

# Digital Restoration from Start to Finish

**Ctein**



**ELSEVIER**

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

Focal Press is an imprint of Elsevier



Acquisitions Editor: Diane Heppner  
Project Manager: Paul Gottehrer  
Assistant Editor: Stephanie Barrett  
Marketing Manager: Christine Degon Veroulis  
Cover Design: Alisa Andreola

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

Copyright © 2007, Elsevier Inc. All rights reserved.

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) 1865 843830, fax: (+44) 1865 853333, E-mail: [permissions@elsevier.com](mailto:permissions@elsevier.com). You may also complete your request on-line via the Elsevier homepage (<http://elsevier.com>), by selecting "Support & Contact" then "Copyright and Permission" and then "Obtaining Permissions."

 Recognizing the importance of preserving what has been written, Elsevier prints its books on acid-free paper whenever possible.

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

**British Library Cataloguing-in-Publication Data**

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

ISBN 13: 978-0-240-80814-7

ISBN 10: 0-240-80814-2

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

06 07 08 09 10 10 9 8 7 6 5 4 3 2 1

Printed in China

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 Sabre Foundation  
International

the photograph a little too flat and grayish up until just before you want to print it out. Then you can adjust the end points of the curve to place the black and white values exactly where they need to be to give you a full-range print.

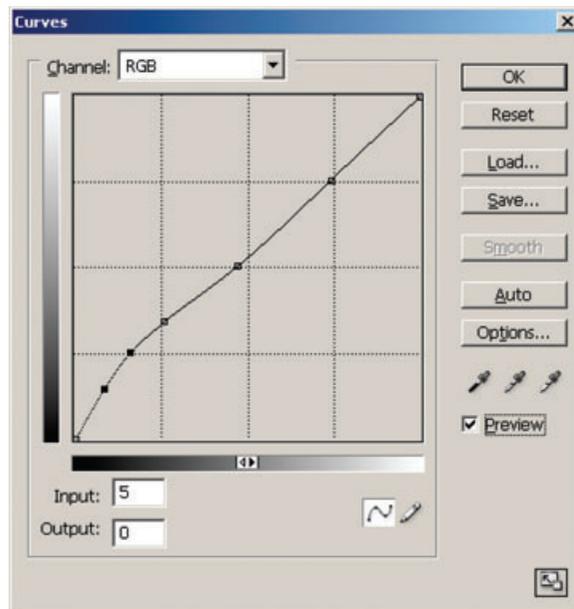
Many faded prints have very poor contrast in the shadows. Even when you restore the overall contrast range of the print you may not have a good tonal separation in the darker areas. The curve in Figure 5-23 fixes that. I restricted the lightening effect by adding adjustment points along the curve to keep it from arcing upward overall, as did the curve in Figure 5-19, left. Locking down values near the highlights ensured that they didn't lose any contrast at all. It increases the contrast a lot in the shadows and sacrifices a little contrast in the other tones. It also makes the prints somewhat lighter overall (Figure 5-24).

HOW TO IMPROVE A  
COPY PRINT WITH  
CURVES

Heavily stained and copy prints (Figure 5-25) usually have poor highlight tone separation (you'll also see that in a very severely faded photograph). The curve in Figure 5-26 takes care of those problems. I've also applied other control points a la Figure 5-23 so that the rest of the

**Fig. 5-23** This Curves adjustment greatly increases the contrast in the deepest shadows and lightens them up to bring out more detail, as shown in Figure 5-24. It does not affect the tonal range of the print, its overall contrast, or the brightness of the highlights. Note the multiple control points in the middle of the curve that keep the midtones and highlights close to their original values.

#### HOW TO IMPROVE A COPY PRINT WITH CURVES (continued)



photograph doesn't become too much darker. I've darkened the middle-highlight tones considerably and at the same time dragged in the white point to restore the sparkle to the whites. The result is livelier and looks more like an original than a copy print.

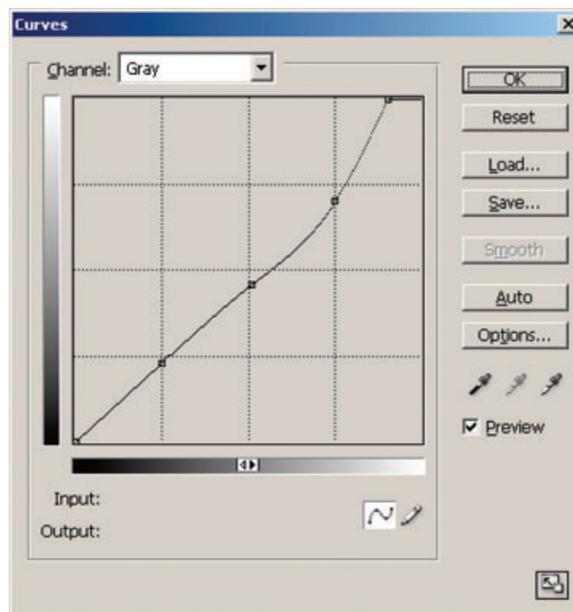
Now that we've covered some of the basic moves with Curves, let's look at some nifty tricks for improving tone. There's a lot more I can do to improve this copy photograph, and I cover that on page 151. First, I want to introduce a very powerful Photoshop tool for improving tonality.



**Fig. 5-24** The original photograph (top) has a lot of important subject detail buried in the shadows. The middle-to-dark tones are a little too contrasty; this is most obvious in the subjects' faces. The Curves adjustment in Figure 5-23 created the lower photograph. A lot more shadow detail is visible, and contrast in the darker midtones is greatly improved.



**Fig. 5-25** Copy prints, like the upper photograph, usually have flat, dull highlights, with poor contrast and grayish whites. The Curves adjustment in Figure 5-26 improves these quite a bit (bottom photograph).



**Fig. 5-26** This curve increases contrast in the highlights and restores the whites, without having much effect on the midtones and shadows. As with Figure 5-23, I've used multiple control points to minimize changes to those tones (in the shadows) that I want unchanged.