Kambio

Set in the year 3000, this dystopian speculative textile project is drawn from the disastrous effects of global warming. Clothing serves the primary purpose of protecting the body from external conditions and against factors that can cause damage such as extreme weather. In this era, the consequences of global warming are so severe that conventional fashion is no longer an adequate form of protection and function. Unpredictable, extreme weather events have created the need for environmentally sensitive materials. Because of the immense overconsumption in fashion, we end up suffering from this crisis and, as human beings in this era, we need to understand that we must change the way we think about fashion.

The inspiration for the project came from a deep concern for the future of our planet. We believe that the uncontrolled and accelerated production of the fashion industry may have already had a lasting impact on our planet and it may be too late to reverse the dire consequences that lie ahead. This industry is now the second largest polluter in the world just after the oil industry and the environmental damage is increasing as the industry grows. According to research, today we wear 30% of our closet and the other 70% remains untouched simply because it was bought on a whim. It also states that four times more clothes are bought now than 40 years ago. The result of this kind of consumption is that of all the clothes we produce, 900,000 tons of it per year end up as textile waste. If this continues, this sector will be responsible for 25% of all CO2 emissions in the world by 2050.

Should we be unable to mitigate these processes, by the time we reach the year 3000, glaciers will be little more than a memory, the world a hotter and wetter place than ever before and catastrophic climate disasters commonplace. Other areas of the planet, however, may find winters more severe than ever. The collapse of the Gulf Stream that brings warm wind and waters to Europe will cause unprecedented cold temperatures there for much of the year similar to a mini Ice Age. With such extremes around the world, it will be impossible to predict the weather, as in a matter of days you can experience several sudden changes in temperature.

In order to tackle these conditions, it is hoped that humanity will have made great improvements in the fashion and clothing industries. But the question here is, can you survive with only one garment for your entire life?

Now with Kambio, we have intelligent garments. They propose an interaction between environment and clothing. In this way, they approach the fashion industry from a point of view sensitive to contemporaneous conditions and with sustainability at the forefront. The garments can be reshaped and modified as desired from only one piece. They are reusable and continuously changeable as these intelligent garments have the capacity to expand or contract to meet the demands of changing environmental conditions.

As inhabitants of this planet, we must understand that the blame for the damage sustained by the planet lies with us and we must now bear the consequences. Thanks to the designers and engineers we can continue to exist on this planet, though we must adapt to the novel and volatile conditions. The multifunctionality and transformativity of Kambio’s garments are a great contribution to our quality of life and also have long-term impacts on sustainability.

The garments are made from Kombucha, a bio material. The chambers are filled with air, since it is the first most important renewable natural resource on earth and the one that makes the existence of life possible. This garment can respond to the changing conditions of life, as humans are subjected to an unpredictable world. When the body needs, the garment can expand and retract, over and over again.

For example, if the weather becomes extremely hot, the garment deflates becoming loose allowing for the circulation of cool air. If rain is so severe as to cause flooding, we have the ability to inflate and float and if a drastic change occurs and we have temperatures below zero, the garment quickly changes its state expanding

and generating an insulating shelter thanks to its air chambers. In addition to inflating, these pieces change their colour to black or white thus, improving their thermal capabilities by changing the garment's albedo. The darker the parts are, the more heat they absorb and the less they reflect. And the lighter it is, it will do exactly the opposite.
Furthermore, it can also regulate the body's temperature; the garment can detect when you have a fever and when the body needs assistance in thermoregulation.

With Kambio you experience symbiosis between your body, the garment and the environment. With this kind of clothing, you will experience a really strong relationship. The bond formed between the garment and wearer will be stronger than any other. Over time, an emotional attachment will form.

The functions and aesthetics of intelligent garments are inspired by the idea of having only one garment that can transform as a reaction to a constantly changing environment. To visualise this dystopian future, we have created a series of samples and a short film that demonstrates step by step the responses and behaviours of these transformable garments.

We decided to work on this experiment with air since it is the first most important renewable natural resource on earth and the one that makes the existence of life possible. We sought to create a garment that responds to the conditions of life in which humanity finds itself, subject to an unpredictable world. As the body needs, the garment can expand and retract.

At the same time we grew some kombucha and explored how it reacts and it´s durability.

According to VR experience we propose a multisensory space, where the user can visualise and program the different alternatives and shapes that their garment could reach. By experimenting with this, they will have the sensation of being immersed in this space in which they can modify their pieces however they desire in order to reach different forms.

In this project we address the idea of how intelligent garments can be developed incorporating artificial intelligence and biomaterials and how the garments have the ability to adapt to our body and protect us according to the needs of the moment and the stresses of the external environment.

With this proposal, we address certain objectives of sustainable goals such as the welfare and health of the body, the reduction of water consumption and pollution. Requiring only one garment in our closet would result in a more efficient use of energy which in turn can contribute to the reduction of energy inequality. Resource consumption during the production and use of the garment would be both more sustainable and more responsible.

We believe that the fashion industry is already going through a paradigm shift and with this type of idea, we predict that in the future we will be able to implement both experiences and materials in everyday life. This project aims to tackle wasteful consumption and understands that together with technology we have the ability to build a better world.

Ensuring the survival of humanity is in our hands provided we understand that our continued existence hinges on adaptation and that fashion has to be redesigned. Rather than purchasing endless, low quality clothes at the expense of our planet we must instead manage with only one garment per person, with which we shall have the possibility to belong in this world for a longer period of time.

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