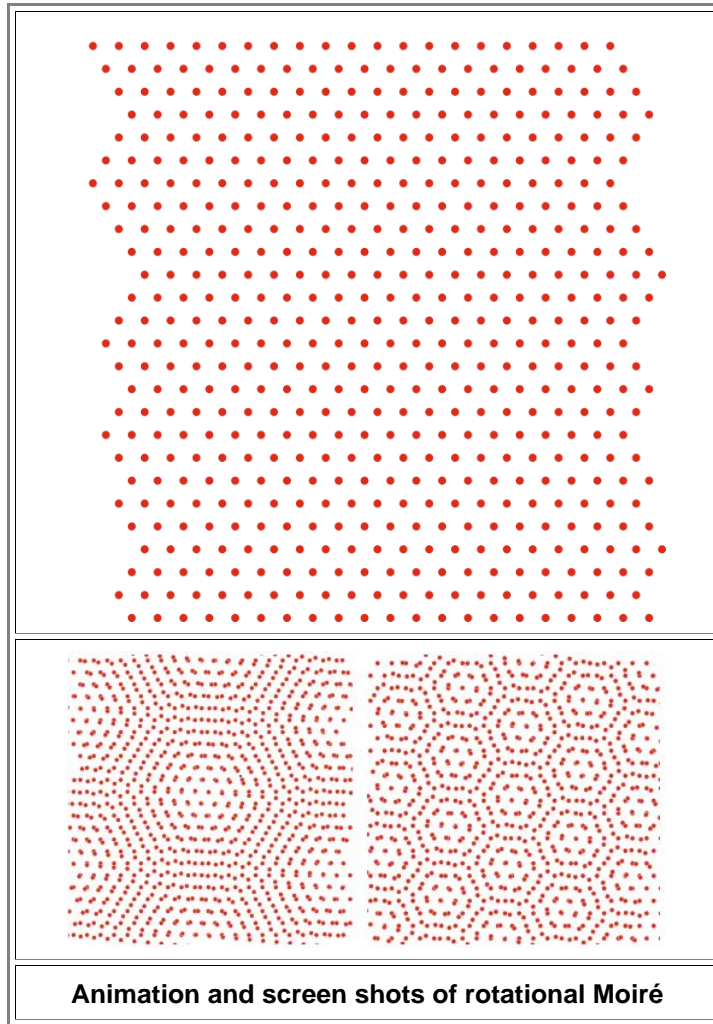


Watered Silk

The pattern on wootz blades produced by the banded distribution of cementite was and is often referred to as looking like "*watered silk*". Just as often it is just called a "water" pattern. So what is "watered silk"?

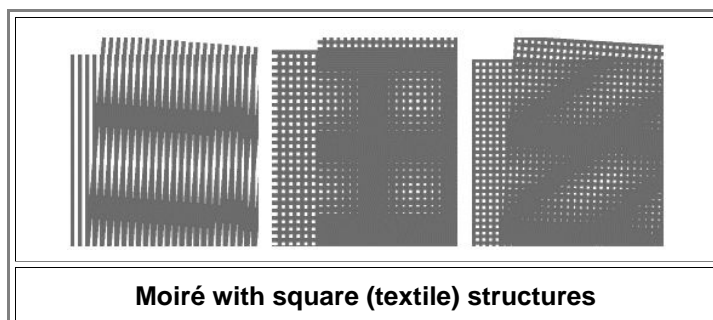
Quite generally, a "watered silk pattern" appears whenever two-dimensional periodic structures are put on top of each other. If the structures are real like pieces of fabric (as opposed to mathematical concepts), they will never be exactly aligned, and the misalignment produces what is known as a **Moiré structure**.

- Take two hexagonal lattices, put them on top of each other, and start to rotate one. This is what the combination looks like at different rotational misalignments:

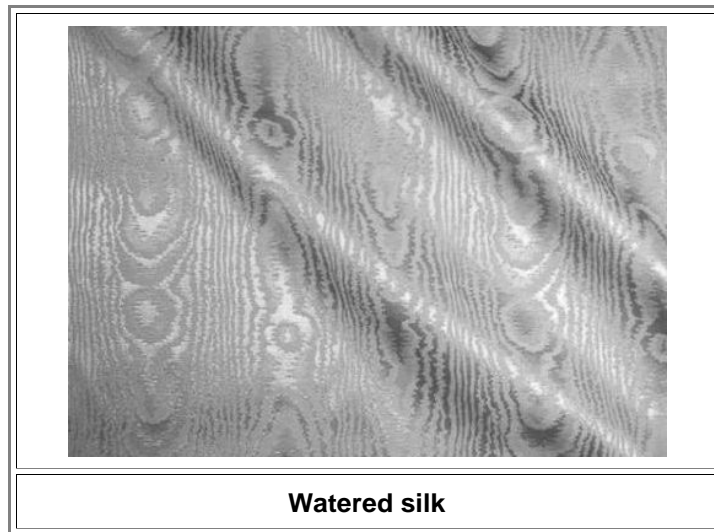


- Some coarse pattern - the Moiré pattern - develops that depends on the degree of misorientation.

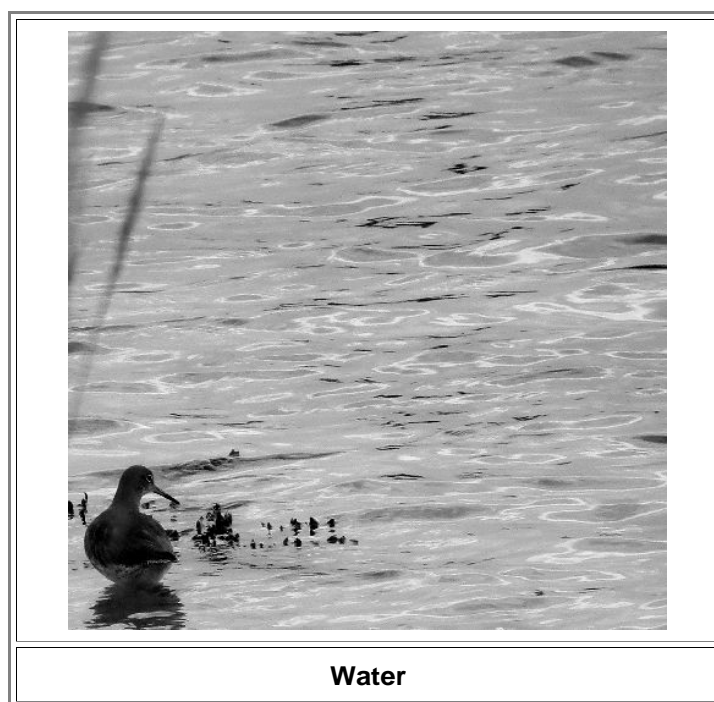
Textiles weaves typically have a square symmetry and what you can get looks like this, for example



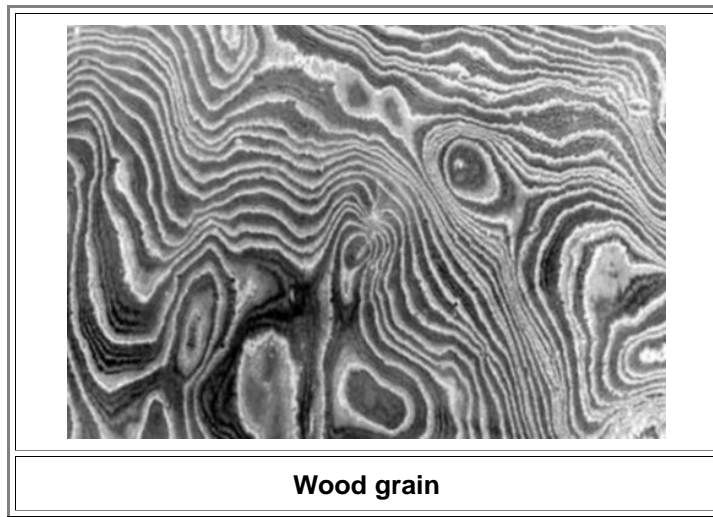
It doesn't matter what you superimpose as long as you can still look through the two layers. With most fabrics this is not the case. Fine silk weaves, however, are more or less transparent and that's why you can make "watered silk" but not "watered denim". Just fold a piece of silk onto itself - there you are! You might want to keep the two layers in place by "gluing" them together somehow, or you may want to fake the effect by using just one piece with a suitable imprint.
Here is what "true" watered silk looks like:



So, yes, the pattern on a wootz blade does have some resemblance to watered silk. However, it also has some resemblance to just water:



I have no idea if whoever used terms like a "watered blade" made a mental comparison to water or watered silk. Watered silk has been around for a long time, not to mention water, so both is possible. Amazingly enough, the best comparison of wootz blade patterns was never made in old times: **wood grain!**



● It is the best comparison because we look at more or less identical mechanism, The patterns arise because a layered structure that is not flat but bend and buckled is cut by a plane - and you see the traces of the two layers. The term [wood grain pattern](#) is nowadays frequently used.

▽ It doesn't matter. All one needs to know is that a (wootz) blade with a water pattern shows some more or less pleasing structures, a ["nice pattern"](#) as I called it in the backbone.