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What's Old is New Again: Carved Board Clamped Resist Dyeing

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WHAT'S OLD IS NEW AGAIN: CONTEMPORARY APPLICATION OF CARVED BOARD CLAMP RESIST DYEING

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This presentation focuses on my experimentation and problem solving necessary to produce contemporary works patterned with carved board clamp resist. (Fig. 1) Preliminary carving started with readily available, cheap aspen boards. Aspen is used for sauna construction due to its ability to handle heat and humidity which lead me to believe it would handle the dyeing process. Hand carving with woodblock carving tools produced frayed edges and splintering likely due to the softer nature and grain of this wood. Help of a machinist with computor controlled laser engraving equipment quickly resulted in sharper mirror image pairs of aspen boards. Initial work with indigo vat dyeing however revealed serious warping problems which altered the crispness of patterning. (Fig. 2) The machinist suggested cast acrylic material which proved well suited to sharp, detailed resists. The computor control also allowed easy experimentation with depth of carving.

Figure 1. *Colorful Collars, vintage cotton collars, carved board clamp resist dyeing, natural dyes, artist Jay Rich, image by Hour Glass Studios*

Figure 2, left. *Aspen boards warped altering crispness of patterning. Image by author.*
Figure 3, right. *Problem solving imbalance of horizontal design by adding "moon" to equally distribute pressure; juban weight silk, acid dye with sharp registration on 4 layers. Image by author.*

Early trials pointed out a problem with the density or balance of each design motif. Blocks with a long narrow horizontal crane design tipped enough in the aggressive clamping process leaving remnants of board edges in the recorded pattern. This was solved by adding "moons" to more equally distribute the pressure created by the clamp. (Fig. 3)

Figure 4. *Safflower tie up with C-clamp, two examples of silks, left example clear pink, right example saddened by rust from C-clamp. Images by author.*

Early safflower dyeing with iron C-clamps presented the problem of iron rust saddening this delicate pink dye. Safflower is slower to strike and the time for submersion with iron clamps was enough to dull the final results. (Fig. 4) I experimented with a non-metal tie up using strapping tape secured with a plastic buckle and tightened with wooden wedges. (Fig. 5) Comparison of spring clamps, strapping tape tie up and C-clamps with indigo showed consistent results for all three suggesting that, for the less aggressive dyes, these tie ups would be sufficient. (Fig. 6)

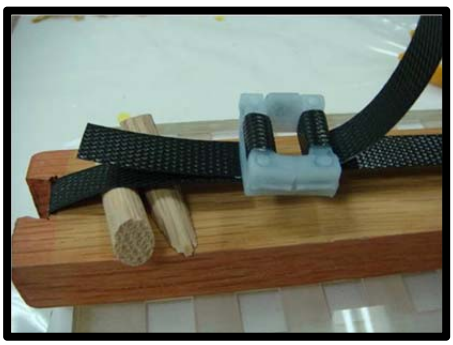
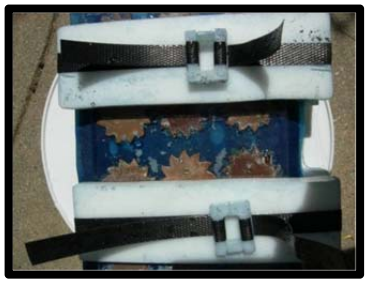


Figure 5, left. *Alternative non-metal tie up with polypropylene strapping tape, plastic buckle and wood wedges. Image by Karina Van Vught.*
Figure 6, right. *Comparison of spring clamps, strapping tape and C-clamp tie up on silk with indigo. Image by author.*

The labor, precision and cost of carving blocks could easily overwlhelm the beginner so I experimented with alternatives. Die cut and hand cut leather design motifs were rubber cemented to flat acrylic boards in mirrored pairs. This adaptation worked and provided the advantage of quicker, more personal and less costly experimenting for the beginner. (Fig. 7)



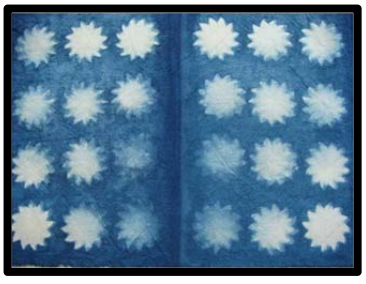


Figure 7. *Leather alternative for quicker, less costly experimenting. Image by author.*

Weights and types of fabric were compared. Canvas weight cotton, as observed in the southwest China jia xie, attempted in six layers registered clearly in only 2 layers, top and bottom. (Fig. 8) Juban weight silk easily registered sharply in 4 layers with acid dyes. (See Fig. 3) Leno weave silk registered in 8 layers. (Fig. 9) Problems were encountered with faulty manipulation of one jpeg image used in a series of "curve" designs and the design was carved incorrectly. The resulting misregistraion in the dye process however showed the potential of this happy accident for future exploration. (See Fig. 9)

Figure 8. *Canvas weight cotton, registered sharply on 2 of six layers, indigo. Image by author.*

Figure 9. *Leno weave silk registered on 8 layers, also shows misregistration. Image by author.*

Finessing the dye was my next focus of experimentation. Indigo vat dyeing was easier with a deeper carving creating a larger channel for flow of the dye through the resisted bundle. Oxidation in water by pulling the bundle through water was also more effective with the larger channel. Fiber reactive dyes

were easily accomplished with the usual soda ash activation and batching. Fiber reactive dyes also easily penetrated narrower channels produced with a shallower depth of carving. (Fig. 10) Edges of the designs could be manipulated by working with varying degrees of wet out, by pouring or submerging at the dye vat or soda ash solution stage and by varying the tightness of the clamps.

Figure10, left. *Fiber reactive dye on silk charmeuse. Image by author.*
Figure 11, right. *Kakishibu or fermented persimmon tannin on hemp, poured, then opened flat to cure. Image by Karina Van Vught.*

Kakishibu or fermented persimmon tannin presented another type of challenge. This dye sits on the surface and is fixed by sun and time. After the typical resist process, a short application of dye was poured repeatedly through the resisted bundle, and then opened to dry flat. (Fig. 11) The kakishibu modifiers iron, sodium bicarbonate and pigments worked in a similar fashion though the iron modifier was difficult to control with any degree of precision.

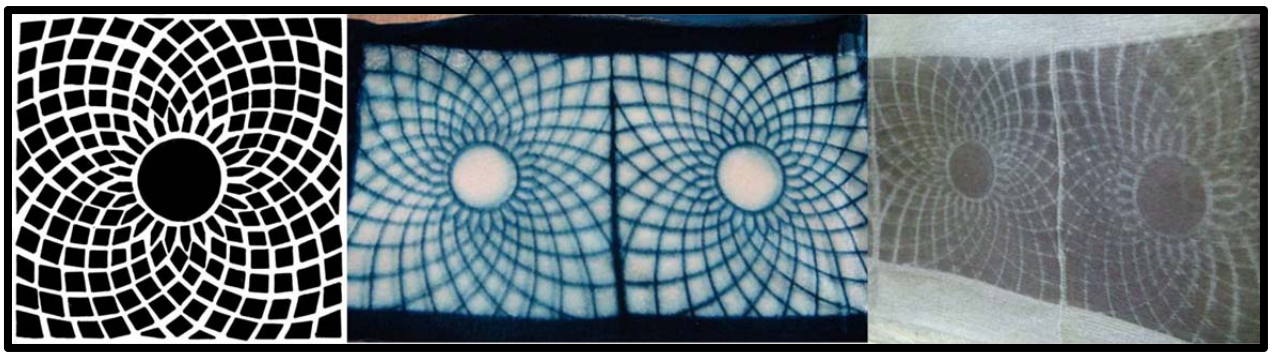


Figure 12. *Flower form by Judith Abelsl, Netherlands, indigo on velvet, discharge on organza. Images by author.*

Discharge experimentation revealed the need for the discharge solution to pass through the resisted bundle. Standard submersion in the discharge vat was not sufficient. Best results were accomplished by repeated brief submersions as well as pouring and syringing solution through each individual layer of the bundle, from all 4 directions.

In conclusion, collegues new to carved board clamp resist dyeing at a workshop at Studio Zijdelings, Tillburg, Netherlands were willing to risk using their original designs with this new application. They submitted designs in jpeg format for laser carving on acrylic in advance. Some of their designs were modified to allow better flow around each design element, some were completed with plans for holes drilled for dye pass through and some submitted designs were abandonned judged not suited to this

technique. I was unsure if several designs including a flower form (Fig. 12) and a deconstructed text would create successful patterns. (Fig. 13) In a short period of time, we were able to successfully manipulate and fold fabrics, finesse a variety of dyes and fabrics and produce contemporary carved board clamp resist samples with great potential. I look forward to the future application of this interesting ancient dye process.

Figure 13. *Deconstructed letters by Patty Muller, Netherlands, indigo on silk noil, discharge on organza. Images by Karina VanVught, Zijdelings.*

Acknowledgements

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