KINTSUGI

EXPLORING THE POTENTIAL FOR
FORM-GIVING OF KNIT-BACTERIAL
CELLULOSE COMPOSITES WITHIN
THE CONTEXT OF FOOTWEAR

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The resulting collection is conformed by six ‘body objects’ speculating about the role of knit and bacterial cellulose in creating footwear components through giving and retaining form taking advantage of the properties of bacterial cellulose.

- Based on enhancing the body’s natural shape and translate this through one-piece knit-BC composite uppers
- Subverts footwear-making methods from subtractive to additive manufacturing by making use of the properties of bacterial cellulose
- Removes the limitation of the last, as knit can conform to light-duty molding utensils, such as plastic or paper

The project’s multidirectional approach answers to the need to develop a wide scope from where to base design options on when applying theory to adjacent sensorial or design concepts.
Due to its versatile shapeability, knitted textiles made from yarns possessing properties compatible with sheeted bacterial cellulose pose an idillic candidate to create a structural basis to design with the SCOBY integrally.

Kintsugi puts forth the shrinking and absorbtive capacities of pemotex as a means to embed sheets of bacterial cellulose as part of the final textile, as well as rethinking the upper construction methods typically used in footwear design.

Although form is the main point of this project, colour represents the next step in the natural progression of the project’s investigation. So far, findings suggest that colour can be added and modulated throughout various phases of making, both during knitting and working the bacterial cellulose.
While the knit achieves the desired shape and form, it remains in a state too fragile to hold for long. Manually draping the SCOBY against it as a one-piece upper ensures the footwear object endures in its desired form.

Using the SCOBY as an upper textile material closes the gap between knit and traditional footwear nonwoven aesthetics. Furthermore, its adhesive properties cuts down on possible waste during the design process.
The drying process poses a crucial step to this project, as it is the stage in which SCOBY and knit are brought together. Several types of attachment through contact are possible:

- **SCOBY on SCOBY** (top left), as a method of closing open areas or repairing the textile.
- **SCOBY on relaxed knit** (bottom left), as colouration method or by aesthetic choice.
- **Utilising the SCOBY** in combination with yarn’s properties (bottom right) in order to achieve small-scale volume and texture.
The takeaway intends to add nuance to the linear process of designing and making of footwear through form development and expanding the usage of biomaterials in the context of fashion.

The final result is mainly realised in BC-knit biocomposite material, but also includes an intuitive tentative approach to mycelium. This was done in order to accommodate a wider range of footwear components: from stiff, hard fixtures to soft, maleable textiles.

- Rethink the presence of all components and how they could be reimagined through sheeted SCOBY.
- Making techniques aligned with building and constructive properties of bacterial cellulose.
- Design significance of footwear: how can the material addition of bacterial cellulose to the roster of available materials elaborate upon the purpose of footwear.