

What are the fundamental elements of textiles, how can I include them into my own practice?

Student Name: Charlotte Keiller

Student Number: 2004201

BA Course Title: Surface Pattern & Textiles

Word Count: 4,949

Supervisor Name: Kate Coode

A successful piece of textiles work should consider the four basic elements of fibre, colour, structure and decoration. A designer makes the choices on how to construct their work, for example the type of fabrics, the dyes they use and the patterns they introduce within their work. Each choice they make helps to determine the look, feel, purpose and meaning of a professional finished textile outcome. I have researched and explored these four basic components and have used this research to inform my own practice of Surface Pattern & Textiles and in particular the work I am undertaking to produce a mixed media textiles wall hanging for display in Swansea inspired by biophilia: the human instinct to connect with nature and other living things. In particular I explore how I can incorporate more sustainable planet-friendly practices and how fibre, colour, structure and decoration can help me convey a sense of the local natural world.

Textile fibres can be natural or synthetic structures, which are spun into yarn and then woven, knitted or bonded into fabric. Fibres can be classified into four groups: artificial fibres, mineral fibres, vegetable/plant fibres and animal fibres, which may or may not be combined into composite materials in finished textiles. For example, polyester/cotton is a commonly used fabric in garment manufacturing, which combines artificial and natural plant fibres to produce hard wearing, low creasing, easily washable and natural-feeling garments.

Artificial fibres, are made from synthetic polymers that are produced in chemical plants, almost always derived from petroleum or natural gas. The most commonly used artificial fibres are polyester, nylon, rayon, acrylic and aramid (Britannica, 2023a).

Artificial fibres are spun, woven or bonded into a huge number of consumer and industrial products and most garments on the market today contain at least some of these artificial fibres, which are prized for their strength, durability, resistance to heat and much lower cost compared to natural fibres.

Polyester is the most commonly used artificial fibre within society. Polyester or polyester terephthalate is synthesised from petroleum-based chemicals and is referred to more commonly as PET outside of the textiles industry, where it is used to produce a wide variety of moulded plastic items from plastic drinks bottles to moulded components in the automotive industry (Masterclass, 2021). Polyester has a long history that dates to the 1950's where it became widely used within the textiles industry. The polyester 1970 *Jaymar Leisure suit (Figure 1)*, with thick double-knitted fabric was very popular in 1970's men's fashion. The polyester gave the garment very good shape resilience, wrinkle-resistance, moisture resistance and easy machine washability.

Today the fashion industry remains heavily dependent on plastic artificial fibres, but these innovations have come at a significant environmental cost. In a report released by the non-profit *Changing Markets Foundation*, (Ceransky, 2021) they state that 'brands lack commitment to shift away from the use of synthetic fibres like polyester and nylon'. Synthetic fibres are dependent on fossil fuel production, and the shedding of plastic microfibres into the environment, which majorly affects aquatic life, and through the food chain is affecting human health and the overall health of the planet.

The Cambridge Dictionary defines 'fast fashion' as clothes that are made and sold cheaply, so that people can buy new clothes often. (*Cambridge Dictionary/FastFashion*). The textile industry produces an estimated 1.2 billion tonnes of CO₂ emissions each year, which is more than international flights and maritime shipping combined. A fashion brand which uses a huge amount of artificial/synthetic fibres in their products is fast fashion brand Shein. The Channel 4 documentary '*Untold: Inside the Shein Machine* (Channel 4, 2022) exposes the company's huge environmental impact and the inhumane working conditions in many of the company's factories. To the customer Shein's biggest selling point is its low costing and its wide variety of shipping destinations. 'Shipping to more than 150 countries and regions worldwide'. Their business model is similar to Amazon's: a large marketplace which brings together about six thousand factories in China under Shein's label. They use software that collects instant data on which items are selling and which are not. Their huge environmental impact comes down to their huge turnover of stock, according to an investigation by 'Rest of World' (2021) Shein, the brand adds between '*2000 and 10,000 new styles to their website each day*'.

The company has an unsustainable model, the massive use of virgin polyester and consumption of oil churns out the '*same amount of CO₂ as 180 coal – fired power plants*', according to the Synthetic Anonymous 2.0 (Rest of World, 2022), report on sustainability in fashion. The company produces about 6.3 million tonnes of CO₂ a year, which shows no sign of reducing and contributing to the UN target to reach 45% reduction global carbon emissions by 2030 compared to 1990 levels. Shein, clearly has a long way to go and should be ashamed of their environmental impact on society.

In my own practice I want to avoid the use of materials that clearly contribute to runaway climate change and that are leading to the poisoning of our rivers, lakes and oceans and so I will always choose natural fabrics over virgin artificial/synthetics and if I do use synthetics, they will only be from recovered/already used sources to cut down on the production impact of producing virgin synthetics and reduce waste. Natural fabrics do, however, also contribute to climate change and pollution during their production and at end of life, if disposed of rather than recycled or reused. I will discuss some of the points regarding natural fabrics and the environment later and it is my intention in my own practice to consider and seek to minimise their impacts, choosing locally produced natural fibres such as wool and reusing/recycling other fibres like cotton. I admire the work of brands that take sustainability seriously and when justified can use sustainability as a platform to define their brand to attract and develop loyalty amongst their customers.

A fashion brand with sustainability at the forefront of their brand and work is Stella McCartney. McCartney state on their website that '*we endeavour to make use of the most cutting-edge and progressive materials, aiming to greatly reduce the impact on the planet and are always cruelty free*'. (*Stella McCartney, 2023*). They use more environmentally responsible materials for their products such as recycled polyester instead of virgin polyester unlike brands such as Shein. This reduces the amount of petrochemicals that are used to produce garments, cuts down energy consumption in manufacturing and cuts down waste, by giving textiles a longer useful life. McCartney also produce less product, therefore reducing the risks of high volumes of waste, from unsold items. Although no brand can have a zero carbon footprint, brands like Stella McCartney are showing other companies what

can be achieved by reducing their carbon footprint and by making sustainability one of the biggest parts of their brand identity.

Natural fibres like cotton can be more sustainable than artificial fibres but cotton production on a global scale accounts for 6% of the world's pesticide use and 16% of all insecticides, which can be harmful to soil, release greenhouse gases, pollute drinking water and cotton crops requires a huge amount of water to grow, about 2,700 litres of to produce a single T-shirt (Project Cece, 2023). For this reason, reusing cotton from textiles that have reached end of life is very important as it helps to reduce environmental impact by requiring less cotton to be grown. Mud Jeans (Mud Jeans, 2023) is a company that charges customers a subscription to provide them with jeans and recover the cotton from their old jeans into new garments – so providing jeans as a kind of service rather than as a product. The result is that customers purchase jeans that are made from recycled fibres which reduces the product's environmental impact and really builds customer loyalty. The cotton I will use in my own practice will be from surplus and recovered/recycled cotton stock.

Wool has long been accepted as an environmentally positive fibre choice, being 100% natural, renewable, biodegradable and recyclable. Like everything though wool production does have an environmental impact. Sheep farming does produce greenhouse gases, sheep themselves like cattle produce carbon dioxide during the digestion of grasses and vegetation and in some countries like Australia, the growth of sheep farming has led to large expanses of natural land being turned over sheep grazing, displacing native species and changing habitats. Sheep grazing in Wales is a part of the country's history and a lot of land in national parks and elsewhere is being managed to enable grazing alongside more natural ungrazed habitats. In my own practice I will use wool that is sourced from Wales or from recycled stock, this way I can help to support local farmers that are so much a part of this country and also help to reduce the distance travelled by the fibres and reduce waste. By using local wool in my practice, I will stay true to the spirit of Biophilia and be echoing the local environment, its human and natural history to help tell the story about our local environment.

Using local sustainable environmentally friendly products within my work reduces my carbon footprint and subsequently reduces my waste. This commitment is at the forefront of my work within my final year of study, as it is so important to make the best environmental choices as a conscious future maker within society today.

Colour is fundamental to our experience of the world around us' (*St Clair, 2018, The Secret Lives of Colour*). The colour wheel is an abstract illustration of colour hues around a circle, which shows the relationships between primary, secondary and tertiary colours.

In 1666, physicist Sir Isaac Newton conducted experiments with glass prisms, and he observed that a beam of white sunlight would split into different colours after travelling through the prism. Newton had discovered the colour spectrum (Figure 2) which led to the development of colour theory.

Within the Fashion and Textiles industry colour is obviously of great importance. Colours can you stand out from the crowd and can also affect how you feel about yourself. The

three primary colours, yellow, blue (cyan), and red (magenta), cannot be produced by blending other colours together. A primary shade of black is produced if you mix all of the primary colours together (Print Design Academy, 2023)

Secondary colours are created by mixing two of the three primary colours together. For instance, yellow and red produce orange, yellow and blue create green, and blue and red produce purple.

Tertiary colours come from blending primary and secondary colours together. Examples of tertiary colours include blue-green, red-orange, yellow-orange, yellow-green, and red purple. The depth of a colour indicates how light or dark the colour is. Adding white makes the colour lighter and adding black dulls the colour making it darker. Adding grey changes the brightness of a colour. Adding white or black and mixing with grey creates infinite colour shades (King, 2023)

Contrast refers to the difference between two colours (Celandine, 2014). Some types of colour combination can enhance the intensity of colours and other combinations cancel or reduce contrast. For example, colour-to-colour contrasts that have not been mixed with black or white can have a really striking impact. Another type of contrast is the cool and warm contrast. Warm colours include yellow, orange, and red, while cool colours consist of green, blue, and purple. In my own practice I want to explore the subtle and sometimes boldness of contrasts in colour and shade that we often see in natural settings, particularly in woodlands, where the bark and foliage of trees have characteristic warm oranges, reds and browns which sit together with greens and little gems of brighter flowers on the woodland floor.

Ton sur ton (Collins, 2023a), a French term, refers to wearing a single colour but incorporating different shades within that colour. This combination offers the subtlest contrast in terms of colour. On the other hand, *Faux Camaieu* (Britannica, 2023b) represents a false one-tone colour combination. It involves combining colours with the same grey value, that are equally warm and bright but have different base colours. The most powerful colour contrast that exists is with a black and white combination.

The primary colours have different meanings in different cultures around the world. The colour red is usually connected with passion and desire. Red also signifies danger and sacrifice and in Christianity, it can represent sin or the Devil. In Chinese culture though, it is seen as a lucky and happy colour and is linked to celebration with Chinese brides wearing red garments because it is joyous and is traditionally believed to warn off evil spirits.

For many people yellow brings thoughts of the sun and it often represents positivity and warmth, it is a colour that brings delight and memories of wildflowers. However, it can also suggest envy, cowardice, and sickness. In the *Great Gatsby* (Fitzgerald, F, S, 1925) the colour yellow serves as a symbol for excess and deterioration. In the novel, the very wealthy characters often wear yellow attire and live in huge yellow-painted mansions to signify the moral decay and excess of their lifestyles.

Blue symbolises the sky and the sea. It is often linked to feelings of freedom, imagination, inspiration, and sensitivity. Blue is also associated with trust, loyalty, sincerity, wisdom and confidence.

Colour trends in fashion change over time and the Pantone Colour Institute annually names a colour of the year and predicts the popular colours set to be used by designers at leading fashion weeks, including New York Fashion Week and London Fashion Week and directly influences colour trends (Eggenberger, 2023). The Pantone colour of the year 2023 is, 'Viva Magenta 18-1750, (Pantone, 2023), which is described as vibrating with vim and vigour. It is a '*shade rooted in nature descending from the red family and expressive of a new signal of strength*'. It is now likely this colour will be seen on catwalk in the next coming months.

Within the fashion industry there have been many iconic uses of colour. One of the most famous is *Yves Saint Laurent's, 1965, Mondrian Dress* (Figure 3, V&A, 2023a). They drew inspiration from the abstract paintings of Piet Mondrian, a renowned Dutch artist (MuseeYSLParis, 2023). Mondrian states in his own words, '*Not only does fashion accurately reflect an era, but it is also one of the more direct forms of visual expression in human culture*'. The dress showcased intersecting black stripes and blocks of primary colours, reflecting Mondrian's artistic style. The designs were quickly replicated by mass manufacturers, resulting in inexpensive imitations flooding the market. Mondrian gradually adopted a limited colour palette consisting solely of primary colours like red, blue, and yellow, along with black and shades of grey. These non – colours were treated as solid hues within square or rectangular surfaces, which were outlined by a thick black border.

Another iconic garment that illustrates the power of colour is Princess Diana's evening gown worn by her in 1994 and referred to as the *revenge dress*. Many believe that Diana chose to wear the dress as a form of retaliation against her husband, Charles, then Prince of Wales, following his confession of adultery. Adamiyatt (2022), explains that it marked a significant moment when she decided to don black attire, symbolizing the end of her marriage, her departure from the Palace, and her emergence as an independent woman.

Overall, colour is vital to the creative industry and within my own practice I am exploring a natural muted colour palette inspired by Welsh nature that brings together natural colours of subtle greens, browns, and blues, interspersed with more vivid rich greens and dusty taupe and bold browns.

Up until the 1850's all fabric dying was all from natural sources, from plants, animals. Some of the most commonly used natural dyes were Tyrian purple derived from snails, Indigo blue, from the indigo plant and Cochineal red from insect larvae. In the mid 1800's the first synthetic dyes started to be manufactured. Synthetic dyes which could be mass produced from chemicals helped to meet the enormous demand from garment factories during the industrial revolution, providing a relatively cheap, and easily produced source of dyes that didn't require the large-scale use of agricultural land to grow plants like indigo (Rare and Fair, 2023)

Modern synthetic dyes however can have a massive environmental impact, using huge volumes of water during manufacturing and linked to serious pollution of rivers and ground water in some developing countries and can lead to serious illnesses amongst factory workers as is documented in *The True Cost* a film by Andrew Morgan (2015), which looks at the social and environmental impacts of fast fashion.

Using sustainable and environmentally friendly materials within my practice is very important to me. I am creating my own colour pallet of dyes instead of using chemical/synthetic dyes. I have made much use of the book *Wild Colour* (Dean, 2018) to learn how to extract pigment from natural materials. I have sought inspiration from nature, and I have collected oak leaves and different tree barks from the magnificent woodland at Penllergare (Penllergare.org) just outside of Swansea. I have created some lovely brown and yellow shades on 100% white cotton which I am going to use in my practice for my Biophilia project within Surface Pattern. Also, I have been conscious of reuse so I am exploring mixed media textiles by incorporating off-cuts of Orange Box fabric, which would otherwise have been sent to landfill, giving the fabric a new life within my project.

Structural textile design provides a detailed insight into different types of design used to produce woven and knitted fabrics and the affect design has on a fabric's properties and applications for aesthetic and functional purposes.

The term 'textile' comes from the Latin word '*texere*' meaning 'to weave'.

The earliest fabrics were produced via felting where fibres, often wool, are condensed and pressed into fabrics. Textile fabrics are split into four groups: woven, non – woven, knitted and braided. Woven fabrics are made by interlocking yarns on a loom in a vertical *warp* and horizontal *weft* direction. The weft yarns are woven over and under the warp yarns, creating a selvedge where the weft yarns loop back to prevent fraying and unravelling.

There are many types of weave. The plain weave technique involves passing the weft yarns over one warp yarn and then under another, creating striped patterns by varying the colours of the warp yarns (Thornes, 2009). The denseness and weight of the fabric increase with the thickness of the yarn used. This is commonly way of making shirts and linen. Twill weave creates a diagonal pattern in the fabric which makes it strong and durable and is used for example to make jeans and work wear. Herringbone weave produces a chevron patterned fabric and can be used to make woollen herringbone jackets. Satin weave produces a very smooth and shiny fabric as the weft yarns float over between four and seven warp yarns reflecting light, Silk weaves are not very durable and can snag easily. Pile weave has much more of a raised surface made by introducing extra yarns into the weave that stand out from the fabric and are cut to create a nap.

Arguably, the most famous woven textile designer was, *Anni Albers (1899–1994)* who was one of the pioneers of twentieth-century modernist abstraction (Tate, 2023). She is seen as having bridged the gap between the craft of weaving and contemporary art.

Albers was introduced to hand weaving while at the famous Bauhaus art school in Germany. Albers rich and diverse career as an artist drew inspiration from the traditional textile weaving techniques of many cultures and in her later life worked in print-making but always

remained committed to the pattern, line, knotting and texture learnt for her experiences with textiles.

Albers' work - *Black, White, Yellow*, (1926) has an amazing range of tones from a palette limited to just three colours, achieved by alternating yarn combinations in both the weft and warp to produce rectangular shapes both horizontally and vertically (MOMA, 2023). The work is seen as mimicking the walls and windows of the Dessau building and the alternating light and dark shapes create a sense of movement in the work.

Non – woven fabrics are produced through mechanical, thermal or chemical processes without the need for weaving or the creation of yarn. Non-woven fabrics are typically made from synthetic fibres which are bonded together through friction and entanglement to form sheets or mats of material. Non – woven fabrics are lightweight, strong, durable and resistant to liquids. Non-woven fabrics are easy to care for and can be held dyes well. They are generally used in garment linings and workwear. During the Covid-19 pandemic non-woven fabrics were in great demand for use in face masks and protective clothing.

Knitted fabrics are a type of textile that is produced through the process of knitting, which involves the interlocking of yarns or loops. Knitted fabrics have much greater flexibility than woven fabric and smaller items are more easily produced by knitting, for example socks, gloves and hats.

Jersey is a versatile knitted fabric typically made from silk, cotton or synthetic fibres like viscose or polyester. It is stretchy without aid from stretch fibres like elastane, it is easy to care for clean. It is opaque due to its very tight knit structure. It is resilient and doesn't wrinkle easily.

However, the free edges of Jersey knit fabric is susceptible to curling which can make it difficult to cut, sew and link together.

Another popular knitted fabric is fleece knits, they are soft polyester or polyamide knits with a deep pile texture. They are mostly used for sports and outerwear. Fleece knit fabric is easy to sew, and the garment pieces can be sewn together with an overlocker. Fleece knits are warm, durable and highly resistant. However, fleece fabrics tend to generate a high amount of static electricity. They are also commonly identified as the type of fabric that sheds plastic microfibres during washing, which as discussed above is contributing to the plastic pollution in aquatic environment environments. Fleece also has no water resistance and therefore garments tend to be used as insulating underlayers.

Braided fabric involves the intertwining of three or more yarns or fabric strips to create a narrow fabric, either flat or tubular in shape. This technique is commonly used for decorative purposes, such as trimming and belts. Plaiting refers specifically to the creation of a braid using materials like rope and straw. Braiding involves manipulating the loose ends of the yarn to form a braid, starting from the one end and braiding towards the closer end, with as few as three yarns.

In my practice I will use weaving, the work of Albers is inspiring, and I am exploring how weave can work in the wall hanging that I am producing. I like the human scale of weaving. I personally can produce the woven items to adorn my work which is after all is about people and their perception and love for the environment. The drape and variety of weave patterns and structures will work well together with stitching and dyeing.

Decoration is defined in (Collins 2023b) as '*features that are added to something in order to make it look more attractive*'. Decoration is an essential aspect of textile design which encompasses a wide range of techniques. Textile design can be categorised into three main groups: printed textile design, woven textile design, and mixed media textile design.

Printed textile design involves the application of various printing processes to fabric, cloth, and other materials. This branch of textile design has wide application in fashion garments, home interior design from carpets, wallpapers, soft furnishings, as well as within stationary.

One of the world's most successful and influential textile designers was William Morris (b. 1834) who was a pioneer within the British Arts & Craft movement and a major contributor to the revival of traditional British textile arts and methods of production (Henderson, 2023). William Morris dedicated himself to creating various types of textiles that placed great importance on the revival of handcrafted values, becoming a master in tapestry weaving as well as reintroducing hand-block printing for cotton and linen fabrics (V&A, 2023b)

Morris's wooden block prints of repeating meandering patterns like 'Wild Tulip' printed in 1894 on cotton is one example of his popular work, that has found its way into the homes of many as upholstery, curtains and wallpaper. Morris primarily focused on designing woven fabrics, which were predominantly crafted using wool in a range of tapestry weaves. These fabrics were commonly utilized for heavy curtains, wall hangings, and upholstery. The weaves often incorporated a blend of wool and linen or wool and silk, adding a touch of luxury to the final product.

Morris was commissioned by Arthur Liberty, numerous times in the late 1800s to design for Liberty London. The work *Strawberry Thief* (Morris, 1883 – Figure 4), features a characteristic repeating pattern of thrushes stealing strawberries from Morris's kitchen garden (The Strawberry Thief, 2023). The work was initially created as a furnishing fabric by Liberty Fabrics and was created on block-printed cotton. The pattern is in brown, yellow and shades of green, blue and red on a dark blue background. Strawberry Thief was reimagined for Liberty's Tana Lawn collection and has been a part of the Classic Tana collection since 1955 (Liberty, 2023a).

Liberty London was founded in 1875, and still occupies the store on Regent Street in London. Liberty Fabrics today has its own renowned in-house design studio, with artists creating unique textile and interiors prints for each seasonal collection through drawing and painting. Liberty's print archive consists of an impressive 50,000 prints and is a priceless design resource (Liberty, 2023b).

Embroidery is an art form and incredibly versatile decorative technique in textiles, which has been around for centuries. In essence embroidery involves the decoration of fabric or other materials using a needle to apply yarn or thread. Embroidery can also include other materials such as pearls, beads, quills and sequins. The origin of embroidery can be dated back to China in 30,000 BC. Archaeologists have found fossilised remains of hand stitched and decorated clothing items, boots and even hats (Bags of Hope, 2023). Originally used to reinforce garments it became a way to display power and wealth due to its high level of detail and the amount of man-hours and skill that could be invested into the production of intricate embroidered garments. Many cultures use embroidery to portray important life events and signify their cultural identity. For example, in Indian weddings the bride's grandmother will embroider the wedding shawl for her granddaughter. In China birds were embroidered onto garments to signify the rankings of officials. Whereas embroidery is traditionally undertaken by hand, machines have been developed over the last 200 years to speed up the process and make embroidery more accessible to a more mass market. Today, embroidery can be digitalised to produce extraordinarily detailed embroidery in a fraction of the time that would be taken by crafts people.

Mixed Media Textiles design represents an experimental and interdisciplinary approach to textiles which links a wide range of practices, techniques, materials and methods of working. Mixed media textiles has its roots in embroidery and stitching but includes sewing, weaving, dyeing, embroidery, applique and crochet as well as many other techniques. The nature of mixed media in general though means that painting, drawing, sculpture 3D modelling and film are all equally at home within the sphere of mixed media.

Cas Holmes (Casholmes, 2023) is a UK based mixed media textiles designer, who experiments with textile layers, dyes, collages and stitches to capture moments in time responding to the environment around her (Textile Artist, 2023). Holmes' mixed media textiles work *Cup and Dandelion* (2014 – Figure 5), which features muted natural colours, textiles layering, embroidery and mixed textiles talks to the juxtaposition of the manmade and the natural and I have chosen this work as my inspiration for my current project to produce a wall hanging inspired by biophilia. I will be incorporating layered textiles and embroidery into my wall hanging and I admire the muted natural tones of Holmes. I will also bring into my work more 3D design which I discuss below.

In conclusion, my exploration of the basic elements of textiles; namely fibre, colour, structure and decoration have helped me to make choices in my current project to produce a wall hanging on the theme of Biophilia. For inspiration I am using my experience of visiting and collecting materials from the beautiful Penllergare woods near Swansea. Making the right environmental choices in my selection of materials and methods is very important to me and totally relevant to the theme of Biophilia. The fibres I choose will be natural cottons and wools and reused fabrics to cut down on waste. The colours that are appropriate will be predominantly natural browns, yellows and greens to reflect the colours of the wood but will also incorporate blues to reflect the waterfall I found in Penllergare. I will use natural dyes, made from pigments recovered from leaves and bark, collected in the woods. The structures I use will be mixed and will include weaves. In terms of decoration, I will use printing, embroidery, rag-rugging and French knots to give a 3D texture to parts of the hanging to mimic the structures in the woods, like bark. I will also use dissolvable fabric to

form leaves again to give more texture. My intention is to deliver a piece that brings to life the experience I had when I visited Penllergare.

Bibliography and List of Figures

Adamiyatt, R. (2022) The Story of Princess Diana's Revenge Dress—And Why We Still Can't Get Enough of It, Town & Country. Available at: <https://www.townandcountrymag.com/style/fashion-trends/a41913960/princess-diana-revenge-dress-history>. (Accessed: 03 December 2023).

Bags of Love (2023) The Origins of Embroidery and How It Has Changed – Embroidery History - Bags of Love. Available at: <https://www.bagsoflove.co.uk/blog/embroidery-history>. (Accessed: 09 November 2023).

Britannica (2023a) Characteristics of Artificial Fibres. Artificial Fibre Summary. Available at: Britannica, The Editors of Encyclopaedia. 'Artificial fibre summary'. Encyclopedia Britannica, 1 Nov. 2021, <https://www.britannica.com/summary/man-made-fiber> (Accessed: 11 October 2023).

Britannica (2023b) Camaieu - Camaieu Meaning. Available at: <https://www.britannica.com/topic/Penicaud-family> (Accessed: 18 November 2023).

Casholmes (2023). Cas holmes website. Available at: <https://casholmes.uk>. (Accessed 01 December 2023)

Celandine (2014) Using Colour in Textile Design, Pattern Observer. Available at: <https://patternobserver.com/2014/05/19/using-color-in-textile-design/> (Accessed: 01 December 2023).

Ceransky, R (2021) Is there space in sustainable fashion for synthetic fabrics?, Vogue Business . Available at: <https://www.voguebusiness.com/sustainability/is-there-space-in-sustainable-fashion-for-synthetic-fabrics> (Accessed: 15 November 2023)

Channel 4 (2022) Inside the Shein Machine: UNTOLD. London, 17 October 2022: Channel 4. (Accessed 15 November 2023).

Collins (2023a) Ton sur ton translation. Collins English Dictionary. Available at: <https://www.collinsdictionary.com/dictionary/french-english/ton-sur-ton> (Accessed: 29 October 2023).

Collins (2023b) Decoration Definition. Available at: <https://www.collinsdictionary.com/dictionary/english/decoration> (Accessed: 27 October 2023).

Dean, J (2018). Wild Colour, Octopus Publishing.

Eggenberger , M. (2023) Forget Every Other Trend—These Are the 5 Colours I'll Be Trying This Spring, Who What Wear . Available at: <https://www.whowhatwear.co.uk/fashion-colour-trends-2023> (Accessed: 07 November 2023).

Fitzgerald, F.S. (1925) *The Great Gatsby*. Wordsworth Editions.

Henderson, P.P. (2023) William Morris, Britannica . Available at: <https://www.britannica.com/biography/William-Morris-British-artist-and-author> (Accessed: 01 December 2023).

King, E. (ed.) (2023) 'Basics of Colour for Textile Products', Cotton Incorporated [Preprint]. Available at: <https://www.cottoninc.com/wp-content/uploads/2017/12/ISP-1005-Basics-of-Color-for-Cotton-Textile-Products.pdf> (Accessed: 13 November 2023).

Liberty (2023a) Everything to know about Tana Lawn Cotton, Liberty London. Available at: <https://www.libertylondon.com/uk/features/craft/liberty-tana-lawn-cotton-answers.html> (Accessed: 16 October 2023).

Liberty (2023b) Our Heritage Liberty London. Available at: <https://www.libertylondon.com/uk/information/our-heritage.html> (Accessed: 17 October 2023).

Masterclass (2021) Natural vs. Synthetic Fibers: What's the Difference? Available at: <https://www.masterclass.com/articles/natural-vs-synthetic-fibers> (Accessed: 13 November 2023).

MOMA (2023) Anni Albers - Museum of Modern Art. Available at: <https://www.moma.org/artists/96> (Accessed: 04 November 2023).

Morgan (2015). *The True Cost*. Available at: <https://truecostmovie.com> (Accessed 01 December 2023)

Mud Jeans (2023) Mud Jeans Mission. Available at: <https://mudjeans.eu/pages/our-mission-about-us>. (Accessed 02 December 2023).

Museeyslparis (2023) The Mondrian Revolution - Museeyslparis. Available at: <https://museeyslparis.com/en/stories/la-revolution-mondrian> (Accessed: 02 December 2023).

Pantone (2023) What is Viva - Magenta? - Pantone. Available at: <https://www.pantone.com/uk/en/articles/color-of-the-year/what-is-viva-magenta> (Accessed: 13 October 2023).

Penllergare Trust (2023). Explore Penllergare, Penllergare Trust. Available at <https://penllergare.org>. (Accessed 01 December 2023)

Print Design Academy (2023) Types of Colours - Print Design Academy. Available at: <https://prerit.org/types-of-colors/> (Accessed: 09 November 2023).

Project Cece (2023). Is cotton bad for the environment? Available at: <https://www.projectcece.co.uk/blog/445/is-cotton-bad-for-the-environment-the-no-fluff-truth>. (Accessed: 02 December 2023).

Rare and Fair (2023). The social and ecological impact of naturally dyed clothing. Available at: <https://rareandfair.com/blogs/the-slow-scoop/the-social-and-ecological-impact-of-naturally-dyed-clothing>. (Accessed: 01 December 2023).

Rest of World (2022) Synthetics Anonymous 2.0, Fashions persistent plastic problem. Available at: <http://changingmarkets.org/wp-content/uploads/2022/12/Synthetics-Anonymous-2.0-Report-final-web.pdf> (Accessed: 09 November 2023).

Stella McCartney (2023) Sustainability - Stella McCartney. Available at: <https://www.stellamccartney.com/gb/en/sustainability/sustainability.html> (Accessed: 05 October 2023).

St Clair, K. (2018) *The Secret Lives of Colour*. John Murray.

Tate (2023) Anni Albers -Tate Modern. Available at: <https://www.tate.org.uk/whats-on/tate-modern/anni-albers> (Accessed: 04 December 2023).

Textile Artist (2023) Cas Holmes: Found Objects in Textiles Art, TextileArtist.org. Available at: <https://www.textileartist.org/cas-holmes-a-continual-challenge-of-ideas/> (Accessed: 09 December 2023).

The Strawberry Thief (2023). The Story of the Strawberry Thief. The Strawberry Thief. Available at: <https://thestrawberrythief.com.au/the-story-of-the-strawberry-thief/> (Accessed: 21 November 2023).

Thornes, N. (2009) *AQA Design and Technology - Textiles Technology*. Kerboodle.

V & A (2023a) The Mondrian Collection. Victoria & Albert Museum. Available at: <https://collections.vam.ac.uk/item/O75489/the-mondrian-collection-cocktail-dress-saint-laurent-yves/> (Accessed: 01 December 2023).

V & A (2023b) Introducing William Morris Victoria & Albert Museum. Available at: <https://www.vam.ac.uk/articles/introducing-william-morris> (Accessed: 09 December 2023).

List of Figures



Figure 1. Jaymar. (1970) *Leisure Suit*

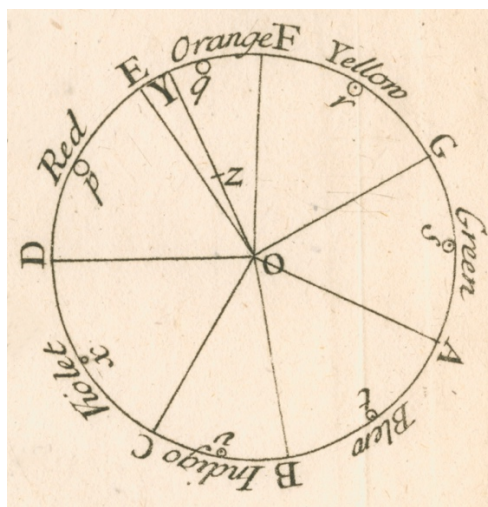


Figure 2. Newton, I. (1718) 2nd ed. *Opticks*



Figure 3. Yves Saint Laurent. (1965). *Mondrian Dress*



Figure 4. Morris, W. (1883) *Strawberry Thief*



Figure 5. Holmes, C. (2014) *Cup and Dandelion*