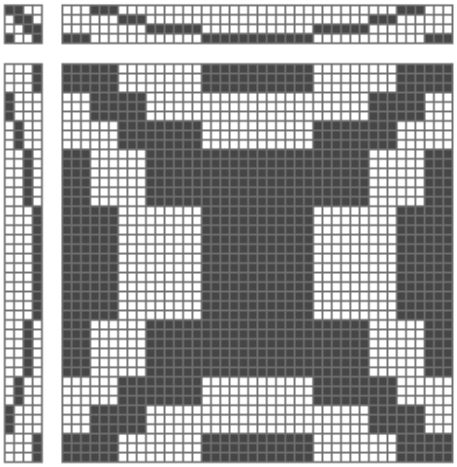
Profile Tie-Ups, Part 1: Basic Concepts

Standard Use

Profile drafts are based on profile (block) sequences for threading and treadling. The block pattern (drawdown) that results depends on the profile tie-up used.

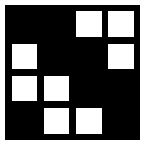
Different profile tie-ups are appropriate for different intended weaves. For example, overshot traditionally uses twill tie-ups. Here is an example:



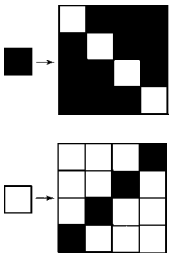
Note that the profile tie-up is a 2/2 twill.

When a profile tie-up is converted to a threading tie-up, each tie-up point (black cell) in the profile tie-up is replaced by one threading tie-up block and each non-tie-up point (white cell) is replaced by another threading tie-up block.

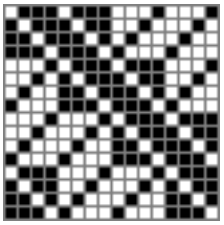
This is a block-substitution process [1] with the initial pattern being the profile tie-up:



For overshot, the block for black might be a 3/1 twill and the block for white, a 1/3 twill. The substitution rule for this is



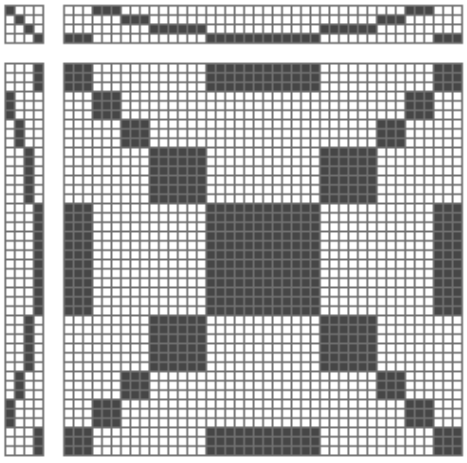
With this substitution rule pair, the profile tie-up is converted to the threading tie-up

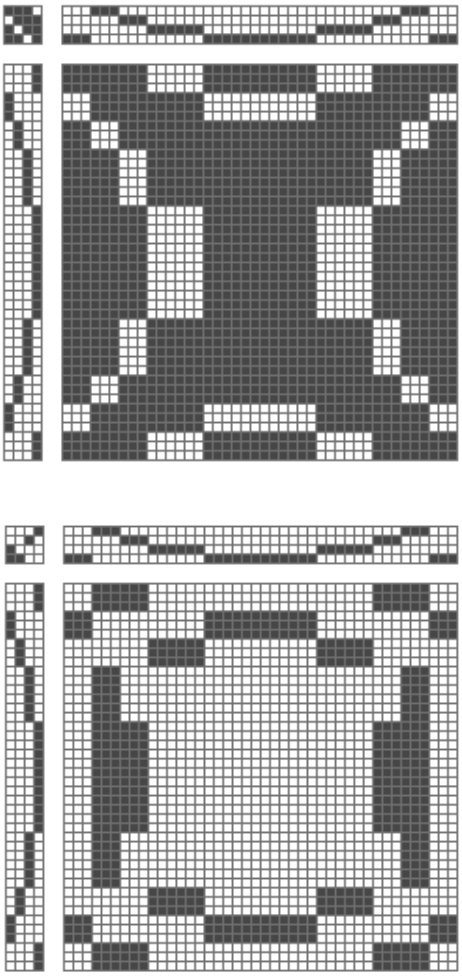


Just as certain profile tie-ups are suitable for certain kinds of weaves, there are different substitution rules for different kinds of weaves. See Reference 2 for examples.

Creating Different Block Patterns

Different profile tie-ups produce different block patterns. Here are some examples for the profile threading and treadling sequences given in the example in the last section:





Another way of viewing profile tie-ups is as a way of *creating* different block patterns from the same profile sequences. This is topic of the next article in this series.

Reference

1. *Block Substitution, Part 1: Basic Concepts*, Ralph E. Griswold, 2004: http://www.cs.arizona.edu/patterns/weaving/webdocs/gre_bs1.pdf

2. *Designing with Blocks*, Doramay Keasbey. Alta Vista Publications, 1993.

Ralph E. Griswold
Department of Computer Science
The University of Arizona
Tucson, Arizona