BRITISH COLOUR CINEMA
PRACTICES AND THEORIES

EDITED BY SIMON BROWN, SARAH STREET AND LIZ WATKINS

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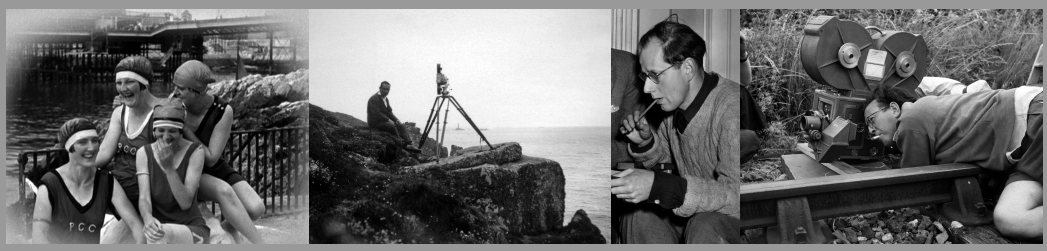

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A BFI book published by Palgrave Macmillan

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First published in 2013 by
PALGRAVE MACMILLAN

on behalf of the

BRITISH FILM INSTITUTE
21 Stephen Street, London W1T 1LN
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Cover image: LEON NEAL/AFP/Getty Images
Designed by couch
Set by Cambrian Typesetters, Camberley, Surrey

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British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library
A catalog record for this book is available from the Library of Congress

ISBN 978–1–84457–413–1 (pb)
ISBN 978–1–84457–414–8 (hb)
eISBN 978–1–83871–479–6
ePDF 978–1–83871–480–2

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ACKNOWLEDGMENTS

We would like to thank the many people who shared their experiences of working with colour film. All were generous with their time and helped us to bring together this collection of memories and documents that we hope contributes towards a greater understanding of the collaborative nature of the filmmaking process, particularly regarding colour. The book was one of the outcomes of a project funded by the Arts and Humanities Research Council, which we would like to thank for its support. As well as the many people we interviewed who feature explicitly in this book, we would like in addition to acknowledge assistance at several key points from Sonia Genaitay, Luke McKernan, Steve Neale, Elaine Burrows, Frances Russell, Duncan Petrie and the late Les Ostinelli. We would like to thank Kieron Webb and Ulrich Rüdel for responding to some of our more technical questions and the British Film Institute Library staff for their support. Rebecca Barden at BFI Publishing has supported this project throughout, and we thank her for her input at crucial stages of its development. We are very grateful to Richard Chatten for additional proof-reading and for his enthusiasm for the project. We also thank Sophia Contento at BFI Publishing/Palgrave Macmillan, and Belinda Latchford for copy-editing/proof-reading. Every effort has been made to trace all copyright holders, but if any have been inadvertently overlooked, the publisher will be pleased to make the necessary arrangements at the earliest opportunity.

PERMISSIONS

The editors would like to thank the following interviewees for giving up their time and for their kind permission to print the transcripts of their interviews: Chris Challis, Ossie Morris, Duncan Petrie, Paul de Burgh, Kieron Webb, Sonia Genaitay, João S. de Oliveira, Paolo Cherchi Usai, Giovanna Fossati, Ulrich Rüdel and Daniela Currò.

BECTU interviews with Syd Wilson, Dave Davis, Bernard Happé, Frank Littlejohn and Les Ostinelli are presented here by kind permission of the BECTU History Project, <http://www.bectu.org.uk/advice-resources/history-project>.

BECTU interview with Pat Jackson was transcribed by the University of East Anglia (UEA) as part of the British Cinema History Project housed at UEA. The full text is available by contacting the British Cinema History Project via the UEA website. It is reprinted here by kind permission of UEA and the BECTU History Project.

Extracts from Jack Cardiff, 'Shooting *Western Approaches*', *Cine-Technician*, November–December 1944, pp. 112–16 and Ronald Neame, 'A Talk on Technicolor', *Cine-Technician*, May–June 1944, pp. 36–40 are reprinted courtesy of BECTU.

E. S. Tompkins, 'In Defence of "Glorious" Colour', *British Journal of Photography*, 3 March 1944, p. 74 and Robert M. Fanstone, 'Experiences with Dufaycolor Film', *British Journal of Photography*, 7 June 1935, pp. 358–9 were first published in the *British Journal of Photography* and are reprinted courtesy of Incisive Media.

'Preservation of Films', *Kinematograph Weekly*, 13 March 1952, p. 22 and 'Gasparcolour Explained to the R.P.S.', *Kinematograph Weekly*, 31 January 1935, p. 47 are reprinted courtesy of *Screen International*.

ABOUT THE EDITORS

SIMON BROWN is Director of Studies for Film and Television and New Broadcasting Media at Kingston University. Before joining Kingston, he worked for ten years in the BFI National Film and Television Archive, and so has a background in both archiving and academia. His main areas of research are early and silent cinema, British cinema, contemporary American television and colour. His recent work on colour includes 'Colouring the Nation: Spectacle, Reality and British Natural Colour in the Silent and Early Sound Era' (*Film History*, August 2009), and the chapter 'The Brighton School and the Quest for Natural Color – Redux' in the collection *Color and the Moving Image: History, Theory, Aesthetics, Archive* for Routledge, which he co-edited with Sarah Street and Liz Watkins. Outside of colour he is currently editing and writing a piece for a special issue of the *Journal of Science Fiction Film and Television* commemorating the twentieth anniversary of the first transmission of *The X-Files* in the US, and is also writing an article on 3DTV for *Critical Studies in Television*.

SARAH STREET is Professor of Film at the University of Bristol. She has published extensively, including *Cinema and State: The Film Industry and the British Government* (co-authored with Margaret Dickinson, 1985); *British National Cinema* (1997; 2nd edition 2009); *Costume and Cinema* (2001); *British Cinema in Documents* (2000); *European Cinema* (co-edited with Jill Forbes, 2000); *Moving Performance: British Stage and Screen* (co-edited with Linda Fitzsimmons, 2000); *Transatlantic Crossings: British Feature Films in the USA* (2002); *The Titanic in Myth and Memory* (co-edited with Tim Bergfelder, 2004); *Black Narcissus* (2005) and *Queer Screen: The Queer Reader* (co-edited with Jackie Stacey, 2007). *Film Architecture and the Transnational Imagination: Set Design in 1930s European Cinema* was co-authored with Tim Bergfelder and Sue Harris (2007), and was the result of a collaborative Arts and Humanities Research Council-funded project. She is also author of *Colour Films in Britain: The Negotiation of Innovation, 1900–55* (2012) and is a co-editor, with Simon Brown and Liz Watkins, of *Color and the Moving Image: History, Theory, Aesthetics, Archive* (2012), publications which, in addition to this volume, resulted from a research project funded by the AHRC.

Sarah Street is co-editor of two key journals in the field, *Screen* and the *Journal of British Cinema and Television*.

LIZ WATKINS is a Lecturer at the University of Leeds. Her research interests include the significance of colour for film theories of subjectivity, perception and sexual difference. Her research also engages with gesture as an insidious force of discontent in the interactions of body and language. She has published on feminism, film/philosophy and colour in *Parallax*, *Paragraph* and the *British Journal of Cinema and Television*. Liz Watkins's research also includes a focus on the materiality of film and archive. She contributed a case study of the BFI National Film Archive's 2010 colour restoration of *The Great White Silence* (Herbert G. Ponting, 1924) to a collection of essays *Color and the Moving Image: History, Theory, Aesthetics, Archive*, which she co-edited with Simon Brown and Sarah Street for Routledge.

INTRODUCTION

It is significant that a book on the theory and practice of colour should be completed in the year that the winner of the Academy Award for Best Picture, *The Artist* (2011), was black and white, only the second such film to win since *The Apartment* (1960), the other being *Schindler's List* (1993). When reviewing the 2012 ceremony film critic Mark Kermode noted that 'It's amazing how quickly everyone got used to, and then bored with, the idea that a black and white, near silent 4 x 3 film … was about to win the Oscar for best picture'.[1] In his view, despite the hype that made the awarding of the Oscar to *The Artist* unsurprising, it was precisely the fact that the film was in black and white which made the win remarkable. Colour in contemporary cinema is so taken for granted that it only becomes a topic of discussion when attention is drawn to it.

This, Tom Gunning argues, is part of the processes of modernity, in which the 'new' becomes familiar and the wonder which first greeted a new technology, such as colour, 'becomes subsumed in action, then in habitual action, and ultimately in the diametric opposite of wonder, automatism'.[2] However, Gunning argues that wonder does not disappear but 'crouches there beneath a rational cover, ready to spring out again … through aesthetic defamiliarization'.[3] In the same way we take an ordinary household object like a television set for granted until it breaks down and we are forced to reassess its significance in our lives, *The Artist*, at least temporarily, disrupted contemporary complacency with the use of colour in cinema (along with sound) before that same complacency reasserted itself through the predictability of the awards season.

What should not be forgotten is that black and white are themselves colours. While the contemporary concept of a film being in black and white connotes the absence or antithesis of colour, black-and-white films are, nevertheless, colour films. They just happen to use only two colours that do not approximate the world as we normally see it. This is noteworthy because colour in contemporary mainstream cinema is, for the most part, perceived to be used not for artistic purposes but purely to approximate the colour of the real world. Thus a blue sky represents what a blue sky looks like, and a red Transformer, even though computer-generated, nevertheless looks like a red Transformer would look like in the imagination of the director. While colour manipulation is now

relatively commonplace in post-production, especially for example in CGI blockbusters such as *Transformers* (2007) and *Avatar* (2009) where a large proportion of what is on screen does not actually exist outside an imagined virtual space, nevertheless there is a tacit understanding that the purpose of colour is to replicate the colours of the real ('reel' in the case of CGI) world and so part of the 'disruption' is the use of colour in ways that are not merely representative, such as the use of black and white in *The Artist*. But the fact that colour on film is seen to be replicating reality also hides the fact that colour on film is the result of a series of significant creative and technological decisions on the part of filmmakers, technicians and, in the case of restorations, archivists. Decisions about costume and lighting, about grading and the mixing of colour dyes, about photochemical or digital restorations of old negatives, all have impact on the colour which we see on the screen.

The focus of this book is the creative decision-making which goes into the life cycle of a colour film, from production to post-production, preservation and restoration, concentrating in particular upon the British contribution to colour. While Technicolor and Eastmancolor were American processes, British artists, craftsmen and technicians have over the years played a substantial role in the 'look' of colour, particularly Technicolor, in terms of how it was filmed, printed and, more recently, restored. A case in point is Michael Powell and Emeric Pressburger's two acclaimed post-war Technicolor masterpieces, *Black Narcissus* (1947) and *The Red Shoes* (1948). The vibrant colours on display in recent restored prints and DVD releases were filtered through the eyes of British craftsmen such as cinematographer Jack Cardiff, through lab technicians such as Syd Wilson and Jack Houshold, and through restoration experts like Paul de Burgh. This book aims to illuminate the wealth of work, thought and attention to detail which hides behind the seemingly known concept of colour. Colour in film is created, not re-created; interpreted, not represented. This book 'disrupts' assumptions about the process of putting colour on the screen, and encourages the reader to wonder anew.

To fulfil this aim the book presents case studies in three key areas of production, post-production and archiving/restoration. Rather than academic analysis, these chapters are comprised of interviews with key personnel in these areas, some of which are new interviews conducted by the authors, while others were undertaken as part of the BECTU History Project organised by the trade union which represents those working in film and other entertainment industries. These interviews are contextualised by introductions and by documents contemporary to the production and restoration of each film.

Part I highlights the contributions of cinematographers, many of them credited with filming some of the most significant colour films ever made. Their accounts of working with various processes, and of witnessing the arrival of colour in commercial cinema, reveal their pioneering achievements in rising to the demanding challenge of creating colour in the camera. While colour innovation is often credited solely to cinematographers, the interviews and documents show that they were part of a highly collaborative system devising ingenious methods to overcome exacting technical problems. Whether they were grappling with the structures imposed by the Technicolor Color Advisory Service, with bulky cameras or demanding directors, these technicians highlight the significant contribution of British labour to the story of colour film, as well as their mutual respect for each other

as professionals engaged in technical discovery during a key period in the history of cinema and technology.

Part II focuses upon the post-production process, with a series of interviews which illuminate the work of the Technicolor Film Laboratories at Denham. The labs were opened in 1937, just as Technicolor was becoming the industry standard, specifically for the purpose of undertaking the complicated post-production process required to produce Technicolor prints. The labs were subsequently forced to adapt in the 1950s, when the advent of Eastmancolor signalled a shift in colour film production and post-production. The interviews included in this chapter highlight not only the complexity of the post-production process, but also the input of these highly skilled technicians to the final product.

Part III draws together interviews with film archivists, curators and laboratory personnel specialising in restoration to offer an overview of some of the challenges encountered in archival work. Restoration projects tend to be international as well as national and so perspectives from the BFI National Film Archive and PresTech Film Laboratory (London), the EYE Film Institute and Haghefilm Conservation B.V. Amsterdam are offered.[4] The assembled interviews and documents from British and international archives indicate the significance of the provenance of the film materials for histories and theories of film.

Together these chapters demonstrate that colour is a technical, mechanical and interpretive process involving creative decisions at all levels of its development. It is precisely the creativity involved in the production of colour that allows it to be considered not just as professional practice but also through the intellectual rigour of theory. The theory of cinematic colour was discussed as it emerged, particularly with the rise to prominence of colour in the 1930s through to the 1950s.

Part IV reprints some key contemporary documents that reveal the range of opinion surrounding colour films in the 1930s to early 1950s. These documents serve to establish a broader context for thinking about film, and for imagining what it must have been like to encounter colour films for the first time. Their appearance was a puzzle to many industry professionals, as well as to artists, technicians and audiences. What is striking is how so many attitudes towards colour persisted over the decades, and how to a certain extent these are influenced by consistent, fundamental and verisimilar questions regarding the way we expect the world to be depicted on screen.

NOTES

1. Mark Kermode, 'Oscars Over', Kermode Uncut Blog, <http://www.bbc.co.uk/blogs/markkermode/2012/02/oscars_over.html>, accessed May 2012.
2. Tom Gunning, 'Renewing Old Technologies: Astonishment, Second Nature, and the Uncanny in Technology from the Previous Turn-of-the-Century', in David Thorburn and Henry Jenkins (eds), *Rethinking Media Change* (Cambridge, MA: MIT Press, 2003), p. 42.
3. Gunning, 'Renewing Old Technologies', p. 46.
4. Clyde Jeavons, 'The Archive and around the World', *BFI News* no. 49, 1981, p. 4.

PART I

COLOUR AND THE CAMERA:
CINEMATOGRAPHERS

INTRODUCTION

> One cannot over-estimate the tremendous task of creating a satisfactory colour film system.[1]
>
> (John Huntley, 1949)

> I marveled as the first Technicolor camera emerged from its packing case with an air of proud, sleek beauty. It was painted bright blue and its shining chrome fittings reminded me of a brand new Rolls Royce.[2]
>
> (Jack Cardiff, 1996)

When writer and film historian John Huntley wrote these words colour films were not the norm. After half a century of experimentation, three-strip Technicolor had however emerged as the most commercial process and Huntley's book was a celebration of how British filmmakers had responded to the challenge of creating colour in the camera. With perhaps the exception of Jack Cardiff, who wrote a foreword to the book, most British cinematographers were trained to work with cameras that filmed in black and white. Mastering the exacting technical specifications of three-strip cameras, and acquiring detailed knowledge about how best to deploy colour in short and feature films, were problems technicians grappled with for many years. Yet most found working with colour highly rewarding and British cinematographers made ingenious and creative contributions to some of the most celebrated films. Through select interviews and documents this chapter recounts some of the trials and tribulations experienced by a number of key technicians who share their varied histories of and encounters with colour. Details of their careers and key films are included before each interview, and documents have been reproduced to support and illustrate some of the issues, films and points raised in the interviews.

The chapter begins with an interview with Chris Challis undertaken in 2008, supported by insertions from an earlier interview conducted as part of the BECTU History Project in 1988. Challis recalls the early years of Technicolor and of working with the Color Advisory Service established by the company in order to regulate use of its technology and its application. As in many of the other interviews, Natalie Kalmus, head of

Technicolor's Color Advisory Service, features as a figure who, in the opinion of Challis and many other technicians, imposed restrictions on the creative deployment of colour. The interview contains a considerable amount of technical detail about cameras, lighting and printing, and Challis tells of the challenges of working in locations across the world. He shot a great number of films over the years, and worked with filmmakers associated with colour, most notably with Powell and Pressburger on *The Tales of Hoffmann* (1951). Since many of the cinematographers interviewed grew up with Technicolor, they subsequently witnessed the ascendancy of Eastmancolor from about the mid-1950s. While films continued to be processed with Technicolor, the single-strip Eastmancolor stock meant that the Rolls Royce camera so admired by Jack Cardiff and other technicians was no longer needed.

The interview with Pat Jackson, conducted as part of the BECTU History Project in 1991, affords a case study of the logistical and other difficulties of filming *Western Approaches* (1944). Although Jackson directed the film, information on Jack Cardiff's colour cinematography and experiments with monopack, are recounted in detail. The interview is supported by Cardiff's first-hand account of this film, published in 1944. Jack Cardiff is mentioned many times by the interviewees. We were not able to interview him for this project because of his ill health towards the end of his life, but readers are referred to his autobiography, *Magic Hour* (1996), as well as to Justin Bowyer's book of interviews with Jack Cardiff which cover the production circumstances of the many films he shot, including those in Technicolor.[3] Ossie Morris, the third interviewee in this chapter, furnishes an extensive account of a long career as a cinematographer. It ranges from early experiences, learning his craft, working with celebrated directors and, in particular, the details of his distinguished experiments with colour on *Moulin Rouge* (1952) and *Moby Dick* (1956). At the end he discusses a question we asked several interviewees as to whether a 'British School of Technicolor' existed, and he comments on the impact of the different qualities of light in California and Britain. Yet again there is a fairly dismissive reaction to Natalie Kalmus, whereas her British counterpart Joan Bridge is generally admired. The interview extracts in the last part of the chapter come from interviews conducted by Duncan Petrie in the 1990s which he kindly allowed us to reproduce. They are particularly interesting because they include lesser-known figures who were nevertheless important in the history of British colour cinematography. Finally, some documents provide additional contemporary contexts for the chapter.

NOTES

1. John Huntley, *British Technicolor Films* (London: Skelton Robinson, 1949), p. 15.
2. Jack Cardiff, *Magic Hour* (London: Faber and Faber, 1996), p. 46.
3. Justin Bowyer, *Conversations with Jack Cardiff* (London: Batsford, 2003).

INTERVIEW
CHRISTOPHER CHALLIS, BSC, FRPS

Chris Challis was born on 18 March 1919 in Kensington, London and attended school in Wimbledon. He entered the film industry, working as a camera assistant on Gaumont-British newsreels before working at Denham Studios when three-strip Technicolor was introduced to Britain. Challis was an assistant on the *World Windows* travelogues shot by Jack Cardiff in the late 1930s and on other productions, including location work in India for *The Drum* (1938). He worked as a cameraman for the RAF Film Production Unit during World War II. In the post-war years he was camera operator on Powell and Pressburger's *Black Narcissus* and *The Red Shoes* before photographing *The Tales of Hoffmann*, *Gone to Earth* (1950), *The Elusive Pimpernel* (1950), *Oh … Rosalinda!!* (1955) and *The Battle of the River Plate* (1956). During his long career he photographed many popular British films including *Genevieve* (1953) and *Footsteps in the Fog* (1955), and worked with British and American directors, most notably Stanley Donen, Billy Wilder, Joseph Losey, J. Lee Thompson and Ken Annakin. He became known for his ingenuity, reliability and expertise and is credited as cinematographer on major box-office successes including *Those Magnificent Men in Their Flying Machines* (1965), *Chitty Chitty Bang Bang* (1968) and *Evil under the Sun* (1981). He won a BAFTA for Best Cinematography for *Arabesque* (1966). He retired in 1985 after working on *Steaming* (1984), Joseph Losey's last film. He died in May 2012.

FILMOGRAPHY

Films as Director of Photography unless other role stated. Colour process indicated where information is available; film director listed and country of production

1984 *Top Secret!* (Jim Abrahams, David Zucker, Jerry Zucker, USA/GB: Metrocolor); *Steaming* (Joseph Losey, GB: colour)
1983 *Secrets: First Love* (Gavin Millar, TV transmission, GB: colour)
1981 *The Nightingale* (Christine Edzard and Richard Goodwin, GB: colour); *Evil under the Sun* (Guy Hamilton, GB: Eastmancolor)
1980 *The Mirror Crack'd* (Guy Hamilton, GB: Technicolor)
1979 *S.O.S. Titanic* (William Hale, USA/GB: Technicolor)
1978 *Force 10 from Navarone* (Guy Hamilton, GB: Technicolor); *The Riddle of the Sands* (Tony Maylam, GB: Eastmancolor)
1977 *The Deep* (Peter Yates, USA/GB: Metrocolor) Challis nominated for BAFTA for Best Cinematography
1976 *White Rock* (Tony Maylam, GB/USA: Fujicolor) Cameraman; *The Incredible Sarah* (Richard Fleischer, USA: Technicolor)
1975 *In This House of Brede* (George Schaefer, USA: colour); *Mister Quilp* (Michael Tuchner, GB: Technicolor)
1974 *The Little Prince* (Stanley Donen, USA: Technicolor)
1972 *Follow Me!* (Carol Reed, GB: Technicolor); *The Boy Who Turned Yellow* (Michael Powell, GB: Eastmancolor)

1971 *Villain* (Michael Tuchner, GB: Technicolor); *Mary, Queen of Scots* (Charles Jarrott, GB/USA: Technicolor); *Catch Me a Spy* (Dick Clement, GB/France/USA: Technicolor)

1970 *The Private Life of Sherlock Holmes* (Billy Wilder, GB/USA: Deluxe)

1969 *Staircase* (Stanley Donen, USA: Deluxe)

1968 *Chitty Chitty Bang Bang* (Ken Hughes, GB: Technicolor) Joan Bridge: colour/costumes); *A Dandy in Aspic* (Anthony Mann, GB: Technicolor)

1966 *Arabesque* (Stanley Donen, USA/GB: Technicolor) Challis won BAFTA for Best British Cinematography; *Two for the Road* (Stanley Donen, GB: Deluxe); *Kaleidoscope* (Jack Smight, GB: Technicolor)

1965 *Those Magnificent Men in Their Flying Machines or How I Flew from London to Paris in 25 Hours and 11 Minutes* (Ken Annakin, GB: Deluxe), Challis nominated for BAFTA for Best British Cinematography (Colour); *Return from the Ashes* (J. Lee Thompson, GB: black and white)

1964 *A Shot in the Dark* (Blake Edwards, GB: Deluxe); *The Americanization of Emily* (Arthur Hiller, USA: black and white) Additional photography

1963 *The Victors* (Carol Foreman, GB/USA: black and white), Challis nominated for BAFTA for Best British Cinematography (B/W); *The Long Ships* (Jack Cardiff, GB/Yugoslavia: Technicolor); *An Evening with the Royal Ballet* (Anthony Havelock-Allen and Anthony Asquith, GB: Technicolor)

1962 *H.M.S. Defiant* (Lewis Gilbert, GB: Technicolor)

1961 *Flame in the Streets* (Roy Ward Baker, GB: Eastmancolor); *Five Golden Hours* (Mario Zampi, GB/Italy: black and white)

1960 *The Grass Is Greener* (Stanley Donen, GB: Technicolor); *Surprise Package* (Stanley Donen, GB: black and white); *Sink the Bismarck!* (Lewis Gilbert, USA/ GB: black and white); *Never Let Go* (John Guillermin, GB: black and white)

1959 *Blind Date* (Joseph Losey, GB: black and white)

1958 *Rooney* (George Pollock, GB: black and white); *Floods of Fear* (Charles Crichton, GB: black and white); *The Captain's Table* (Jack Lee, GB: Eastmancolor)

1957 *Miracle in Soho* (Julian Amyes, GB: Eastmancolor); *Windom's Way* (Ronald Neame, GB: Eastmancolor); *Ill Met by Moonlight* (Michael Powell and Emeric Pressburger, GB: black and white)

1956 *The Spanish Gardener* (Philip Leacock, GB: Technicolor); *The Battle of the River Plate* (Michael Powell and Emeric Pressburger, GB: Technicolor)

1955 *Footsteps in the Fog* (Arthur Lubin, GB: Technicolor); *Raising a Riot* (Wendy Toye, GB: Technicolor); *The Adventures of Quentin Durward* (Richard Thorpe, USA: Eastmancolor); *Oh … Rosalinda!!* (Michael Powell and Emeric Pressburger, GB: Technicolor); *The Sorcerer's Apprentice* (Michael Powell, USA/German Federal Republic: Technicolor)

1954 *Malaga* (Richard Sale, GB: Technicolor); *The Flame and the Flesh* (Richard Brooks, USA: Technicolor)

1953 *Twice upon a Time* (Emeric Pressburger, GB: black and white); *The Story of Gilbert and Sullivan* (Sidney Gilliat, GB: Technicolor); *Saadia* (Albert Lewin, USA: Technicolor); *Genevieve* (Henry Cornelius, GB: Technicolor)

1952 *Angels One Five* (George More O'Ferrall, GB: black and white); *24 Hours of a Woman's Life* (Victor Saville, GB: Technicolor)

1951 *The Tales of Hoffmann* (Michael Powell and Emeric Pressburger, GB: Technicolor)

1950 *The Elusive Pimpernel* (Michael Powell and Emeric Pressburger, GB: Technicolor); *Gone to Earth* (Michael Powell and Emeric Pressburger, GB/USA: Technicolor) Photography and location footage

1949 *The Small Back Room* (Michael Powell and Emeric Pressburger, GB: black and white)

1948 *The Red Shoes* (Michael Powell and Emeric Pressburger, GB: Technicolor) Camera operator

1947 *Black Narcissus* (Michael Powell and Emeric Pressburger, GB: Technicolor) Camera operator; *The End of the River* (Derek Twist, GB: black and white)

1946 *A Matter of Life and Death* (Michael Powell and Emeric Pressburger, GB: colour and black and white) 2nd Camera operator; *Theirs Is the Glory (Men of Arnhem)* (Brian Desmond and Terence Young for the Army Film Unit, GB: black and white) Photography

1937–40 *World Windows* series of travelogues (Technicolor) Assistant

1938 *The Drum* (Zoltan Korda, GB: Technicolor) Focus puller

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INTERVIEW TRANSCRIPT

DATE OF INTERVIEW: 17 OCTOBER 2008
INTERVIEWERS: SARAH STREET AND LIZ WATKINS

SARAH STREET: To start off broadly, we thought we'd ask you how would you define the role of Director of Photography?

CHRIS CHALLIS: I think it's different on every film. It depends on the film, the style of the photography and very much on your relationship with the director. Some directors have

a great visual sense, they know exactly how they want their picture to look and it's an integral part of the way they're going to direct it. That's the ideal situation because it gives you a lead into what you want to do. Others who don't have a visual sense, and they're in the vast majority I think, then you're in a bit of a vacuum because you don't know which way to go with it. Now I think it's [DOP] a very important part of the film and I admit that I've always felt that you are the director's sort of paintbrush. He's the artist, although you're sort of carrying it out and doing the artist's part of it, and it does differ from working in the initial stages and pre-production with the art director, the costumes and looking for locations. Of course it's all changed now because of digital – it's incredibly easy I think. You can photograph anywhere really – you could come in here and cover us talking to one another with these [domestic] lights. For Technicolor it's different because it's all arc lights and building a set, and the equipment was impressive, I mean physically impressive.

SS: When did you first become aware of Technicolor as someone who was keen to get into film and cinematography? Can you remember when you first heard of it?

CC: I started in the film industry with Gaumont British News. My father knew the managing director of Gaumont British News and Castleton Knight,[1] and they were just starting to use live sound for doing interviews and things. They didn't use sound normally and newsreel cameramen were like photographers. The cameras were quite small and they didn't have assistants or anything like that. With the advent of sound they needed help to lug the gear around and everything like that and so I think I was one of the first people ever to get that job and I had a year or just over a year of covering all the sort of things that the newsreel seems to ply.[2] They were a major part of cinemagoing; there were cinemas that just showed newsreels and there was great competition between the films. I happened to see or read that Technicolor were coming to England and doing the first colour film in Europe which was *Wings of the Morning* [1937]. It was made at Denham but Technicolor brought their own technicians. They took over a couple of machines in Humphries Laboratory in London, processed the negatives and made a black-and-white rush print, and then the negatives were shipped out to the States and the colour didn't come back for four weeks and then it was only a pilot, it wasn't a whole scene. It was a scientific process at that stage. I took myself down to Denham and the head of the camera department, George Kay, gave me a job. It was only loading magazines in the darkroom but I thought it was a step toward realising my ambitions. I suppose it was in a way but I spent most of my time loading these enormous magazines. At the end of the film the demand for colour was growing so rapidly that Technicolor decided to build a laboratory in Europe and they chose England in Harmondsworth on the Bath Road. So at the end of *Wings of the Morning* the laboratory was almost built – just the building because it didn't have any of the equipment in it – because all the processing machines had to come from the States. They kept me on and so I was the first actual employee and I was very lucky because it was like going on a sort of university course.[3] I went through every department as they were installing the equipment which came over without lenses. The lenses and the prism, which was the heart of the process, were made by Taylor and Hobson in England; I went through all of that and so I knew exactly how the process worked.

Christopher Challis (centre)
on the set of *Angels One Five*
(1952)

SS: Did they screen *Wings of the Morning* and have discussions about it because it was the first feature film? Do you remember anything of the reaction to that particular film?

CC: Do you mean during the making of it?

SS: Yes, during the process. I imagine everyone was intrigued to see this first British feature?

CC: Yes, of course they did, but it didn't involve me, I was too busy loading the camera!

SS: Have you seen it since?

CC: I have, yes.

SS: Do you like it?

CC: Yes, and they were terribly impressed with it because Technicolor was a scientific process originated in California, where colours appear harsher and that's the way they expected colour to be rather than how it was, particularly in the Irish locations that were a bit misty and hazy.

SS: It was quite soft, wasn't it?

CC: There's less contrast and everyone thought it was beautiful. The advent of colour had an enormous impact because people thought in terms of black and white.

SS: Yes, people seem to judge colour very harshly if it was seen to be not quite right.

CC: Technicolor retained a very strict control over what people did with it. Natalie Kalmus[4] especially was in charge of colour control and she interfered with everything that our directors wanted to do, or the cameramen. They [the Color Advisory Service] didn't like things like contrast and it was only later when it got into the hands of Jimmy Wong Howe[5] and people like that that they started to experiment.

SS: Did you feel that the Color Advisory Service was something that took part in the production process? In reality, how did it impinge on people's work?

CC: In the early stages it took a very big part because they vetted everything. There was no such thing as white and they dipped all the whites to a one- two- or three-grade dye because of the contrast which was a great problem. It was very difficult to get a good result because of the light levels. Dark colours went black and light colours [went] blue. There's no such thing as having a pale blue or a pink because it would photograph white under certain conditions and you couldn't see dark colours because they went black. So they tried to keep all the clothes the same, toward the middle range.

SS: So was that quite useful to some extent to prepare the production side?

CC: Yes, I think it was, so as far as the look of the picture was concerned it was very difficult to do anything unusual. They didn't like low key lighting or anything like that.

SS: I've read about Natalie Kalmus developing charts for films. Is that true? Were you aware of a chart that was devised in these terms, because they don't seem to be in the archives anywhere?

CC: Well if you were to see Natalie Kalmus you'd think she was the last person in the world to have anything to do with it because of course she dressed, well, she looked like an explosion in a paint shop.[6]

SS: Did you work with Joan Bridge because I get the impression that she was somebody who really knew about colour and was very helpful?