

DIGITAL TEXTILE DESIGN

MELANIE BOWLES AND CERI ISAAC





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This book has been produced by CENTRAL SAINT MARTINS
BOOK CREATION
Southampton Row, London,
WC1B 4AP, United Kingdom

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A catalogue record for this book is available from the British Library.

ISBN: 978 1 85669 586 2

TEXT BY Melanie Bowles and Ceri Isaac Additional text for chapter 6 by Amanda Briggs Tutorials 20 and 23 by Kenny Taylor

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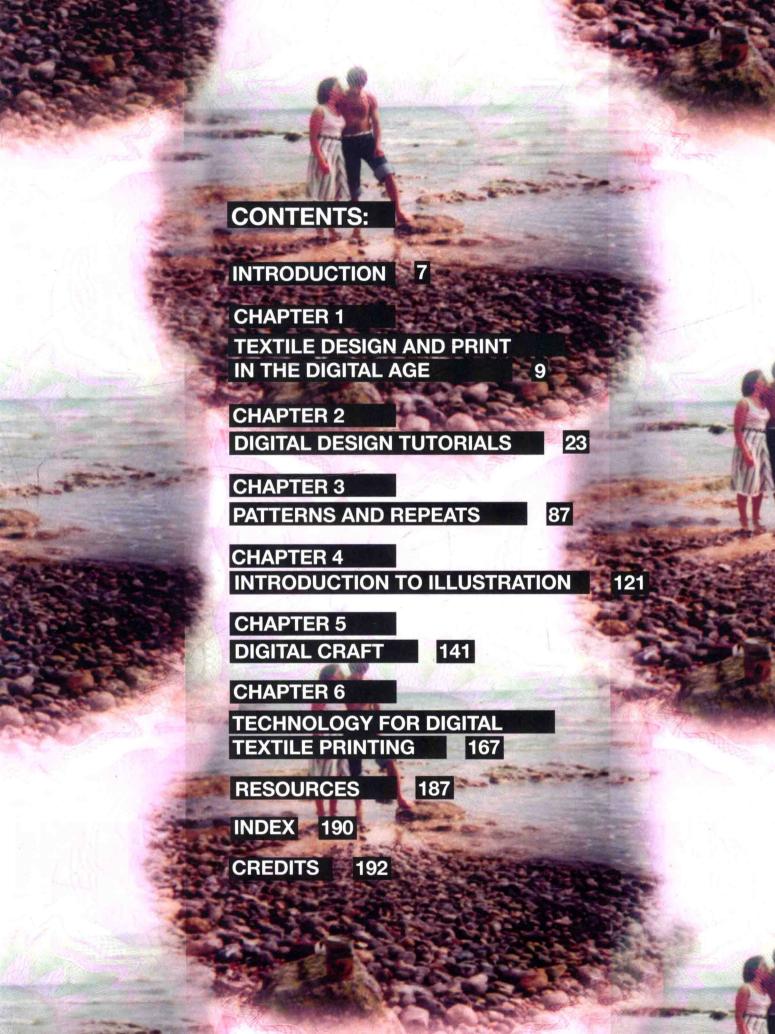
PICTURE RESEARCHERS:

Ellie Mathieson and Dorcas Brown

Cover: textile design © Lucinda Abel; photography by Vivien Fettke; model, Rachel Sylvester; makeup by Imanni

Melanie Bowles dedicates this book to Eve, Maya, and Ben

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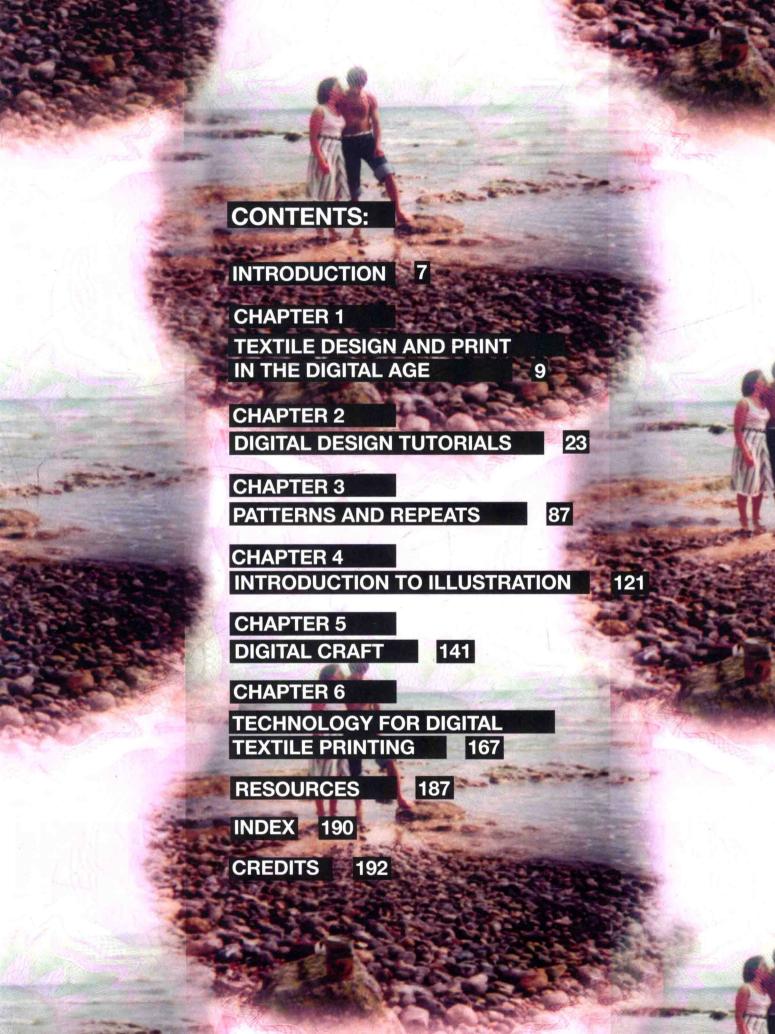
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INTRODUCTION

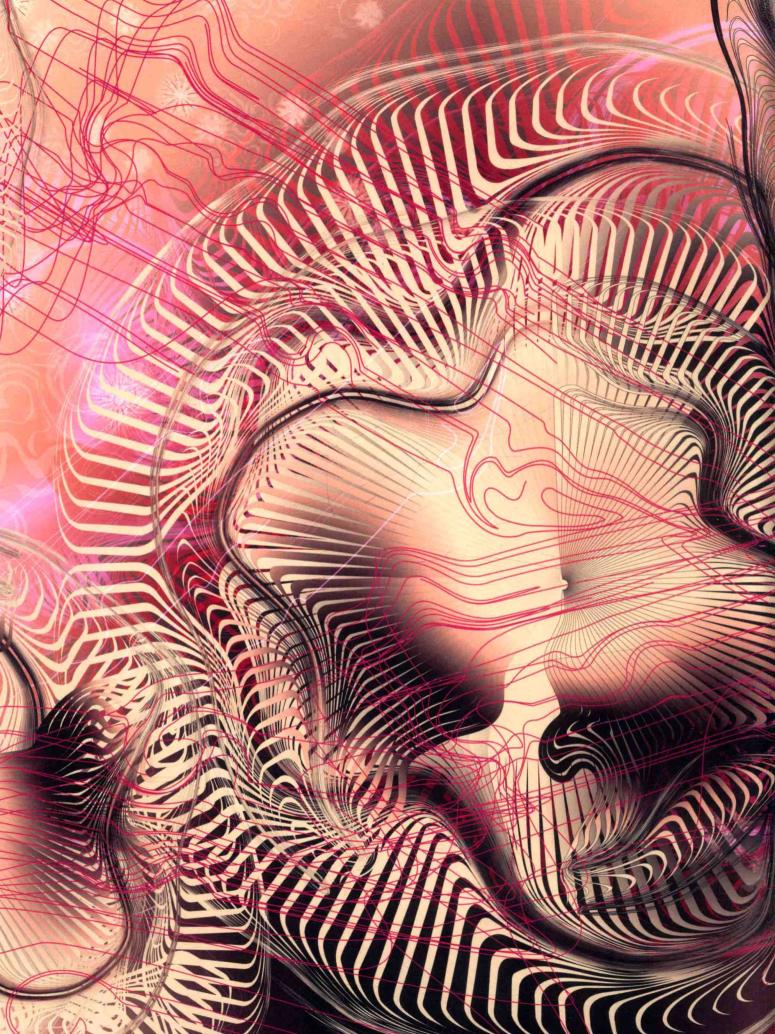
Digital technology is changing the face of textile design, from methods of creating and presenting designs to the ways in which they are realized. Working in a digital environment, designers are afforded more time to experiment, explore, and create, while manufacturing technologies offer innovative new printing solutions. This practical and inspirational book examines a new era of textile design and features clear tutorials and case studies revealing how digital techniques are being employed in the fashion-, interior design-, and home furnishings industries.

The development of digital printing onto fabric is changing printing methods and removing the restrictions that textile designers have traditionally faced: freed from concerns about repeat patterns and color separation that are key considerations in screen- and roller printing, designers are able to work with thousands of colors and create designs with a high level of detail. There is also greater freedom for experimentation, facilitating one-off production as well as smaller print runs and prints engineered specifically to fit the form of a garment.

Software programs such as Adobe Photoshop and Illustrator present the perfect platform for textile design. These have become the industry standard tools for textile designers, offering them the freedom to work with both bitmap and vector-based imagery, manipulate drawings and photographs, and create accurate details and graphic effects.

While digital printing allows a rich mix of layered imagery, the surface and tactile qualities associated with some methods of traditional printing can be lost: as a result designers are finding ways to put these qualities back into the fabric using techniques such as overprinting and embellishment, and this combination of digital and handcrafted techniques has even created a new hybrid craft.

Whatever your interest in textiles – whether you are a student or professional, designer or producer – you will find this to be an essential and comprehensive guide to an exciting new field that is pushing the boundaries of textile design.





NEW DIRECTIONS IN TEXTILE DESIGN

As the most significant advance in fabric-printing technology since the invention of the silk screen, digital textile printing is bringing about a revolution in textile design. Designers are seeking inspiration from previously unexplored sources, and a new visual language for surface design is starting to evolve.

The cross-disciplinary use of graphics software, digital photography, video, and special effects by a hybrid generation of young designers is creating a new look for printed fabrics. Fashion designers such as Issey Miyake, Hussein Chalavan, and Comme des Garçons are breaking new ground with the creation and use of highly innovative prints that make little reference to traditional patterns: florals have been reinvented through the use of photography, and geometric designs as the focal point of a garment have been given a futuristic edge by designers such as Jonathan Saunders. There is also more scope for the use of large. engineered or placement prints where the artwork is tailored to fit the structure of the garment. Designers working in other areas such as costume-, theatre-, interior-, and product design are also finding it easier to involve themselves in the creation of surface designs for their work. The accessibility of this technology through the use of service bureaus also makes it possible for artists and designers who do not have specialist knowledge of textile printing to design and produce their own fabrics and decorative surfaces.

The use of digital print is relatively new and, due to its high cost, is only really feasible at the high- and middle ends of the fashion and textile design industry (as demonstrated by the range of examples shown in this chapter). But already it is drawing together disciplines such as textiles, fashion, and interior design, changing the way that designers work. Increasingly, the integration of print is becoming as vital to the designer's vision as the form of the garment or product itself due to the immediacy and spontaneity of digital tools.

This chapter looks at the impact of this new technology on textile design and explores the work of both well-known and emerging designers who are using computer-aided design and digital print to their full potential throughout a wide range of applications.





From top to bottom:

Danish designer and Central Saint Martins graduate Dorte Agergaard Jensen places everyday objects in unusual contexts, as seen in her range of printed bed linen.

Surface designer Helena Britt has used digital printing to create a distinctive collection of interior products, printing on materials ranging from canvas to leather.

This Paul Smith bag is digitally printed with trompe l'oeil soccer ball designs, and features the ubiquitous Paul Smith stripes.



DIGITAL TEXTILE PRINTING

The digital printing of textiles grew out of reprographic technologies originally developed for paper- and signage printing, and it now offers the same advantages to the textile industry that digital production affords the paper- and banner printing businesses. For individual designers and hobbyists it is analogous to the rise of desktop publishing, albeit more costly. The reason why the technology has been slower to emerge in the textile industry was because of the need to develop suitable inks and large-format printers specifically designed to accommodate woven as well as stretchable cloth. The emergence of largeformat digital-textile printers, such as the Mimaki in 1998, and then the release of industrial-scale printers in 2003 by companies such as Konica, Minolta, Reggiani, Robustelli, and Dupont, means that there is now the potential for major changes in the textile and fashion industries in terms of increased speed and long-run capability. The introduction of the ISIS printer by OSIRIS in 2008 may even mean that the speed of inkjet printing machines may begin to rival that of traditional rotary screen printing.

Digital printing has perhaps four main advantages over traditional print: speed of translation of the design onto the fabric; the ability to print intricate details and millions of colors; the possibility of producing very large-scale images; lessened impact on the environment. Traditional methods of printing based on processes similar to stencilling-including silk screen, woodblock, and gravure-first require that a separate template for each color be made, and for the image to then be built up in stages as each color must be laid down separately. The more colors, the more expensive and time-consuming the process, so that the number of colors is limited by practical considerations, often placing considerable restraints upon the designer. Repeated patterns are the norm in industrialized traditional textile printing, and very large-scale images are also impractical as the size of the design is constrained to the exact measurements of the template.

Digital printing means that there is virtually no limit to the kinds of images that may accurately be reproduced using inkjet technology. It is this exciting advantage that has paved the way for the new styles of design that are explored in this chapter.

From top to bottom:

Jonathan Saunders' minimalist prints blend into the undecorated parts of this garment through the use of solid colors that match elements of the print design.

Giles Deacon's bold print shows how digital tools may be used to create special effects through the abstraction of an image.

Brooke illustrates two main advantages of digital print: it allows the use of a large number of colors, and it enables the designer to engineer the print to the form of the body. It would be possible to print this using traditional methods, but preparing a template for each color would be time-consuming and costly:





A NEW VISUAL LANGUAGE

Historically, the introduction of new technology does not usually result in an immediate change in design styles. Initially, design for any industrial application continues to follow the style associated with the preceding technology; the first motorcars, for example, were designed to resemble horse-drawn carriages. Change only begins to occur once practitioners come to understand the potential of a new technology and are comfortable with it.

Heat-transfer printing aside, the introduction of inkjet printing for textiles has meant that textile designers are now able to catch up with graphic designers by exploring the possibilities of computer-aided design (CAD). The early design styles that resulted from the introduction of digital imaging were often obviously computer-generated; the focus was on displaying technology for its own sake rather than using CAD as a tool for achieving a more sophisticated visual effect. A more mature style of digital textile design is now evolving due to increased experimentation by designers, who are creating designs based on scanned or digitally photographed subjects, facilitating effects such as trompe l'oeil as well as graphic and illustrative styles that are only possible using computerized drawing and manipulation tools. Designers are also beginning to combine digital print with traditional techniques to create a new digital craft, which is explored in Chapter Five.

DIGITAL SURFACE DESIGN AND PHOTOGRAPHY

The use of photography first became noticeable in textile design in the 1960s and 70s, when dye-sublimation (or heat-transfer) printing onto synthetic high-polymer-content fabrics such as polyester first became prevalent. As software packages that could manipulate imagery, such as Adobe Photoshop, were not yet available, designs tended to be based on photomontage or collage, such as the ubiquitous "disco" shirts of the 1970s.

Being able to manipulate and transform an image digitally means that incorporating photography into textile design is now much more sympathetic to the nature of cloth as a material. Cloth comes to life in a way that paper does not: it moves, reflects light, and is often transparent or highly textured. Photographs formatted as if for printing onto paper can make a stark and incongruous statement when translated onto fabric. Designing a textile often involves a very different sensibility from that inherent in pure photography. On paper, photographs are usually intended as narrative documents, whereas the hybrid use of photography in textile design has begun to create a very different style in which the image is subtle or abstracted.