

Patterns of Culture

Tibor Reich: A Life of Colour and Weave

by

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(With a contribution by J. A. Cousens)

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Patterns of Culture – Tibor Reich: A Life of Colour and Weave
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Cover: Detail of Age of Kings, design by Tibor Reich, 1964.
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Foreword

This publication together with the exhibition it accompanies result from research associated with an Arts and Humanities Research Council (AHRC) funded project which had the aim of documenting the Tibor Reich Collections, one of the constituent collections of the University of Leeds International Textiles Archive (ULITA). This Collection which is on long-term loan from the Reich family is comprised of several thousand small-scale fabric samples and several hundred three-metre fabric lengths. The Collection is the most comprehensive of Tibor Reich's work held by any museum or gallery worldwide.

Tibor Reich left his native Hungary in the late 1930s, against a background of increased anti-Semitism triggered by the rise of Nazism across much of Europe. Shortly after his arrival in Leeds he visited the University and caught the attention of Professor J. B. Speakman (the renowned Professor of Textile Chemistry and Head of the Department of Textile Industries). Professor Speakman was keen that the enthusiastic young Tibor was given the opportunity to pursue studies relating to textile technology and woven-fabric design. At the time, Leeds was regarded worldwide as the premier institute to study textile technology, science and design. Settling in was not without difficulty, but under the watchful eye of Professor Speakman, and the support of other members of staff, Tibor excelled in his studies, won several prizes for his design work and gained an in-depth appreciation of textile processing technology. Indeed, it appears that throughout his working life he had fond memories of the time spent at the University of Leeds, and he believed that the skills developed there and the knowledge gained ensured he was readily able to work hand-in-hand with the many advances in textile technology associated with the decades following the Second World War.

Tibor Reich's work was exhibited previously in Leeds, at the University Gallery in 1997 and, prior to that, in an exhibition at Warwickshire Museum (1996). This exhibition draws on a representative selection of his life's work and covers various themes and chronological stages associated with his career, including: the early influences from his native Hungary; 1950s design and the Festival of Britain; various innovative techniques relating to the structural characteristics of patterns and inventive means for classifying and handling colour; commercial success and commissions with Concorde and ICI; his approach to the design of domestic furnishing fabrics, involving work with Ercol and G-Plan furniture manufacturers; the Shakespeare Anniversary Festival; the production of his most famous figured fabrics, including "Agincourt", "Romulus" and "Age of Kings".

1. Introduction

Woven fabrics in a room are equally important in the larger entity of architecture as the colour of the walls, the furniture and household equipment. They have to serve their “purposes”, have to be integrated, and have to fulfil with ultimate precision the requirements we place on colour, material, and texture. The possibilities are unlimited.

[Stölzl, 1931]



Plate 1A: Tibor Reich.

Born in Budapest in 1916, Tibor Reich became one of the foremost designers of the twentieth century. Working from a base in Britain he designed textiles for domestic and contract use, employing innovative colour palettes and exploiting developments in new technology. His Company, Tibor Ltd., made its name by providing cutting-edge modern designs that were popular with both the public and major businesses. This publication traces the stages of his career, from his time as a student at the University of Leeds, which laid the foundation for the development of his skills and talents, to his rise to the pinnacle of British design in the decades following the end of the Second World War.



Plate 1B: The University of Leeds Textile Department, Session 1940-41. Tibor Reich is on the far left, third row from front.

2. Early influences

The dominant influences on Tibor Reich's early career were from continental Europe, especially developments associated with the Vienna Werkstätte and the Weimar Bauhaus, as well as inspiration stimulated by Hungarian folk art. Each of these influences is examined briefly below.

2.1 The Vienna Werkstätte

Tibor Reich began his formal training as a textile designer by studying the theory of cotton spinning at the Vienna School of Textiles [Hann and Thomson, 1997, p.1]. He studied design in an atmosphere permeated by the ideas of the Vienna Werkstätte. The Vienna Werkstätte was set up in 1903 by architect Josef Hoffmann, the painter Koloman Moser and the industrialist Fritz Waerndorfer [Völker, 1994, pp.7-8]. They aspired to "...stand out from the general run of aesthetically unsatisfying, badly-finished, factory-produced merchandise and conventional handicrafts then available" [Völker, 1994, pp.7-8]. They worked as a collective and there was no uniform style to the movement; however, interior design was a priority and textiles were among the best sellers. Josef Hoffmann worked closely with the artist Gustav Klimt and many representations of the textiles produced by the Vienna Werkstätte can be found in his portraits [Völker, 1994, pp.7-8].

2.2 The Bauhaus

Another major influence on Reich during his formative years was the Weimar Bauhaus (1919-1925). The Bauhaus ethos was to create well-designed, mass-produced items that combined artistic ideals and functionality. The textile studios in the Bauhaus were, from the beginning, kept separate from the rest of the School, partly because it was seen as a woman's domain [Weltge, 1993, pp.41-45]. The design and overall appearance of Bauhaus textiles stood out compared to other areas of the Bauhaus aesthetic; Anna Rowland (1990) stated that the, 'Vivid abstract patterns, rich colours and textures of Bauhaus textiles provided a counterpoint to the austerity of Bauhaus design' [Rowland, 1990, p.82].

One of the major participants in the Bauhaus textile workshop was Gunta Stölzl (1897-1983). Writing in the Bauhaus magazine in 1931, she described what they had been trying to achieve at Weimar:

With the elements we had just conquered we attempted to make pictorial compositions, surfaces which would bring a wall to life... Each different material had to be ordered according to its value: structure, colour, three dimensional quality, light, dark, key concepts such as soft- hard, rough-smooth. They had to be released from the unconscious, in order to become useful elements of new design.

[Stölzl, 1931, cited by Rowland, 1990, p.82]

Bauhaus textiles were both artistically and commercially successful, exploiting vibrant colours and showing the influence of the artist Paul Klee [Rowland, 1990, p.82].

In the later years of the Bauhaus, predominantly during the Dessau period from 1925 to 1932, the emphasis in woven textiles was towards design for mass production [Schoeser, 1986, p.62]. Full use was made of the potential offered by both Jacquard and dobby looms and there was extensive experimentation with newly available fibre types [Rowland, 1990, p.84]. In the main, the focus was on the creation of design interest through the use of interesting textures and innovative structures rather than through superficial decoration [Rowland, 1990, p.85]. In the late 1940s and early 1950s, Reich showed his willingness to experiment with the use of new fibres (such as Lurex, various rayons and other man-made fibres), and his readiness to exploit the design potential offered by the wide range of fancy yarns available to British designers [Farr, 1955, p.79].

The influence of the Bauhaus style spread throughout Eastern Europe, including Reich's native Hungary. The approach to architectural design in many Eastern European countries made close reference to styles associated with the Bauhaus.

2.3 Hungarian folk art

An awareness of the complexities of textile manufacture was gained by Reich through working in the family firm of A. Reich and Son, a smallware manufacturer in Budapest [Student Records, Department of Textile Industries, 1939-41].

He once reminisced, "As a youngster, at the age of five or six, I was taken into my father's workshop in the factory where they were dyeing different yarns for ribbons for peasant costumes" [*Cabinet Maker and Retail Furnisher*, October, 1966]. Here he noticed cerise, kingfisher, very bright emeralds, flame reds and deep oranges [*Cabinet Maker and Retail Furnisher*, October, 1966]. These vibrant colours can be seen in Reich's work particularly in designs from the 1950s.

During the early-twentieth century and before, the most common motifs used in Hungarian folk art were flowers, leaves and sometimes a bird or spiral ornament invariably in ceramic or textile applications. In the 1950s Reich produced his own range of pottery for Denby ware, entitled 'Tigoware' and in the 1960s he presented his 'Modern Magyar'

collection, revealing how his native Hungary was still an important influence on his work. His 'Modern Magyar' collection and Tigoware will be discussed briefly in a later section of this monograph.

3. Arrival in Leeds

Reich left Hungary in December 1937 as the rise of Nazism triggered a mass exodus [Hann and Thomson, 1997, p.1]. In the years before 1937, anti-Semitism was a growing concern throughout much of Europe including Hungary. In 1919 there was a brutal response to the collapse of the short lived communist government, in which mobs targeted specific groups whom they considered responsible for the Communist uprising [Kontler, 1999, pp.332-338]. These groups included intellectuals, those with liberal political views and Jews, the latter targeted in the belief that the communist leaders were Jewish. Kontler noted that after the short lived communist government's collapse, Admiral Miklós Horthy (who came to power subsequently) was a far-right leader and an anti-Semite [Kontler, 1999, pp.332-338].

One of the results of this growing anti-Semitism was that in 1920 Horthy's government passed a *Numerus Clausus* law restricting the registration of Jewish students at universities. In an interview in October 1995, Reich described his reasons for leaving Hungary:

I left Hungary because they wouldn't accept me at the university; I was going to study architecture originally. They only accepted 5% of the Jewish population for further education and I missed out.

[Vectis Direct, 1995]

In the following years political conditions grew progressively worse for the Jewish population, as Hungary allied itself to fascist Italy and Nazi Germany. By leaving his native country in 1937, Reich avoided the possibility of being subjected to subsequent anti-Jewish laws (1938-1941) that, amongst much else, strictly regulated the numbers of Jewish people in employment within most occupations [Sugar et al, 1990, pp.338-347].

Reich came to Leeds to study textile technology and design at the University. His time at the University of Leeds was initially difficult, as he explained, "I could hardly speak English and I had to work with a dictionary to translate every lecture, which was a rigorous job." [Vectis Direct, 1995]. Despite the early difficulties, he soon excelled in his studies and achieved a first-class result in the City and Guilds of the London Institute examination in Woollen and Worsted Weaving [Hann and Thomson, 1997, p.1]. He was also the recipient of departmental prizes for the best sets of handloom-woven patterns in 1938 and 1939, and was awarded the Diploma in Textile Industries in September 1941, following the submission of a thesis entitled "The Economical Production of Novelty Fabrics" [Student Records, Department of Textile Industries, 1939-41].

4. The 1940s

4.1 War-time rationing in the U.K.

The 1940s was a time of government restrictions and rationing, where “Utility” regulations dominated British production; this remained the case until the early-1950s. The war had a dramatic impact on industrial production and on the import of relevant raw materials; in the context of the textile industry, such shortages included fibres, yarns and dyestuffs [Ikoku, 1999]. Furniture was rationed and new furniture was only allocated to newly weds and families whose homes had been destroyed by bombing raids [Sword, 1974, pp.8-9]. The furniture produced was plain in comparison with the highly-decorated furniture popular before the war, and did not prove to be very popular with the general public [Sword, 1974, p.9]. In June 1941, clothing and footwear rationing was introduced and this was extended to furnishing fabrics and carpets almost immediately [Sword, 1974, p.9].

The Design Panel of the Utility Furniture Advisory Committee, established in 1943, was responsible for commissioning designs that were easy and cheap to produce [Ikoku, 1999, p.9]. The aim was to establish a standard approach to design, so that the quality of the product could be ensured. This was the case for furniture, clothing and household goods. The result was a general adherence among manufacturers to the principle of good quality and good value in mass-produced items, an outlook which extended into the 1950s [Sword, 1974, p.34-35].

The Utility Furniture Advisory Committee appointed the designer Enid Marx to take charge of the design of textiles for furnishings [Sword, 1974, p.30]. Up until 1943 furniture manufacturers had been forced to use existing fabrics from their stocks for their furniture [Sword, 1974, p.30]. Marx designed a large proportion of the cotton furnishing fabrics used subsequently. However, there were severe restrictions regarding the colours that she could utilise. She was only permitted to use four colours: rust, blue, green and natural (cream) [Sword, 1974, p.30]. This was due to a shortage of dyestuffs and associated funding restrictions. Many of her designs consisted of geometric patterns; she did however introduce some floral designs towards the end of the war [Sword, 1974, p.30]. It was in this restrictive environment that Reich trained as a designer and manufacturer. Rationing restrictions gave him a good understanding of how to work to a constrained budget and with limited raw materials; this discipline may well have ensured, at least to some degree, his future commercial success as a textile designer and manufacturer.

4.2 Technical progress

During the late 1930s and early 1940s Reich spent much of his time at the University of Leeds working on the various dobby looms and experimenting with colours and textures. In addition, he gained an in-depth understanding of the complexities of Jacquard fabric design. This experience prepared him to face the commercial and technical challenges of setting up as an independent designer and manufacturer (a rare combination in 1940s Britain).

At Leeds, much emphasis was placed on product development, and students gained an appreciation of not only aesthetic issues but also the scientific and technological aspects of textile production. An understanding of the geometrical aspects of fabric construction was achieved through the analysis of selections of fabrics held in the Clothworkers' Museum (the predecessor of the University of Leeds International Textiles Archive), as well as through the origination and production of an extensive collection of handloom-woven and powerloom-woven samples.

The period spent in the Department of Textile Industries at Leeds imbued Reich with an in-depth knowledge of weaving mechanisms as well as a comprehensive understanding of the geometry of woven-fabric structures. In the early 1940s he patented a device for pattern weaving, the main purpose of which was:

... to provide an electromagnetically controlled loom for weaving patterns or designs and involving the printing of the conventional design of the fabric [presumably in point-paper form] as it is woven, punching out a paper tape representing the design woven and utilising such tape to reproduce automatically as many repeats of the design as may be required.

[Reich, 1945]

Whilst this proposal did not represent a radical breakthrough in pattern weaving, it none the less addressed a number of important issues relating first to the electronic selection of warp threads and second, to the reduction in the lag time between the initial design idea and the production of a sample of woven fabric. The use of conventional mechanically-controlled systems was time consuming and involved the process of preparing designs on weaving point paper, and the subsequent setting of pegs for dobby control or the punching of cards for Jacquard control before the pattern could be realised in the form of a woven sample. Reich's invention was aimed at dispensing with these usual preliminaries, in order that design ideas could be realised within a shorter time. It is interesting to note that some twenty years after the publication of his patent specification Reich lamented that it was:

.. this gap in time between the idea and the finished product which waters-down the result. Very often it was six to nine months in the cumbersome conditions of the present day before the thought was translated into cloth.

[Tibor Ltd.- An Eventful First 21 Years]

However, he anticipated a brighter technological future which would allow, "...the freeing of design in woven or knitted structures from the mechanical limitations, and the combination of present machinery with computerised controls" [*Cabinet Maker and Retail Furnisher*, October, 1966].

He thus forecast a development which is not far removed from the realities of contemporary textile design and production. By the 1990s designers had access to a wide range of computer-aided design and manufacturing systems which allowed preliminary design ideas to be produced in fabric form in a matter of minutes [Tandy, 1997, pp. 26-28]. Towards the end of the first decade of the twenty-first century, such systems had reached the levels of sophistication and efficiency forecast by Reich.

Reich's concern for texture and his willingness to combine fibres and yarns of different qualities and types were highlighted in an article in the *Textile Manufacturer* published in 1941 [Reich, 1941].

Through presenting a series of examples of ladies' coating fabrics, produced using old-stock fancy yarns (of the type then available in most weaving mills as left-overs from previous production runs), Reich showed his ability to design within the parameters set by war-time rationing of raw materials for civilian usage. This exercise, which was achieved using the doobby-loom facilities then available in the Department of Textile Industries at Leeds, may well have paved the way for Reich's future experiments with unusual fibre and yarn combinations.

4.3 Early success

Whilst still a student at Leeds, Reich produced the design for his "leopard skin" tweed, which was bought by the House of Molyneux and put into production as a fashion fabric for export to the United States [Warwickshire Museum exhibition, 1996]. Reich's designs were purchased by the Calico Printers' Association (Manchester), Digby Morton (London) and Callender and Company (London) [Student Records, Department of Textile Industries, 1939-41].

It would seem that an export order to the value of nearly \$100,000 from New York's Hambro House of Design in 1945, represented Reich's first step to becoming a textile designer of international stature [Warwickshire

Museum exhibition, 1996]. In 1941 on completing his studies at Leeds, Reich was employed as a designer by Tootal Broadhurst Lee Co. Ltd. (Lancashire) where he worked on rayon cloth. [Warwickshire Museum exhibition, 1996]. This experience was described some years later as having involved "...stultifying repetitive work" [Farr, 1955, p.86].

4.4 Post-war optimism

In 1945, Britain was faced with shortages of food and operated a weak manufacturing industry. The government, under Prime Minister Clement Attlee, took control of industry and public utilities in an attempt to strengthen the economy. However, it was not until the Marshall Plan was enforced in 1947 that the British economy was given the boost it needed to improve its international trade [Britannia, *Part 8: England in the 20th Century*, 2000].

The 'Britain Can Make It' exhibition was held at the Victoria and Albert Museum in September 1946. Organised by the Council of Industrial Design, the aim was to improve and promote British design [Woodham, 1997, pp.119-121]. Although popular with the visiting public, it gained the nickname 'Britain Can't Have It' as many of the exhibits were intended for export only, or had not yet been brought into full-scale commercial production by the time of the exhibition. The main intention was to promote international trade and thereby increase British production and thus boost the British economy.

In August 1946 Reich established Tibor Ltd., and set up a small weaving studio at Clifford Mill, a few miles west of Stratford-upon-Avon [*Cabinet Maker and Retail Furnisher*, 1966]. It was from this base that Reich developed his distinctive deep-textured weaves and brilliantly coloured prints, both destined for contract and domestic furnishing end uses.

Reich's designs were soon acknowledged and success was to follow. In 1947 one of his hand-woven textured fabrics was selected by H.R.H. Princess Elizabeth as a wedding gift presented by the Woolgrowers of the British Commonwealth [*Cabinet Maker and Retail Furnisher*, 1966]. By the late 1940s he was collaborating with furniture manufacturers such as H. K. Furniture Ltd. in the provision of appropriately designed upholstery fabrics for mass production [Farr, 1957, pp.34-37].

By the late-1940s Reich was producing intricately woven textural qualities, created by the juxtaposition of variably-spun yarns and further enhanced by the figurative freedom offered by Jacquard selection. In 1949 he produced his first "deep texture" fabric called "Stratford" as part of an order destined for the United States of America [Hann and Thomson, 1997, p.3]. Many of his woven fabrics can be appreciated at a

distance or studied closely to reveal complex textural effects; this is the essence of his so-called “deep-textural” fabrics.

5. The 1950s

5.1 New design

The 1950s saw a marked development in international trade after the financial difficulties of the immediate post-war period. British design was set to become of importance internationally. Designers such as Lucienne Day and Terence Conran became leading figures. Day's *Calyx* of 1951 was a best seller and epitomized the new wave of British design [Ikoku, 1999, p.10]. British textile design became a leading force, spearheaded by the use of bold new shapes and colours together with new materials such as rayon and other man-made fibres. The aim was to banish memories of the 1940s Utility Scheme restrictions along with any war-time rationing connotations. The new decade would launch a fresh way of combining vibrant colour with cutting-edge design [Ikoku, 1999, p.9].

In 1951, the Festival of Britain marked the centenary of the 1851 Great Exhibition. This centenary exhibition acted as a platform for the promotion of new British design. Opening in London's South Bank in May 1951, the exhibition subsequently toured Britain. The Festival Pattern Group, which had been formed in 1949 by the Council of Industrial Design, decided that designers should be given a design theme relating to crystal-structures. This complemented the overall aim of the festival as "...a shared exhibition of science, technology and industrial design" [Ikoku, 1999, pp.10-11].

The Festival of Britain has been seen by many as a landmark in British twentieth-century design. Two distinct types of development emerged from the event: the first was an interest in scientific advances showing depictions of magnified atoms and the second was the increased awareness of abstract and organic forms typified by the work of designers such as Lucienne Day, Terence Conran and Marian Mahler [Ikoku, 1999, pp.10-11]. This new dawn for British design gained momentum with the end of the Utility Scheme in 1952 [Sword, 1974, p.20].

Tibor Reich was among the designers asked to take part in the festival. One of the fabrics displayed at the time was "Henley" [*Cabinet Maker and Retail Furnisher*, October, 1966]. The series entitled "Atomic" produced as both screen print and weave, was influenced by contemporary scientific advances and was based on his "Colatomic" range [Warwickshire Museum, 1996]. Further reference to the system associated with this range is made in section 6 below.

One of the most successful outcomes from the Festival of Britain was that it encouraged stronger designer/manufacturer relations. Many manufacturers, including Ascher Ltd. and Edinburgh Weavers Ltd.,

established successful working relationships with designers. As a result, the textiles produced were greatly influenced by contemporary abstract art [Ikoku, 1999, pp.10-11].

Farr, in his book *Design in British Industry*, published in 1955, criticised the division that existed between designer and manufacturer. He considered how many firms used designers who had little-to-no experience of working on the loom:

The divorce between design and execution is a serious handicap to the designer. Although he has an accurate knowledge of the mechanical limitations of the looms available, he cannot tell how the colour and texture of the yarns will affect the pattern he has designed. Although for each new design a sample length is woven so that he can compare it with his original pattern on paper, the designer takes no active part in weaving the sample. Because of this designers are looked upon as originators of new patterns and not new fabrics. It follows that the designer's approach to the problem is a negative one. He adheres to the limitations set down and is not prepared to risk any combination of yarns which he has not tried before.

[Farr, 1955, p.80]

Tibor Ltd. was a unique exception to this rule as Reich worked as both designer and weaver, giving him an insight into both stages of design and production. His time at the University of Leeds had helped to develop both of these skills. By 1950 Tibor Ltd. was employing forty-five weavers using both handlooms and power looms in the production of furnishing fabrics [Farr, 1957, p.86].

5.2 Consumerism

Allied with developments in consumerism, the 1950s was an important decade for British design. As unemployment in Britain was low (compared to past experiences), the public were encouraged to spend money on themselves and to modernize their homes [Hatton and Boyer, n.d.; Woodham, 1997, pp.119-121]. Once rationing came to an end in 1954, people then had the freedom to buy what they wanted and explore new designs. Good design went hand-in-hand with the new technologies associated with domestic inventions and, together, these revolutionized the way many families lived.

The 1950s was a successful decade for Tibor Ltd. with many notable commissions. In 1951 Reich produced furnishings for the Shakespeare Memorial Theatre. These included:

Macbeth (a heavy bouclé with gold thread in brilliant scarlet on dusky grey) for the bar, *Cymbeline* (a dull scarlet with square spots of gold

thread) and *Cardinal* in burgundy for auditorium seats and in forest green for the dress circle bar couches.

[Pringle, 2005]

Further commissions included furnishing fabrics for public buildings, hotels and ships as well as for Mexican, Cuban and American airlines [Warwickshire Museum, 1996]. Several fabrics were designed for G-Plan including “Como” and “Henley”, and upholstery fabric designs were commissioned by both Vauxhall and the Standard Motor Company. Ranges of carpet designs were produced for I. & C. Steele (of Banbury) in 1952 and for the Wilton Royal Carpet Factory Co. Ltd. in the same year [*Cabinet Maker and Retail Furnisher*, October, 1966].

Reich developed his “Collingo system” in 1953. This was based on the belief that colour should be considered in a systematic manner. He described it as a “decimal colour code” where colours were divided into groups and associated with shades and tints that worked well together e.g. group A comprised: 1- grey to black, 2- stone to brown and 3- pale lemon to deep gold [File of various un-dated documents held at ULITA].

In 1953, Tibor Ltd. collaborated with various manufacturers in the preparation of a touring exhibition consisting of fabrics co-ordinated with furniture and carpets. He worked with S. J. Stockwell and Co. (Carpets) Ltd. in a new venture to sell their products as a package [Farr, October, 1957]. The carpets (also designed by Tibor Ltd.), curtains and furniture were displayed together in magazine advertisements as well as in department stores. This gave the customer the potential to buy all their furnishings together without having to visit each section of the department store to choose individual product components. The principle followed was that the customer would be freed from matching colours and designs. [Farr, October, 1957].

Reich developed further his deep-textured weaves using Jacquard looms and, in 1954, introduced the first texture print, “Raw Coral” [*Cabinet Maker and Retail Furnisher*, October, 1966]. “Isis”, a small-scale-figured effect, his best selling upholstery fabric, was produced in 1955 and continued to be produced for many years afterwards [*Cabinet Maker and Retail Furnisher*, October 1966].

5.3 Fotexur

Reich was a keen photographer and exploited the potential of photographic images in the development of patterns from a range of natural sources. One of his favourite sayings was, “Nature designs best” [Hopgood and Hopgood, 1996]. In the mid-1950s he developed a system of pattern design, known as “Fotexur”, by which sectionalised

photographic images (in positive and/or negative form) were rearranged in regularly repeating patterns for application in either printed or woven form [Farr, 1957, p.53]. Reich's first printed fabric to incorporate a design based on this method was entitled "Flamingo" and won the Council of Industrial Design award in 1957 [Shakespeare Festival Celebrations brochure, n.d.]. Fotexur weaves and prints were received enthusiastically by both manufacturers and consumers.

Michael Farr saw this new technique as a step in the right direction for British design. He observed that the Fotexur method, although taking nature as its principal source, stepped beyond visual expressions that could be classified simply as floral or geometric [Farr, *Design*, no.100, April, 1957].

5.4 Innovations

In 1957 Tibor Reich moved into his new family home in Stratford-upon-Avon. Reich had contributed substantially to the design of the new house which was on the cutting edge of design and, at the same time, worked to address his family's needs. The house was referred to as "...a machine for living" and incorporated a number of novel features including texture tiles, screen-printed glass and inlaid concrete. Some of these ideas were taken up later by industry. [*Furnishing*, April, 1958; *Cabinet Maker and Retail Furnisher*, October, 1966]. His house was also conceived partly as a testing ground for many of his products, including his furnishing fabrics, carpets, pottery, plastics and glass [*Furnishing*, April, 1958].

In the late 1950s Reich held consultancy positions with a number of companies including the Bigelow and Sandford Carpet Company based in the U.S.A. (*Cabinet Maker and Retail Furnisher*, October, 1966). Probably the most notable design produced by Reich in the 1950s was a wall hanging which was commissioned by I.C.I. and entitled "History of Shapes". This piece was woven on a Jacquard loom in *Ardil* (an I.C.I.-produced protein fibre, regenerated from shelled groundnuts), spun silk and metallic yarns. Subsequent to weaving, the piece was screen-printed with a narrative pattern consisting of a series of sketches depicting the history of Britain from ancient times [Farr, 1964].

Reich also found time to develop his own range of pottery called "Tigoware". He became a consultant for Denby Pottery in 1953. Like other successful designers of the era (including, for example, Terence Conran, who worked for Midwinter) Reich was chosen to bring flair and a sense of contemporary design to the pottery being produced by Denby. By the first decade of the twenty-first century, Tigoware was highly sought after by both collectors and connoisseurs [Goodfellow, 2009]. His

pottery was distinctive, characterised by its textured black matt finish, decorated with *sgraffito* designs, a technique where the top layer is scratched to reveal a contrasting colour below the surface, in this case, exposing a white earthenware body beneath [Warwickshire Museum, 1996].

6. The 1960s and 1970s

6.1 A passion for colour

New design continued to be a driving force in the early-to-mid 1960s. The trend had changed to abstract and geometric patterns influenced by contemporary art. Mechanised screen printing was a popular choice for designers and manufacturers as it allowed the production of appropriate designs at economic costs. Reich took advantage of this popularity for colourful screen prints and, as a result, many of his 1960s prints showed the use of contemporary design at realistic and affordable prices. Many popular geometric and floral prints were produced as a result.

The 1950s and 1960s were an opportunity for Reich to exploit his knowledge and skill in the use of colour. He once said, “I love all colours and enjoy the whole palette” but the colours must have “...sufficient amount of clarity and vibration, quality and strength so that when they are blended or placed together they give enough satisfaction to the viewer.” [*Cabinet Maker and Retail Furnisher*, October, 1966].

In March 1960, Reich exhibited his so-called “Colatomic” range, based on a photograph of an atomic structure [Garret, 1960]. One particular design entitled “Atomic” came in fourteen colourways. Each colourway contained four tones of a single colour, and thus gave the appearance of depth in fabric form. There were three principal colour groups: red, blue/green and green/ yellow. This meant that the range of tones within each group of colours both contrasted and worked together [Garret, 1960].

The ‘Colatomic’ range was intended to allow the consumer to mix colourways in one setting. Stephen Garrett, a design journalist of the day, commented:

By careful selection of the colourways ... it should be possible to get the exact overall colour effect that is wanted. A ‘paint box’ is thus provided from which the right colours can be selected and mixed.

[Design, March, 1960]

This flexibility of design gave homeowners the opportunity to pick and choose colours to suit their moods. His “Colatomic” designs can be seen as a logical extension to his earlier work in pattern making and experiments in deep textures, as well as his collaboration with S.J. Stockwell & Co. Ltd., where the consumers were given guidance to choose designs for their home décor.

6.2 Continued success

In 1960 Tibor Ltd. produced an upholstery fabric design with the title “Buckingham” for Ercol (the furniture company) and this fabric remained a best-seller for many years subsequently. In 1961 more deep-textured fabrics such as “Ancora” (which had a ‘knitted look’) were produced [*Cabinet Maker and Retail Furnisher*, October, 1966]. Further innovation followed in 1962 with the creation of a smoother look and the introduction of a multi-dye technique as well as the use of space-dyed yarns [*Cabinet Maker and Retail Furnisher*, October, 1966]. In the same year an exhibition of raw-silk type curtain fabrics was presented at the Ceylon Tea Centre in London [*Cabinet Maker and Retail Furnisher*, October, 1966]. The production of exclusive woven or printed wall hangings continued, with commissions from the Board of Trade, Coventry Cathedral and the University of Manchester [Warwickshire Museum, 1996]. Apparently “six miles of fabric” were produced by Tibor Ltd. for the Piccadilly Hotel in Manchester in 1964 and, in 1968, woven curtaining fabric was produced exclusively for Windsor Castle Library [Warwickshire Museum, 1996].

In 1963 Reich was able to indulge another one of his passions. He opened Tiatsa on Ely Street in Stratford-upon-Avon, a museum that exhibited textiles, model cars and stamps. It combined his love of collecting with his love of textiles. The museum building was a 400-year-old Elizabethan mews. According to one of their pamphlets, it contained a model transport museum with a collection of 16,000 model cars and transport miniatures of the previous one hundred years, from thirty-eight countries; this was based on a private collection started by his sons Anthony and Alexander Reich. In addition to a model car museum at Tiatsa, there was also an exhibition of stamps celebrating important events in the U.K. (Reich had been a keen stamp collector since childhood). The rest of the building housed a textiles gallery and a boutique [Tiatsa pamphlet, n.d.].

The decade was further marked by the production of ranges of wall hangings and furnishing fabrics for the Shakespeare Centre in Stratford-upon-Avon (1964). Using his ‘Fotexur’ technique, he designed his Shakespeare range (referred to by the company as S.400) [*The Ambassador*, 1964]. The ‘tapestries’ that were hung in the Shakespeare Centre included “Cleopatra” in green/ grey ‘taslon slub’ [Pringle, 2005].

In 1965, following two years of research into the origin of traditional Hungarian designs, Reich presented his “Modern Magyar” collection (consisting of co-ordinating prints and weaves) at his London showroom in Sloan Street [*Cabinet Maker and Furnisher*, October, 1965]. The print designs were on 100-per-cent cotton, and relied on the use of a wide

range of floral motifs sourced from traditional Hungarian embroidery [*Cabinet Maker and Furnisher*, October, 1965]. The weaves were produced with British spun yarns, dyed in a palette of colours typical of Hungarian traditional costumes. He commented that he had, "...discovered a fund of motifs which are as distinctive from district to district as are Scottish tartans" [*Cabinet Maker and Furnisher*, October, 1965].

One example from the "Modern Magyar" collection is "Matjo" (sometimes spelt "Matyo") a screen-printed textile named after a Hungarian province. The floral design managed to fuse both the styles of his native Hungary with the fashion for screen-printed-floral patterns in the 1960s. The collection combined a "Western feeling for colour though peasant crafts and motifs from Eastern Europe" [*Cabinet Maker and Furnisher*, October, 1965].

One of the commercial highlights for Tibor Ltd. in the 1960s was a commission to design the first sets of upholstery and curtain fabrics for the Anglo-French Concorde (prior to trial flights in 1968) [*Cabinet Maker and Retail Furnisher*, October, 1966]. Five Jacquard upholstery cloths, in natural and gold were used as curtaining fabric along with two carpet designs [*Cabinet Maker and Furnisher*, October, 1965].

The year 1969 saw the anniversary of the first Shakespeare festival in Stratford-upon-Avon which had been organized two-hundred years previously by the actor and writer David Garrick (1717- 1779) [Royal Shakespeare Company website]. It became known as "Garrick's Jubilee". Reich produced a panel called "Portraits" to celebrate this bi-centenary. The panel depicted images of Shakespeare and Garrick. He commissioned local artist Freda Goitein to produce the portraits in mosaic and then screen printed the mosaic images [Shakespeare anniversary leaflet, n.d.]. He also re-produced a hand drawing of Shakespeare's birthplace as a print on Irish linen, and this was sold to the general public as a souvenir either for use as a tea towel or as a wall decoration [Shakespeare anniversary leaflet, n.d.].

6.3 Fabrics for schools, hospitals and colleges

The 1970s were devoted primarily to designing fabrics for schools, hospitals and colleges (Reich, F. 1978). Several large-scale woven hangings were produced also; one such piece entitled "Taming of the Shrew" was exhibited at the Jerusalem National Theatre during the Shakespeare Festival in 1977 [Hann and Thomson, 1997, p.4]. The substantial contribution made by Reich in the field of textile design was

recognised in 1973 by the award of the Textile Institute Medal for Design [*Textile Institute and Industry*, December, 1973].

By the 1970s, Clifford Mill employed over forty weavers on both hand and power looms and 'Tibor' cloth was sold at major department stores across the world. Clifford Mill closed in 1978 due to a risk of flooding.

7. Weaving Techniques

The Tibor Reich collection at the University of Leeds International Textiles Archive (ULITA) exhibits several interesting features. His life's work was focused overwhelmingly on furnishing weight cloths and many of the fabrics are woven using plain-weave derivatives. The use of more advanced weave structures is also evident. There are many Jacquard samples which display a sophisticated knowledge of complex weaving and demonstrate amply Reich's technical understanding. This section highlights some of the significant features of the woven fabrics held in the Collection at Leeds, and includes an appraisal of the methods of working and the categories of woven structures used.

7.1 Methods of working.

Analysis of a large number of woven pieces held in the Leeds Collection has provided an insight into some of Reich's working methods. Two of these are worthy of note. First, in common with many designers, is the use of blanket warps as a convenient means for producing a large number of different samples with the least amount of machine downtime. The second is the use of a restricted range of warp yarn colours, allowing the weft yarns to provide distinguishing features. Each of these two procedures is explained briefly below.

The use of blanket, or section warps allows the production of a large variety of samples with the minimum weaving effort. The warp is split into sections across the width of the loom. Each section is distinguished from the others by either a colour change or a change in the colour plan. The weft is then woven in sections. As a result, each crossing of a different warp and weft section results in a different sample.

In the Tibor Reich Collection there are several samples indicating the use of blanket warps presumably as a means of exploring the effects produced by a change in colour plan (i.e. the order and proportions in which the colours are arranged). Woven in two colours, the samples show the crossings produced when stripes of different proportions are used in warp and weft. There is evidence that the most successful of these crossings were developed further in alternative colourways.

Analysis of the Collection has indicated the use in many instances of fine worsted yarn in the warp. Invariably this yarn will be entirely of one single colour; so very specific (and sometimes complex) colour plans were avoided. Such warps provided the basis for designs which required the use of textured weft yarns, and these textured yarns yielded the bulk of the visible pattern.

7.2 Predominance of plain-weave derivatives.

Plain-weave derivatives are, as the name implies, based upon the simple interlacing of plain weave, in which each thread follows an interlacing of over one, under one. In the derivatives, instead of threads working individually, groups of warp and/or weft work together following a plain-weave interlacing. Plain-weave derivatives offer the facility of producing a class of weaves known as “cords”; the term is frequently applied to fabrics that show ribs running the length of the fabric. Typically warp and weft cords use warp and weft yarns with a significant difference in linear density (thickness). The thicker yarns work in groups, and form the core of the 'cord'. The thinner yarns are tightly sett (spaced) so that they wrap around the thicker core yarns, completely covering them and making the surface of the cord. The structure is usually characterised by distinct cords or ribs running either vertically or horizontally across the fabric.

What differentiates the cords in the Reich collection is their atypical appearance. Rather than forming cords, it appears that the intention is to produce a structure that closely resembles a balanced plain weave. This stems from his method of using a standardised warp of fine yarns. In order to produce a cloth that appears as a balanced plain weave when using a thicker weft yarn, it is necessary to group the warp yarns together, forming a weft cord. This is the reverse of the normal practice of grouping the thicker yarns. The result is a fabric that is hard to distinguish from plain weave, with no obvious cord characteristics.

7.3 Methods of weft insertion.

The normal practice of weft insertion is to introduce each new weft pick individually into the fabric structure. This results in a cloth where each new weft pick lies neatly next to the one before. Reich, however, broke away from this convention. A high proportion of the woven items in the Collection have two or three weft yarns adjacent to each other, without interlacing separating each from others. They were therefore inserted into the same shed during manufacture. As a result, instead of lying side by side, they wrap around each other, effectively forming a new yarn. Frequently this is done using yarns of varying textures and colours. This results in a sample that appears to be of a single texture and shade, due to the effects of optical colour mixing. When Reich used newly-available yarns such as Lurex, this method was employed as a means of controlling their effect within the cloth.

7.4 Jacquard-weaving techniques.

In order to obtain large-scale figured effects it was invariably necessary to use a Jacquard loom. Jacquard-woven fabrics make up a large proportion

of the woven items held in the Leeds Collection. Such fabrics are potentially complex in design, and often show large-scale imagery (over large numbers of weft and warp threads). Light and shaded areas were introduced by using particular types of weave structures. Many of the Jacquard-woven samples demonstrate that Reich had a sophisticated understanding of cloth construction and was readily able to introduce complex structures in novel and innovative ways. Two main techniques used by Reich are worth noting.

The first technique relied on the use of combinations of warp- and weft-faced weaves, based on traditional Damask design. These are most effective when a contrast of colour between warp and weft is used. The warp-faced weave ensures that the warp colour predominates on the surface, while the weft-faced weaves bring the weft colour to the surface.

The second technique used interchanging weft-backed structures. These structures are compound structures, produced using a single set of warp threads and two sets of weft threads; invariably the warp threads are finer than the weft threads. The weft yarns travel either predominantly on the face or predominantly on the back. In order to create the figured design they swap places.

An insight into Reich's theoretical and practical understanding of woven fabric structure can be gained from examining the structural characteristics of the woven items held at Leeds. He used simple structures in novel and inventive ways and also possessed a sophisticated understanding of the complexities of Jacquard weaving. A willingness to use unconventional colour combinations is also readily apparent. While using traditional methods of working, including blanket warps, Reich showed a willingness also to explore innovative and non-commercial methods.

8. In Conclusion

Tibor Reich was a designer and manufacturer, a rare combination in Britain during the 1940s and 1950s. His time spent as a student at the University of Leeds imbued him with a deep understanding of not only the aesthetic aspects of woven textile design, but also the relevant processing technology. This was in contrast to many of his contemporary British designers who, in the main, were graduates of the British art college system which traditionally placed less emphasis on design realization (where design went hand-in-hand with the relevant processing technology) and more on design evolution and development. Tibor Reich's success, as a designer working in post-war Britain, probably stemmed in part from his capability in handling both sides of the design and manufacturing coin. This, allied with his creative flair, inventiveness, willingness to experiment and entrepreneurial awareness, ensured commercial success in a market hungry for newness and innovation.

From his base at Clifford Mill near Stratford-upon-Avon, he continuously exploited the full potential of both dobby and Jacquard looms in the production of his deep-textured fabrics. His products provided a new perspective on British domestic furnishings. He recognised the benefit of new fibres and novelty yarns, and developed an innovative photographically-based system for pattern arrangement. Tibor Reich insisted that "...even the most inexpensive cottons for domestic and school use should look exciting" [*Cabinet Maker and Retail Furnisher*, October, 1966]. Some of his most striking fabrics were produced for display in public buildings. This perspective can be attributed to his early years training at the University of Leeds during the 1940s, a time of war-time rationing restrictions. [*Cabinet Maker and Retail Furnisher*, October, 1966].

Reich collaborated on numerous occasions with furniture and carpet manufacturers and created an extensive series of wall hangings and other fabrics for public buildings in the U.K. and abroad. His list of clients included Cunard, Concorde, the Lotus car company and the Shakespeare Anniversary Council. His commissions were numerous and included fabrics for the British Royal Family, 10 and 11 Downing Street, several embassies and national airlines, the Shakespeare Centre in Stratford-upon-Avon, Coventry Cathedral, the University of Manchester Theatre, numerous cruise liners and, as noted above, Concorde. His work on G-Plan and Ercol furniture epitomises fashionable design of the 1950s and 1960s.

He was also renowned for his warm personality, enthusiasm and strength of character:

But without question the principal factor that has made Tibor Ltd. what it is and helped it achieve more than most firms in twice and thrice the time is the character of Tibor Reich himself- almost a childlike curiosity about both simple and complicated things, love of experiment and of nature, fascination for and magic skill in dealing with colours and with all this and without which nothing really worth while is ever attainable a large amount of idealism. In Freda Reich, his wife he has always had an enthusiastic supporter and team-mate.”

[*Cabinet Maker and Retail Furnisher*, October, 1966]

His designs are still popular and very collectable today. Tibor Reich died in 1996 at the age of 80.

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