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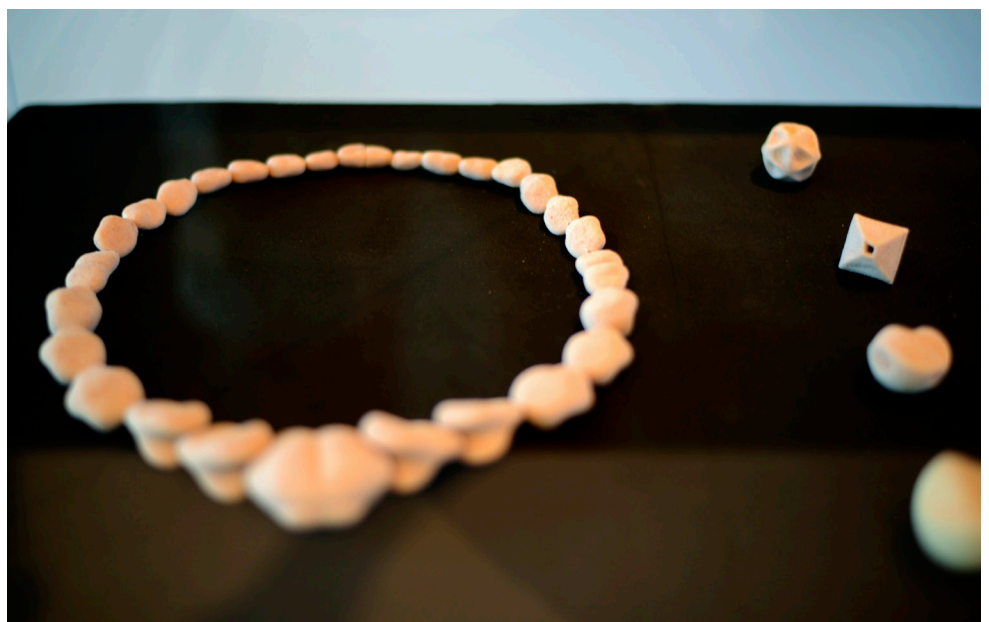marta.hryc@gmail.com
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Vanishing

Keywords: Digital Crafts; Re-materialisation; Data Loss; 3D Printing; 3D Scanning; Jewellery; Pearls.

Abstract:

For project VANISHING I developed a design method, which is based on two key assumptions. The first one provides that every object reflects the interests of a culture. The second one identifies contemporary culture as a phenomenon overburdened with visual content, and makes this content a medium for further work. Any digitally mediated design loses its function and gains aesthetical value with each iteration of re-making (repetitive process of 3D printing and 3D scanning a printed object) and the inadequacies that take place in this process become a main determinant of stylistics. I design two collections of jewellery objects — one is based on low resolution public domain images of pearl jewellery found on the internet and 3D printed in the material that consists of authentic pearls. The second collection is printed in powdered polyamide to show the nuances of deformations that appear in a repetitive process of re-materialisation of a classic ring.

1. INTRODUCTION

1.1. Assumptions

The superior hypothesis formulated at work is the question of the role of the designer — who is involved in a conflict between the traditional understanding of the question of ownership on the one hand, and his / her existence in the network environment, which allows virtually unlimited access to content, on the other hand. Taking into account both the economic and social nature of design, I have been exploring the issue of the tangibility of things. I have been trying to systematise their shifts between the categories of "ordinary" and "non-ordinary". I treat my conclusions as a starting point for the development of my own design method, which is based on two key assumptions. The first one provides that every object reflects the interests of a culture. The second one identifies contemporary culture as a phenomenon overburdened with visual content, and makes this content a medium for further work. Any digitally mediated design looses its function and gains its aesthetical value with each iteration of re-making (repetitive process of 3D printing and 3D scanning a printed object) and the inadequacies that take place in this process become a main determinant of stylistics.

2. RE-MATERIALISATION

2.1. Material development

The design process starts with the development of unique material subsequently used for 3D printing and is completed with the practical application of the method — the creation of a collection of jewellery from pearls printed in 3D technology. The material is based on pearls of low value for the jewellery industry. This refers to key design ideas: the categories of novelty, authenticity, and standard, and contends with classical jewellery-making standards.

2.2. Novelty

The first collection expresses the spirit of the changing aesthetics of digital novelties; in other words, it is a reflection of the incessantly improved tools for computer-assisted design. The items reveal the manner in which they were built. This can

be seen at the level of the structure of the spheres, which are created with the help of the functions of the program, and can be identified as such. The series includes three pendants designed in such a way that they do not need any further setting. They break away from the classical jewellery-industry treatment of pearls as a semi-finished product for the manufacture of jewellery.

2.3. Standard

The images of pearls obtained from low-resolution images found on the web — I used the Creative Commons source — have been upgraded to become three-dimensional with the help of digital tools. I limited the resulting planes with the projection of the shape of an ideally symmetrical tear — a popular concept of the real shape of a pearl. The digital environment allowed me to create the second earring of the Girl with a Pearl Earring — a mirror reflection of the first one. It would be difficult to even dream of such a match in the real world of pearls. The resulting objects became fully functional owing to the addition, in line with the jewellers' tradition, of silver pendants and hooks, the form of which reinforces the curvature of the pearls.


Fig. 1. Process of designing objects from the series *Standard*. Low resolution image of earring from Vermeer's painting is transformed into 3D object and finally printed in pearl powder.
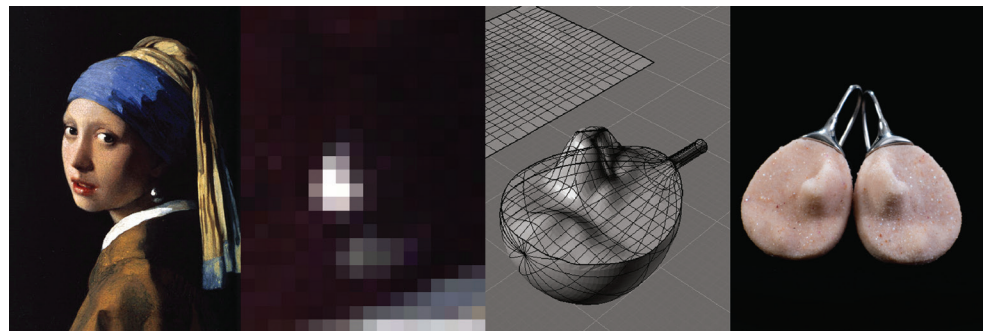
2.4. Authenticity

The cultured pearls industry considers the criteria of selection and symmetry as paramount. The rounder the pearl, the more it is in demand, which makes baroque pearls with unique shapes only a by-product. What counts in the case of an archetype such as a pearl necklace is also the question of the matching of the pearls and the gradation of their size. Taking the authenticity of baroque pearls as the starting point, I made their 3D scans, and subsequently made a necklace from the obtained files, which shifts the question of the matching of pearls towards perfection — allowing ideal symmetry, showing digital manipulations reflecting the process of the formation of a baroque pearl in a mussel shell.

Fig. 2. 3D scans of natural baroque pearls that are used to build the hyper-symmetrical pearl necklace.
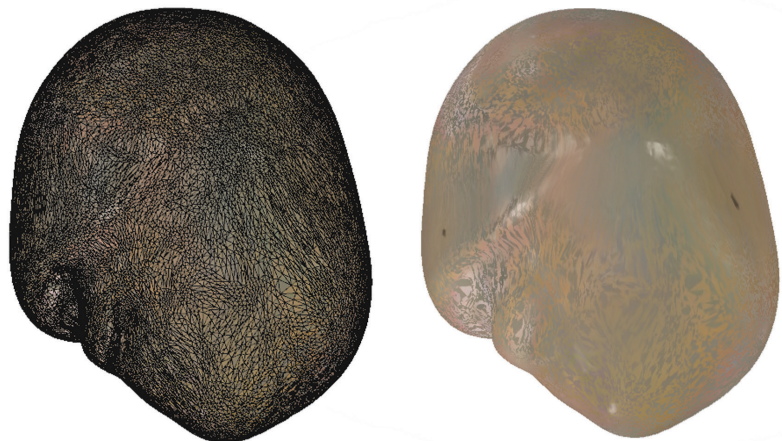
2.5. Convention

The items created by the proposed method have been photographed as classical portraits. However, I micro-intervened in the convention and created a sequence of images showing a delicate movement of the models. This presentation refers to the Internet practice of using moving images such as GIF in advertising and entertainment. The images will be presented in digital picture frames.

Fig. 3. A sequence of images that constructs one of the GIF portraits.

3. SUMMARY

3.1. Data loss as a source of a new aesthetics

Last series of objects visualizes the loss of information that takes place while converting a digital model of jewel into a 3D print, then digitalizing it again by 3D scanning and repeating this sequence. Each iteration leads us to the conclusion that the bigger data loss is, the more aesthetics dominates the function.

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