



Visuology

Vision + Intuition + Sociology

THE BELLE ÉPOQUE ISSUE

Craft Nouveau

Sex, Suffragettes and Succès de Scandale

How 4D Design Will Change Your Life

Style Beyond Trends:

Inspiration and Ideas for a Sustainable Future

Fashion, Furniture, Art, Accessories, Lifestyle

Issue 3 2015

What is Visuology?

Visuology

is a word invented in 2000 by trend consultant and Visuology Magazine editor, Susan Muncey, to describe her unique approach to trend forecasting –

a combination of **vision, intuition and sociology.**

Visuology Magazine is a bi-annual publication for everyone curious about fashion, textiles, interiors and lifestyle trends - with a focus on handcrafted, sustainable and unique design: we call it **style beyond trends.**

For those seeking **inspiration and advice** on colour, styling and creative direction, Visuology also provides trend presentations and a customized consultancy service. Find additional free content at **www.visuology.com.**

Contributors to this issue

Susan Muncey - Editor, Creative Director, Designer and Publisher

This magazine is a labour of love for Susan Muncey, who conceives, creates, edits and publishes each edition singlehandedly. In addition to producing Visuology Magazine, delivering presentations and consulting, Susan also writes on style and trends for several blogs. In 2008, she founded online curiosity shop, ShopCurious.com and, prior to that, owned cult West London boutique, Fashion Gallery, one of the world's first concept stores. Susan graduated in geography from Cambridge University and is an Associate Member of the CFA Institute.

Alec Robertson - Design Futures Philosopher

Describing himself as a Design Futures Philosopher, Alec Robertson is an independent consultant in 4D-Dynamics with a wealth of experience. From teaching Design Management at the Royal College of Art, to supervising Design Innovation post-graduate students at De Montfort University, and as an external examiner for the 4D design aspect of masters courses in digital media, Alec is *the* expert in his field.

Tracey McAlpine - Natural Beauty Guru

Tracey McAlpine is a natural health and beauty guru, who founded and runs Fighting Fifty, a provider of advice and products to mature women. After working in advertising, including a stint at Saatchi and Saatchi, Tracey put her career on hold to bring up her two children. She has always worked at keeping fit and healthy, and over the years has shared countless beauty tips and products with friends. She combined this passion with her marketing skills (and the help of some experts) to create her website, fightingfifty.co.uk.







4D DESIGN: SENSING THE FUTURE



Design Futures Interview:

What is 4D Design and Why is it Useful?

We hear the term 2D design being used for all things graphic on flat surfaces, and 3D design for many desirable objects generally, from designer furniture to jewellery and haute couture fashion garments. Now the term 4D design is appearing for new kinds of design. But what exactly is this?

Susan Muncey interviewed Design Futures Philosopher, **Alec Robertson**, who sees 4D design as a method for helping to identify trends in the future design of everyday products and services, as well as a way of helping to create them

Q. Alec, how do you define 4D design - what are the key determinants of something being 4D?

A. Quite simply, 4D design is an additional category for grouping designs.

Traditional creative designers add value to things by how they deal with space and materials. This can be on flat surfaces, where such 2D design is the focus of the graphic designer, illustrator, information designer and textiles surface pattern designer. Or, it can be 3D design of space, which is the focus of the architect, industrial designer, furniture, jewellery designer, fashion designer, and so on.

A 4D design is a useful activity, which is also a performance, and normally assisted by a new dynamic technology. There are basic 4D designs and complicated ones, just as with 3D and 2D designs. The more complicated the 4D design, the more sophistication of movement, change and the design of 'behaviour'.

Alec has identified three basic levels of a 4D design:

Simple: This is a "useful performance". It can be where the art of choreography is involved at a basic level to the sophistication of an operatic production.

Responsive: The design or the person responds to the other in some way. This draws from knowledge of cybernetics, where different kinds of control are involved.

Complex: There is the emergence of permanent change through the engagement of people and things with each other. This draws upon the science of complex systems, where 'agents' of change, create an 'emergence' of something new.

Q. What are the main advantages of 4D design?

A. Identifying the 4D determinants of design and the kinds of sophistication involved is useful within design trend forecasting. With a little practice, it enables you to think of how and where a design could be changed and made more advanced.

Using performing arts concepts and methods during the process of designing everyday things and places can make

these more delightful. Enabling things to respond to the needs and desires of people, and other things nearby, will tailor them more to the individual needs of one person, rather than the general need of collective groups of people.

Q. Can you give some examples of what is a 4D design?

A. To help answer the question, let me first illustrate what is not 4D, as each lacks something important.

a. A cartoon like Mickey Mouse is not 4D because it is drawn in 2D and animated. Although it has aesthetic and cultural characteristics, it cannot change once completed, nor does the person watching the cartoon change - it is just temporary entertainment.

b. A bicycle is not 4D, but 3D - because, although it moves along the road and the peddles go round, its dynamic form does not include a cultural or aesthetic element. This is merely functional and simple mechanical engineering.

c. Dance has movement, is aesthetic and cultural, and the dancer always changes what the choreographer has created by a personal interpretation - but its purpose is not usually 'useful' per se, so it is part of the 4D arts, though not a 4D design.

There are five broad areas where 4D designs can be seen, which Alec identifies as follows:

i. Services can be 4D designs. For example, within your journey through an airport via check in and security, duty-free shopping, to the behaviour of flight staff serving and assisting you, generally there are 4D designs. There are both functional activities and performances involved. The humorous Virgin Airlines flight safety routine is an example of a simple 4D design he admires (see page 106).

ii. New media products can be 4D designs. For example, 4D cinema provides an immersive experience to the audience watching a film, for instance where cinema seats move and/or other sensory effects are added to the visuals in screening a film. Some theme park rides can be included in this category.

iii. Computer games can also be 4D designs. For example a multi-player online game is a responsive 4D design. The game character graphics are modelled in 3D, but change their behaviours in response to the game play. The game console itself is only a 3D design though.

iv. Mobile phone Apps can be 4D designs. Helpful Apps that learn about our needs can be complex 4D designs, by providing us with personal information that causes changes in our behaviour. The phone body itself is a 3D design.

v. Robotic products can be 4D designs, although they do not have to look like mechanical men. A fun example of a complex 4D design is the Furby by Hasbro Toys (see page 106). This is a

furry toy robot pet with personality. It learns about the child and changes its behaviour in conversation, affecting the child's thoughts and feelings. The latest Crystal Edition responds to an App, allowing children to further interact with the Furby through games - and even hatching Furby eggs.

Q. Which industry sectors/types of people are most likely to benefit from 4D design? Can you give a few of examples of 4D products - including at least one non-dependent on an external source of power?

A. All industry and people can be enhanced with an increased 4D design perspective. In addition to those I have already mentioned, there are new dynamic materials that can change, or effect change on something else, such as the colour of light on a surface to suit an environmental or personal need, using nano-technology.

Here are eight areas to monitor 4D methodology in fashion and textiles design.

1. Clothing may become responsive to our physical or emotional situations with some new technologies becoming available. For example, 4D fashion has incorporated tiny LED and OLED lighting displays into dresses, as in the Twitter Dress by designers, Cute Circuit, for the singer Nicole Scherzinger. (see page 100).

2. We can expect more garments to incorporate shape-changing technology. Birds change the structure of their feathers to adapt to the weather by ruffling them up to keep warm, creating a fluffy look. The Peacock unfurls its colourful plumage to attract a mate. 4D fashion will increasingly explore these concepts.

3. Wearable technologies are a focus of much innovation, and the line between a fashion garment or fashion accessory, such as a mobile phone, will become less clear. Smart garment fabrics of the future will incorporate sensors, which will monitor your health and even dispense medicines, or mood enhancing drugs when in contact with your skin, like a nicotine patch.

4. Future Google Glass type spectacles will overlay visual graphics on what you see. This is called 'augmented reality' (AR). Virtual AR garments will display images only to people wearing such AR devices. For instance, imagine an elegant black catsuit worn as the real fabric garment, but this is only the background for a colourful AR fashion design, or virtual fashion accessory, overlaid on it. AR Fashion designs are 4D as the design responds to the viewer and such AR fashion designs may even change according to the person observing them.

5. Nano-technology is enabling natural surfaces to be made artificially, and some manipulate light dynamically and beautifully, like the skin of a tropical fish, wings of a butterfly, or surface effects of an opal gemstone. This may allow fashion fabrics to behave similarly with light, rather than using pigments and dyes for colouring.

6. Synthetic biology is a new technology, the research for which is cracking the building codes of nature. Growing natural materials in artificial forms is becoming possible, meaning fashion fabrics, or even whole garments may be

grown. 4D fashion designs that grow on the wearer as beautifully as flowers in a garden may be a long way off, but synthetic biology will give us surprises, I'm sure.

7. Many 'things' will be connected to the internet via embedded technology, using wifi or bluetooth to communicate for a variety of purposes. Imagine fashion designs that respond to other things, like fashion accessories, or even each other. A designer-branded garment could itself advise you on matching 4D jewellery, or even visually greet another garment as their brand-loyal wearers meet, creating a new kind of social engagement.

8. Fashion designs are intricately linked to cultural values. 4D fashion could create new sets of behaviours for wearers in new social situations. This would see 4D fashion designers initiating, rather than following, new social trends - and could give rise to valuable new global fashion brands, where the behaviour of the wearers is as much a part of the brand as their designs.

Q. Do we really need greater interactivity in our lives, or is this just another step in the dumbing down of society?

A. This is a good question. Many thinkers on technology have expressed concern that smart products result in dumber people. My view is life is getting more and more complicated and giving some aspects of our lives to machines will just make way for newer more interesting activities, which can be assisted by new things themselves too. If we had to still rub two sticks together to create a fire for cooking, we would not have much time to do what we do now. We do not need to employ a scribe now to write our letters. This is the age of democratised scribing.

The role of the designer is to create a healthy balance between smart products and skills that enable people to be more self-reliant. How this is done is another topic.

Q. How will older people's experience of 4D design differ from that of young people, who are more familiar with apps and gaming technology?

A. I heard an amusing story about a two-year old child familiar with using an iPad who burst into tears as she tried to swipe the image of a magazine and nothing happened. Printed electronics technology will enable this shortly. Young people expect all things to be responsive.

Today, most things are designed for average able-bodied people, or even for the capabilities found only in the young - for instance, any physical keys on most mobile phones are very small and need perfect eyesight to use.

The 4D design perspective is responsive to different people's needs and could especially help the elderly. Products will be adapted to individual requirements, with cultural performance appearing alongside increasing utility. Older people will meet many 4D designs before young people in, what is called 'assisted living'.

Q. Of all design, approximately what is the percentage of design that is 4D now versus what it is likely to be in say 5 or 10 years time?

A. In the short term, much of all we have around us will remain the same. However, consumer electrical products and buildings are likely to become more responsive to us. We are also finding new activities designed to provide delightful experiences, as well as being productive. For example, a smart mobile phone is valued more for the services it provides than in its 3D design.

In the long term, we might see an increase in designing new behaviours for and with people alone. Creating new commercial value this way is a form of 'emotional labour'. Where can we see this already? At a simple level just compare the service of from a member of the speedy McDonalds counter staff to the elegance of a waiter at the Cafe de Paris in Monte Carlo. The difference is in the 4D design.

At the other extreme, I believe we can see this in the quasi-entrepreneurial operations of religious and spiritual Gurus, who create huge wealth through engaging people with each other and their ideas. For instance, Maharishi Mahesh Yogi, the spiritual adviser to the Beatles, who founded the Transcendental Meditation-Sidhi programme, and died in 2008, with an empire worth \$7-10bn. And Sathya Sai Baba, who died in 2011, leaving \$2.8m in cash, and gold and silver worth around \$8m. His Sathya Sai Central Trust was worth £5.5bn and he had a worldwide following of 50 million.

New organisations may well appear, offering 4D designs more like this – in contrast with the technolust of a new Google, Facebook, or Twitter. These branded consumer-cults, would be based upon a kind of 'bundling of services for living'. Imagine Richard Branson's Virgin Group with a spiritual angle in addition to planes, trains and money services.

Q. What are the potential drawbacks of 4D design?

A. Firstly, 4D things are dynamic and may use more energy than the 3D designs they displace. This might be a disadvantage vis a vis attempts to reduce energy use. However, flowers adapt to their environment by moving to minimise their energy use, so this aspect will depend on the skill of the 4D designer to create a similar efficiency. Dynamic materials are also often composite ones, with electronic circuits embedded within them. This may complicate re-use of materials and add to waste.

A second drawback could be in the displacement of some employment with new designs. The personable, robotic, total self-service supermarket may well reduce job opportunities for unskilled labour.

Longer term, possible quasi-consumer cults, which may or may not be spiritual in nature, may challenge political, social and religious establishments when competing for 'market share' and brand loyalty. Will Richard Branson turn into a Guru, or Google into a new God? Just joking...well half joking.

It will be important for designers to steer their designs away from potentially negative outcomes. A good 4D design will avoid these disadvantages.

Q. Could there be a point at which machines or material artefacts take control of our bodily functions and/or minds?

A. Making more things responsive to each other and people could be too helpful, and thus people become too reliant and dependent on things acting for them. As with the previous answer, a good 4D design will have avoided this, and should enable people to enhance their control over the artificial world around them. It will be important for designers to steer their designs away from controlling people's bodily functions and/or minds without their permission. Permission is key here – this also applies to personal data use.

Q. Why are we seeing a resurgence in hand made and crafts-based 2D and 3D design?

A. Making is a designed activity and can be a 4D design. The choreographic performance of making something skilfully by hand is delight to watch and do. The 4D designer should consider making and using from a cultural viewpoint, as well as a utilitarian one.

Indeed many past activities were 4D designs - even the complex social behaviours involved in etiquette were rich in such designs. With industrialization, such archaic 4D designs were seen less. For example, cooking with a microwave, done by so many people to save time, removes the ritual of social interactions gained when acquiring the ingredients for a meal and preparing it, and possibly even the act of eating together as a social event.

As you suggest, a reversal of this may be happening, as people appreciate what has been lost and try to regain 4D qualities in design - though without the disadvantages. Unlike the Amish community in the US - who use old technology and retain rich 4D design in their lives - contemporary lifestyles with craft-based 4D design will adopt localised idiosyncratic handicrafts involving new technologies, such as 3D printing and bio-technology. An MA industrial graduate from London's Central Saint Martins this year recreated a meal in a novel new format, via bio- technology. (see page 101). The 'doing' and 'making' of things may become more enjoyable, as well as being productive, in people's work and private lives.

Q. Why were you initially attracted to the concept of 4D design and, briefly, what is the history of your involvement and role in this field?

A. I realised design was going to become much more dynamic. The Kinaesthetics of dance and expression within the performing arts were now a key requirement of the designer's toolbox. I also felt the ethos of design was being suppressed by technolust.

I later curated a seminal conference on 4D Design, entitled 4D Dynamics. But my involvement in 4D actually started when carrying out research into interactive traffic signage - specifically for a road sign that detected a driver's tailgating behaviour. My design futures interest developed as a research student at the Royal College of Art, where I explored the possible impact of the microchip on industrial design. Then multimedia software was introduced to the latest computers, enabling designers to dynamically integrate videos, text, and photos on screens for websites.

I've recently explored 4D further, through the 'Designing for the 21st Century' research programme, in particular, the dance with robotics work at Leeds University, and via another project

on complexity, science and design led by the Open University.

Q. What is your ideal future for 4D design? How would you like it to change your life and/or to help the population as a whole?

A. I hope we can help ensure that the artificial world of new machines is in harmony with the way people wish to live. It's important for designers to be aware of who or what is controlling what and whom – and when, and importantly how – otherwise, new machines may become the dominating tools of powerful vested interests.

As for changing my life, now that I can identify 4D design characteristics, I better appreciate the quality of service. Re-creating new forms of 4D lost-in-past patterns of living is an area of considerable fascination. Designing and making beautiful 4D objects, such as for lighting in the home is of interest too.

Q. Will the impact of 4D design be to discriminate against the poor who cannot afford 4D devices, or will it help the poor in any way? Will the rich get richer via 4D design, or could there be a spiritual 4D Robin Hood cult?

A. There are expensive luxury branded 3D designs of goods for the wealthy, like Louis Vuitton handbags, and there are others for the not so wealthy. Contemporary 4D designs are similar, for example 1st Class travel with British Airways using quality services in a private airport lounge, compared to joining a RyanAir flight using the standard public lounge.

As for a new Robin Hood, as you put it, perhaps there will be one providing a new service for the data poor. He will redistribute valuable data collected from them by the greedy Sheriff of Nottingham of tomorrow. Such a Robin Hood design entrepreneur might use social media to create a service rich in 4D activity value that protects privacy and personal data too.

Q. Finally, your role is intriguing. What exactly is a Design Futures Philosopher?

I dreamt up the term to describe what I like doing. Design Futures is a kind of long term fashion trend forecasting for all designs. It is concerned with how the impact of new technologies coming from scientific laboratories and the designers toolbox might be used, and how new ideas might inform the design of everyday things and impact the lives of people.

A Design Futures Philosopher attempts to make sense of what is happening and to help guide future action. Some refer to this as 'design fiction', especially when visual scenarios are used. I tend to use words fuzzy enough to communicate ideas without being too descriptive of what is envisioned.

About the Author.

Alec Robertson is a "one-man band design futures think-tank with a network of specialist design movers and shakers on hand, when necessary." He is happy to join a conversation on design trend forecasting related to 4D design, "provided Earl Grey tea is elegantly served, with an assortment of homemade biscuits, or chocolate cake." Alec can be contacted at alec.robertson@4d-dynamics.net

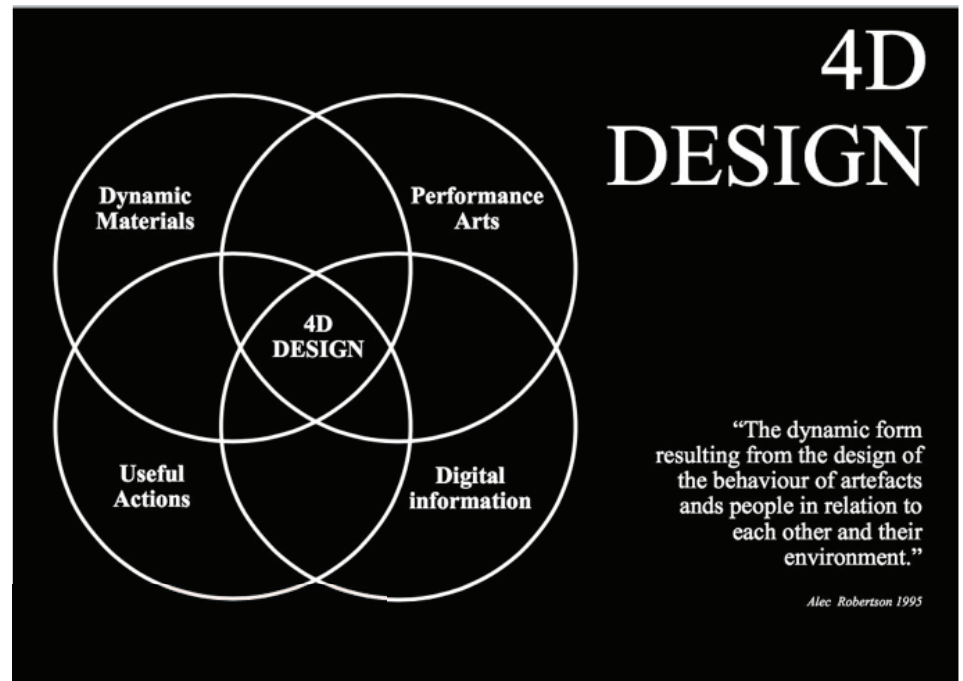
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"Marjorie Arteries' MA Industrial Design project at London's Central St Martins illustrates my point that while archaic simple 4D designs, such as the tea ceremony with its beautiful 3D objects of cups, table, garment etc, along with the cultural and kinaesthetic ritual of the ceremony, have diminished, the future could bring us new 4D designs - in this example, related to future food. Marjorie's design uses dynamically grown food using artificial biotech ingredients, along with a new kind of 4D making using the technology of 3D printing and a new way of cooking. In my view, Marjorie has not designed a new ritual, but this is a way forward for 4D designing."
Alec Robertson.

iMiniSkirt, by designers Cute Circuit, worn by the singer Katy Perry. The skirt is made using high-tech textiles, interwoven with the smallest flexible LEDs available and the outfit is a hybrid of digital motion and fashion, controlled by the Q by CuteCircuit app. (Full list of materials used in the skirt: silk crepe, silk organza, metallic leather trim, CuteCircuit LED fabric aka Magic Fabric, conductive ribbons, rechargeable battery, ARM processor, wireless antenna, Q software and operating system)

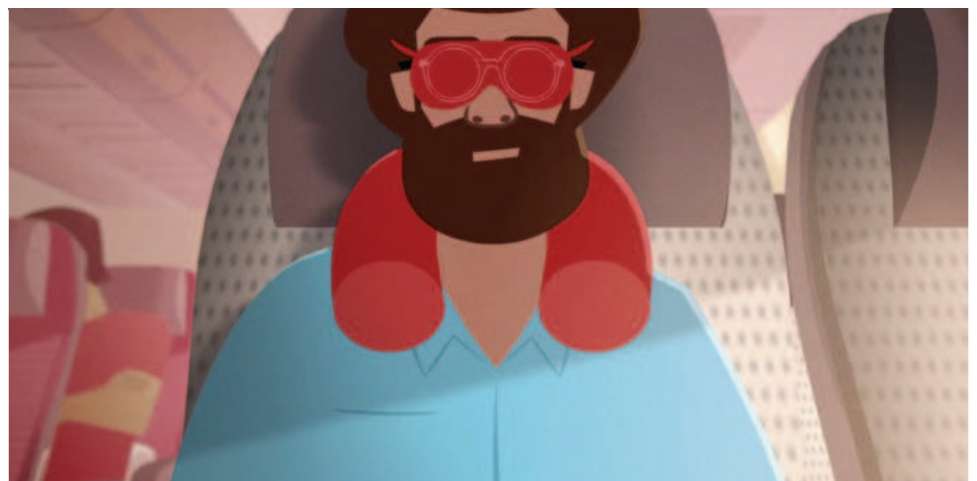
Some of the first examples of Augmented Reality fashion - these images were taken at Shanghai Fashion Week: designer Jiajun Zhang, software production Uberact, art direction Critical Mass.

Diagram showing the context of 4D design in relation to its four key components - dynamic physical and informational technologies, useful activity and delightful performances. (Alec Robertson 1995)



A fun example of a complex 4D design is the Furby by Hasbro Toys

Illustration from Virgin Airlines flight safety routine video





Material Alchemist Lauren Bowker's fashion collective, The Unseen, calls itself an 'exploration house' that "blends biological and chemical matter into materials - focused on seeing the unseen by combining science with art, design and performance." For one of their projects they developed a form of wind reactive ink that changes colour upon contact with air. This process was used for a couture capsule collection at London Fashion Week

Sensoree crafts wearable technology and interactive installations promoting extimacy (externalized intimacy). Their emotion based designs are "a new form of social media" communicating to ourselves and others how we are feeling. One of their designs, Neurotiq is 3D printed headwear with an EEG brain sensor that maps thoughts and exhibits brain states with colour. Within the knit fabric structure, 3D printed neuron globules are embedded with Sensoree therapeutic bio.media. (Photo by Chris Carlone)

Moodmetric's ring is said to be the smallest wearable technology device in the world for measuring emotions. The ring indicates the wearers' emotional load peaks via a Smartphone app, helping them to minimize stress.

Japanese company, Neurowear, develops gadgets for the 'Augmented Human Body.' Their first design, the Nekomimi (from Nekomimi - cat's ears in Japanese) is a pair of headphones (not shown here) with a brain wave sensor that changes the sound level and type of music played according to the wearer's mood



