

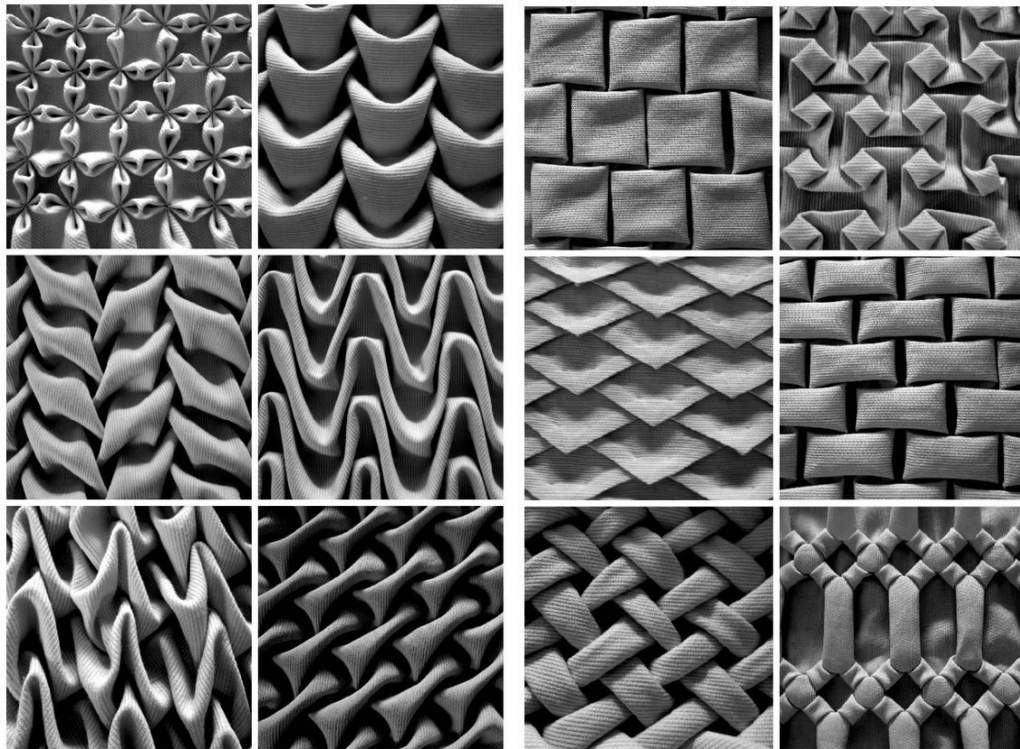
Origami Parallels in Textiles and Fashion

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Although the field of origami tessellations and corrugations seems to have exploded recently, there are several folding and pleating techniques used in fashion and textiles that have been used for centuries that have striking similarities to origami. Two of these techniques are North American smocking and *plisseur*.

North American smocking, also known as Canadian or American smocking, has structural analogs to many origami tessellations. However, instead of folding, the fabric is worked entirely from the back by stitching and gathering the pattern. While the history of this technique is somewhat oblique, examples of this technique can be found dating as far back as the 18th century. North American smocking was popular in the 1930s and 1940s and reemerged in the 1970s when it was often used on decorative velvet cushions.



Figures 1 and 2: examples of North American smocking (source: <https://www.lifechilli.com/fabric-manipulation-designs/>)

Origami enthusiasts can readily identify some popular tessellation patterns in these smocking examples.

Plisseur, a French term for the very elaborate and delicate pleating and folding used by couturiers in luxury fashion houses, is a technique dating at least to the 17th century. The fourth generation atelier of Gerard Lognon intricately pleats and folds fabrics for such companies as Chanel, Dior, and Hermes by using just steam and their library of over three thousand hand-folded cardboard molds, some over a century old. The fabric is carefully sandwiched

between the molds, secured between two flat wooden panels, steamed in an oven, and delicately removed. We would identify the results as corrugations.



Figures 3-4 *Plisseur* at Atelier Lognon (sources: Pinterest user shadysondos; Alexis Lacoste)

These methods show a large overlap between origami techniques and textile design techniques that use very different processes and materials to produce similar results. Surely each field could find much inspiration in the other and provoke further exploration. What kinds of origami tessellations make good smocking or *plisseur* patterns, or vice versa? Are there smocking patterns that don't work well for origami tessellations, or vice versa, due to constraints from the materials or the techniques themselves? Can these techniques be applied to other materials? This paper will discuss some of the history of these techniques and the author's own explorations applying tessellations and corrugations to textiles and other materials.



Figure 5: pigskin leather with triangle twists, 2009