

From Science Fiction to Reality: Super Humans, Smart Textiles and Wearable Technologies

Katharine Miles

Chelsea College of Art and Design, BA (Hons) Textile Design, First Class

Images: Pieces from The Shell final major project

The inspiration to study smart textiles and wearable technologies started with Hussein Chalayan's highly creative fashion pieces, enriched with a wide-ranging scientific and technological knowledge. This talented innovator is among a number of designers who are looking to the future rather than the past and incorporating futuristic technologies into their work, imagining, as designers such as Paco Rabanne and Pierre Cardin did in the 1960s, a transition of this kind of technology from science fiction to reality.

The great leaps currently being made by large companies such as Philips and smaller company's such as CuteCircuit in the development of smart textiles and wearable technologies strongly suggests a future more akin to the fantasies of futuristic fiction in science fiction novels and cinema. In musing the future of the textiles industry in relation to smart textiles and wearable technologies there are a number of questions to be discussed. Indeed the impact such technology could

have on our lives is possibly the most important question of many the thesis investigates.

In order to understand the future we must look to the past, through research into the origins of smart textiles and wearable technologies we can begin to understand how the textile industry has reached such an exciting point in development and innovation. As science and art collide and creative leaders from the fashion, art and scientific worlds work together in laboratories and studios the work they produce is unlike anything before it. But how far can we realistically see such technology go? Will this collaboration of disciplines ever result in products aimed at the mass consumer market or are many of these ideas simply gimmicks at worst and modes for artistic expression at best? Will consumers move away from traditional materials and embrace fabrics that, for example, can be worn straight from the can?

If consumers can incorporate technology into their ideas of textiles to be worn we must ask if future generations will use this kind of technology to evolve into hybrids of body and machine? This question conjures harrowing ideas in the human imagination. Should we be as worried as the science fiction examples of cyborgs (Arnold Schwarzenegger's character in the 1985 film *Terminator* for example) lead us to be? Indeed can we learn anything from such examples? Will humans one day embrace cyborg or super human technology? Once the cyborg has been defined through the discussion of academic theory, the cyborg technologies we already accept in modern society and the significance of these can be deduced. Equally the ethical questions raised by such technology can also be discussed, what are the limits, the boundaries, how can this type of technology be controlled? Indeed the recent controversy over a newly developed swimsuit to be used in the Olympic games has raised questions over fair competition in top level athletics.

The influence of science fiction on design has certainly had effect on the development of smart textiles and wearable technologies, but to what

extent? Both designers and scientists, working alone or in collaboration with each other have drawn from the science fiction genre for inspiration or to directly influence their ideas, thus to what extent is science fiction essentially becoming reality? Can we go as far as to regard the science fiction genre as futurology and science fiction writers such as H.G. Wells as futurologists?

The Information and theorem gleaned from research into the many aspects of smart textiles and wearable technologies is presented in the form of a thesis that aims to answer these questions. The research undertaken and the resulting work try's to unravel the mystery of what might come and where this kind of technology can and will take us. Those who can better understand the future, particularly in the world of design, are better equipped to contribute towards it, a fact that makes this topic so compelling, particularly those involved in the worlds of science and design. In investigating what the future may hold for us a designer can push him/herself ahead of the competition. This is what makes the work of designers such as Hussein Chalayan so inspiring and groundbreaking. As long as designers continue to work with the long-term future in mind and develop, with scientists, new fashionable wearable technologies utilising smart and intelligent textiles, instead of looking back to old trends and era's, fashion will continue to be exciting. Of course nothing is certain as the futurologist Bruce Sterling writes:

'If I had a core conviction about the future, it's that it isn't marble.'

Indeed the future is not set in stone, nothing is definite, a characteristic of the future that makes it so fascinating, so exciting and so inspiring.

It is without doubt that the detailed study and research undertaken to successfully complete the thesis project has significantly influenced my own personal practice. My final major project, entitled The Shell, was greatly inspired by the forward thinking pioneers of futuristic design and futurologist theories from both science and science fiction. Means of

production commonly associated with high volume industry such as vacuum forming are married with more familiar bespoke textiles techniques such as screen printing and research of smart optical materials developed to create forms that can be hinged and bolted together by hand. The industrially formed and linked plastic shapes form textiles that can be viewed as installations as well as fashion or interiors pieces. The Shell can protect as well as adorn, and the final pieces exhibited at Chelsea College of Art's 2009 Degree Show could be bolted together in small decorative clusters of plastic or larger textiles that could be worn as avant garde jewelry pieces or displayed in various scales to create high impact installations.