

Langford's  
STARTING  
**PHOTOGRAPHY**

The guide to creating great images

6<sup>th</sup>  
EDITION

'At last, an introductory book that I can unreservedly recommend to friends, students, and others who are interested in the basics of photography and digital photography.'

**Sidney Ray**, photographer,  
educator and author

Michael Langford & Philip Andrews

  
Focal  
Press

# Langford's Starting Photography

The guide to creating  
great images

Sixth Edition

Michael Langford  
Philip Andrews



AMSTERDAM • BOSTON • HEIDELBERG • LONDON • NEW YORK • OXFORD  
PARIS • SAN DIEGO • SAN FRANCISCO • SINGAPORE • SYDNEY • TOKYO

Focal Press is an imprint of Elsevier



Focal Press is an imprint of Elsevier  
Linacre House, Jordan Hill, Oxford OX2 8DP, UK  
30 Corporate Drive, Suite 400, Burlington, MA 01803, USA

First published 2009

Copyright © 1976, 1993, 1999, Michael Langford; © 2005, 2007, 2009 Philip Andrews and Pamela Langford. Published by Elsevier Ltd. All rights reserved

The right of Michael Langford and Philip Andrews to be identified as the author of this work has been asserted in accordance with the Copyright, Designs and Patents Act 1988

No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without the prior written permission of the publisher

Permissions may be sought directly from Elsevier's Science & Technology Rights Department in Oxford, UK: phone (+44) (0) 1865 843830; fax (+44) (0) 1865 853333; email: [permissions@elsevier.com](mailto:permissions@elsevier.com). Alternatively you can submit your request online by visiting the Elsevier website at <http://elsevier.com/locate/permissions>, and selecting Obtaining permission to use Elsevier material

#### Notice

No responsibility is assumed by the publisher for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions or ideas contained in the material herein

#### **British Library Cataloguing in Publication Data**

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

#### **Library of Congress Cataloging-in-Publication Data**

A catalog record for this book is available from the Library of Congress

ISBN: 978-0-2405-2110-7

For information on all Focal Press publications  
visit our website at [www.focalpress.com](http://www.focalpress.com)

Printed and bound in Slovenia

09 10 11 12 12 11 10 9 8 7 6 5 4 3 2 1

Working together to grow  
libraries in developing countries

[www.elsevier.com](http://www.elsevier.com) | [www.bookaid.org](http://www.bookaid.org) | [www.sabre.org](http://www.sabre.org)

ELSEVIER

BOOK AID  
International

Sabre Foundation

# Contents

**Introduction** v

**About the authors** vii

## Part 1

**Picture Making** 1

Seeing and photographing 1

Using the viewfinder – framing up 5

Creating a point of emphasis 9

Picking lighting conditions 13

Pattern, texture and shape 16

Using color 20

Projects Developing a personal approach 23

## Part 2

**Camera, Sensors and Film** 25

Camera principles 25

The camera 29

Sensors 44

Films 51

Scanners 55

## Part 3

**Creative Use of Camera**

**Controls** 63

Shutter speeds and movement 63

Focus and aperture 65

Choice of exposure 72

Changing focal length 82

Set for digital success 89

Projects 103

## Part 4

**Tackling Different  
Photographic Subjects** 106

People 106

Places 111

Animal portraits 126

Landscapes 130

Creating black and white images 137

Close-up subjects 141

Action and sports photographs 147

Going with the flow 153

Projects Tackling self-set themes 157

## Part 5

**Controlling Light** 159

The basics of great lighting 159

Lighting for people photographs 161

Lighting objects 166

Outside shooting 169

Flash and its control 171

Layout and lighting in the studio 178

Projects 186

## Part 6

**Photographic Workflow** 187

Demystifying the photographic process 187

## Part 7

**Digital Processing and Printing**

193

Introducing the digital photography tools 193

Transferring pictures from the camera to  
computer 199

Processing the picture file	207
First steps in enhancing	212
Editing techniques	218
Printing your digital files	229

## Part 8

### Experimental and Constructed

<b>Images</b>	234
Letting the image move	234
Exploring reflections	240
Using lens attachments	242
Combining pictures	248
Creative digital	253
Print manipulation	266
Projects	274

## Part 9

### Presenting and Assessing Your

<b>Work</b>	276
Finishing off	276
Presenting pictures in sets	280
Digital presentation	287
Evaluating your results	297

## Part 10

<b>Troubleshooting</b>	299
Film users: assessing the results	299
General shooting faults	305
Digital users: checking images on the desktop	308

### **Appendices** 311

Appendix A Computer connection types	311
Appendix B Camera memory cards	311
Appendix C Digital camera sensor sizes and resolution (megapixels)	312
Appendix D Suggested starting speeds/apertures for difficult night scenes	312
Appendix E Scanner connections	312
Appendix F What resolution should I pick?	313
Appendix G ISO settings and their uses	314
Appendix H Minimum shutter speeds to stop camera shake	314
Appendix I Settings to control depth of field	314
Appendix J Suggested starting speeds to freeze the action of different events	315
Appendix K Flash guide numbers, apertures and distance	315
Appendix L Using a hand-held meter	316
Appendix M Batteries	317
Appendix N Health and safety in photography	318
Appendix O Black and white film processing and printing	319
Appendix P Chemically treating black and white prints	330

### **Glossary** 334

### **Index** 343



# Introduction

**L**angford's *Starting Photography* is a hands-on book for those photographers just starting their love affair with photography. It equally suits shooters with entry and mid-priced level film and digital cameras, students at school or college using photography as part of art courses as well as those involved in other formal studies, such as the City & Guilds Certificate in Photography. The skills and knowledge presented in the book show you how to take and make great photographs using a highly visual step-by-step approach. *Langford's Starting Photography* gently guides new photographers from tentative beginnings through wobbly first steps to a level where they can confidently create their own great pictures. The photographic examples scattered throughout the text are chosen to encourage and challenge the reader, as they are all within the technical capabilities of beginners with modest gear, such as compact or single lens reflex (SLR) cameras (preferably with manual controls), and the knowledge and skill provided within.

Taking photographs is enjoyable and challenging in all sorts of ways. After all, it's a method of creating pictures which does not demand that you have drawing skills. It's a powerful means of storing memories, showing situations or expressing views which does not insist that you be good at words. But don't fall into the trap of thinking you must have the latest, expensive 'gee whiz' camera to get the most telling shots. What photography demands of you are skills of a different sort that are independent of the technology used to capture the picture. Of these, the

most important is the ability to observe – sharpen up your ‘seeing’ of surroundings, people and simple everyday objects in the world around you. Avoid taking these things for granted just because they are familiar. Develop your awareness of the way lighting and viewpoint can transform appearances, and be quick thinking enough to capture an expression or sum up a fast-changing situation by selecting the right moment to shoot. Become skilled in these areas and you will be a good photographer.

Don’t get the wrong idea. I’m not saying that technical abilities and the latest digital equipment do not contribute to the making of great pictures – they do. It is just that you should keep in the forefront of your mind that the techniques and ideas presented in this text serve only one purpose. That is, to support the creation of images that you see with your eye first and capture with your camera second. This seems a funny way to start a book that, let’s face it, is about learning the techniques of photography, but seeing is the foundation skill upon which all good photography is built and so I think that it is essential to remind you of its importance right from the start.

Although not primarily a school text, *Langford’s Starting Photography* covers most of the core content and practical work for National Curriculum studies. It is also intended for City & Guilds ‘Starting Photography’, ‘Introduction to Black and White Photography’, ‘Introduction to Color Photography’ and Part 2 modules such as ‘Landscape Photography’. Above all, the book is planned to help every beginner expand their photography and increase their enjoyment of picture making with today’s cameras.



## About the authors

**Michael Langford** was a major influence on British photographic education. He was a fellow and Course Director in Photography at the Royal College of Art and was renowned for producing a string of 24 books, translated into many languages, which have remained the standard reference works for students and professionals alike across the world.

Michael started his career at the age of 16, as a photographer's apprentice, was later assigned to the RAF Photographic Section, worked with a press photography firm and as an industrial photographer. Michael continued as a professional photographer throughout his life and his work has appeared in a range of mediums, from postage stamps and book covers to TV commercials.

Michael went on to teach full-time at Ealing Technical College (now Thames Valley University), whilst teaching evening classes at the London College of Printing, after which he moved to become Head of the School of Photography at Birmingham College for Art and Design. He served as an external assessor for several BA courses, as well as an adviser to national examination boards for photography at school and college levels. He moved to the RCA in 1967, became a senior tutor in 1973, departmental head 12 years later and from 1994 to 1997 he suitably held the position as course director.

As a result of his intimate involvement with photography courses and examination syllabuses at all levels he fully understood what a student needed from a textbook. One of his

most successful books, *Basic Photography*, was first published in 1965 and is now in its eighth edition after a complete revision. Other works include *Advanced Photography*, *The Darkroom Handbook*, *Langford's Starting Photography* and the *Story of Photography*.

As a writer, teacher and practitioner Michael Langford was a legend in the world of British photography. Along with Michael's other titles, this sixth edition of *Langford's Starting Photography* will ensure that he lives on through his work, providing guidance to everyone who shares his great passion for photography and wants to develop and learn more.

**Michael Langford, photographer, teacher and writer**  
28 February 1933–28 April 2000

**Philip Andrews** is a photographic professional who is consumed by two great passions – making great images and showing others how to do the same.

He is an international best selling imaging author and currently has over 30 titles to his name. In addition several of his titles have been translated into Japanese, Spanish, German, French, Polish and Portuguese. His books include *Raw Workflow from Capture to Archives*, *Advanced Photoshop Elements for Digital Photographers*, *Photoshop: Essential Skills*, *Adobe Photoshop Elements – A visual introduction to digital photography*, *Photoshop Elements A–Z* and *Adobe Photoshop A–Z*.

He is also the author of over 4000 articles in more than 15 magazine titles over five countries. He is currently the co-editor of *Better Photoshop Techniques* (Aust.), contributing editor for *What Digital Camera* (UK) and contributes regularly to *ShutterBug* (USA) and *Better Photography* (Aust.).

He is an Alpha/Beta tester for Adobe digital photography products and acts as an Adobe Ambassador for Australia and New Zealand. He is an accomplished teacher/demonstrator who, over the last 23 years, has lectured in photography, digital imaging and multimedia at trade shows, schools, colleges, universities and online in the UK, USA and Australia.

# 1

## Picture Making



This first section of the book is mainly concerned with developing your skills of observation – and how to select the interesting and unusual from what you see around you. It is concerned with picture-composing devices such as: framing up your shot in the camera viewfinder or LCD monitor; choice of viewpoint and moment to shoot; and picking appropriate lighting. It also discusses how to recognize pattern, line, color and tone in the subject you intend to photograph, and how to use such features to good effect. These are visual rather than technical aspects of photography and most stem from drawing and painting. They apply no matter what camera you own – cheap or expensive, digital or film, auto-everything or covered in dials and controls.

### Seeing and photographing

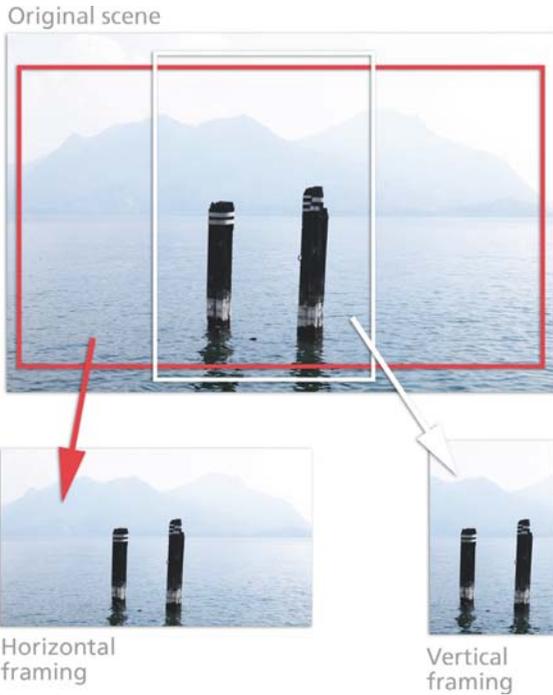
**A**ll the world's cameras, sensors, desktop printers, scanners, films, enlargers and other photographic paraphernalia are no more than tools for making pictures. They may be very sophisticated technically, but they cannot see or think for themselves. Of course, it's quite enjoyable playing around with the machinery and testing it out, but this is like polishing up your bicycle and only ever riding it around the block to see how well it goes. Bicycles enable you to get out and explore the world; cameras challenge you to make successful pictures out of what you see around you, in perceptive and interesting ways.

Anyone who starts photography seriously quickly discovers how it develops their ability to see. In other words, not just taking familiar scenes for granted but noticing with much greater intensity all the visual elements – shapes, textures, colors and human situations – they contain. This is an exciting and rewarding activity in itself. The second challenge is how to put that mindless machine (the camera) in the right place at the right time, to make a really effective photographic image out of any of these subjects. Seeing and organizing your picture making is just as important as technical 'know-how' and it comes with practice.

To begin with, it is helpful to consider the ways seeing differs from photographing. You don't necessarily have to regard differences as a barrier. The point is that by understanding how the scene in front of you will appear on a final print you will start to 'pre-visualize' your results. This makes it much easier to work through your camera.

#### Pictures have edges

Our eyes look out on the world without being conscious of any 'frame' hemming in what we see. Stop a moment and check – your nose, eyebrows, glasses (if you wear them) do form a sort of frame, but this is so out of focus and vague that you are not really aware of any definite 'edge' to your vision. However, immediately when you look through a camera viewfinder the world is cut down into a small rectangle with sharply defined edges and corners. Instead of freely scanning your surroundings, you have to compose their essence within this artificial boundary.



**Figure 1.1** The same scene can be framed in a variety of ways, producing photographs that emphasize different parts of the picture. Try turning your camera from the horizontal to the vertical to produce a different point of view.

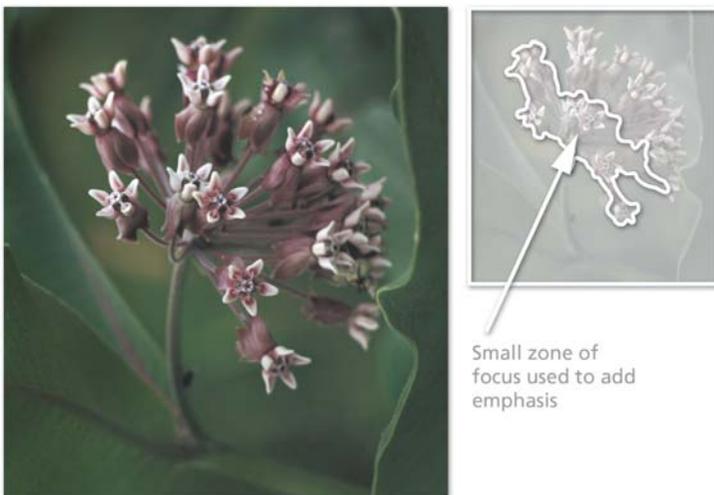
The hard edges and their height-to-width proportions have a strong effect on a photograph. Look how the same scene in Figure 1.1 is changed by using a different shooting format. Long, low pictures tend to emphasize the flow of horizontal lines and space left to right. Turning the camera to form an upright picture of the same scene tends to make more of its depth and distance, as the scale between foreground and furthest detail is greater and more interactive.

Framing up pictures is a powerful way to include or exclude – for example, deciding whether the horizon in a landscape should appear high or low, or how much of an expanse of color to leave in or crop out. The edge of the frame can crop into the outline of something and effectively present it as a new shape too. Remember, though, that nothing you leave outside the viewfinder can be added later!

### The camera does not select

When we look at something we have an extraordinary ability to concentrate on the main item of interest, despite cluttered surroundings. Our

natural ‘homing device’ includes turning the head, focusing the eyes and generally disregarding any part of the scene considered unimportant. Talking to a friend outside their house, you hardly register details of the building behind, but the camera has no brain to tell it what is important and unimportant. It cannot discriminate and usually records too much – the unwanted detail along with the wanted. This becomes all too apparent when you study the resulting photograph. Drainpipes and brickwork in the background may appear just as strongly as your friend’s face . . . and how did that dustbin appear in the foreground?



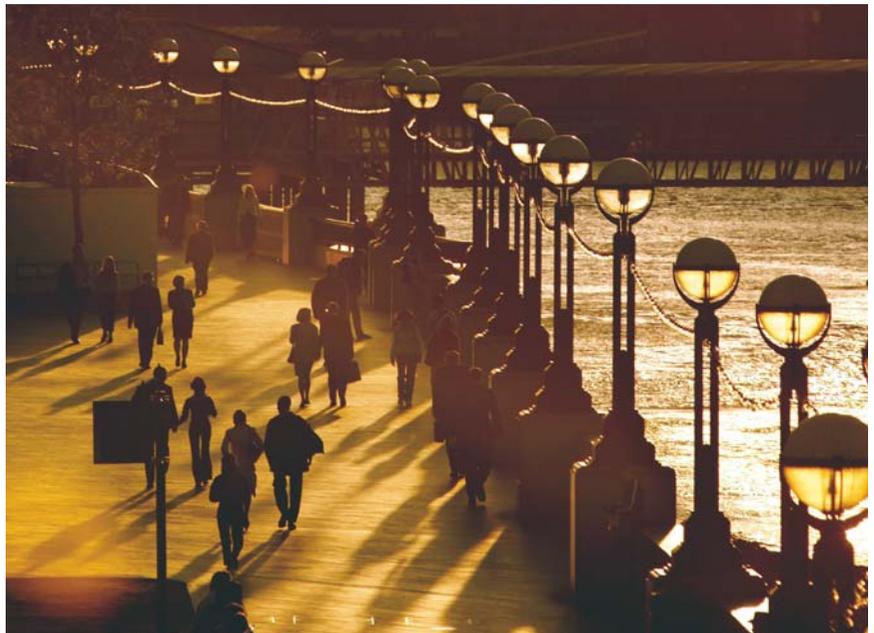
**Figure 1.2** Because the camera is not as selective as the human eye, photographers use a range of techniques to add emphasis to their pictures and to direct the attention of the viewer. Here a small zone of focus (commonly called minimum depth of field) is used to emphasize the flowers and de-emphasize the surrounding leaves.

You therefore have to help the camera along, perhaps by changing your viewpoint or filling up the frame (if your camera will focus close enough). Perhaps you should wait for a change in lighting to pick out your main item from the rest by making it the brightest or the most contrasting color in the picture. Or you might control your zone of sharpness (a device called depth of field or DOF, discussed further on page 66) in order to limit clear detail to one chosen spot, as is the case in Figure 1.2. Other forms of emphasis are discussed on page 9.

You have to train your eyes to search the scene for distractions. When looking through the viewfinder, check the background, midground and foreground detail. Above all, always make a quick scan of everything in the viewfinder before pressing the button.

### Sensors and films cannot cope with the same contrast as the eye

Our eyes are so sophisticated that we can make out details both in the dark shadows and brightly lit parts of a scene (provided they are not right next to each other). This is an ability that is beyond the capabilities of a camera sensor. Photography generally makes darkest areas record darker and lightest areas lighter than they appeared to the eye, so that the whole image becomes more contrasty. It is important to remember that your eyes will always see the contrast of a scene differently to how the camera will record it. With practice this will mean that you can anticipate the differences and therefore be able to predict more accurately how your pictures will turn out (see Figure 1.3).



**Figure 1.3** The high contrast contained in this backlit scene is too great for the camera to record clear detail in both the highlight and shadow areas. Instead, the result is a silhouette.

### The camera has one 'eye'

Unlike humans, the cameras we use do not have binocular vision. Their pictures are not three-dimensional. They do not photograph from two points of view. So when we want to show depth in a scene we are photographing we have to imply it through devices such as the use of converging lines (see Figure 1.4), changes in scale or changes in tones aided by lighting. To help you see more like the camera does, close one eye to forecast the camera's two-dimensional way of imaging.



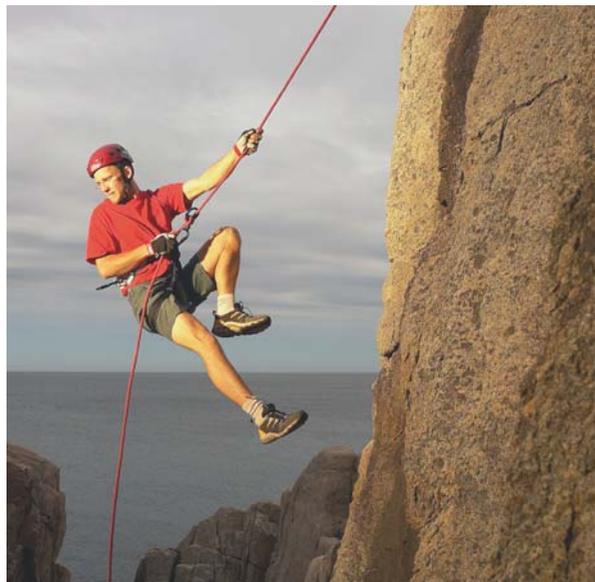
**Figure 1.4** Because the camera only provides a 'single-eye' view of the world, photographers have to rely on devices like converging lines to portray distance and depth in their pictures.

Converging lines  
showing depth



### **Most photographs capture just one moment in time**

When things are active in front of the camera your choice of when to take the picture often 'sets' someone's momentary expression or the brief juxtaposition of one person to another or their surroundings. Capturing the peak of the action often produces photographs that are frozen moments of time (see Figure 1.5). There is often a decisive moment for pressing the button that best sums up a situation or simply gives a good design. You need to be alert and able to make quick decisions if you are going for this type of picture. Once again, the camera cannot think for you.



**Figure 1.5** The camera has the ability to capture a moment in time and then preserve it frozen forever.

## Color translated into monochrome

When you are shooting or printing out results in black and white ('monochrome'), the multicolored world becomes simplified into different shades or tones of gray. A scarlet racing car against green bushes may reproduce as two grays that very nearly match. Try not to shoot monochrome pictures that rely a great deal on contrast of colors unless this will also reproduce as contrasty tones. Look at colors as 'darks' and 'lights'. Remember too that an unimportant part of your subject visually much too strong and assertive (such as an orange door in a street scene) can probably be ignored because it will merge with its surroundings in black and white (see Figure 1.6).

Occasionally, when shooting in black and white you might want to adjust the way colors translate into monochrome. Historically this was done by placing a colored filter over the camera lens (page 242) and shooting onto Black and White film. Now digital photographers tend to always capture in color (even if the camera has a Black and White mode) and then convert the photo to grays using editing software such as Photoshop or Photoshop Elements. With this approach, 'shoot color and then convert to gray', they always maintain the possibilities of both color and black and white outcomes. Another advantage is that software-based conversion provides the opportunity to alter how specific colors are mapped to gray which in turn allows the photographer to translate color contrast to monochrome contrast during the conversion process.



**Figure 1.6** Contrasting colors can become similar shades of gray when they are recorded in monochrome. If you are shooting black and white, you will need to train yourself to see your subject in terms of light and dark rather than color. Alternatively you can add separation between similar gray tones using the software conversion options in Photoshop and Photoshop Elements.

## Using the viewfinder – framing up

**E**xperienced photographers often make a rough 'frame' shape with their hands to exclude surroundings when first looking and deciding how a scene will photograph (see Figure 1.7). Similarly, you can carry a slide mount, or a cardboard cut-out, to look through and practice ways of framing up your subject. When you come to buying a camera, it is most important to choose one which has a viewfinding system you find clear and 'comfortable' to use, especially if you wear glasses. After all, the viewfinder is a kind of magic drawing pad on which the world moves about as you point the camera – including or cropping out something here; causing an item to appear in front of, or alongside, another item there. Digital cameras have the added advantage of often allowing you to frame your pictures on the camera's inbuilt LCD screen as well as through the viewfinder.