

4th Edition
Version CC

AFTER EFFECTS

Apprentice

Real-World Skills for the
Aspiring Motion Graphics Artist

TRISH & CHRIS MEYER

 **Routledge**
Taylor & Francis Group

LONDON AND NEW YORK

DEDICATED to the After Effects team, past and present: from those hearty pioneers at the Company of Science and Art (CoSA) who revolutionized our industry, to the current innovators at Adobe who keep this vital program fresh.

Fourth edition published 2016
by Routledge
711 Third Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2016 Trish and Chris Meyer

The right of Trish and Chris Meyer to be identified as authors of this work has been asserted by them in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

Third edition published by Focal Press 2013

All rights reserved. No part of this book may be reprinted or reproduced or utilized in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Notices
Knowledge and best practice in this field are constantly changing. As new research and experience broaden our understanding, changes in research methods, professional practices, or medical treatment may become necessary.

Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds, or experiments described herein. In using such information or methods they should be mindful of their own safety and the safety of others, including parties for whom they have a professional responsibility.

Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Library of Congress Cataloging in Publication Data
An application has been submitted for this material.

ISBN: 978-1-138-64307-9 (hbk)
ISBN: 978-1-138-64308-6 (pbk)
ISBN: 978-1-315-62954-4 (ebk)

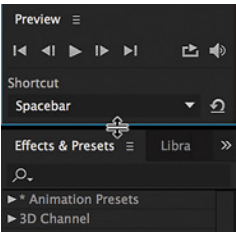
Publisher’s Note: This book has been prepared from camera-ready copy provided by the authors.

Table of Contents

- x Introduction
- xi Getting Started

▼ Pre-Roll 1

Exploring the After Effects landscape.



- | | | | |
|---|---------------------------------|----|--|
| 1 | project structure | 10 | Layer panel |
| 2 | main Application window | 11 | Info, Preview, Audio panels |
| 3 | Tools panel; Project panel | 12 | Effects & Presets; Effect Controls; other panels |
| 4 | importing footage | 13 | workspaces; stacked panels |
| 5 | Footage panel | 16 | previewing |
| 6 | transparency and alpha channels | 17 | work area |
| 8 | Composition panel | 18 | preview behaviors |
| 9 | Timeline panel | | |

▼ Lesson 1 – Basic Animation 20

Building your first animation while you learn a typical After Effects workflow.

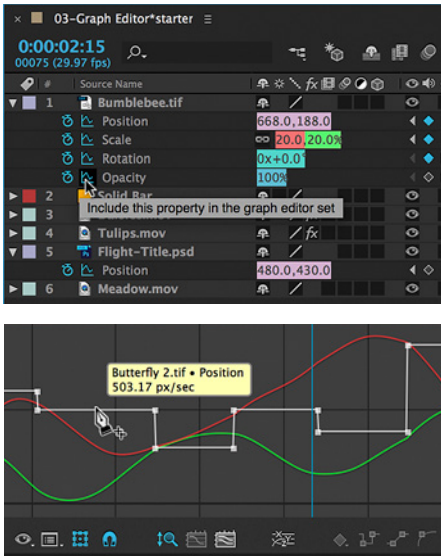


- | | | | |
|----|--------------------------------------|----|---|
| 20 | composition basics | 30 | duplicating and replacing layers |
| 22 | starting a project; creating folders | 31 | more precise placement; snapping and grids |
| 23 | importing footage; alpha channels | 32 | adding solid layers |
| 24 | creating a new composition | 32 | applying, copying, and pasting effects |
| 25 | adding layers to the Comp panel | 34 | dragging footage to the Timeline panel |
| 26 | changing property values (scrubbing) | 36 | editing motion paths; spatial keyframe types |
| 27 | animating Position; the motion path | 38 | animating Scale |
| 28 | previewing the animation | 39 | animating Rotation; animating Opacity |
| 28 | navigating between keyframes | 40 | rendering |
| 28 | managing the comp view; zooming | 42 | importing layered Photoshop and Illustrator files |
| 29 | applying Easy Ease In | | |
| 29 | adding the foreground layers | | |

Lesson 2 – Advanced Animation 44

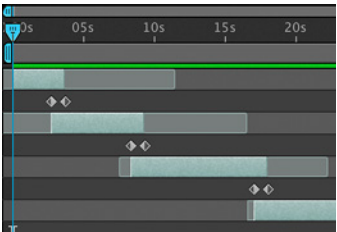
Manipulating keyframes to create more refined animations.

44	keyframe basics	62	Auto-Orient
46	Anchor Point overview	63	Motion Blur
47	Anchor Point tool	64	Roving keyframes
48	motion control moves	65	Time-Reverse Keyframes
50	Graph Editor	66	Hold keyframes
51	speed versus value graphs	68	time display and timecode
52	panning and zooming time		
53	editing graph curves		
54	easing animations		
55	improving the timing; Graph Editor Sets		
56	Separate Dimensions		
60	Motion Sketch		
61	smoothing keyframes		



Lesson 3 – Editing Layers and Effects 70

Learning how to trim layers and enhance them using blending modes and effects.

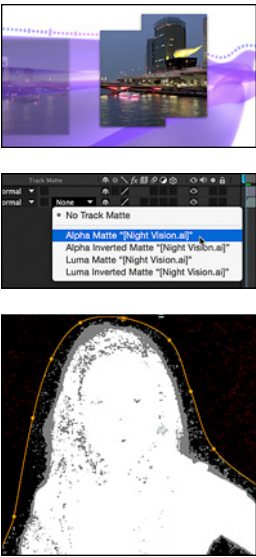


70	layers and stacking order	89	animation presets
71	moving layers in time	91	Behavior presets
72	trimming layers	92	layer styles
73	trimming in the Layer and Footage panels	94	adjustment layers
74	slip editing	95	filmic glow trick
75	Sequence Layers keyframe assistant	96	property links with effects
77	looping footage	97	third-party effects
78	image sequences	98	higher-quality scaling
79	changing the frame rate; Time Stretch		
80	applying effects		
82	blending modes		
84	effects and solids		
85	effect motion path		
87	Effects & Presets panel; searching for effects		



Lesson 4 – Creating Transparency 100

Using masks, mattes, stencils, and keying to cut out portions of a layer.

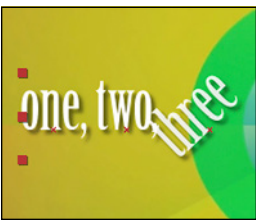
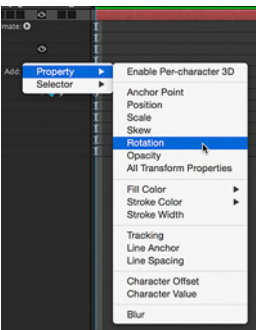


102	masking tools; creating mask shapes	116	creating and editing RotoBezier masks
104	Free Transform Points	117	Audio Spectrum effect
104	masking in the Layer panel; Ellipse tool	118	Rigid Mask Tracker
105	Mask Feather	120	Face Tracking
106	animating a mask path	122	variable mask feathering
107	creating a vignette; Mask Expansion	126	Alpha Track Matte
108	masking with the Pen tool (Bezier masks)	128	nesting a track matte composite
110	effecting a masked area	130	Luma Track Matte
111	mask path interpolation; First Vertex	131	animating matte layers
112	Mask Interpolation keyframe assistant	132	Stencil Luma and Stencil Alpha
113	effects that can use the mask path; Scribble effect	134	Color Keying; Keylight; greenscreen
114	Mask Modes and multiple masks	136	Key Cleaner and Advanced Spill Suppressor
115	Mask Opacity	139	effects with track mattes and stencils

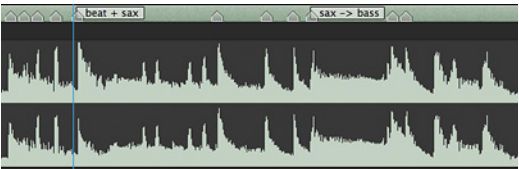


Lesson 5 – Type and Music 140

Animating text and working with music are essential to motion graphics design.

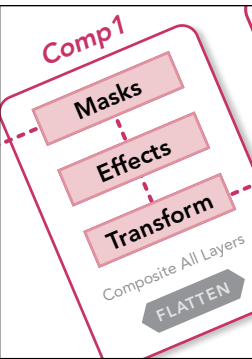


141	creating basic text	161	adding the Wiggly Selector
145	creating text Animators; Range Selectors	162	rendering with an alpha channel
147	animating text Position	164	multiple selectors and animators
148	animating text Rotation and Opacity	166	using text animation presets
149	randomizing the order of characters	168	saving text animations as presets
149	creating cascading text; working with selection Shapes	169	editing Photoshop text layers
151	setting the text Anchor Point	170	adding audio to a comp
152	animating by words	171	spotting audio; using layer and comp markers
153	title safe areas	172	mixing and enhancing audio
154	animating text Blur and Tracking		
155	text on a path		
156	Per-character 3D animators		
159	Ease Low and Ease High		



Lesson 6 – Parenting and Nesting 174

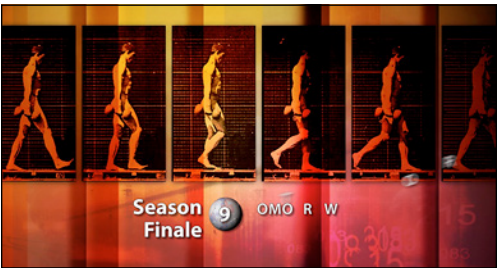
Grouping layers to make them easier to coordinate.



- 174 parenting, nesting, and expressions defined
- 176 assigning a parent
- 177 parenting, opacity, and effects
- 178 parenting with null objects
- 180 nesting to group layers; using guides
- 182 editing precomps
- 184 nesting a common source
- 185 navigating composition hierarchies
- 187 sizing precomps
- 190 precomposing a group of layers
- 192 precomposing a single layer
- 194 render order explained
- 195 splitting work between comps
- 196 precompose options compared
- 196 using precomposing to reorder

#	Source Name	Parent
1	Title Parent Null	None
2	Nine	3. planet.mov
3	planet.mov	None
4	TOMORROW	None
5	Season Finale	None

- 198 edit this, look at that (ETLAT)
- 200 continuous rasterization
- 202 collapsing transformations
- 204 compound effects



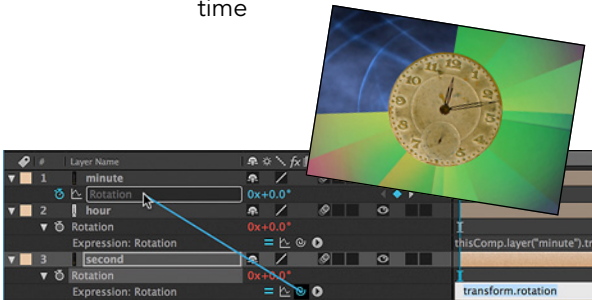
Lesson 7 – Expressions and Time Games 206

Using expressions and playing with time.



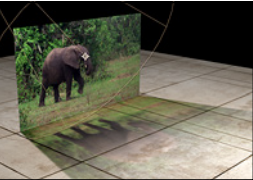
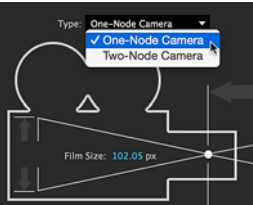
- 208 using the pick whip to create expressions
- 209 altering expressions
- 210 stabilizing shadows
- 212 matching value ranges (the linear expression)
- 214 looping keyframes
- 215 expression tips
- 216 the wiggle expression
- 217 expression controls
- 217 keyframing the wiggle expression
- 218 creating a master controller
- 219 converting sound to keyframes
- 220 frame blending
- 221 Pixel Motion
- 222 Pixel Motion Blur

- 223 stop-motion tricks; Preserve Frame Rate
- 224 Preserve Frame Rate with effects
- 225 adding handle with freeze frames
- 226 time remapping (varispeeding)
- 228 using the graph editor to smooth time

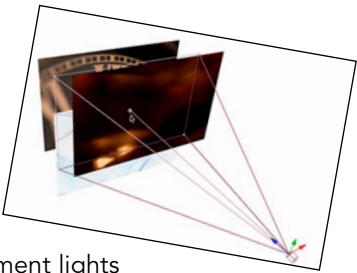


Lesson 8 – 3D Space 230

Adding a new dimension to your animations.



- 232 moving and rotating layers in 3D space
- 234 multiplaning effects
- 236 3D motion paths
- 237 multiple views
- 238 adding a camera; camera settings
- 239 using the camera tools; 3D views
- 240 moving and animating cameras
- 242 building a camera rig
- 244 layer and camera auto-orientation
- 246 camera depth of field blur
- 248 3D lights
- 250 Material Options
- 252 casting shadows
- 254 Light Transmission
- 256 Light Falloff

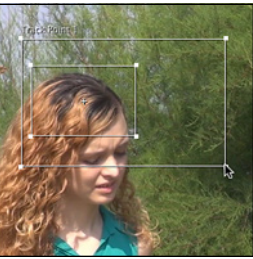


- 258 adjustment lights
- 259 Ray-traced 3D renderer
- 260 extrusion and beveling
- 262 Fast Previews
- 263 bending footage layers
- 264 transparency; index of refraction
- 266 reflections
- 268 environment layers
- 269 ray-tracer image quality
- 270 CINEMA 4D renderer preview



Lesson 9 – Track and Stabilize 274

A key to visual effects work is removing or re-creating camera movement.



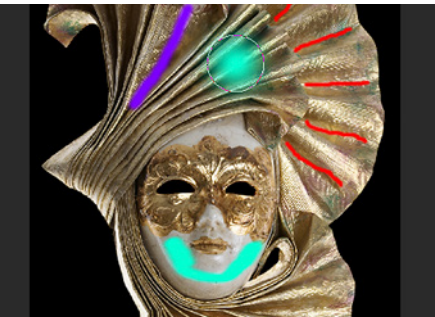
- 276 Warp Stabilizer
- 279 Reversible Stabilization
- 281 point-based tracking and stabilization
- 282 creating track points
- 284 applying stabilization
- 285 when tracks go wrong
- 286 2D motion tracking
- 287 applying a motion track
- 288 tracking interlaced footage
- 288 Radio Waves effect
- 289 applying tracks to effect points
- 291 planar tracking with mocha AE CC
- 294 pasting the mocha track into After Effects
- 295 mocha Shape

- 298 3D Camera Tracker
- 299 defining the plane; moving the target
- 300 creating a Track Null; parenting
- 302 adding 3D text
- 302 creating a shadow catcher
- 304 Rolling Shutter Repair



Lesson 10 – Paint, Roto, and Puppet 306

Exploring Paint, Roto Brush, and the Puppet tools.



307	basic painting	313	creating organic textures
309	erasing strokes	314	tablet settings
309	Paint Channels	315	cloning
310	Paint blending modes	316	transforming strokes
310	brush duration bar	317	basic Roto Brush
311	animating strokes	320	Roto Brush workflow; the base frame
312	revealing a layer	322	propagating strokes



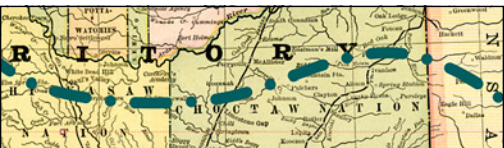
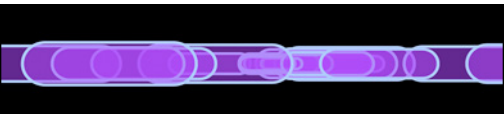
324	corrective strokes	326	refining the matte
328	Refine Edge	330	Puppet Pin tool
331	animating puppet pins	332	Puppet Overlap tool
333	recording puppet animation	333	Puppet Starch tool
334	multiple shapes		

Lesson 11 – Shape Layers 336

Creating, animating, and extruding vector-based shapes.



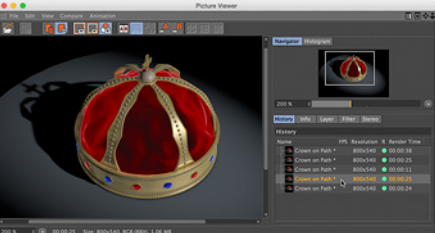
336	creating a shape layer
337	Fill and Stroke settings; editing shapes
338	multiple shapes
339	Even-Odd Fill
340	shape effects
342	Bezier Shapes; Pen tool
344	Convert to Bezier Path
345	Create Shapes from Text
346	Repeater
348	compound shapes; Merge Paths
350	gradients
352	Wiggle Transform



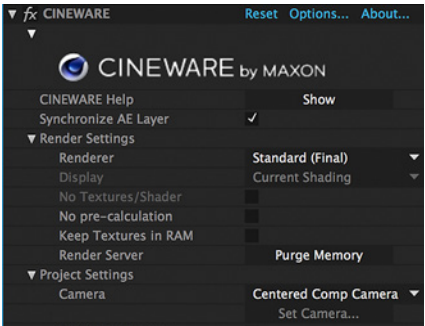
354	advanced strokes; dashes and gaps
356	animating a stroke
357	Create Shapes from Vector Layers
358	extruding shape layers

Lesson 12 – CINEMA 4D Lite 360

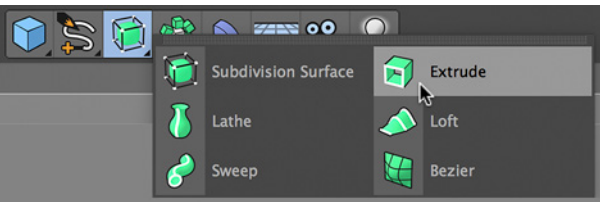
Integrating a 3D application into the After Effects timeline using CINEWARE.



362	CINEMA 4D user interface
363	Project and Render Settings
364	frame rate issues
366	navigating the Viewport
367	Extrude object
368	Light Setups
369	Materials
370	texture selection and projection
371	Ambient Occlusion
372	cameras
373	keyframing
374	CINEWARE Render Settings
375	extract camera and lights
376	creating text
378	importing Illustrator files
379	Fracture object
380	Plain effector
383	render quality; Interactive Render Region
384	Target Light



386	using the After Effects camera
387	Object Buffers
390	importing model
392	shadows
393	using layers
394	Multi-Pass



Appendix 396

Perfecting your renders, as well as dealing with other video issues.



396	rendering: under the hood
397	render templates
398	Adobe Media Encoder
400	rendering movies; rendering sequences
401	issues that affect image quality

403	flickering
403	subpixel positioning
404	resampling in action
405	non-square pixels
406	fields and interlacing
407	3:2 Pulldown



408	Resources, Production Credits
409	Index