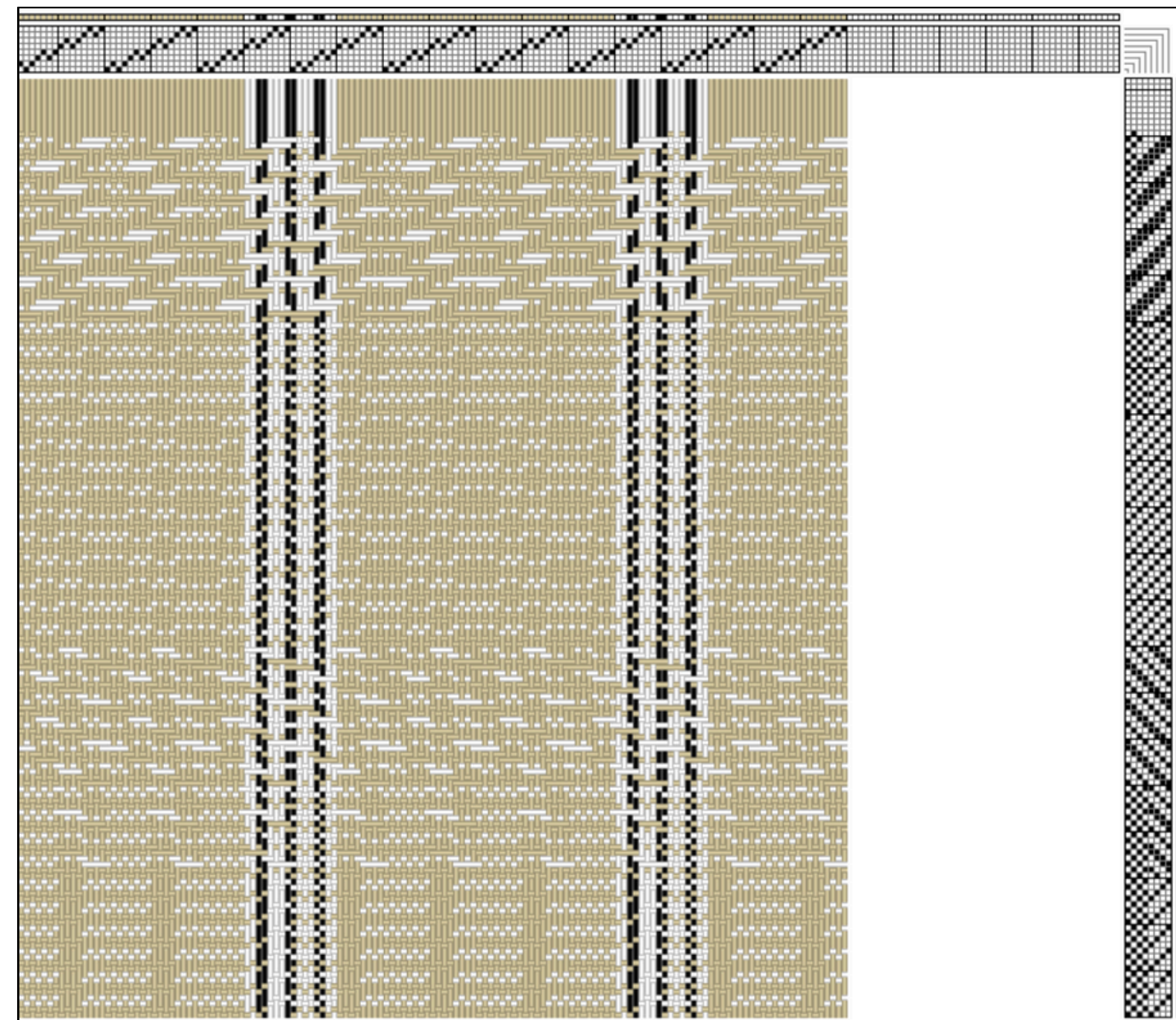
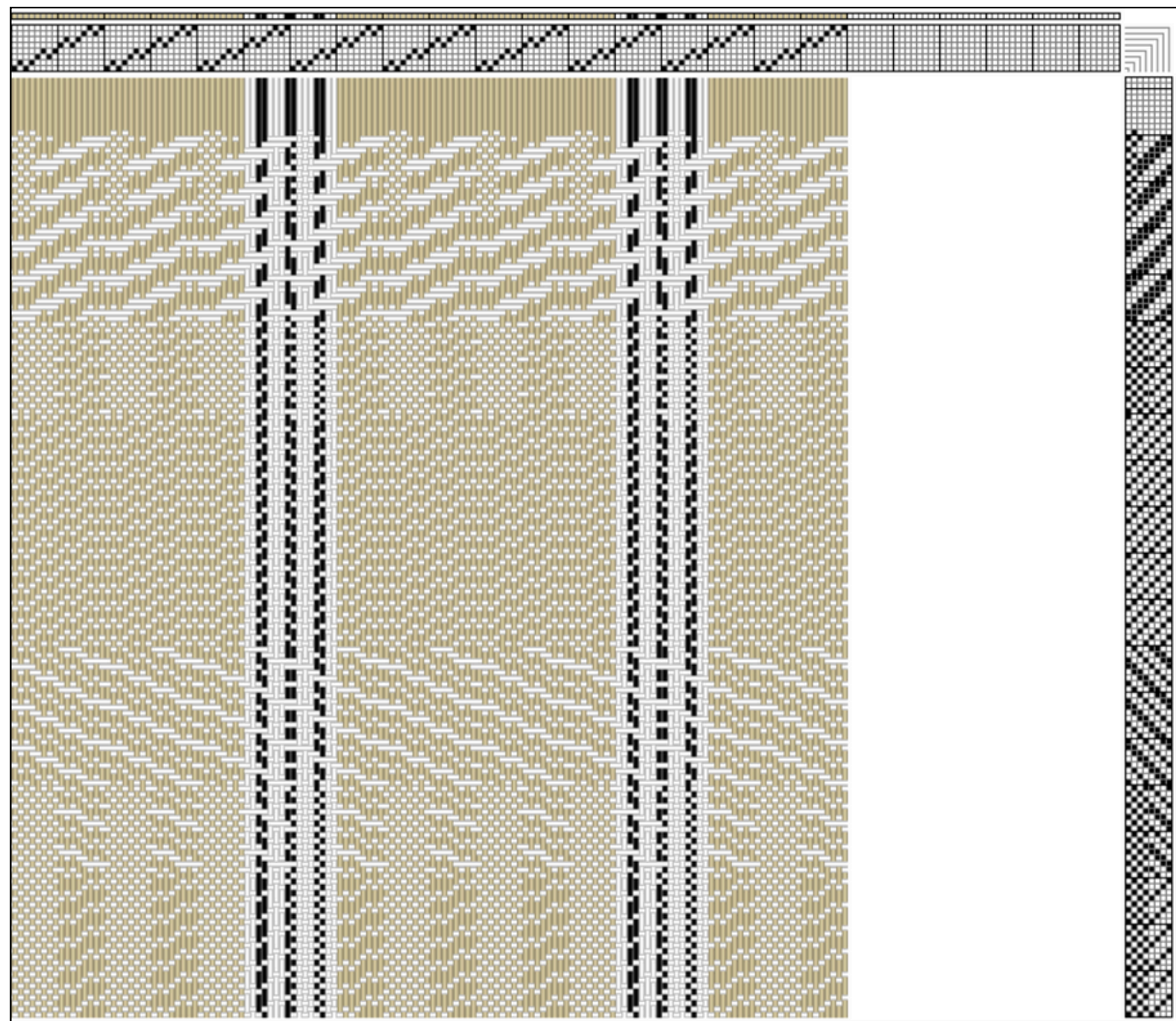
| | | |
|--------|--------------|----|
| White | 2/40s cotton | 16 |
| Tussar | single ply | 64 |
| White | | 06 |
| Black | 2/40s cotton | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 06 |
| Tussar | | 64 |
| White | | 06 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 06 |
| Tussar | | 64 |
| White | | 06 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Tussar | | 06 |
| White | | 64 |
| | | 16 |

WARP CALCULATION FOR THE 8 SHAFT LOOM

Reed- 38
Required Width- 10 inches
Required length - 3 meters
No. of ends - 38 (2 per dent) * 8 = 380 ends
Required Selvedge - ¼ inches on either side, ½ total
Yarns in ¼ inches (4 per dent) = 40 (20+20)
Total warp + selvedge - 380 ends
Yarn used: 2/40s black cotton yarn, single ply silk yarn,
2/40s white cotton yarn



A simpler drafting order was chosen, which is easier to remember and practice. The possibilities under eight shafts increase dramatically from the six-shaft, and a regular drafting order makes sure the structures look neat and keep the focus on the silk. But at the same time, the broken order was chosen since the designs fit well within the abstracted word library and offered exploration with new words like pierce, tip and division due to the interaction with the weaves..

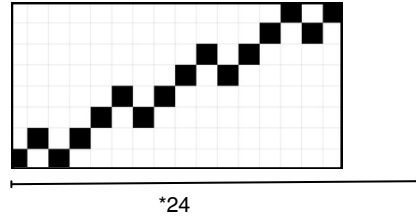


Simulated interaction between the threads, with different weft rhythms. The same drafting order offers a multitude of possibilities that are simple enough for a new weaver to work with as well.

| | | | | |
|-----------------------|--------|-----------------------|--|--|
| DESIGN NUMBER: WDP013 | | | | |
| REED: 38 | | REED SPACE: 10 inches | | |
| NUMBER OF SHAFTS: | | | | |
| | 4 | 8 | | |
| | 3 | 7 | | |
| | 2 | 6 | | |
| | 1 | 5 | | |
| | Beam A | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 60 |
| FABRIC WIDTH: 9 12/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 380 | |
| GSM: | |

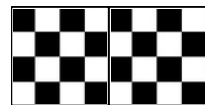
DRAFTING ORDER:



DENTING ORDER :



DESIGN



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|--------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| White | 2/40s cotton | 16 |
| Tussar | single ply | 64 |
| White | | 06 |
| Black | 2/40s cotton | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 06 |
| Tussar | | 64 |
| White | | 06 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 06 |
| Tussar | | 64 |
| White | | 06 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 06 |
| Tussar | | 64 |
| White | | 16 |
| TOTAL | | 380 |

[illegible]

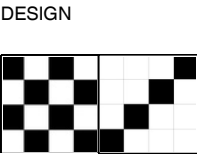
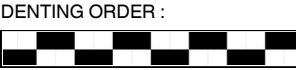
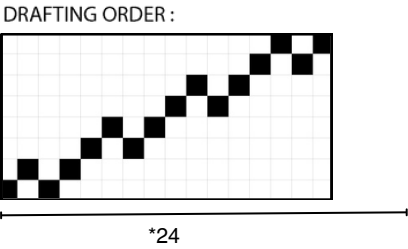
| LIFTING ORDER | |
|---------------|--------------------|
| PICKS | HEALD SHAFTS |
| | 1 3 5 7 2 4 6 8 |



solid, balance vs imbalance, order

| | | | | | |
|-----------------------|--------|-----------------------|--|--|--|
| DESIGN NUMBER: WDP013 | | | | | |
| REED: 38 | | REED SPACE: 10 inches | | | |
| NUMBER OF SHAFTS: | | | | | |
| | 4 | 8 | | | |
| | 3 | 7 | | | |
| | 2 | 6 | | | |
| | 1 | 5 | | | |
| | Beam A | | | | |

| | |
|--|---------|
| PRODUCT CATEGORY: Woven Silk Fabric Sample | |
| EPI: 38 | PPI: 48 |
| FABRIC WIDTH: 9 12/16 inches | |
| SELVEDGE: 1/2 inches, 1/4 each side | |
| TOTAL NUMBER OF ENDS: 380 | |
| GSM: | |



WEAVING DETAILS / ORDER:

| WARP / END PATTERN | | |
|--------------------|----------------------------|-------------|
| COLOR | COMPOSITION | NO. OF ENDS |
| White | 2/40s cotton single ply | 16 |
| Tussar | | 64 |
| White | 2/40s cotton | 06 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 06 |
| Tussar | | 64 |
| White | | 06 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 04 |
| White | | 04 |
| Black | | 06 |
| White | | 64 |
| Tussar | | 06 |
| Black | 04 | |
| White | 04 | |
| Black | 04 | |
| White | 04 | |
| Black | 04 | |
| White | 06 | |
| Tussar | 64 | |
| White | 16 | |
| TOTAL | | 380 |

| WEFT / PICK PATTERN | | |
|---------------------|-------------|--------------|
| COLOR | COMPOSITION | NO. OF PICKS |
| Tussar | 02 Ply | 48* 10 |

| LIFTING ORDER | |
|---------------|--------------|
| PICKS | HEALD SHAFTS |
| | 1 3 5 |
| | 2 4 6 |
| | 1 3 7 |
| | 2 4 8 |



solid, duality vs unity, pierce





"254 1/31/18