

# THE BOOK OF™ GIMP

A COMPLETE GUIDE  
TO NEARLY EVERYTHING

OLIVIER LECARME AND KARINE DELVARE



# Index

## Numbers

960 Grid System, 181, 182

## A

- absorption, 604, 606
- A channel, 272
- active channel, 122, 233
- active layer, 101, 122, 236, 316, 348, 381, 497, 501
- Adams zone, 523
- adaptive supersampling, 341, 416
- Add Alpha Channel, 154, 179
- Add Bevel filter, 18, 19, 92, 442
- Add Border filter, 17, 442
- Addition blending mode, 111, 126, 247
- additive model, 161, 242, 604, 605
- Add Layer Mask feature, 48, 56, 67, 111, 120, 318, 327, 496
- Airbrush tool, 72, 73, 83, 334, 346, 347, 474
- Alien Map tool, 274
- Align tool, 381–384
- Alpha channel, 259, 260, 272, 321. *See also* channels
  - absent, 232, 233, 235, 242, 307, 310, 325
  - adding, 49, 95, 121, 133, 154, 179, 273, 295, 314, 479, 577
  - for anti-erasing, 346
  - in Checkerboard filter, 458
  - in color brush, 337
  - in Convolution Matrix filter, 429
  - forbidden, 400
  - in Gradient Editor, 582
  - in Hurl filter, 423
  - initializing mask to, 68
  - to layer mask, 319, 327
  - locking, 65–68, 79–81, 84, 108, 110, 232, 234, 340
  - to logo, 391
  - in Newsprint filter, 409
  - present, 242, 259, 345, 413, 437, 451, 454, 465, 546, 549
  - required, 324, 404, 405, 483
  - in RGB Noise filter, 424
  - to selection, 107, 113, 327
  - thresholding, 326
  - unlocking, 85, 110, 232
- anchor button, 56
- anchoring
  - floating selection, 122, 238, 307
  - layer, 107
  - to layer mask, 132
- anchor point, 300, 302, 491
- animated brush, 83, 337, 577–579
- animated GIF, 142, 144–151, 155, 476–479, 486, 487, 495
- animations, 139–160, 538, 540, 601. *See also* frames
- Anim Preview dialog, 144, 492
- answering curve, 260, 262, 569. *See also* Curves tool
- Antialias filter, 397
- antialiasing
  - with Antialias filter, 397
  - with Ellipse Select tool, 292
  - with Emboss filter, 405
  - vs. feathering, 288
  - with Gfig filter, 470
  - with Gradient Flare filter, 416
  - with Map Object filter, 448
  - with Newsprint filter, 409
  - with Paintbrush tool, 20
  - with Pencil tool, 20, 69
  - with Ripple filter, 411
  - in selection, 39, 288
  - with Semi-Flatten filter, 189
  - with stroking, 304
  - with Text tool, 354
- anti-erasing, 346
- Apply Canvas filter, 432
- Apply Lens filter, 404
- Apply Threshold dialog, 131, 132
- Area Settings dialog, 187
- artistic filters, 431–442

aspect ratio, 48, 290, 332, 334, 348, 435  
 Assign ICC Color Profile dialog, 253  
 Auto button, 35, 38, 43, 45, 52–54, 137, 163, 164,  
 205, 260, 266, 427, 428  
 autocropping, 240, 374  
 auto shrinking, 291, 384

- ## B
- background color. *See also* foreground color  
 vs. black, 433  
 with Border Average, 280  
 for bumps, 90  
 changing, 97  
 choosing, 255  
 with double dashed line style, 226  
 dragging, 210  
 exchanging, 41  
 filling with, 211, 235, 307, 312, 339, 340, 376,  
 404, 405, 492, 498  
 with Gfig filter, 470  
 gradient, 84, 109  
 with Gradient Editor, 582  
 with Pagecurl filter, 410  
 painting with, 337, 345  
 with Palette Editor, 586  
 with Paper Tile filter, 451  
 replacing cut pixels with, 121, 310  
 replacing transparency with, 326  
 resetting, 96, 209  
 with Round Corners filter, 444  
 saving, 542  
 with Semi-Flatten filter, 189  
 setting, 258, 317  
 for shadowy areas, 408  
 with Sinus filter, 465  
 in Toolbox, 20, 564
- background layer  
 absent, 579  
 adding layer mask to, 321  
 as animation background, 139  
 with Blend tool, 483  
 deleting, 578  
 dragging, 143  
 duplicating, 145, 147  
 enlarging, 110  
 excluding from frames, 498  
 filling, 105  
 ignoring, 504  
 merging with, 147, 149  
 selecting, 92
- batch processing, 629–634  
 Bayer interpolation, 522, 524  
 Bayer pattern, 521  
 B channel, 272
- Behind blending mode, 218, 232, 244, 246  
 bevel, adding, 18, 19, 92, 442  
 Bézier curves, 300, 470, 491  
 bitmap images, 533, 545, 546  
 black point, 52, 253, 259–261, 575  
 blending modes  
 Addition, 111, 126, 247  
 applying, 489  
 available, 218, 232, 496  
 Behind, 218, 232, 244, 246  
 and Blend tool, 96  
 Burn, 66, 137, 138  
 changing, 37, 56, 111, 218, 234  
 Color, 59, 102, 103, 126, 251  
 Color Erase, 218, 244  
 combined with opacity, 232, 245, 330  
 Darken Only, 84, 97, 100, 126, 137, 248, 443  
 Difference, 97, 99, 100, 111, 125, 138, 250  
 Dissolve, 123, 232, 245  
 Divide, 123, 136, 137, 250  
 Dodge, 58  
 and drawing tools, 244  
 for effects, 97  
 existing, 123  
 Grain Extract, 102, 125, 136, 250  
 Grain Merge, 59, 68, 125, 149, 250  
 Hard Light, 124, 135, 249  
 Hue, 126, 251  
 for improving photos, 59, 165  
 for improving textures, 96  
 inheriting, 235  
 in Layers dialog, 232  
 leaving, 37  
 Lighten Only, 84, 111, 126, 246  
 mathematics, 245  
 and merging layers, 236  
 and Move Path tool, 143  
 Multiply, 37, 63, 67, 80, 95, 97, 123, 130, 150,  
 237, 248, 417, 439, 441  
 Normal, 100, 123, 218, 245, 443  
 Overlay, 59, 99, 111, 124, 249  
 Saturation, 126, 251  
 Screen, 28, 111, 124, 135, 149, 179, 246  
 Soft Light, 59, 124, 249  
 Subtract, 107, 126, 250  
 Value, 126, 251
- Blend tool, 483  
 for adding relief, 108  
 for adding volume, 84  
 for creating a sky, 45  
 for creating backgrounds, 95  
 for creating panoramas, 129  
 for creating sample images, 278  
 for creating selection masks, 316

- for creating textures, 96, 100
    - description, 340
    - fading, 218
    - with a layer mask, 111
    - options, 90, 96, 112, 341
  - blind spot, 591, 592
  - blocking interface, 203
  - Bluebox, 493, 503
  - Blue channel, 29, 35, 37, 54, 112, 137, 163, 296. *See also* channels
  - blue screen, 503
  - Blur filter, 393
  - blur filters, 393–397
  - Blur/Sharpen tool, 351
  - BMP format, 546. *See also* bitmap images
  - bookmarks, 8, 212, 215, 220
  - border, adding, 17, 421, 442
  - Border Average dialog, 280
  - Border dialog, 309
  - boundary, 73, 548, 584
    - canvas, 371
    - frame, 489
    - image, 384
    - interactive, 297
    - layer, 69, 157, 240, 379, 384, 464, 575
    - selection, 287, 288, 294
  - brightness, 42, 266, 268–270, 417, 419, 436, 438, 442, 447, 448, 452, 518, 519, 522, 592, 593
  - Brightness-Contrast tool, 48, 265, 519
  - browser
    - displaying files in, 140
    - dragging from, 9, 198, 210, 212
    - file formats, 190
    - GIMP help, 219
    - height, 186
    - PNG handling, 189, 191
    - preferred, 220
    - window, 185, 186
  - Brush Editor, 579
  - brushes
    - animated, 83, 337, 577–579
    - duplicating, 579
    - grayscale, 434
    - outline, 566
    - parametric, 337, 577, 579, 580
  - Brushes dialog, 4
    - created brushes, 363
    - description, 337
    - dragging from, 210
    - first entry, 310, 577
    - invisible subfolder, 469
    - ordinary brushes, 576
    - position in, 579
    - presentation, 19
    - red triangle, 577
    - refreshing, 84, 364, 579
    - scrolling, 336
    - settings, 20
    - with small thumbnails, 206
    - spacing slider, 334
    - specific menu, 200
    - tags, 336
  - brush tools, 330, 332–334, 348, 351, 352
  - Bucket Fill tool
    - for adding color, 63
    - for adding texture, 67
    - for creating a background, 95
    - description, 73, 339, 340
    - fading, 218
    - inaccuracy, 63
    - for making circles, 86
    - options, 67, 339
    - in tool presets, 364
  - Buffer menu, 311
  - Buffers dialog, 311
  - Bump Map filter, 90, 92, 96, 100, 102–104, 113, 444
  - Burn blending mode, 66, 137, 138
  - Burn-in dialog, 483
  - bzip compression, 533, 543
- ## C
- Cage Transform tool, 388–390
  - calibration, 254, 567
  - canvas
    - blank, 278
    - boundary, 371
    - centering, 157
    - clipping to, 496
    - definition, 371
    - edges, 224
    - enlarging, 110
    - fitting to layers, 372
    - for image, 202
    - large, 83
    - layer beyond limits, 240
    - layer the same size as, 235
    - layer to size, 236
    - moving, 203
    - moving layer around, 231
    - moving on, 207
    - padding, 566
    - painting on, 347
    - pixels off, 411
    - resizing, 33
    - scaling layer, 322
    - selecting part of, 309, 311
    - shorter than, 97
    - size, 61, 372, 374, 495



- snapping to, 224
- texture, 102, 432
- transformation status, 203
- white, 349
- width, 551
- Cartoon filter, 432, 485
- cast shadows, 109, 110, 113. *See also* shadows
- C compiler, 548, 558
- Channel Attributes dialog, 315
- Channel Mixer tool, 270
- channels. *See also* Alpha channel; Blue channel; Green channel; Red channel; grayscale; hue; saturation; value
  - active, 122
  - creating, 315, 316, 323
  - duplicating, 315
  - editing attributes, 314, 315, 324
  - exchanging, 273
  - eye icon, 315
  - to layer mask, 319
  - linking, 233
  - locking, 314
  - name, 120, 314
  - opacity, 120, 315
  - representation, 273
  - to selection, 315
  - thumbnail, 313–315, 562
  - visibility, 314, 323
- Channels dialog, 4, 47, 120, 157, 210, 231, 305, 313–317, 323, 562
- checkerboard, 95, 566, 567
- Checkerboard filter, 459
- Choose Stroke Style dialog, 303
- chrominance, 607
- CIE (Commission Internationale de l'Éclairage), 607, 608
- Circuit filter, 466
- clip, thumbnail, 507
- clipboard, 214, 285, 310–312, 327, 510, 581
- Clone tool, 29, 30, 45, 46, 50, 54, 57, 86, 116–118, 131, 348–350, 564
- cloning tools, 348–351
- closing windows, 3, 203
- Clothify filter, 95, 433
- CML Explorer filter, 459
- CMYK model, 242, 257, 272, 360, 409, 526, 541, 568, 606, 607
- CMY model, 242, 256, 263, 264, 272, 273, 360, 526, 606, 607
- Coffee Stain filter, 57, 443
- Color Balance tool, 36, 98, 99, 102, 103, 263
- Color blending mode, 59, 102, 103, 126, 251
- Color chooser, 254–258
  - for Add Border filter, 442
  - for Alpha channel, 583
  - for Bluebox, 503
  - for canvas color, 566
  - for channel, 120
  - for Color Exchange tool, 275
  - dialog, 17, 62, 63, 254–258, 315
  - for Drop Shadow filter, 422
  - for filling, 139
  - for GIMPpressionist, 437
  - for Lighting Effects filter, 419
  - for Map Object filter, 448
  - for Move Path tool, 492
  - for Palette Editor, 586
  - palette tab, 257, 586
  - for Paper Tile filter, 451
  - for picking palette colors, 183, 184
  - simplified, 281, 325
  - for Sinus filter, 465
  - for Supernova filter, 421
  - for Text tool, 108, 354
- Colorcube Analysis dialog, 280
- Color Erase blending mode, 218, 244
- Color Exchange tool, 275
- Colorify filter, 281, 392
- Colorize tool, 100, 102, 265
- colorizing, 61, 62, 79, 102–104, 568
- color management, 252–254, 515, 524, 567, 574
- colormap, 243, 244, 274, 455, 540, 554, 585, 588, 601
- Colormap Editor, 588
- color models
  - additive, 161, 242, 604, 605
  - CMY, 264, 273, 360
  - CMYK, 360
  - HSV
    - blending modes, 245
    - with Bucket Fill, 340
    - characteristics, 242
    - with CML Explorer, 459, 460
    - in Color chooser, 255, 256
    - in Color Enhance, 268
    - with Color Picker, 360
    - with Color to Alpha, 326
    - compared to Lab model, 300
    - description, 607, 608
    - design, 242
    - with Fuzzy Select, 294
    - in Hue-Saturation, 264, 265
    - with Red Eye Removal, 402
    - in Stretch HSV, 270
    - with Unsharp Mask, 403
    - using, 273
    - value component, 267
    - with Van Gogh, 440

- RGB, 273
  - with Bucket Fill, 340
  - in Color chooser, 255
  - with Hue-Saturation tool, 264
- subtractive, 242, 526, 606, 607
- Color Picker tool, 359, 576
- color profiles, 252–254, 538, 568, 573
- colors. *See also* complementary colors
  - to Alpha, 272, 281, 325
  - balance, 27, 29, 36, 37, 53, 96, 161, 263, 285, 576
  - blindness, 574, 594, 595
  - depth, 241, 254, 518
  - erasing, 246
  - exchanging, 275
  - inverting, 48, 150, 260, 267
  - palette, 183, 184
- Colors dialog, 257
- Colors menu, 96, 103, 263, 268, 280, 325, 547
- color space, 216, 217, 254, 538, 541, 545, 568. *See also*
  - internal color space
  - Adobe RGB, 568
  - camera, 252
  - default, 253
  - grayscale, 112
  - initial, 252
  - internal, 568
  - Lab, 272
  - printer, 253, 568
  - RGB, 112, 588
  - scanner, 253
  - sRGB, 253, 568
  - working, 252
  - YCbCr, 272
- Color Tools menu, 263
- combine filters, 430, 431
- Commission Internationale de l'Éclairage (CIE), 607, 608
- compiler, 548
- complementary colors, 36, 242, 263, 267, 282, 605, 606. *See also* colors
- Compose dialog, 272, 273
- composite images, 18, 25, 115–121, 321
- compression, 11, 502, 521, 522, 535, 538–541, 543, 545, 546, 600, 601
  - bzip, 533, 543
  - gzip, 533
  - lossless, 534, 535, 537, 541, 542, 600, 601
  - lossy, 534–537, 541, 600, 601
- computer screen, 475, 600
- cones, 272, 533, 591–595, 598, 599, 604, 607
- configuration menu, 232, 234
- Configure Color Display Filters dialog, 573
- Configure Image Grid dialog, 225
- Configure Input Devices dialog, 21, 22
- Configure Keyboard Shortcuts dialog, 571
- configuring extended input devices, 22, 569
- contrast
  - adding, 183, 404
  - adjusting, 266
  - in compression, 537
  - decreasing, 260, 281
  - definition, 519
  - editing, 266
  - between gray and red, 47
  - improving, 44, 57, 259
  - increasing, 83, 123, 135, 165, 166
  - in JPEG, 537
  - in movie theater, 475
  - in office, 476
  - between orange and green, 595
  - in photography, 522
  - in preprocessing, 166
  - between room and screen, 476
  - in scanning, 518, 519
  - stretching, 270, 426, 427
  - strong, 26, 40, 42, 55, 58, 475
  - weak, 43
  - in web design, 183
- control points, 127, 296, 298, 470, 490–492
- Convert to ICC Color Profile dialog, 253
- Convolution Matrix filter, 172–174, 429
- Convolve tool, 351
- correcting
  - deformities, 378
  - exposure, 522
  - photographs, 32
  - red eye, 401
  - scratches, 53
  - spots, 46, 53
- C programming language, 547, 558
- Create a New Image dialog, 209, 210
- Create a New Layer dialog, 234
- Create from Webpage dialog, 211
- Create Guides dialog, 188
- Create menu, 10, 211, 509, 512, 520
- Create New Template dialog, 216, 217
- cropping
  - frame, 495
  - image, 15, 25, 44, 291, 374, 495, 525
  - to selection, 240, 374
- Crop tool, 15, 16, 26, 32, 102, 384
- CRT screen, 15, 604
- Cubism filter, 99, 433
- curve anchor, 262, 263
- Curve Bend filter, 404
- Curves dialog, 36, 103, 261, 262, 335

Curves tool, 53, 57, 106, 111, 112, 163, 167, 169, 170, 262, 264, 335, 524, 576. *See also* answering curve

## D

- daltonism, 594
- dangling entries, 214
- Darken Only blending mode, 84, 97, 100, 126, 137, 248, 443
- dashed line style (grid), 225
- David's Batch Processor, 630–632
- Decompose tool, 163, 166, 271, 403
- decomposing to layers, 167
- decor filters, 442–444
- Decor menu, 57, 442, 550
- deform radius, 99, 151, 406
- Deinterlace filter, 397, 398
- Depth Merge filter, 430, 438
- Desaturate tool, 37, 48, 55, 106, 266, 392
- Despeckle filter, 173, 398, 399
- Destripe filter, 400
- deuteranopia, 574, 594, 595
- Device dialog, 10
- Device Status dialog, 338
- diagonal of grays, 605
- Difference blending mode, 97, 99, 100, 111, 125, 138, 250
- Difference Clouds filter, 453
- Difference of Gaussians filter, 176, 426
- diffraction, 603, 604
- Diffraction Patterns filter, 462
- digital cameras, 520–525
  - auto exposure bracketing, 59
  - automatic settings, 161
  - color cast, 28
  - color perception, 252
  - color receptors, 598
  - color space, 252
  - discrete image, 598
  - EXIF data, 538
  - exposure, 26, 127
  - file size, 128, 600
  - highest setting, 128
  - image size, 32, 534
  - interpolation, 402
  - keeping stable, 128, 129
  - lens, 406
  - lens distortion, 388, 407
  - lighting, 34
  - Lomo, 554
  - low-cost, 171, 365
  - output format, 537, 601
  - panorama mode, 127
  - preflash, 31
  - raw format, 241
  - resolution, 32
  - sharpness, 30
  - white assignment, 38
- Dilate filter, 430
- discretization, 597
- Displace filter, 99, 445
- Dissolve blending mode, 123, 232, 245
- Distort dialog, 309
- distorts filters, 404–415
- dithering, 71, 123, 244, 274, 341, 400, 408, 409, 452, 540, 541
- Divide blending mode, 123, 136, 137, 250
- dockable dialogs, 4–6, 196, 198, 200–202, 205–207, 209, 210, 232, 276, 330, 335–337, 622
- docks, recently closed, 5, 200
- Document History dialog, 197, 213, 214, 562
- Dodge blending mode, 58
- Dodge/Burn tool, 47, 58, 66, 67, 73, 75, 76, 81, 118, 131, 209, 247, 352
- dot for dot, 222, 565
- dragging
  - background color, 210
  - brushes, 210
  - channels, 314
  - to delete icon, 210
  - foreground color, 73, 210
  - guides, 182, 190
  - to Image window, 210
  - image from browser, 9
  - layers, 116
  - paths, 306
  - thumbnails, 50, 113, 157, 210, 233
  - to Toolbox, 9, 210
- drawing
  - adding color to, 61
  - background, 74
  - black and white, 61
  - cartoon, 432
  - circles, 620
  - colorizing, 61, 63
  - with Foreground Select tool, 41
  - with Free Select tool, 39
  - geometric, 469, 470, 472
  - improving, 66, 75, 84
  - without layers, 231
  - leaves, 83
  - lines, 61, 71, 333, 620
  - with paths, 87
  - with pen, 23, 24
  - pen pressure, 23
  - pixel art, 69
  - printing, 20
  - rectangles, 85

- scanning, 10, 512
- schema, 576
- small images, 69
- with Smudge tool, 352
- with toothbrush, 366
- transparency, 361
- drawing tools, 15, 19, 23, 24, 85–87, 95, 209, 313, 316, 329, 330, 333
- drop shadow, 109, 444
- Drop Shadow filter, 421
- Duplicate Frames dialog, 142, 143, 493
- Duplicate Layer dialog, 91
- duplicating
  - background layer, 145, 147
  - brushes, 579
  - channels, 315
  - frames, 143, 157, 476, 493, 494
  - gradients, 581
  - images, 118
  - layers, 28, 37, 48, 55, 91, 110, 131, 141, 179, 233
  - palettes, 586, 587
  - templates, 217
- dynamic text, 355

## E

- edge-detect filters, 426–428
- edge detection, 164, 165, 175–178
- Edge Detect menu, 176
- Edge filter, 98, 164, 177, 426, 427
- Edit Channel Attributes, 120, 314, 324
- Edit Layer Attributes, 234, 476
- Edit menu, 217, 218, 310–312, 469
- Edit Template dialog, 217
- Ellipse Select tool, 39, 48, 86, 209, 224, 292, 312
- email, sending images by, 527
- embedded color profile, 253, 568
- Emboss filter, 109, 405
- embossing, 96, 102, 109, 429, 434, 454
- encapsulated PostScript, 216, 544
- Engrave filter, 96, 404, 405
- enhance filters, 397–404
- Equalize tool, 162, 164, 268
- Eraser tool, 23, 50, 64, 82, 85, 118, 345, 346, 348
- Erode filter, 430
- Exchange Frame dialog, 493
- EXIF, 525, 538
- Export Image as GIF dialog, 140, 476, 540
- Export Image as JPEG dialog, 191, 538
- Export Image as PDF dialog, 545
- Export Image as PNG dialog, 216, 542
- Export Image as PostScript dialog, 216, 544
- Export Image as TIFF dialog, 545
- exporting, 13, 14, 155, 215, 306, 542, 546
  - GIF, 476, 478, 540

- JPEG, 32
- PNG, 542
- exposure, 26, 28, 58, 59, 127, 247, 248, 523
- extended input devices, configuring, 22, 569
- Extract Videorange, 503
- eyedropper, 52, 255, 258, 260–262

## F

- Fade dialog, 218
- Fade option (paint dynamics), 333, 343–345
- fading out, 332, 343, 348
- feathering, 34, 39, 95, 117, 119, 120, 288, 308, 309, 397, 470, 490
- Feather Selection dialog, 308
- Feather tool, 49
- file manager, 198, 494, 499, 507
- File menu, 20, 208, 469
- Filename to Layer dialog, 497
- filling tools, 95, 330
- Filter all Layers, 140–142, 151–153, 160, 481–483, 497
- filtering, 171–175
- Filter Pack, 281, 282
- filters, 17
  - Add Bevel, 18, 19, 92, 442
  - Add Border, 17, 442
  - Antialias, 397
  - Apply Canvas, 432
  - Apply Lens, 404
  - Blur, 393
  - Bump Map, 90, 92, 96, 100, 102–104, 113, 444
  - Cartoon, 432, 485
  - Checkerboard, 459
  - Circuit, 466
  - Clothify, 95, 433
  - CML Explorer, 459
  - Coffee Stain, 57, 443
  - Colorify, 281, 392
  - Convolution Matrix, 172–174, 429
  - Cubism, 99, 433
  - Curve Bend, 404
  - Depth Merge, 430, 438
  - Despeckle, 173, 398, 399
  - Destripe, 400
  - Difference Clouds, 453
  - Difference of Gaussians, 176, 426
  - Diffraction Patterns, 462
  - Dilate, 430
  - Displace, 99, 445
  - Drop Shadow, 421
  - Edge, 98, 164, 177, 426, 427
  - Emboss, 109, 405
  - Engrave, 96, 404, 405



- Erode, 430
- Flame, 280, 454
- Fractal Explorer, 466
- Fractal Trace, 447
- Gaussian Blur
  - for adding relief, 107, 109
  - applying to frames, 142
  - for blurring backgrounds, 42
  - for building logos, 112, 113
  - for building textures, 102, 103
  - coupled with blending mode, 137
  - description, 393
  - for generating cast shadows, 110
  - for improving red eye, 48
  - for improving textures, 96, 99
  - presentation, 92
  - for rejuvenating portraits, 57
  - for smoothing transitions, 118
- Gfig, 468
- GIMPressionist, 96, 434, 436, 438, 550
- Glass Tile, 96, 438
- Gradient Flare, 337, 415–418
- Grid, 462
- Hot, 283
- HSV Noise, 94, 95, 101, 392, 423
- Hurl, 89, 95, 423–425
- IFS Fractal, 456–458
- Illusion, 447
- Image Map, 186
- IWarp, 58, 99, 151, 217, 406, 478
- Jigsaw, 463
- Laplace, 177, 427
- Lava, 470
- Lens Distortion, 406–408
- Lens Flare, 418
- LIC, 440
- Lighting Effects, 96, 105, 113, 418
- Make Seamless, 93, 447
- Map Object, 448
- Maze, 95, 463
- Mosaic, 89, 408
- Motion Blur, 98, 101, 394
- Neon, 177, 428
- Newsprint, 408
- NL, 174, 400, 401
- Oilify, 96, 99, 438
- Old Photo, 55, 443. *See also* photographs
- Pagecurl, 409
- Paper Tile, 449
- Perspective, 422, 423
- Photocopy, 439
- Pick, 424
- Pixelize, 395
- Plasma, 453
- Polar Coordinates, 410
- Qbist, 464
- Red Eye Removal, 31, 401
- RGB Noise
  - for brushed metal effect, 101
  - for building textures, 102
  - description, 424
  - with drawing, 81
  - for filling surfaces, 95
  - for generating tilable images, 94, 101
  - for generating rain, 149
  - for generating wood textures, 102
  - for improving textures, 98
- Ripple, 411
- Round Corners, 444
- Selective Gaussian Blur, 173, 396
- Semi-Flatten, 189, 326
- Sharpen, 402
- Shift, 411
- Sinus, 465
- Slice, 190
- Slur, 425
- Small Tiles, 93, 95, 397, 451
- Sobel, 178, 179, 428
- Softglow, 440
- Solid Noise, 94, 95, 103, 452–454
- Sparkle, 420
- Sphere Designer, 471
- Spread, 103, 111, 425
- Spyrogimp, 472
- Supernova, 421
- Tile, 451
- Tileable Blur, 94, 396, 397
- Unsharp Mask, 15, 30, 41, 128, 164, 175, 402
- Value Propagate, 412
- Van Gogh, 440
- Warp, 452, 453
- Waves, 414
- Weave, 95, 441
- Whirl and Pinch, 106, 414
- Wind, 414
- Fit Canvas to Layers, 372, 379
- Fit Canvas to Selection, 372, 374
- fixed-width design, 185
- Flame filter, 280, 454
- flattening, 235
  - for composite portrait, 117
  - and exporting GIF, 476
  - in Frame Convert, 495
  - frames, 497
  - in Fuzzy Border, 443
  - histogram, 269
  - images, 236

- in Move Path, 488, 489
  - for panoramas, 131
- flipping
  - for building isometric grid, 70
  - cast shadow, 110
  - layer, 239
  - portrait, 115, 117
  - vs. rotation, 370
  - while scanning, 11
- Flip tool, 388
- floating selections. *See also* layers
  - anchoring, 56, 122, 235, 238, 307
  - generating, 308
  - getting rid of, 621
  - new layer, 116, 117, 123, 133, 307, 311
  - after pasting, 122, 123, 286, 310
  - after transformation, 307, 386, 388
- Floyd-Steinberg dithering, 244, 274
- folders, 8, 215, 520, 543, 571, 577, 579, 581, 586
- fonts, 108, 353–356, 544, 569
- Fonts dialog, 108, 353, 355
- foreground color. *See also* background color
  - adding to palette, 588
  - darker than background, 109
  - dragging, 73, 210
  - exchanging, 41
  - filling with, 211, 235, 312, 339, 340
  - with Gfig filter, 470
  - gradient, 84, 109
  - with Gradient Editor, 582, 585
  - for illuminating text, 92
  - for light areas, 408
  - with Line Nova, 471
  - with Liquid Rescale, 551, 552
  - for making photographs older, 56
  - with Pagecurl filter, 410
  - painting with, 337, 343, 576
  - with Palette Editor, 586
  - with Paper Tile filter, 451
  - resetting, 96, 209, 584
  - selecting, 62, 63, 68, 70, 97, 255, 258, 280, 317, 333, 359, 585
  - with Semi-Flatten filter, 189
  - for showing crop marks, 271
  - for simulating leather, 90
  - with Sinus filter, 465
  - for sunken parts, 90
  - switching with background color, 317
  - in Toolbox, 20, 564
  - unused, 332, 337, 577
  - using, 139, 142, 157, 458
  - with Value Propagate filter, 413
- Foreground Select tool, 40, 41, 298
- fovea, 591, 598
- Fractal Explorer filter, 466
- fractals, 454–458, 466–468
- Fractal Trace filter, 447
- frames, 17, 18, 133, 142, 155, 229, 233, 319, 320, 374, 464, 487
- frames (in animation), 139, 142
  - adding, 487
  - adding layer to, 143
  - background, 144, 498
  - blank, 492
  - boundary, 489
  - building by hand, 139, 140, 144
  - control point, 490–492
  - cropping, 495
  - current, 493, 500
  - deleting, 493
  - duplicating, 143, 157, 476, 493, 494
  - duration, 142, 476
  - exchanging, 493
  - final, 142
  - first, 142, 144, 490, 492–494, 497, 502
    - background, 143
    - creating, 143
    - duration, 155
    - opening, 143
    - timing, 148
  - frequency, 397, 475, 476
  - as images, 476, 487
  - interlacing, 397
  - intermediate, 483
  - JPEG, 477
  - key, 491
  - landscape, 159
  - last, 142, 144
  - layers, 143, 144, 156, 159, 476, 478, 488, 489, 493, 497, 498
  - modifying, 159
  - name, 497, 498, 503
  - neighboring, 504
  - next, 504
  - number, 142, 493, 497, 498
  - number of, 151, 156, 477–479, 485, 486, 492
  - opacity, 144, 508
  - previous, 504
  - processing, 144
  - rate, 494, 499, 500
  - saving, 476, 505
  - scaling, 495
  - selected, 496, 502, 505
  - selection, 490, 496, 499
  - as separate files, 142
  - sequence, 156, 475
  - size, 499
  - skipping, 482

- storing in a new folder, 143
  - subrange, 494, 496–499, 507
  - successive, 156
  - systematic changes, 151
  - thumbnail, 500, 501
  - tween, 493
  - types in MPEG, 477
  - virtual, 493
- Frames Convert dialog, 494
- Frames Crop dialog, 495
- Frames Density dialog, 494
- Frame Sequence Reverse dialog, 494
- Frame Sequence Shift dialog, 494
- Frames Flatten dialog, 497
- Frames Layer Delete dialog, 497
- Frames Modify dialog, 159, 495
- Frames Renumber dialog, 494
- Frames Scale dialog, 495
- Frames to Image dialog, 144, 498
- Free Select tool, 31, 34, 35, 39, 40, 43, 48, 122, 133, 218, 288, 293, 298, 401
- free software, 127, 475, 511, 523, 537, 546, 561, 562
- fullscreen, 9, 229, 566
- Fuzzy Border dialog, 443
- fuzzy brush, 29, 47, 58, 71, 118, 304, 319
- Fuzzy Select tool, 35, 39, 40, 44, 96, 286, 287, 294–296, 308, 311, 322
  
- G**
- gamma, 27, 35, 43, 132, 260, 435, 518, 519, 574
- gamut, 242, 252–254, 568, 600, 605, 606
- GAP (GIMP Animation Package), 140–144, 153–160, 196, 391, 475–508, 549, 616
- Gaussian Blur filter
  - for adding relief, 107, 109
  - applying to frames, 142
  - for blurring backgrounds, 42
  - for building logos, 112, 113
  - for building textures, 102, 103
  - coupled with blending mode, 137
  - description, 393
  - for generating cast shadows, 110
  - for improving red eye, 48
  - for improving textures, 96, 99
  - presentation, 92
  - for rejuvenating portraits, 57
  - for smoothing transitions, 118
- generic filters, 429, 430
- Gfig filter, 468
- GIF, 601
  - animated, 142, 144–151, 155, 476–479, 486, 487, 495
  - description, 538–541
  - dithering, 244
  - drawbacks, 541
  - exporting as, 140, 142, 144, 146, 148, 476, 478, 540
  - no progressive transparency, 189
  - optimizing for, 148, 149, 151, 155, 477–479, 486, 487
  - palette, 585
  - vs. PNG, 541, 542, 601
  - presentation, 191
  - replaced with PNG, 541
  - with Semi-Flatten, 189
- GIMP
  - plugin registry, 549, 613
  - website, 356, 613
- GIMP Animation Package (GAP), 140, 142–144, 153, 155, 156, 158, 160, 196, 391, 475, 477, 478, 481, 487, 508, 549
- GIMP Animation Package (GIMP), 616
- GIMPressionist filter, 96, 434, 436, 438, 550
- GIMPressionist preset, 434, 550
- Glass Tile filter, 96, 438
- global transformations, 32–38, 169, 369–377
- G'MIC, 550, 616
- GNOME, 205, 212, 510
- GNU/Linux
  - C compiler, 548
  - C programming language, 547
  - determining file format, 543
  - GNOME, 212, 510
  - GTK, 527
  - Gutenprint, 21, 529
  - Hugin, 127
  - ICC profiles, 253, 568
  - installing GIMP, 625
  - Open Printing page, 527
  - SANE, 511, 531
  - single-window interface, 195
  - tablet support, 22
  - UFRaw, 523
  - XSane, 10
- GPL (GNU General Public License), 544, 614
- Gradient edge detection, 178
- Gradient Editor, 581–585
- Gradient Flare filter, 337, 415–418
- gradient map, 112, 275, 276
- gradients, 5, 74, 95, 97, 542, 543, 569, 571, 581
- Gradients dialog, 4, 210, 275, 335, 337, 341, 543, 581, 584
- Gradients menu, 337
- Grain Extract blending mode, 102, 125, 136, 250
- Grain Merge blending mode, 59, 68, 125, 149, 250
- grayscale, 452, 487, 495, 517, 524, 541, 546, 566, 576, 577. *See also* monochromatic
- brush, 434

- channel, 312, 313
- color space, 112
- for Compose, 273
- decomposing to, 271
- file size, 600
- for H and S channels, 608
- image map, 430, 438
- layer mask, 318
- mask, 120, 313, 320
- mode, 211, 271, 274
- and Photocopy filter, 439
- represented with one number, 599
- selection, 119, 319
- and Value channel, 272
- Green channel, 112, 314, 523. *See also* channels
- grid, 69, 225, 226
  - default, 565
  - snapping to, 224, 225, 564
- Grid filter, 462
- Grid Settings dialog, 188
- GTK, 527, 530, 614
- guides, 187, 223, 224
  - adding, 188, 224
  - changing, 291
  - displaying, 291
- Golden sections, 291
- for Guillotine, 370
- hiding, 575
- moving, 182, 185, 190, 370, 381, 578, 621
- options, 223, 367
- removing, 224
- for Slice, 190
- snapping to, 223, 564, 576
- using, 182, 225, 384, 578
- Guillotine, 370
- Gutenprint, 21, 529–531
- gzip compression, 533, 543

## H

- Hard Light blending mode, 124, 135, 249
- Healing tool, 46, 57, 118
- Help menu, 219
- highlights, 36, 75, 81, 84, 263, 283, 353, 448, 523
- hinting instructions, 354
- histogram, flattening, 269
- Histogram dialog, 52, 161, 268, 279
- History menu, 214
- Hot filter, 283
- HSV channels, 255, 270, 275, 440, 461, 608
- HSV model
  - blending modes, 245
  - with Bucket Fill, 340
  - characteristics, 242
  - with CML Explorer, 459, 460

- in Color chooser, 255, 256
- in Color Enhance, 268
- with Color Picker, 360
- with Color to Alpha, 326
- compared to Lab model, 300
- description, 607, 608
- design, 242
- with Fuzzy Select, 294
- in Hue-Saturation, 264, 265
- with Red Eye Removal, 402
- in Stretch HSV, 270
- with Unsharp Mask, 403
- using, 273
- value component, 267
- with Van Gogh, 440
- HSV Noise filter, 94, 95, 101, 392, 423
- HTML, 56, 140, 183, 188–190, 255, 258, 325, 477
- hue, 17, 126, 145, 146, 242, 251, 255, 256, 265, 278, 326, 417, 436, 581
- Hue blending mode, 126, 251
- Hue channel, 184, 242, 269, 272, 277, 607
- Hue-Saturation tool, 36, 264
- Hugin plug-in, 127
- human vision dynamics, 283
- Hurl filter, 89, 95, 423–425

## I

- ICC profiles, 253, 524, 538, 568, 575
- IFS Fractal filter, 456–458
- IIR blur, 394
- Illusion filter, 447
- ImageMagick, 616, 632–634
- Image Map filter, 186
- images. *See also* new image
  - boundary, 384
  - cropping, 15, 25, 44, 291, 374, 495, 525
  - duplicating, 118
  - dynamics, 161, 162, 164, 168, 353
  - opacity, 380
  - opening, 8, 210, 211
  - resizing, 15, 32, 371, 374, 423
  - resolution, 15, 33, 211, 216, 222, 223, 565
  - saving, 13, 214, 215, 218, 510, 521, 540, 542
  - scaling, 15, 32, 222, 373
  - thumbnail, 8, 154, 198, 205, 206, 210, 214, 562
- Images dialog, 336
- Image window
  - active, 571
  - asterisk in title bar, 214
  - clicking, 205
  - closing, 8, 204, 207
  - closing GIMP, 204
  - components, 11, 576
  - description, 8, 202, 203

- dragging brush to, 210
  - empty, 204
  - grid, 188
  - hiding everything but, 4, 197
  - initially empty, 196
  - initial screen layout, 3
  - layer outline, 233
  - menu bar, 196
  - menu button, 207
  - menus, 12
  - mode line, 298
  - moving to, 205
  - new, 229
  - opening menu, 207
  - pan view, 566
  - pointer coordinates, 395
  - presentation, 195, 196
  - properties, 221
  - resize button, 13
  - resizing on zoom, 565
  - right-clicking, 207
    - after scanning, 11
    - scrolling, 207
    - selecting, 205
    - settings, 565–567
    - several, 204
    - in single-window mode, 6
    - status bar, 360, 374
    - utility window, 3
    - Video menu, 140
    - visible area, 371
  - Import from PDF dialog, 544
  - Import from PostScript dialog, 544
  - Indexed Color Conversion dialog, 243
  - indexed format, 601
  - indexed mode, 243, 244, 274, 354, 487, 495, 539–542, 585, 588, 601
  - indexed palette, 585, 588
  - indexed representation, 477, 541, 601
  - initial color space, 252
  - initializing mask to Alpha channel, 68
  - inkjet printer, 32, 525, 528, 529, 533, 544, 598, 600, 607
  - Ink tool, 23, 73, 347
  - input devices, 338, 569
  - input levels, 27, 98, 112, 260, 262, 269
  - interactive boundary, 297
  - interface
    - multi-window, 3, 4, 6, 8, 195–198, 203, 227
    - nonblocking, 203
    - single-window, 3, 6–8, 10, 13, 69, 195, 197, 198, 203, 227, 229, 510, 569
  - interference, 161, 462, 603, 604
  - interlacing frame, 397
  - internal color space, 568. *See also* color space
  - isometric pixel art, 69
  - IWarp filter, 58, 99, 151, 217, 406, 478
- ## J
- Jigsaw filter, 463
  - JPEG
    - compression, 521, 522
    - description, 191, 537, 538, 601
    - for frames, 502
    - frames in MPEG, 477
    - lossy compression, 545
    - for photographs, 521, 601
    - vs. PNG, 541, 542, 601
    - quality rate, 14
    - vs. raw format, 523
    - vs. SVG, 534
    - no transparency, 540
    - useless for animations, 477
- ## K
- K channel, 257
  - keyboard shortcuts, 6, 9, 209, 231, 234, 238, 239, 340, 356, 562, 563, 571, 620
  - key frame, 491
- ## L
- Lab color space, 272
  - Laplace filter, 177, 427
  - laser printers, 525, 528, 529, 533, 544, 598, 600
  - Lava filter, 470
  - layer masks, 68, 120, 233, 238, 313
    - active, 56
    - adding, 48, 56, 67, 111, 129, 130, 135, 159, 318, 327
    - to Alpha channel, 327
    - anchoring to, 132
    - description, 318–322
    - with Frame Modify, 496
    - gradient, 74
    - thumbnail, 130, 233, 318–320
  - Layer menu, 239, 240
  - Layer Merge Options dialog, 236
  - layers, 18. *See also* floating selections; new layer
    - active, 101, 122, 236, 316, 348, 381, 497, 501
    - anchoring, 107
    - boundary, 69, 157, 240, 379, 384, 464, 575
    - combined, 148
    - duplicating, 28, 37, 48, 55, 91, 110, 131, 141, 179, 233, 235, 238
    - editing attributes, 234, 476
    - filtering, 481
    - to frame, 488, 489



- replacing, 148
  - resizing, 33, 371
  - scaling, 33, 82, 240
  - thumbnail, 48, 56, 129, 132, 233, 234, 479, 562
  - Layers dialog, 4, 209
    - adjusting layers, 239
    - Anchor button, 56
    - arrow keys, 239
    - clicking thumbnail, 132
    - description, 231–234
    - double-clicking, 117, 142, 476
    - dragging
      - from, 113, 210
      - layer, 116
      - thumbnail, 143, 157
      - within, 210
    - Duplicate button, 28, 67, 68, 141
    - eye icon, 20
    - floating selection, 122
    - hiding layer, 92
    - highlighted layer, 122
    - location, 18
    - Lock alpha channel button, 108, 340
    - menu, 4
    - name in boldface, 324
    - New layer button, 62, 91, 133, 236
    - New layer group button, 236
    - presentation, 18
    - Raise button, 147
    - right-clicking, 92, 120, 130, 141, 286, 307, 358, 496
    - selecting blending mode, 96, 123
    - selecting layer, 102, 115
    - thumbnails, 562
    - toggling between mask and layer, 320
    - white layer mask, 318
  - layer stack, 50, 62, 132, 133, 147, 231, 233, 235, 236, 238, 239, 319, 497, 505
  - layout engines, 536, 537
  - LCD screen, 15, 600, 604
  - L channel, 272
  - Lens Distortion filter, 406–408
  - Lens Flare filter, 418
  - Levels dialog, 27–29, 98, 258, 261
  - Levels tool
    - adding light and color, 44
    - adjusting brightness, 519
    - adjusting gamma, 132, 135, 138, 285, 518
    - Auto button, 163, 164, 169, 208, 427, 428
    - color correction, 28, 35, 36, 54, 135
    - color histograms, 137
    - combined with Sample Points, 576
    - correcting lighting, 115
    - description, 258–261
    - enlarging input range, 516
    - eyedroppers, 52
    - improving contrast, 123
    - improving lighting, 57
    - improving value range, 54
    - for Normalize tool, 269
    - opening, 27
    - reducing output range, 516
  - LIC filter, 440
  - light and shadow filters, 96, 415–423
  - Lighten Only blending mode, 84, 111, 126, 246
  - Lighting Effects filter, 96, 105, 113, 418
  - line drawing, 71, 73, 537, 540, 596, 601
  - Line Nova dialog, 471
  - Liquid Rescale plug-in, 550, 616
  - local transformations, 38–50, 377
  - locking channels, 314
  - locking paths, 305
  - locking pixels, 232, 236
  - locking the Alpha channel, 65–68, 79–81, 84, 108, 110, 232, 234, 340
  - logos, 108–113
  - lossless compression, 534, 535, 537, 541, 542, 600, 601
  - lossy compression, 534–537, 541, 600, 601
  - luminance, 267, 283, 607, 608
- ## M
- Mac OS, 6, 10, 21, 127, 195, 356, 511, 523, 529, 568, 627
  - Magic Wand. *See* Fuzzy Select tool
  - Make Seamless filter, 93, 447
  - Mandelbrot, 447, 467
  - map filters, 444–453
  - Map Object filter, 448
  - marching ants, 27, 41, 285, 287, 306, 565, 575
  - Mask menu, 239
  - masks
    - layer, 68, 120, 233, 238, 313
      - active, 56
      - adding, 48, 56, 67, 111, 129, 130, 135, 159, 318, 327
      - to Alpha channel, 327
      - anchoring to, 132
      - description, 318–322
      - with Frame Modify, 496
      - gradient, 74
      - thumbnail, 130, 233, 318–320
    - natural, 266, 323, 324
    - selection, 287, 313–318, 324, 327
  - master channel, 257
  - Master Videoencoder, 499
  - Maximum RGB tool, 283
  - Maze filter, 95, 463

- Measure tool, 25, 360
  - merging
    - down, 65, 91, 141, 235
    - visible layers, 236
    - visible paths, 306
  - midpoint, 260, 261
  - midtone, 36, 66, 263, 283, 353
  - MNG, 477
  - modifying frame, 159
  - modules, 572
  - monitor
    - gamut, 253, 568
    - profile, 253, 254, 568
    - resolution, 567
  - monochromatic. *See also* grayscale
    - color, 593, 599, 605, 607
    - image, 600
    - noise, 101
    - texture, 95
  - Morphing tool, 153, 478–481
  - Mosaic filter, 89, 408
  - Motion Blur filter, 98, 101, 394
  - mouse acceleration, 22
  - Move Path tool, 143, 156–160, 487–492
  - Move tool, 106
    - for aligning a panorama, 59
    - choosing layer or path, 564
    - choosing selection or path, 312
    - description, 381
    - layer group, 236, 237
    - on linked objects, 233
    - options, 377
    - path, 303
    - slight offset, 107, 135
    - for text, 108
  - MPEG, 155, 477, 478, 500, 502
  - MPlayer, 502, 617
  - multi-dialog window, 4, 6, 108, 195–198, 204, 205, 218, 231, 232, 275, 279, 300, 305, 313, 543
  - Multiply blending mode, 37, 63, 67, 80, 95, 97, 123, 130, 150, 237, 248, 417, 439, 441
  - multi-window interface, 3, 4, 6, 8, 195–198, 203, 227
- N**
- natural masks, 266, 323, 324
  - nature filters, 454
  - Navigation button, 12, 203
  - Navigation dialog, 228
  - Neon filter, 177, 428
  - New Channel dialog, 315
  - New Guide dialog, 224
  - new image, 564. *See also* images
    - from Alpha channel, 272
    - from buffer, 311
    - from clipboard, 311
    - for composite portrait, 116
    - creating, 89, 93, 104, 140, 142, 210
    - with Decompose tool, 163
    - by dragging, 233, 431
    - from Fuzzy Border, 443
    - grayscale, 112
    - from Lighting Effects, 418
    - for panorama, 128
    - from Round Corners, 444
    - with selection copy, 51, 107
    - with Solid Noise, 103, 105
    - for textures, 96
    - tilable, 94
  - new layer, 329. *See also* layers
    - adding, 98, 105, 148, 210
    - from channel, 314
    - from clipboard, 311
    - creating, 19, 56, 116, 117, 122, 140, 212, 233, 234, 286, 307, 481
    - by dragging, 233
    - from filename, 497
    - Liquid Rescale, 551
    - opening image as, 129
    - replacing, 145
    - text, 357
    - from visible, 235
    - white, 91
  - New Layer dialog, 19, 238
  - Newsprint filter, 408
  - new view, 47, 69, 198, 229. *See also* View menu
  - NL filter, 174, 400, 401
  - noise filters, 423–426
  - nonblocking interface, 203
  - nonisometric pixel art, 69
  - Normal blending mode, 100, 123, 218, 245, 443
  - Normalize tool, 163, 269
- O**
- object thumbnail, 206
  - Offset dialog, 150
  - Offset Layer dialog, 106, 375, 376
  - offset printing, 408
  - Oilify filter, 96, 99, 438
  - Old Photo filter, 55, 443. *See also* photographs
  - onionskin layer, 494, 501, 504, 505
  - opacity
    - Alpha channel, 319
    - brush, 23, 72, 79, 330, 333
    - channel, 120, 315
    - Clone tool, 348
    - frame, 144
    - gradient, 581, 584
    - image, 380

- image preview, 386
  - layer, 28, 37, 55, 57, 59, 100, 123, 129, 136, 234–236, 245, 315, 489
  - layer group, 236
  - layer mask, 318
  - onionskin layer, 505
  - operation, 218
  - paint dynamics, 333, 344
  - painting tools, 345, 569
  - quick mask, 317
  - selection mask, 324
  - Open as Layers, 132, 295
  - Open Image dialog, 13, 211, 212
  - opening
    - files, 208
    - images, 8, 210, 211
    - as layers, 212
    - location, 212
    - menu, 12
    - recent, 212
  - Open Location dialog, 211, 212
  - optical illusions, 595–597
  - Options dialog, 6
  - Orientation Map Editor, 436
  - output channel, 270
  - output level, 260, 262, 269, 516
  - output range, 277, 278, 516
  - Overlay blending mode, 59, 99, 111, 124, 249
- P**
- Pagecurl filter, 409
  - Paintbrush tool
    - accuracy, 64
    - with animated brush, 578
    - antialiasing, 69
    - cleaning mask, 317
    - current, 198
    - description, 71, 72, 344, 345
    - for editing selection, 41
    - in layer mask, 133
    - on mask, 324
    - new brush, 84
    - normal stylus tip, 23, 346
    - options, 330, 361
    - pressure, 23
    - signature, 23
    - stroking, 304
    - for tilable textures, 105, 106
  - paint dynamics, 23, 361–368
    - airbrush, 346
    - angle, 332
    - animated brush, 337
    - answering curve, 569
    - aspect ratio, 332
    - basic, 79
    - choosing, 332
    - without color, 333, 337, 577
    - with Convolve tool, 351
    - current, 348, 351, 361, 577
    - description, 333–335
    - emulating, 87, 305
    - fading out, 332, 344
    - incompatibility with animated brush, 578
    - Ink tool, 347
    - jitter, 333
    - new, 84, 317, 344, 367, 571
    - off, 64
    - opacity, 330
    - predefined, 361–363
    - random color, 68, 84, 105
    - rate, 347, 351
    - size, 332, 345
    - tags, 336
    - and tool presets, 339, 361
    - wheel, 345
  - Paint Dynamics Editor, 332, 334, 361
  - Paint Dynamics Mapping matrix, 343
  - Paint Dynamics tab, 5
  - painting, digital, 78
  - painting tools, 61, 68, 120, 218, 247, 254, 304, 330, 343
  - palette, 183, 184, 338, 543
    - Alpha values, 541
    - available, 244
    - Colorify, 281
    - creating, 280, 585
    - current, 276
    - duplicating, 586, 587
    - map, 276
    - new, 542, 571, 586
    - optimum, 243, 274
  - Palette Editor, 586
  - Palettes dialog, 257, 337, 338, 586
  - Pandora plug-in, 131
  - panorama, 127–131, 138
  - Paper Tile filter, 449
  - parametric brush, 337, 577, 579, 580
  - paste, 70, 116, 132, 285, 310, 311
  - paths
    - anchor, 88, 302, 303, 358
    - handle, 300–302
    - snapping to, 224
    - stroking, 87, 300, 303–306
  - Paths dialog, 300, 305, 306, 358
  - Paths tool, 87, 300–306
  - patterns, 5, 92, 94, 337, 542, 543, 569, 571, 580
  - Patterns dialog, 4, 310, 337, 349, 543, 580
  - PDF, 216, 527, 544

- Pencil tool, 20, 23, 69, 343, 344
- Perl programming language, 547
- perspective, 25, 26, 46, 47, 60, 110, 143, 303, 307, 378, 490, 491
- Perspective Clone tool, 46, 60, 350, 351
- Perspective filter, 422, 423
- Perspective tool, 26, 60, 110, 350, 387, 388
- PGM, 545
- Photocopy filter, 439
- Photo Effects preset, 550
- photographs. *See also* Old Photo filter
  - collage, 131–134
  - correcting, 28, 29, 32, 36–38
  - cropping, 25, 291
  - improving, 25, 28, 34, 35, 41, 43, 49
  - panoramic, 127–131
  - printing, 32
  - representation, 598
  - resizing, 32, 41
  - resolution, 30
  - restoring, 51, 53, 54
  - retouching, 25–60, 229
  - scanning, 10
  - self-compositing, 134–136
  - thumbnail, 520
- Pick filter, 424
- pixel art, 69–71
- Pixelize filter, 395
- pixels
  - 1-byte, 243
  - 3-byte, 600
  - 32-bit, 599
  - Alpha, 234
  - average, 437
  - central, 173, 430
  - correspondence, 222
  - current, 429
  - diffusion, 244
  - discrete, 598
  - emitting light, 598
  - gray levels, 599
  - grayscale, 242, 599
  - per inch, 11, 15, 32, 600
  - indexed, 243, 539
  - intensity, 166
  - interpolation, 378
  - neighboring, 172–174, 439, 460, 540
  - nontransparent, 381
  - number of, 161
  - partially selected, 119, 308, 321
  - RGB model, 242
  - in same region, 165
  - selected, 119, 285–289, 308, 310, 319, 386, 503
  - size, 539
  - subpixels, 598, 604
  - transparency, 65
  - unchanged, 173, 244
  - unlocked, 232
  - unselected, 119, 490
- pixmap image, 533, 534, 546, 576, 577
- Plasma filter, 453
- playback, 140, 144, 146, 492, 494, 500, 502
- plug-in browser, 219
- plug-in registry, 220
- plug-ins, 89, 127, 142, 196, 218, 392, 475, 482, 512, 520, 523, 529, 547–558
- PNG, 601
  - animation, 477
  - description, 541, 542
  - exporting as, 216, 542
  - for frames, 502
  - vs. GIF, 539, 601
  - with Internet Explorer, 537
  - vs. JPEG, 542, 601
  - lossless, 32
  - for photographs, 601
  - presentation, 191
  - vs. TIFF, 521
  - transparency, 189
- Pointer dialog, 359, 360
- Polar Coordinates filter, 410
- portraits
  - composite, 115–118
  - framing, 133, 134
  - improving, 57, 58
  - morphing, 153, 154
  - removing blemishes, 46, 350
  - softer, 53
  - touching up, 165
  - transforming, 485
  - using a flash, 30
  - vector graphics, 534
- Posterize tool, 266
- PostScript, 527, 531, 544
- PPM, 546
- Preferences dialog, 4, 22, 197, 205, 220, 254, 261, 332, 335, 495, 543, 547, 561–571, 576
- presets settings, 258, 264, 265
- Print dialog, 20, 21, 526–528
- printers, 607
  - all-in-one, 10
  - black ink, 606, 607
  - cartridge, 526
  - cheapest, 526
  - colors, 526, 598
  - color space, 253, 568
  - cost, 526
  - definition, 544

- driver, 21, 525, 527
- gamut, 253
- Gutenprint, 530
- inkjet, 32, 525, 528, 529, 533, 544, 598, 600, 607
- laser, 525, 528, 529, 533, 544, 598, 600
- manufacturer, 511
- purchasing, 525, 526
- quality, 607
- replaceable print head, 526
- selecting, 531
- settings, 530
- printing
  - black and white, 599
  - CMY, 606
  - CMYK, 242, 257, 271, 272, 607
  - color space, 252
  - description, 525–531
  - device, 242
  - dimensions, 32, 372
  - grayscale, 517
  - ICC profile, 575
  - resolution, 15, 21, 32, 211, 222, 518, 600
  - simulation, 568
  - small, 129
  - software, 32, 33
  - TIFF, 545
- Print Size dialog, 372
- Print with Gutenprint dialog, 529
- Procedure Browser, 220, 554, 556, 558
- protanopia, 574, 594, 595
- Python, 547, 548, 556
- Python-Fu, 391, 556, 558
- Q**
- Qbist filter, 464
- quick mask, 27, 34, 38, 119, 121, 219, 287, 303, 313–318, 485, 576
- R**
- raster images, 241, 533, 534
- raw format, 241, 521–525, 546
- Recompose tool, 164, 167, 271, 273
- Rectangle Select tool, 39, 51, 70, 87, 93, 119, 182, 205, 209, 286, 287, 289–292, 312, 384. *See also* Rounded Rectangle tool
- Red channel, 45, 47, 52, 112, 167, 171, 270, 279, 314. *See also* channels
- red eye, 30–32, 45–48, 314
- Red Eye Removal filter, 31, 401
- reflection, 48, 57, 110, 114, 411, 418, 484, 602, 604
- refraction, 404, 602, 604
- regular expression, 481
- render filters, 95, 453–474
- Render Font Map dialog, 355
- rendering intent, 253, 254, 568, 575
- Reset all Filters, 392
- resizing
  - canvas, 33
  - image, 15, 32, 371, 374, 423
  - images, 621
  - layer, 33, 371
- resolution
  - image, 15, 33, 211, 216, 222, 223, 565
  - layer, 240
  - monitor, 567
  - PDF, 544
  - photograph, 30
  - PostScript, 544
  - printing, 21, 32, 211
  - scanning, 11, 511, 515, 518
  - screen, 32, 211
- Retinex tool, 283
- retouching, 39, 53, 55, 57, 58, 115, 117, 351, 552
- RGB, 161, 242, 255, 267
  - channels
    - with Alien Map tool, 275
    - with Channel Mixer tool, 270, 271
    - with Color Exchange tool, 275
    - with Convolution Matrix filter, 429
    - with Curves tool, 163, 169, 262
    - decomposing, 163, 166, 271, 605
    - distortion, 161
    - gamma, 285
    - histogram, 161, 163, 279
    - input range, 260
    - inverting, 260
    - with Levels tool, 118
    - as percentages, 360
    - with Posterize tool, 266
    - stretching, 270
    - transformation, 169
    - values, 11, 102, 105, 168, 245, 255, 581, 586
    - with White Balance tool, 268
  - colors, 282
  - color space, 112, 588
  - component, 242
  - cube, 242, 247, 605, 606, 608
  - encoding, 540
  - histogram, 280
  - image, 337, 405, 420, 542, 587
  - mode, 89, 112, 211, 243, 265, 274, 278, 405, 406, 487, 495, 540, 577, 585
  - model, 273, 604–606
    - additive, 242
    - with Alien Map tool, 274
    - with Bucket Fill, 340
    - in Color chooser, 255
    - complementary color, 263



- with Decompose tool, 167
  - decomposing, 271, 273, 409
  - with Diffraction Patterns, 462
  - fundamental colors, 242, 606
  - in GIMP memory, 242
  - vs. HSV, 607, 608
  - with Hue-Saturation tool, 264
  - internal representation, 607
  - in PNG, 541
  - profile, 568
  - progression, 109
  - values, 523, 582
  - RGBA, 272
  - RGB Noise filter
    - for brushed metal effect, 101
    - for building textures, 102
    - description, 424
    - with drawing, 81
    - for filling surfaces, 95
    - for generating tilable images, 94, 101
    - for generating rain, 149
    - for generating wood textures, 102
    - for improving textures, 98
  - Ripple filter, 411
  - Rippling tool, 484
  - RLE blur, 394
  - rods, 272, 533, 591–593
  - Rotate Colors dialog, 277, 278
  - Rotate tool, 25, 26, 43, 51, 239, 375, 378, 385, 386
  - rotating colors, 277
  - round corners, 57
  - Round Corners filter, 444
  - Rounded Rectangle tool, 310. *See also* Rectangle Select tool
- S**
- sample averaging, 359
  - Sample Colorize tool, 278
  - Sample Merge, 63
  - sample merging, 295, 340, 348, 359
  - Sample Points dialog, 575
  - SANE, 10, 511, 512, 531, 617
  - saturation, 146, 242, 245, 251, 254, 255, 257, 264, 265, 268, 278, 283, 421, 522, 581, 607
  - Saturation blending mode, 126, 251
  - Saturation channel, 184, 272
  - Save as, 215
  - Save Image dialog, 13, 215
  - saving
    - to channel, 120, 157
    - copy, 14, 215
    - frames as an animation, 476
    - images, 13, 116, 214, 215, 218, 510, 521, 540, 542
    - thumbnails, 538
  - Scale Image dialog, 15, 32, 33, 222, 373
  - Scale Layer dialog, 33, 82, 240
  - Scale tool, 33, 134, 386
  - scaling
    - frame, 495
    - image, 15, 32, 222, 373
    - layer, 33, 82, 147, 240
  - scanner, 10, 11, 34, 252, 253, 400, 402, 510–514, 517, 518, 533
  - scanner color space, 253
  - scanning, 10, 11, 510–520, 531
    - resolution, 11, 511, 515, 517, 518
  - Scheme language, 547, 548, 554–556, 558
  - Scissors Select tool, 40, 218, 296–298, 300, 382
  - scratches, 53, 54, 171, 174, 398
  - screen
    - calibration, 567
    - colors, 604
    - contrast with surroundings, 475, 476
    - coordinates, 203
    - crowded, 4, 207
    - CRT, 15, 604
    - definition, 600
    - gamut, 605
    - image larger than, 146, 487
    - image size, 600
    - large, 198
    - layout, 3, 4, 195, 571
    - LCD, 15, 600, 604
    - printing, 525
    - resolution, 32, 211
    - single window, 197
    - size, 13, 198, 566
    - small, 9, 32, 195, 206, 562
    - standard, 252
    - whole, 6
    - windows, 4
  - Screen blending mode, 28, 111, 124, 135, 149, 179, 246
  - screenshots, taking, 509, 510
  - Script-Fu, 391, 547, 556, 630
  - scripts, 391, 547–558
  - segmentation, 175. *See also* edge detection
  - Select by Color tool, 38, 39, 45, 70, 100, 119, 121, 179, 296, 313, 316
  - selected pixels, 285–289, 308, 310, 319, 386, 503
  - selecting frames, 496, 501
  - selection
    - to Alpha channel, 327
    - boundary, 287, 288, 294
    - to channel, 316
    - cropping to, 240, 374
    - inverting, 27, 35, 38, 45, 135, 308

- mask, 287, 313–318, 327
  - outline, 39, 49, 285, 286, 296, 306, 309, 342, 575
  - shrinking, 87, 92, 291, 308
  - stroking, 86, 182, 312
  - Selection Editor dialog, 308
  - Selection to Animage, 140, 485
  - selection tools
    - by Color, 119, 121
    - Ellipse, 39, 48, 86, 209, 224, 292, 312
    - Foreground, 40, 41
    - Free, 31, 34, 35, 39, 40, 43, 48, 122, 133, 218, 288, 293, 298, 401
    - Fuzzy, 35, 39, 40, 44, 96, 286, 287, 294–296, 308, 311, 322
    - Rectangle, 39, 51, 70, 87, 93, 119, 182, 205, 209, 286, 287, 289–292, 312, 384
    - Scissors, 40, 218, 296–298, 300, 382
  - Selective Gaussian Blur filter, 173, 396
  - Select menu, 307
  - Semi-Flatten filter, 189, 326
  - Set Image Canvas Size dialog, 371, 372
  - Set Image Print Resolution dialog, 222, 372, 373
  - Set Layer Boundary Size dialog, 240
  - shades, 17, 68, 71, 90, 102, 104, 109, 111, 113, 253, 260, 313, 316, 595
  - shadow, 62, 71, 73, 85, 107, 109, 352, 410, 422, 437, 443, 444
  - shadows, 36, 65–67, 75, 79, 83, 84, 263, 415, 437
  - shapepoints, 154, 480
  - Sharpen filter, 402
  - sharpness, 15, 30, 41, 115, 128, 402, 440, 471, 522, 534
  - Shear tool, 33, 387
  - Shift filter, 411
  - shortcuts, 6, 9, 209, 231, 234, 238, 239, 340, 356, 562, 563, 571, 572
  - Shrink dialog, 308
  - shrinking selection, 87, 92, 291, 308
  - Shrink Wrap, 13, 227
  - SIFT algorithm, 127
  - single-window interface, 3, 6–8, 10, 13, 69, 195, 197, 198, 203, 227, 229, 510, 569
  - Sinus filter, 465
  - Size Map Editor, 436
  - Slice filter, 190
  - Slur filter, 425
  - Small theme, 563
  - Small Tiles filter, 93, 95, 397, 451
  - Smooth Palette dialog, 280
  - Smudge tool, 57, 66, 76–78, 118, 138, 219, 351, 352, 564
  - snapping
    - to canvas, 224
    - to grid, 224, 225, 564
    - to guides, 223, 564, 576
    - to path, 224
  - Sobel filter, 178, 179, 428
  - Softglow filter, 440
  - Soft Light blending mode, 59, 124, 249
  - softproof, 253, 254, 568
  - software, free, 127, 475, 511, 523, 537, 546, 561, 562
  - solar spectrum, 602, 604, 605
  - Solid Noise filter, 94, 95, 103, 452–454
  - space key, 203, 209, 234
  - Sparkle filter, 420
  - spectrum, 254, 255, 287
    - solar, 602, 604, 605
    - visible, 591, 593, 599
  - Sphere Designer filter, 471
  - splash window, 195
  - Split Image to Frames dialog, 497
  - Spread filter, 103, 111, 425
  - Spyrogimp filter, 472
  - sRGB color space, 253, 568
  - stack, layer, 50, 62, 132, 133, 147, 231, 233, 235, 236, 238, 239, 319, 497, 505
  - status bar, 9, 12, 203, 221, 225, 360, 374, 566, 576
  - storyboard, 499, 505–508
  - Stretch Contrast tool, 106, 112, 162, 177, 178, 270, 427
  - Stretch HSV tool, 169, 270
  - Stroke Selection dialog, 86, 182
  - stroking
    - path, 87, 300, 303–306
    - selection, 86, 182, 312
  - Subtract blending mode, 107, 126, 250
  - subtractive model, 242, 526, 606, 607
  - Supernova filter, 421
  - supersampling, adaptive, 341, 416
  - SVG, 300, 306, 534, 546
- ## T
- Tab configuration menu, 200–202
  - tablet
    - adjusting, 569
    - Art Pen, 345
    - buying, 3, 21
    - capabilities, 347
    - configuring, 569
    - installing, 22, 24
    - mouse, 22–24, 338
    - screen mode, 569
    - stylus, 22, 338, 579
      - behavior, 23
      - with Clone tool, 118
      - double-ended, 346
      - with Free Select, 39, 293
      - with IWarp, 151

- moving, 333
  - precision, 458
  - pressure, 54, 73, 317, 333, 345, 577, 578
  - rotation, 333
  - signature, 23
  - tilt, 333, 363
  - using, 21, 23, 24, 64, 72, 79, 333
  - Wacom, 569
- tab style, 206
- tags, 336, 363, 367
- template, 210, 216, 217
- Text Editor, 356
- Text tool, 91, 108, 139, 353–358
- texture, 89, 92–108
- themes, 563
- Threshold Alpha tool, 326
- Threshold tool, 132, 244, 266, 323, 517
- thumbnail, 256
  - preview, 8
  - saving, 538
- TIFF, 216, 305, 521, 545
- tilable feature, 93–97, 105–107, 112, 437, 445, 454, 464, 465
- Tileable Blur filter, 94, 396, 397
- tile cache, 561
- Tile filter, 451
- timed tools, 351
- Toolbox, 3, 287
  - additional tools, 263
  - bottom, 564
  - color swatch, 20, 62, 139, 210, 254, 317, 582
  - dialog, 196
  - double-clicking, 200, 330
  - dragging
    - brush to, 210
    - color from, 108
    - from, 210
    - image to, 8, 154
    - layer to, 116, 143, 157
    - to, 210, 212, 233, 314, 431
  - hiding, 9
  - icons, 69, 196
    - Airbrush, 72
    - Align, 381
    - Brush, 41
    - Bucket Fill, 63, 73
    - Crop, 15, 384
    - default, 204
    - Dodge/Burn, 66
    - drawing tools, 330
    - Ellipse, 292
    - Eraser, 64
    - Flip, 388
    - Foreground Select, 40, 298
    - Free Select, 293
    - Fuzzy Select, 294
    - gradient, 341
    - Ink, 73
    - Move, 381
    - Paintbrush, 62, 64, 71
    - Paths, 158, 300
    - Pattern, 339
    - Pencil, 69
    - Perspective, 387
    - Perspective Clone, 46
    - position, 564
    - Rectangle, 205, 289
    - Rotate, 385
    - Scale, 386
    - Scissors, 296
    - Select by Color, 296
    - selection, 287
    - Shear, 387
    - Smudge, 66
    - Text, 108
    - transformation, 377
    - Zoom, 13, 228
  - image thumbnail, 205
    - keep above, 570
    - moving, 198
    - narrow, 6
    - normal window, 570
    - opening, 209
    - options dialog, 287
    - presentation, 6
    - selection tools, 38
    - settings, 564
    - in single-window mode, 6, 197
    - tool from, 205
    - tool options, 201, 330
    - utility window, 570
    - widened, 197
    - Wilber strip, 196
    - window, 195, 198, 204
    - window manager handling, 570
- Tool Options dialog, 198, 200, 287, 289, 295, 312, 330, 333
- Tool Preset Editor, 339
- Tool Presets dialog, 338, 338, 339, 361
- tools
  - Airbrush, 72, 73, 83, 334, 346, 347, 474
  - Alien Map, 274
  - Align, 381–384
  - Blend, 45, 84, 90, 95, 96, 100, 108, 111, 112, 129, 218, 278, 316, 340
  - Blur/Sharpen, 351
  - Brightness-Contrast, 48, 265, 519

- Bucket Fill, 63, 67, 73, 86, 95, 139, 182, 218, 339, 340, 364
- Cage Transform, 388–390
- Channel Mixer, 270
- Clone, 29, 30, 45, 46, 50, 54, 57, 86, 116–118, 131, 348–350, 564
- Color Balance, 36, 98, 99, 102, 103, 263
- Color Exchange, 275
- Colorize, 100, 102, 265
- Color Picker, 359, 576
- Convolve, 351
- Crop, 15, 16, 26, 32, 102, 384
- Curves, 36, 53, 57, 100, 103, 106, 111, 112, 163, 167, 169, 170, 261, 262, 264, 335, 524, 576
- Decompose, 163, 166, 271, 403
- Desaturate, 37, 48, 55, 106, 266, 392
- Dodge/Burn, 47, 58, 66, 73, 76, 81, 118, 131, 209, 352
- drawing, 19, 23, 24, 85–87, 95, 209, 313, 316, 329, 330, 333, 335
- Ellipse Select, 39, 48, 86, 209, 224, 292, 312
- Equalize, 162, 164, 268
- Eraser, 23, 50, 64, 82, 85, 118, 345, 346, 348
- Feather, 49
- filling, 95, 330
- Foreground Select, 40, 41, 298
- Free Select, 31, 34, 35, 39, 40, 43, 48, 122, 133, 218, 288, 293, 298, 401
- Fuzzy Select, 35, 39, 40, 44, 96, 286, 287, 294–296, 308, 311, 322
- Healing, 46, 57, 118
- Hue-Saturation, 36, 264
- Ink, 23, 73, 347
- Levels
  - adding light and color, 44
  - adjusting brightness, 519
  - adjusting gamma, 132, 135, 138, 285, 518
  - Auto button, 163, 164, 169, 208, 427, 428
  - color correction, 28, 35, 36, 54, 135
  - color histograms, 137
  - combined with Sample Points, 576
  - correcting lighting, 115
  - description, 258–261
  - enlarging input range, 516
  - eyedroppers, 52
  - improving contrast, 123
  - improving lighting, 57
  - improving value range, 54
  - for Normalize tool, 269
  - opening, 27
  - reducing output range, 516
- Maximum RGB, 283
- Measure, 25, 360
- Morphing, 153, 478–481
- Move, 106
  - for aligning a panorama, 59
  - choosing layer or path, 564
  - choosing selection or path, 312
  - description, 381
  - layer group, 236, 237
  - on linked objects, 233
  - options, 377
  - path, 303
  - slight offset, 107, 135
  - for text, 108
- Move Path, 143, 156–160, 487–492
- Normalize, 163, 269
- Paintbrush
  - accuracy, 64
  - with animated brush, 578
  - antialiasing, 69
  - cleaning mask, 317
  - current, 198
  - description, 71, 72, 344, 345
  - for editing selection, 41
  - in layer mask, 133
  - on mask, 324
  - new brush, 84
  - normal stylus tip, 23, 346
  - options, 330, 361
  - pressure, 23
  - signature, 23
  - stroking, 304
  - for tilable texture, 105, 106
- painting, 61, 68, 120, 218, 247, 254, 304, 330, 343
- Paths, 87, 300–306
- Pencil, 20, 23, 69, 343, 344
- Perspective, 26, 60, 110, 350, 387, 388
- Perspective Clone, 46, 60, 350, 351
- Posterize, 266
- Recompose, 273
- Rectangle Select, 39, 51, 70, 87, 93, 119, 182, 205, 209, 286, 287, 289–292, 312, 384
- Retinex, 283
- Rippling, 484
- Rotate, 25, 26, 43, 51, 239, 375, 378, 385, 386
- Rounded Rectangle, 310
- Sample Colorize, 278
- Scale, 33, 134, 386
- Scissors Select, 40, 218, 300, 382
- Select by Color, 38, 39, 45, 70, 100, 119, 121, 179, 296, 313, 316
- selection
  - by Color, 119, 121
  - Ellipse, 39, 48, 86, 209, 224, 292, 312
  - Foreground, 40, 41

- Free, 31, 34, 35, 39, 40, 43, 48, 122, 133, 218, 288, 293, 298, 401
  - Fuzzy, 35, 39, 40, 44, 96, 286, 287, 294–296, 308, 311, 322
  - Rectangle, 39, 51, 70, 87, 93, 119, 182, 205, 209, 286, 287, 289–292, 312, 384
  - Scissors, 40, 218, 296–298, 300, 382
  - Shear, 33, 387
  - Smudge, 57, 66, 76–78, 118, 138, 219, 351, 352, 564
  - Stretch Contrast, 106, 112, 162, 177, 178, 270, 427
  - Stretch HSV, 169, 270
  - Text, 91, 108, 139, 353–358
  - Threshold, 132, 244, 266, 323, 517
  - Threshold Alpha, 326
  - timed, 351
  - transform, 239, 369–390
  - Value Invert, 267
  - White Balance, 268, 269
  - Zoom, 13, 228
  - tools options preferences, 563
  - tools preset, 336, 338, 339, 361–368
  - tooltips, 6, 207, 529, 556, 563
  - transformations
    - global, 32–38, 169, 369–377
    - local, 38–50, 377
  - transform tools, 239, 369–390
  - tritanopia, 574, 594
  - tween frames, 493
- U**
- UFRaw dialog, 521, 523
  - undo, 15, 128, 151, 215, 217, 218, 280, 296, 300, 305, 329, 389, 392, 483, 487, 491, 494, 504, 513, 542, 543, 561, 584
  - Undo History dialog, 4, 218, 219, 483
  - Unit Editor, 572
  - Unsharp Mask filter, 15, 30, 41, 128, 164, 175, 402
  - utility window, 3, 197, 570
- V**
- value, 100, 126, 146, 242, 245, 251, 255, 326, 608
  - Value blending mode, 126, 251
  - Value channel, 27, 35, 52, 57, 111, 118, 126, 163, 169, 184, 242, 259, 260, 263, 270, 272, 275, 278, 279, 300, 419, 524
  - Value Invert tool, 267
  - Value Propagate filter, 412
  - Van Gogh filter, 440
  - variable-width design, 185
  - VCR Navigator, 144
  - vector graphics, 69, 300, 468, 533, 534, 544, 546, 608
  - video camera, 397
  - Video menu, 140
  - video navigator, 500, 504, 505
  - View menu, 224, 515, 566, 573, 575, 576. *See also* new view
  - vignetting effect, 365, 407
  - visible spectrum, 591, 593, 599
- W**
- Warp filter, 452, 453
  - Waves filter, 414
  - Weave filter, 95, 441
  - web design
    - fixed-width, 185
    - variable-width, 185
  - web-optimized palette, 243
  - web page, 11, 89, 93, 128, 139, 140, 189, 190, 280, 445, 475, 477, 478, 518, 538, 540
  - website, designing, 181–192
  - Whirl and Pinch filter, 106, 414
  - white balance, 522, 523
  - White Balance tool, 268, 269
  - white point, 52, 259–261, 600
  - Wilber, 17, 196, 255, 347
  - Wind filter, 414
  - window manager, 9, 205, 509, 566, 570
  - windows
    - closing, 3, 203
    - decoration, 9, 509
    - multi-dialog, 4, 6, 108, 195–198, 204, 205, 218, 231, 232, 275, 279, 300, 305, 313, 543
    - multi-window interface, 3, 4, 6, 8, 195, 197, 198, 203, 227
    - resizing, 13
    - single-window interface, 3, 6, 8, 10, 13, 69, 195, 197, 198, 203, 227, 229, 510, 569
  - Windows OS, 6, 10, 127, 195, 205, 627
  - working color space, 252
- X**
- XCF, 210, 214–216, 238, 242, 305, 487, 497, 502, 537, 542, 543, 579
  - XSane, 10, 512, 514, 515, 519, 531
- Y**
- YCbCr color space, 272
- Z**
- zealous crop, 374
  - zooming, 13, 226–229, 270, 461, 508, 523
    - factor, 13, 119, 147, 192, 221, 225–227, 229, 371, 565, 566, 582
  - Zoom menu, 203, 226
  - Zoom tool, 13, 228