

John F. Pile **Interior Design** Fourth Edition



UPPER SADDLE RIVER, NJ 07458

Contents

Preface.....	11	chapter three: Design Basics.....	49
chapter one: Introduction.....	15	Design and Human Perception.....	49
The Development of Interior Design.....	16	Visual Perception, Visual Impressions	
The Practice of Interior Design.....	17	Elements of Design.....	53
Decorator (or Interior Decorator), Interior Designer,		Point and Line; Form or Shape; Texture, Pattern,	
Space Planner and Office Planner, Architect,		Ornament; Value and Color; Opacity, Transparency,	
Industrial Designer, Other Specialists, Residential		Translucency	
and Contract Design		Principles of Design.....	60
Professional Preparation.....	23	Size, Scale, Proportion; Unity and Variety; Balance;	
Licensing and Registration.....	25	Rhythm; Emphasis	
NCIDQ Examination.....	26	Design as an Expressive Medium.....	65
Professional Organizations.....	26	The Basic Enclosure, Combined Spatial Forms,	
Current Issues, Future Directions.....	27	Openings in the Enclosure, Contents of the Enclosure,	
Professionalism, Social and Environmental		The Enclosure-to-Occupant Context	
Responsibility, Digital Technology, Types of Future			
Projects, User Participation in Design, Consultant		chapter four: Design History.....	71
Services, Style and Character Trends		Prehistoric and Indigenous Design.....	72
chapter two: Design Quality.....	37	Ancient World.....	72
Defining Design.....	37	Egypt, Greece, Rome	
Evaluating Design.....	37	Middle Ages.....	76
Function, Structure and Materials, Aesthetics		Early Christian Design, Byzantine Design,	
Design in Other Contexts.....	40	Romanesque Design, Gothic Design	
Nature and Design, Vernacular Design,		Renaissance to Rococo.....	81
Technological Design		Italy, Central Europe, France, England	
Analyzing Existing Spaces.....	44	Neoclassicism.....	92
Case Study 1: Residential Design Quality: House for Two		Empire Style, Regency Style	
Architect-Owners.....	45	North America.....	94
		Colonial Style, Federal Style, Gothic Revival Style	
		Victorian Era.....	99

Arts and Crafts Movement, Shaker and Adirondack Design Turn of the Twentieth Century	103
Art Nouveau in Europe, Vienna Secession, Art Nouveau in the United States	
Twentieth Century	105
Eclecticism, Frank Lloyd Wright, Walter Gropius, De Stijl, Ludwig Mies van der Rohe, Le Corbusier, Alvar Aalto, Art Deco, Postwar Modernism	
Transition to the Twenty-First Century	117
Late Modernism, High Tech, Post-Modernism, Deconstructivism	
Non-European Traditions	124
China, Japan, South Asia, The Islamic World, Pre- Columbian America	

chapter five: The Design Process 133

Creativity in Design	134
Sequential Outline	135
Project Beginnings	137
Establishing Contact with Client, Outlining Scope of Project, Outlining Time Schedule and Budget, Determining Need for Specialized Consultants, Agreeing on Designer- Client Contract Relationship, Scheduling Design Work, Selecting Space(s) to Be Dealt With	
Programming	138
Researching the Project, Obtaining or Preparing a Survey of Space(s), Conducting Interviews and Collecting Data on Requirements, Developing Preliminary Program, Reviewing Preliminary Program with Client, Preparing Final Program, Obtaining Program Approval from Client, Developing Space Allocation, Preparing Adjacency Studies	
Concept Development	139
Developing Preliminary Design, Developing Preliminary Plan, Reviewing Preliminary Design with Client, Revising and Finalizing Preliminary Design, Obtaining Client Approval of Preliminary Design	
Design Development	144
Making Formal Drawings, Making Material Selections, Planning the Lighting, Selecting Purchased Items, Selecting Colors and Finishes, Estimating Costs, Preparing Final Design and Detailed Budget, Making Presentation to Client, Reviewing Budget with Client, Making Revisions as Necessary, Obtaining Client Approval of Design and Budget	
Design Implementation	151
Preparing Construction Drawings, Preparing Detail Drawings, Preparing Specifications, Gathering Final Cost Estimates and Obtaining Bids, Making Time Schedule for Construction and Installation, Selecting Contractors and Issuing Work Orders, Preparing and Issuing Purchase Orders	

Project Supervision	155
Supervising Construction, Coordinating and Expediting Construction and Deliveries, Supervising Installation and Completion, Listing Defects and Errors and Supervising Correction, Supervising Move-in	
Post-Completion	155
Making Needed Adjustments and Changes, Preparing Post-Move-in Evaluation	
Case Study 2: A Specialty Shop	156

chapter six: Planning 161

Preliminary Steps in Planning	161
Selecting Space, Analyzing and Evaluating Space	
Planning the Space	165
Programming, Area Assignment, Block Diagramming, Adjacency Studies, Stacking Plans, Designing the Space, Plan Types, Circulation, Furniture Layout, Furniture Arrangement, Lighting, Resolving Conflicts in Planning	
Evaluating the Plan	183
Case Study 3: Office Floor in a City Building	186

chapter seven: Human Factors and Social Responsibility 191

Human Factors	191
Background, User Participation, Use of Research Data, Employment of Consultants, Performance Evaluation, Importance in Smaller Projects, Specific Issues	
Social Responsibility	199
Quality versus Profit, Environmental or Green Concerns, Adaptive Reuse and Historic Preservation	
Role of the Designer	209
Matters within Direct Control of the Designer, Issues Requiring Cooperation between Designer and Client, Concerns outside Designers' Immediate Control	
Case Study 4: Offices for a Nonprofit Organization	212

chapter eight: Interior Design for Special Needs 217

Americans with Disabilities Act	217
Universal Design	218
Children	219
The Elderly	221
People with Disabilities	224
Home Nursing	228
Adaptability	229
Case Study 5: A City Apartment	232

chapter nine: Materials and Their Uses 235

Structural and Interior Materials	235
Environmental or Green Issues	236
Consumption of Resources, Pollution and Waste, Interior Environment Impact, Sick-Building Syndrome	
Types of Materials	242
Wood	242
Structural, Interior	
Masonry	246
Stone, Brick, Concrete Block, Plaster and Stucco, Tile, Concrete	
Metals	251
Structural, Interior	
Glass	252
Plastics	254
Thermoplastics, Thermosetting Plastics	
New Materials	255
Material Selection	255
Evaluating Materials, Materials in Their Setting	
Materials in Relation to Their Uses	258
Walls	259
Load-Bearing Walls, Partition Walls, Wall Finishes	
Doors	269
Door Materials, Door Types	
Windows	273
Window Types, Window Treatment	
Columns	276
Floors	276
Floor Materials, Woven Floor Coverings, Floor Coverings	
Steps and Stairways	284
Designing Stairways	
Ceilings	288
Ceiling Materials	
Miscellaneous Elements	290

chapter ten: Color 293

Practical Approaches	294
Natural Color, All-Neutral Color, Functional Color	
Color in Specialized Interiors	297
Offices; Schools and College Facilities; Restaurants and Other Food-Service Areas; Stores, Shops, Showrooms; Medical and Healthcare Facilities; Hotels and Motels; Retirement Living Facilities; Industrial Settings	
Working Method	302
Collecting Color Samples, Preparing Color Charts, Sample Boards, Realizing the Color Scheme	
Common Color Problems	306

Light and Color	306
The Color Spectrum, Additive Color, Subtractive Color, The Color Wheel	
Color Systems	308
Munsell Color System, Other Color Systems, Complementary Colors, Warm and Cool Colors	
Psychological Impact of Colors	313
Cultural Symbolism of Colors	316
Color Schemes	318
Monotone (Neutral) Color Schemes, Monochromatic Color Schemes, Analogous Color Schemes, Complementary Color Schemes, Triad Color Schemes, Tetrad Color Schemes	
Special Color Effects	324
Effects of Texture, Pattern, Metallic Materials; Colors in Relation to Each Other; Effects of Color on Space; Optical Mixture; Effects of Light on Color	
Case Study 6: A City Apartment	327

chapter eleven: Lighting 331

Vision and Lighting	333
Considerations for Good Lighting	
Daylight	336
Admitting Daylight, Controlling Daylight	
Artificial Light	339
Planning Lighting	339
Lighting Needs	340
Level of Illumination, Brightness Contrast, Lighting for the Aging Population	
Special-Purpose Lighting	344
Offices, Healthcare Facilities, Retail Stores and Showrooms, Restaurants	
Selection of Lighting	349
Incandescent Light, Fluorescent Light, High-Intensity Discharge (HID) Light, Fiber-Optic Light, Light-Emitting Diode (LED) Light, Other Light Sources, Color Characteristics of Artificial Lighting, Economic Issues	
Fixture Selection	356
Architectural and Portable Lighting; Types of Light Produced; Floor, Table, and Desk Lamps; Wall-Mounted Units; Ceiling Units; Built-in Lighting; Miscellaneous Types	
Fixture Location and Spacing	368
Calculating Number and Location, Switches, Dimmers, Photo Sensors	
Codes and Regulations	370
Case Study 7: A Duplex City Apartment	372

chapter twelve: Textiles	377	Energy Consumption	466
Selecting Textiles	378	Plumbing Systems	466
Green Issues, Color, Other Factors		Acoustics	468
Fabric Types and Construction	383	Excessive Noise, Transmitted Noise, Overheard	
Fiber, Yarn, Construction, Finishing, Color,		Speech, Good Acoustics	
Special Characteristics		Wired Systems	472
Identifying Textiles	391	Safety Systems	473
Fabric Testing, Textile Names		Vertical Transportation	474
		Elevators, Escalators, People Movers	
chapter thirteen: Furniture	395	Building Codes	477
Preliminary Furniture Decisions	397	Fire-Safety Requirements, Exit Requirements,	
Built-in versus Movable Furniture, Systems Furniture,		Environmental Requirements	
Reusing Furniture			
Layout and Planning	398	chapter sixteen: Special-Purpose	
Selecting Furniture	399	Spaces	481
Specially Designed Furniture; Ready-Made Furniture;		Kitchens	482
Modular, Knockdown, and Economy Furniture;		Programming, Planning, Elements and Materials,	
Criteria for Choosing Furniture		Appearance	
Function	404	Bathrooms	495
Tables, Desks, Seating Furniture, Sleeping Furniture,		Residential, Nonresidential	
Storage Furniture, Computer Furniture,		Storage	502
Contract Design Furniture, Children's Furniture		Residential, Nonresidential	
Structure and Materials	418	Other Special-Purpose Spaces	505
Wood, Metal, Plastics, Upholstery		Lofts, Studios, Workshops, Home Offices,	
Furniture Design	428	Media Rooms, Conservatories, Greenhouses,	
Antiques, Reproductions of Antiques, Modern,		Courtyards, Atriums, Pools, Terraces,	
Contemporary, Post-Modern, Deconstructivist,		Patio, Roofs, Decks	
Craft and Art Furniture		Case Study 9: A Loft Apartment	517
Case Study 8: A Table Supported by Two Pillars	435		
chapter fourteen: Accessories,		chapter seventeen: Public Interiors	521
Art, Signage	439	Commercial Spaces	522
Accessories	440	Offices, Banks, Brokerage Offices, Shops, Shopping	
Practical Accessories, Decorative Accessories,		Centers, Showrooms	
Plants		Hospitality Spaces	532
Art	448	Restaurants; Hotels, Motels, Inns;	
Selecting Artwork, Framing and Placing Artwork		Clubs, Sport Facilities	
Signage and Graphics	453	Institutional Spaces	535
Wayfinding		Administrative Buildings, Correctional Facilities,	
chapter fifteen: Mechanical		Educational Facilities, Healthcare Facilities, Childcare	
Systems	457	Accommodations, Houses of Worship	
HVAC	457	Cultural and Recreational Spaces	542
Heating Systems, Ventilation, Air-Conditioning		Museums, Galleries, Libraries, Theaters,	
Electrical Systems	463	Concert Halls, Auditoriums, Arenas	
		Other Spaces	544
		Exhibition Design, Transportation,	
		Industrial Work Spaces	
		Case Study 10: A Luxury Restaurant	548

chapter eighteen: The Business of
Interior Design551

Employment of Interior Designers551
Setting Up a Workplace552
Interior Design Drawings554
 Design Drawings, Construction Drawings
 Specifications557
 Models557
Information Technology558
Business Matters561
 Budgets, Marketing, Contracts, Project Management
Human Problems566
Design Business Models567
 Sole Proprietorship, Partnership, Incorporation

Appendixes571

Appendix 1. Architectural Symbols571
Appendix 2. Furniture Symbols572
Appendix 3. Electrical Symbols572
Appendix 4. Material Indications in Section573
Appendix 5. Estimating Material Requirements574
Appendix 6. Metric Equivalents574
Appendix 7. Professional Organizations575
Glossary577
Bibliography587
Websites593
Illustration Credits595
Index597

Index

Page numbers in *italics* refer to illustration captions for illustrations positioned on that page or the facing page. Corporate names are uninverted, e.g., "Peter L. Gluck and Partners," while individual practitioners are listed with surname first, as in "Gray, Eileen."

A Aalto, Alvar 114, 115, 405, 422, 432
AbakEnvironments 415
Abercrombie, Stanley 4, 45-47
Abercrombie/Vieyra house, Sonoma, California 4
Acabados wall sconce 363
Academy of Music, Brooklyn, New York 28
accent lighting 341
access floors 277, 473
accessibility 25, 217-18, 226-28, 231
accessories 429-48, 440-41; checklist 446; decorative 441-43; plants 443-48, 445; practical 441
accidents see safety and security
acetate 280, 384
Acheson Sisters (Sargent) 59
acoustical ceilings 288, 289, 462, 469
acoustical consultants 20
acoustical shadow 470, 471
acoustics 468-72; overheard speech 470-71; and texture 56; of whispering gallery 67
Acropolis, Athens 75
acrylics 254, 280, 384, 426
Adam, James and Robert 92, 92-93, 94, 97, 399
Adam D. Tihany International Ltd 548-49 see also Tihany, Adam
adaptability 229-31
adaptive reuse 206-9
additive color 307-8, 308
AdHoc System 182
Adirondack design 101-3
adjacency studies 139, 167, 168-70
Adler, Dankmar 105
administrative buildings 536
adobe 131
Aeron chair 409
Aesthetic movement 126
aesthetic response 39
aesthetic standards 40
African house 72
AGA stoves 487, 489
A. G. Becker, Inc. 198
aggregate 242
air, ventilation 460-62
air-conditioning 457, 457, 458, 462-63
air-handling ceiling fixtures 463
airplane design 115
air quality 241
Airstream travel trailer 38
air terminals 117, 251, 454, 546
Albers, Josef 325
Alberti, Leon Battista 61, 83
Alexander, Christopher 141
Alfredo De Vido Associates 557 see also De Vido, Alfredo
Alhambra palace, Granada, Spain 130, 130
Alidad 390
alloys 252

Altes Museum, Berlin 97
aluminum 252
ambient light 326, 341, 344
American Capital, Houston 506
American Colonial style 34, 94-95, 95; architecture 63, 81, 96; furniture 95, 404, 405, 428; kitchen 482, 483; residences 107
American Institute of Graphic Arts 455
American National Standards Institute (ANSI) 217, 392, 477
American Shaker style 34, 101, 102, 103, 404
American Small Business Computers 150
American Society for Testing and Materials (ASTM) 392, 477
American Stock Exchange, New York 529
Americans with Disabilities Act (ADA) 217-18, 474, 477
ancient world 72-78; Egypt 72-73, 73; Greece 73-75, 74-75; Rome 75-78, 77
Ancy-le-Franc château, France 87
Ando, Tadao 128
Andri, Anda 303
animal fibers 280
anodizing 252
antibacterial treatment 389
antique reproductions 430
antiques 428-30, 429
Antiquities of Athens (Stuart and Revett) 97
antistatic treatments 388, 389
apartment design: case studies 232-33, 327-29, 372-75; storage 503, 504
Apple Computers, California 298
Apple Store, Soho, New York 254
Arc-et-Senans, France 93
arches 75, 78, 80, 246, 246-47
architects 19-20
Architects' Villa, New Jersey 149
architectural engineers 20
architectural lighting 356-57
architectural symbols 571
Architectural Woodwork Institute (AWI) 418
Architecture Research Office 387
architrave 74
area assignment 167
area rugs 277
arenas 543
armchairs see chairs
Aronoff Center for Design and Art/DAPP Building, University of Cincinnati 121, 122
art 439-40, 448-53; framing and placing 451-53; reproductions 450; selecting 448-51
Art Deco 114, 115, 115, 411, 414
Artek, Finland 405
Art Nouveau 103-5, 105, 265, 399
Arts and Crafts Movement 99-101, 102, 109, 126, 264-65, 265, 294, 405
asbestos 198, 241, 384
ashlar 242, 247, 249, 258
associates 551
Association for Contract Textiles (ACT) 392
Astor, Mrs. William, house 98
Astori, Antonia 486
asymmetry 51, 63-64
atriums 67, 75, 514, 515, 558

AT&T/Sony Building, New York 121, 526
Auditorium Building, Chicago 105
auditoriums 114, 117, 537, 543
Audubon House, case study 212-15, 340
Aulenti, Gae 291, 362, 545
Aureole Las Vegas, case study 548-49
Aurora hanging light fixture 365
AutoCAD 153
automobiles 443, 547
awning and projected windows 273
Axion Design 352
axonometric drawings 146, 148, 172, 512, 565
Azay-le-Rideau château, France 87, 89

B balance 51, 62-64
baldacchino (canopy) 87
Baldwin, Benjamin 62
balloon framing 243, 243
bamboo 243, 255, 257, 258, 420, 498
banks 41, 105, 476, 526-28, 527
Barbizon Hotel, New York 166
Barcelona Exposition 111, 111, 140, 174, 235
Bar Nil, Rome 331
Baroque 82, 84-87, 88
barrel vaults 67, 80
barrier-free access 25, 217-18, 227, 228, 231
basic design, use of term 49
basilicas 78
Bassett, Florence Knoll 115
bathrooms 495-500; accessories 442; fixtures 222, 223, 226, 231; layouts 498; lighting 352; nonresidential 59, 500, 501; plumbing for 466, 466-67; replanning of 482; residential 495-96; Victorian 497
Baths of Caracalla, Rome 106, 107, 246
bathtubs 495
batik 379, 388
batiste 379
Batter Kay Associates, Inc. 515
Bauhaus style 110, 110-11, 296, 404, 430
Bausman-Gill Associates 512
BEA, New York 565
beauty, concept of 39
Beaux Arts method 133-34
Beaux Arts style 106
beds 410-12; Chinese style 127; four-poster 318, 391, 411; hospital 412; Murphy 412, 412
Beebe, Tina 146
beetles, patterns of 42
Behrens, Peter 110
Belux 434
Benedetto da Maiano 83
Benjamin Thompson & Associates 210
Bennett, Corwin 69
Bennett, Ward 503
bentwood 99, 112, 244-45, 422, 422
Bernini, Gianlorenzo 84, 87
Bertoia, Harry 409
Besançon, France, theater 93
Beth Israel Hospital, Boston 300
Beyer Blinder Belle 143, 454

- Bibendum armchairs 114
 Bibliothèque Nationale, Paris 92, 99
 Bibliothèque Sainte-Geneviève, Paris 99
 bids 496
 bids, obtaining 153–54, 562
 Biedermeier style 87–90, 91; furniture 87–90, 91
 Big Dipper 54
 bilateral symmetry 62, 63
 Bing, Siegfried (Samuel) 126
 biosensors 473
 birch 419
 Birsel, Ayse 415
 Blacker House, Pasadena 99, 102
 bleach 425
 blinds 272, 274
 block diagramming 167–68, 168
 block printing 388
 blueprints 151
 Boeri, Cini 406
 Bohlin, Cywinski, and Jackson 254
 bookcases 114, 504, 506
 Borromini, Francesco 85
 Botta, Mario, 521
 Boullée, Étienne-Louis 92, 93
 Bourgeois, Louise 60, 542
 Bouroullec, Ronan & Erwan 434
 box (rectangular room) 67
 Bramante, Donato 63, 83
 Brandt, Marianne 110
 Braquenié 388
 Bray-Schaible Design 506
 Brayton & Hughes 261
 Breuer, Marcel 111, 401, 404, 430
 Brewster, Sir David 311
 Brewster system 311
 brick 247–49, 249, 259
 Bright, Mary 387
 brightness and glare 334–35
 brightness contrast 342–43
 Brinkworth, London 172
 British Museum, London 97, 97
 broadcloth 379
 broadloom 279
 brocade 379, 386, 387
 Brock, Jeffery 517
 brokerage offices 528–29
 bronze 252
 Brooklyn beer warehouse 207
 Brunelleschi, Filippo 83
 Brunelli, Giorgio 335
 Brunschwig & Fils 421
 Buatta, Mario 17
 bubble diagram 169, 170
 Buddhist stupa 128–29, 129
 budgets 137, 562–64
 building codes 185; for auditoriums 543; for construction 478; for electrical systems 465; for energy conservation 466; for escalators 475; for exits 478–79; for fire safety 185, 197, 477–78; for lighting 370; for mechanical systems 477–79; for noise control 469; for occupancy 477; for plumbing systems 468; safety checklist 474; sponsoring groups 477, 479; for stairways 284; standard codes 370, 477
 Building Officials & Code Administrators International (BOCA) 370, 477
 building standard 565
 bull pens 522
 Burgee, John 526
 burlap 280, 379
 Burlington, Lord, Chiswick House 91
 Burne-Jones, Edward 100
 Burnham, Daniel H. 210
 bushhammered surfaces 276
 Business and Institutional Furniture Manufacturers Association (BIFMA) 418
 business matters 561–66
 butcher block 244
 Butler House, Des Moines 484
 buttresses 80, 246
 Byzantine design 78, 78, 130
 stacking 409–10, 411, 427; Tennessee twig 515; Thonet 47, 422; tubular steel 430; Wright 109
 Chaitya Hall at Karli, India 129
 Chambord château, France 87
 chambray 379
 Çan, Arnold 303
 Chance and Company 100
 Chapel of Notre-Dame-du-Haut, France 113, 115, 140
 Charter School, Bronx, New York 537
 Chase Manhattan Bank, New York 527
 Chatsworth great house, England 59
 cheesecloth 379
 Chelsea Hospital, London 91
 chenille 385
 cherry 419
 Chia, Sandro 532
 Chicago Bar Association, President's Room 525
 Chicago World's Fair (1893) 106
 Chichén Itza, Mexico 131, 131
 Chihuly, Dale 279
 childcare facilities 202, 541
 children's furniture 219–21, 220, 402, 418
 Children's Hospital and Health Center, San Diego 539
 Childs, Kirsten 212–15
 China 125–26
 chinoiserie 125, 126
 chintz 379, 390
 Chippendale, Thomas 91–92, 92, 125, 404
 Chiswick House, England 91
 Christianity, early Christian design 78
 chroma 310, 310
 chromium plating 424, 425
 chromolithography 311
 Chrysler Building, New York 115
 Church/Cathedral of San Marco, Venice 78
 Church of Hagia Sophia, Istanbul 78, 78, 130
 CIE system 311
 circles, circular forms 54, 55, 56
 Citterio, Antonio 182
 Clark & Menefee Architects 442
 classic modern style 112
 clerestory 78
 client: cooperation with 209–11; designer relationship with 137, 566–67; establishing contact with 137; interviews with 139; making presentation to 145–48, 151; obtaining design approval from 143–44, 151; obtaining program approval from 139; problems with 566–67; reviewing budget with 151; reviewing preliminary design with 142–43; reviewing preliminary program with 139
 Cline Bettridge Bernstein 332
 clip-on photo lights 368, 368
 closely held corporations 569
 closets 502
 Club Med Resort, Senegal 316
 clubs 535
 cluster arrangements 173–74
 cluster housing 204
 Clyne, Ronald 472
 coal 464
 coated fabrics 389
 codes see building codes
 coffered rotunda 77
 Cohen, Preston Scott 151
 cold cathode lighting 354
 collectibles 401, 430, 441, 444, 452
 College of Physicians and Surgeons, Columbia University, New York 540
 Colonial see American Colonial style
 Colonnade Apartments, Philadelphia 515

C Cabinet-Maker and Upholsterer's Drawing Book of 1791-94 (Sheraton) 92
 CAD 28, 28–29, 143, 153, 154, 156, 553, 557

- Café Word of Mouth, New York 557
 Calder, Alexander 118, 140
 calendaring 387
 calico 379
 camel's hair 280, 384
 Campbell, Gary 303
 Canada Ministry of Air Transportation 454
 Canadian Standards Association (CSA) 370
 candela 341
 candlepower 341
 canvas 379, 386
 capitals 74, 75, 87
 Capitol, U.S., Washington, D.C. 67
 Carpenter Gothic style 97
 carpets 279, 279–84
 Carrère, John Mervin 543
 Carr of York 59
 casement cloth 379
 casement windows 273
 case studies: city apartments 232–33, 327–29, 372–75; loft apartment 517–19; luxury restaurant 548–49; office floor in city building 186–89; offices for nonprofit organization 212–15; residential design quality 45–47; specialty shop 156–59; table 435–37
 cashmere 384
 Cassell, Stephen 387
 cast iron 252
 Caswell House, California 246
 catalyst 255
 CAT Financial Services, Nashville 556–57
 cathedral ceiling 67, 288
 cedar 419
 Ceglic, Jack 285
 ceilings 91, 288–90; acoustical 288, 289, 462, 469; dropped 67; lighting units 363–68; materials 288–90; reflected 147, 340, 340; suspended 462
 cellulose 384
 cement 242, 255
 cement (concrete) block 249, 249, 259
 Centre Pompidou, Paris 120, 250
 Cesar Pelli & Associates Inc. 64, 68
 Cesca armchair 430
 Chadwick, Don 409
 chairs 406, 409–10; Aalto armchair 422; Aeron 409; Bibendum 114; Breuer 401, 430; Cesca 430; Chinese style 125, 126; Chippendale 92, 404; Colonial Windsor 404; Diamond wire 409; Eames 407, 422; ergonomic 194; folding 409, 412; hazards of 402; Hell's Angel 54; Hepplewhite 92; Hoffmann 503; KinderZeet 221; Klismos 75, 96; ladder-back 206; Le Corbusier 185; Mayfair Looseback 427; Middle Ages 82; Mies van der Rohe 424; Morn's 410; rocking 404; 410, 434, Saarinen 427; Sheraton 92; Slipper 427;

- color 59, 293–328; additive 307–8, 308; checklist of basic steps 296; chroma 310, 310; common problems with 306; complementary 312–13, 321–23; cultural symbolism of 316–18; functional 297; interaction of 325; light and 306–7, 326; on-site evaluation of 306; practical approaches to 294–302; primaries 308, 308; psychological impact of 313–16; quaternaries 309; samples of 302–3; saturation 310; secondaries 308; selecting 144–45; solid 310, 311; and space 325; special effects of 324–26; in specialized interiors 297–302; specially mixed 306; spectrum 307, 307; subtractive 308; systems 308–12; temperatures of 355; tertiaries 308, 309; of textiles 378–82, 388; warm and cool 313; working method with 302–6
- ColorAid system 312
- color charts 303–4, 303–5, 305
- color harmony 318
- Color Rendering Index (CRI) for light source 354
- color schemes 318–24; analogous 320, 320–21; complementary 303, 321, 321–23; monochromatic 319, 319–20; monotone 318, 318–19; realizing 305; tetrad 323–24, 324; triad 323, 323
- color ways 383
- color wheel 308, 308
- Columbia, Maryland, planned community 204
- Columbia University, New York 121, 540
- Columbo, Joe 185
- columns 276, 276
- commercial space 522–32
- Commission Internationale de l'Éclairage (CIE) 311
- Complexity and Contradiction in Architecture* (Venturi) 120
- computer-aided design (CAD) 28, 28–29, 143, 153, 154, 156, 553, 557
- computers: access flooring for 473; in children's rooms 221; color charts via 305, 305; for communication 29; ergonomic concerns with 194; furniture for 414, 414, 522; images generated via 133, 151, 556–57; in preliminary design 554, 555, 556–57; for research 29; tasks for 560; for time schedules 155; VDTs 345; virtual reality 28, 34–35; workstations 218–19
- concept development 139–43
- concept sketches 140–41
- concert halls 68, 543
- concrete 75, 250–51; for floors 277; precast 250; reinforced 236, 250, 250; for walls 259
- concrete block 249, 259
- Connecticut General Life Insurance Company, Bloomfield 115
- conservatories 512, 513
- construction: building codes for 478; supervision of 155
- construction drawings 141–47, 151–53, 154, 554–57, 557
- Constructivism 110, 111, 121
- consultant services 32, 137, 195
- Container Corporation of America (CCA) 312
- contemporary style 431–32
- content and form 43
- Conti, Jim 352
- Continental National Bank, Fort Worth 22
- continuous-spectrum lighting 354
- contract design 20–23, 414–18, 417, 521–22
- contract documents 153, 552
- contractors, selecting 152
- contracts 565
- contrast (variety) 62
- control panel 473
- "conversation pit" 118
- Cook and Shanoski Associates 455
- Cooley, Renee 372
- Cooper Group, The 231
- Coop Himmelblau 336
- copper 252
- corduroy 379, 386
- Corinthian order 65, 73, 74, 75
- Corkran, Julius T. 219
- cornice 73, 74
- corporations 569
- correctional facilities 536, 536–37
- Cosco Office Furniture, Inc. 150
- cost-plus basis 154
- costs, estimates of 145
- Cotehele House, Cornwall, England 80
- cotton 280, 383, 384
- Counter-Reformation movement 87
- County Manor, New Jersey 222
- courtyards 512, 513–14
- CPM (Critical Path Method) 137–38, 138, 155, 565
- craft and art furniture 433, 434
- Craftsman house, Oradell, New Jersey 102
- Craftsman movement 99
- Craftsman Workshops in America 102
- crash (textile) 379
- Crasset, Matali 535
- creativity 134–35
- Creeks Boutique, Paris 367
- cretonne 379
- CRI (Color Rendering Index) 354
- Crissman Solomon Bauer Architects 300
- Critical Path Method (CPM) 137–38, 138, 155, 565
- crochets 97
- crocking 392
- Croxton, Randolph R. 212
- Croxton Collaborative Architects 212–15, 340
- Crystal Palace, London 99, 100
- Cubism 110, 115
- cultural and recreational spaces 542–43
- Cumming, Rose 107–8
- Currie, Robert 263
- curtains 272, 275
- curved lines 53, 54, 56, 67
- Cut and Chase bar and restaurant, Newcastle-upon-Tyne, England 500
- Cy Mann Designs 442
- D** Dahesh Museum, New York 243
- damask 379, 387
- Danish Modern 117
- D'Annunzio, Gabriele 444
- darkness 59
- data collection 139, 167
- David Beck, Architects 515
- Davis, Alexander Jackson 96, 97
- Davis, Lewis 232
- Davis Brody Bond LLP 232–33, 543, 564
- Davis Furniture Industries 414
- day-care facilities 202, 541
- daylight 184, 203, 209, 252, 332, 336–39
- dead-end location 184
- Deam, Christopher 38
- decks 515–16
- deconstruction 205
- Deconstructivism 121–24, 122, 123, 432–33
- decorator, use of term 19
- della Robbia, Luca 83
- denim 379, 386
- dens 510
- dental treatment center 538
- Dern, Andrea 443
- DeSede 431
- design: analysis of 44; basics of 48–69; businesses 567–69; case study 45–47; defining 37; development of 144–51; elements of 53–60; as engineering term 41; evaluating 37–39; as expressive medium 65–69; and human perception 49–51; implementation of 151–55; indigenous 72; in nature 41, 41–42; in other contexts 40–43; prehistoric 72; preliminary 141–44; principles of 60–65; process 36–37; quality of 37–47; technological 42–43; vernacular 41, 42
- DesignCAD 3D software 150
- Design Collective, Incorporated 557
- design drawings 141–48, 554–57
- Design Group, Center for Rehabilitation Technology 219
- design process 133–59; case study 156–59; concept development 139–43; creativity in 134–35; design development 144–51; design implementation 151–55; post-completion 155; programming 138–39; project beginnings 137–38; project supervision 153; sequential outline in 135–37
- Deskey, Donald 115
- desk lamps 359
- desk organizer 440
- desks 404
- De Stijl movement 110, 111, 296, 404, 405
- detail drawings 153
- Deutsches Institut für Normung (DIN) 311
- De Vido, Alfredo 156–59, 319, 558
- de Wolfe, Elsie 106, 107–8
- de Young Museum, San Francisco 543
- dhurrie rugs 279
- diagonal lines 53, 54
- diagonal weave 387
- Dialogica 252
- Diamond wire chair 409
- Diekman, Norman 142, 154, 327–29
- Dietz, Nana 365
- diffused light 335
- Digital House '35
- digital technology 28–29
- dimitry 379
- dimmers 347, 352, 369
- DIN color wheel 311
- dining rooms: accessories for 442; monochromatic color in 319; shutters in 275
- Directoire style 97
- dirigible design 115
- disabilities 224–28; accommodations for 32; kitchen access for 227, 485, 489; universal design and 218–19, 402; workstations for 218
- discontinuous-spectrum lighting 354
- dishwashers 490
- distressed finishes 430
- Doesburg, Theo van 111
- domes 56, 67, 78
- Donghia, Angelo 452
- Donghia, Sherri 452
- doors 198, 262, 269–71, 270, 469, 478
- Doric order 65, 73, 74, 74, 93
- Doriss, Rachel 377
- double cloths 386
- double-cube rooms 67
- drafting 560
- Draper, Dorothy 107–8
- drapery 272, 274, 275, 276, 377–93, 382, 386, 393
- drawings 554–57; axonometric 146, 148, 151, 172, 512, 565; construction 141–47, 151–53, 154, 554–57, 557; design 554; detail 153; formal 144; perspective 148, 560; to scale 147; sectional 148; working 151, 154
- drawings and prints 449–50

dressing rooms 502, 503
drill (textile) 379, 386
dropped ceilings 67
drywall 261
Ducic, Frederic 535
duck (textile) 379, 386
Ducommun House, Bel Air, California 439
du Pont, Henry Francis 95
Duquette, Tony 439
durability, testing for 392
D'Urso, Joseph Paul 506
Dwork, Melvin 444
dyeing, of textiles 388

E Eames, Ray and Charles 117, 118, 140, 407, 422, 432, 445
Eames House, California 118, 140, 140
early Christian design 78
early Renaissance 82-83
Eastern Japan Railway Company 21
Eastlake, Charles 101
Ebel, New York 531
ebony 244, 419
Eclecticism 106-8
Edgcombe, Sir Piers 80
Edison, Thomas 339, 349
education: design projects 218; design schools 134; formal training 133-34; foundation courses 49
educational facilities 114, 536, 537-38; color in 297-98
Educatorium, University of Utrecht, Netherlands 121-24, 124
E. Fay Jones + Maurice Jennings Architects 542
egg-crate ceiling 288
Egypt 72-73, 73; house of Meket-Re 73; tombs of 72, 73
Ehrenkrantz & Eckstut 536
Eidlitz, Cyrus L. W. 258
Eisenman, Peter 121, 122
E. Kaufmann Sr. House, Pennsylvania 109
elderly, special needs of 221-23, 222, 228, 302, 343, 402
electrical systems 463-66
electric heating 458
electronic office 525-26
Elektra Entertainment, New York 512
elements 235; built-in 291; miscellaneous 290-91
elevation 148
elevators 474, 475
Elgin Marbles 74-75, 452
ellipse shapes 56, 67
embroidery 389
empathic sketching 134
emphasis 65
Empire style 90, 93-94, 97
enamel 425
enclosure: basic 65-67; contents of 69; openings in 69
enclosure-to-occupant context 69
endangered species, hardwoods 244
energy consumption 204-5, 466
England: Georgian style 91-92; great houses in 82, 90, 91; Regency style 94, 94, 97; Renaissance in 90-92
Ennis House, California 131
entablature 73
entertainment space 543
environmental issues 32; air quality 241; building codes 466, 479; consumption of resources 237-40; designer responsibility 27-28, 28; endangered tree species 244; green design 191, 199-203, 203; materials 236-41; pollution and waste 240-41; in selecting textiles 378; sick-building syndrome 241; toxicity 205

equilibrium 62-65
ergonomics 194, 194, 197
Ertegun, Mica 275
escalators 474-75, 476
estimating 560, 562-63, 574
Evans Partnership 268
Ewing, Cole, Cherry, Parsky 500
executive washrooms 500, 500
executive workstation 506
Exeter Cathedral, Devon, England 80, 80
exhibition design 20, 544
exit requirements 478-79
Expo 67, Montreal World's Fair 118
expressiveness 39
eye, human 334, 335

F fabrics: antistatic treatments 388, 389; printing of 388-89; wall covering 268-69; woven 385-87, 386
facilities planners 26
Fade-Ometer 392-93
Fairmont Hotel, San Francisco 274
Fallingwater, Pennsylvania 109
fan vaulting 80
fastness (color) 388
faux materials 254
FDM Productions, New York 500
Federal style 97, 440
fees 563-64
felt 379, 385
feng shui 318
Fiber Creations 352
fiberglass 242, 255, 280, 379, 384, 426
fiber-optic light 351-52, 352, 387, 539
fibers 383-85; carpet and rug 282-83; construction of 385-87; names of 280-81
Fibonacci series 41
figure of merit 171
fill light 334
films, synthetic 385
finishes 425-26
finishing 387-88
fireplaces 258, 291
fireproofing 389
fire resistance 382, 389, 392
fire-retardant 389
fire safety: building codes on 185, 197, 477-78; of carpets and rugs 284; for disabled and elderly 228; of furniture 402; sprinkler systems 468; standpipe systems 467-68
Fisch, David 268
Fischer, Johann Michael 87
Fischl, Eric 508
Fisher, Frederick 551
flame-resistance 389
flammability 382
flannel 380
Floating Box House. Austin, Texas 40
floating ceiling 67
flooding 392
floor coverings, woven 277-81, 377
floor plans 144, 146, 147, 162, 164, 165, 172, 466
floors 276-77, 279, 285; access 277, 473; kitchen 491, 493
flowchart (of design project) 135, 136
fluorescent light 349-51, 351
Fogerty, Brian 352
follies 121, 123
Fong & Chang Architects 543
Fontaine, Pierre-Francois 93, 94

footcandle 341
footlambert 342
Forberg, Charles 17
Forbes-Ergas Design Associates, Inc. 153, 186-89
Forbes Silicon Valley Bureau, Burlingame, California 261
Forcolini, Carlo 359
Forest Stewardship Council (FSC) 202, 246
form 37, 54-56; and content 43; three-dimensional 54, 56; two-dimensional 54-56
formal drawings 144
"Form follows function" 105
40 Acres and a Mule offices, Brooklyn, New York 393
Foster, Norman 120 see also Norman Foster Associates
Foster and Partners 53
Foundation for Interior Design Education and Research (FIDER) 25
Fouquet, Nicolas 89
Four Books of Architecture (Palladio) 75, 84
"Foursquare Room" 318
Fox and Henderson 100
framing 451
France, Renaissance in 87-90
Frankfurt, Suzie 66
Frankl, Paul 114
Frank O. Gehry & Associates 395 see also Gehry, Frank O.
Frederick Fisher & Partners Architects 551
free curves 54
Freed, Janet Gay 258
Freeman & Pitzer 540
French Empire style 90
French polish 426
French provincial style 87
Friends in Deed, New York 494
frieze 74, 380
Frye, Louis 180
Fuel, HVAC 464; kitchen 490
Fujie, Kazuko 365
fulcrum 63
Fuller, Buckminster 118
fulling (shrinking) 387
full-spectrum lighting 354-55
function, use of term 38
functionalism 117, 192
furniture 87, 395-437; Aalto 115, 405; American Colonial 95, 404, 405, 428; American Shaker 103; antique 428-30, 429; Art Nouveau 103, 105; Arts and Crafts 294; bentwood 244-45, 422; Biedermeier 87-90, 91; Breuer 111, 401, 404, 430; built-in vs. movable 397; case study 435-37; for children 219-21, 220, 402, 418; Chinese style 125, 126; collectible 401; for craft and art 433, 434; Deconstructivist 432-33; design of 428-33; De Stijl 111, 405; Eames 118, 422; for elderly 223; ergonomic 194, 197; finishes for 425-26; French Empire 90; French provincial 87; function of 402, 404-18; hardware for 423; indoor-outdoor 515-16; knockdown 401-2; layout of 176-81, 178-79, 398-99; Le Corbusier 15, 112, 185, 430; Memphis 33, 121, 432, 433; modern 428, 430, 431; modular 401; movable 181; outdoor 515-16, 516; planning checklist 176; Post-Modern 432, 432, 433; preliminary decisions 397-98; production 401; ready-made 401; Renaissance 84, 87; reusing 397; Saarinen 117, 427; safety hazards of 402; selecting 399-404; special design 399, 401; storage 412-14, 414; structure and materials 418-27; symbols for 572; systems 397, 414, 415; Thad Hayes Design 411; upholstery 382-83, 427, 427-28, 429; Victorian 404, 429; Vienna Moderne 105; Wright design 109, 109
futons 410
Fu Tung Cheng 493

G gabardine 386
Gabelini, Michael 481
gables 125
Gabriel, Ange-Jacques 87, 92, 93
galleries 542
Gantt chart 138
Garcia House, Las Vegas 179
garden city 203–4
Garden State Racetrack, New Jersey 500
Gare d'Orsay, Paris 545
Garnier, Charles 106
gas lighting 207
gates 271
Gaudí y Cornet, Antonio 103
Gehry, Frank O. 4, 121, 122, 177, 279, 290, 314, 395, 432, 433, 558
Gehry House, Santa Monica, California 177
General Motors "Driversite" 35
Gensler & Associates Architects 432, 523
geodesic dome structure 118
George Kovacs Lighting 362, 365
George Spencer Designs, Ltd. 388
George Wythe House, Williamsburg 483
Georgian style 91–92, 404
Georgis, William T. 149
geothermal heat 464
German Airport Authority 455
Gerritsen, J. Frans 311
Gerritsen system 311–12, 312
Gestalt school 51
Getty Center, Los Angeles 57, 161, 537
GHI Architects 220
Gidden, Angela 237
Gilbert, Sidney 222
gingham 380, 386
Girard, Alexander 117, 118
Gismondi, Ernesto 368
glare 334–35, 345
Glaser, Milton 166
glass 242, 252–54, 255; blocks 268; ceilings 290; doors 198, 263, 269; fibers 242, 255, 280, 379, 384, 426; floors 254; mirror 60, 254, 268, 268; opal 60; skylights 288, 290, 337, 515; stained 254; staircases 254; tables 407; translucency 60; types 254; walls 262, 263, 339; windows 273
Glass House, New Canaan, Connecticut 117, 117
glass walls 262, 263, 339
glazing 389
gloss 56
glossary 577–85
Goethe, Johann Wolfgang von 308, 311
Golden Oak (Mission) style 99
golden ratio 61, 61–62, 67, 72
Goldman, Sachs & Co. 202
good scale 60
Gothic design 56, 67, 80, 80–81
Gothic Revival style 97
Governor's Palace, Williamsburg, Virginia 95
graphics 291, 453–55, 454–55
grass cloth 380, 384
Graves, Michael 121
Grawunder, Johanna 69
Gray, Eileen 18, 114, 498–99, 504
gray scale 310
Great Mosque, Córdoba, Spain 130, 130
Great Pyramids, Egypt 72, 73
Greece: Acropolis 75; ancient 73–75; classic orders of 65, 73–74, 74–75; klismos chairs 75, 96; Parthenon 74–75; temple architecture of 73–74, 75; vase 75
Greek Revival style 96, 97, 97

Green, William 464, 525
Greenbelt, Maryland, planned community 204
green design, see environmental issues
Greene, Charles and Henry 99, 102
Gregotti, Vittorio 291
greige goods 388
grid plans 174
Grieve, Maurice 543
grillwork 252
Grinnell College, Bucksbaum Center for the Arts, Iowa 64, 68, 69
Grinstein Daniels 348
groin vaults 67
Gropius, Walter 105–6, 110–11, 117; Bauhaus 110, 111
Grotta House, New Jersey 22
ground plans 147
GSW, Berlin 462
Guarini, Guarino 87
Guenther 5 Architects 540
Guggenheim Museum, Bilbao, Spain 121, 122, 558
Guggenheim Museum, New York 68–69, 109, 109, 228, 251
Guildhall, Thaxted, England 80, 82
Guinard, Hector 103, 265
gunnysack 280
Gursel, Altan 529
Gwathmey, Charles 118, 268
Gwathmey Siegel & Associates 204, 268, 321, 500, 504, 526
gymnasiums 535

H H3 Hardy Collaboration Architecture 28
Hacin, David 461
Hackley School, Tarrytown 332
Hadid, Zaha M. 401
Hagia Sophia, Constantinople 78, 78, 130
half-timber work 80, 242
Hall, Alfred Lerner 121
Hall, Edward T. 69, 192
halogen lamps 349, 355
Hampton, Mark 50, 265, 324, 421, 516
Hanajuban Restaurant, Tokyo 360
Hancock Shaker Village, Pittsfield, Massachusetts 102
Hann, Marlys 248, 461
hardboard 244
Hardman, Juliet and Robert 487
hardness 56
Hardouin-Mansart, Jules 87
hardware 291, 291, 423
Hardwick Hall, Derbyshire, England 90, 91
hardwood 243, 244, 420
Hariri, Gesue and Mojan 35
Hariri & Hariri-Architecture 15
harmony 61, 62, 318
Harp, Alan 219
Harris, Harwell Hamilton 294
Harry Weese Associates 210, 547
Harvard University 152–53
Hasbrouck, J. M. 405
Hastings, Thomas 543
Hatkin, Naomi 220
Haworth, Inc. 416, 417
H. C. Price Company Tower, Bartlesville, Oklahoma 109
health and exercise facilities 535
healthcare facilities 91, 538–41, 539, 540; color in 300, 300–301; home nursing 228–29; hospice 231; lighting in 346; teaching hospitals 538, 540

health hazards 198
heating systems 457–60
heat pump 464
height 67
Heim, Jean-Pierre 316
Hell's Angel chair 54
Helmich, Pamela 220
Henningsen, Paul 365
Henry Dreyfuss Associates 454
Hepplewhite, George 91–92, 92
Herculeum 75–78
Hering, Ewald 312
Herman Miller, Inc. 191, 203, 219, 409, 415, 524, 561
herringbone 386
Herring/Newman, Seattle 208
Herzog & de Meuron 60, 362, 542
hibachi 127
Hidden Dimension, The (Hall) 69, 192
highboy cabinet 95
high-intensity discharge (HID) lights 326, 346, 351
high key 59
high (lightness) 59
High Renaissance 82
High Tech 118–20, 120, 250, 463, 529
high value 59
Hi Hotel, Nice 293, 535
Hildebrandt, Johann Lukas von 87, 88
Himmel, Richard 339
Hints on Household Taste in Furniture, Upholstery, and Other Details (Eastlake) 101
Hirsheimer, Jim and Christopher 488
historic design: of ancient world 72–78; of Middle Ages 78–81; in non-European traditions 124–32; in North America 94–95, 97; turn of the twentieth century 103–5; of twentieth century 106–15; of Victorian era 99–103
historic preservation 206–9, 210
HLW International LLP 529
Hodgetts + Fung Design Associates 261
Hodgkins, William 231
Hoffmann, Josef 105, 105, 386, 503
Holbrook, Richard 219
hollow space 56
Home House, London, drawing room 92
home nursing 228–29
home offices 30–31, 31, 510–11
homespun 380
honeycomb construction (shades) 274, 275
Hong Kong Bank 476
Hope, Thomas 94, 94
hopsacking 380
horizontal lines 53
horsehair 384
Horta, Victor 103, 105
Hospice at Mission Hill, Boston 231
hospital beds 412
hospitality spaces 532–35
hospitals see healthcare facilities
hot-air systems 458, 459–60
Hôtel de Varengeville, Paris 87, 90
hoteling 523, 525
Hotel Josef, Prague 534
hotels and motels 22, 57, 109, 166, 533–35, 534, 535; bathrooms in 59, 500, 501; color in 258, 293, 301–2, 303; drapery in 274
Hôtel Solvay, Brussels 105
Hotson, David 372
hot-water heating 458, 458–59
Houben, Francine 172

houndstooth check 386
Household Furniture and Interior Decoration Executed from Designs by Thomas Hope (Hope) 94, 94
House in Good Taste, The (de Wolfe) 107
House of the Future, Cardiff 237
House of the Silver Wedding, Pompeii 71
House of the Vetti, Pompeii 77
houses see residential design
houses of worship see religious buildings
Howard, Sir Ebenezer 203
Hsia, Ken 511
Hudson Hotel, New York 59
hue 309
human dimensions 194
human factors 191–99; client problems 566–67; consultants 195; issues in 197–99; performance evaluation 195–97; research data 194–95; user participation 193–94
Hunt, Holly 445
Hurva Synagogue, Jerusalem 31
HVAC systems 291, 457–63, 462, 464
hypostyle hall 72

I IBM Somers Complex, New York 555
iCart by Anthro 221
iColor MR LED lighting 353
identity programs 455
Il Redentore, Venice 83
Imatra, Finland, church 115
I. M. Pei & Partners 118, 555 see also Pei, I. M.
Imperial Hotel, Tokyo 109
incandescent lighting 348, 349, 358–59, 359, 360
incorporation 569
India 129
indigenous design 72
indoor-outdoor furniture 515–16
industrial designers 20, 25
industrial settings, color in 302
industrial work spaces 547
information technology 558–61
Inner Shrine, Ise, Japan 126, 127
inns see hotels and motels
Inscape 462
Institute of International Education, New York 114
institutional spaces 534–39
INTEGRA software system 31
intelligent buildings 464
Interaction of Color (Albers) 325
Interactive Tower 218, 219
interior decorator, use of term 19, 107–8
interior design: business of 551–69; business types in 567–69; consultant services in 32; current issues in 27–32; development of 16–17; digital technology in 28–29; future directions for 27–35; history of 71–131; licensing and registration in 25–26; NCIDQ examination in 25, 26, 27; practice of 17–23, 25; professionalism in 27, 93, 107–8; professional organizations 26, 575; professional preparation for 23–25; self-help materials in 32; social and environmental responsibility in 27–28, 191, 199–209; for special needs 217–33; user participation in 31–32
interior design business 551–69; budgets 137, 562–64; business matters 561–66; computer tasks 560; contracts 565; drawings 554–57; employment in 551–69; estimates and bids 562–63; fees 563–64; human problems 566–67; incorporation 569; information technology 558–61; marketing 560, 564, 564–66; models 50, 150, 557–58; partnership

568–69; project management 565–66; sole proprietorship 568, 568; specifications 557; workplaces 552–53, 568
interior designer, use of term 19
interior designer-client relationship 137, 566–67
interior materials 239–40
International Civil Aviation Organization 455
International Code Council 466, 477
International Exposition, Barcelona 111, 111
internationalism 124
International Organization of Standardization (IOS) 370
International Style 109, 112, 113, 117, 430
Internet auctions 401
Inter-Plan, Rockville, Maryland 204
inverse square law 342
Ionic order 65, 73, 74, 75, 96, 97
Iovina, Malia 367
iron 252
ISD Incorporated 506
Islamic world 129–31
islands, kitchen 487
ISO 9001 370
isometric drawings 148
Isometrix 303
Isozaki, Arata 128
Italy, Renaissance in 82–84
Itoh, Toyo 493
Izumo shrine, Japan 127

J Jack L. Gordon Architects 198
Jacob/Wyper Architects 535
Jacquard weaving 387
Jade on 36 restaurant and bar, Shanghai 298
Jain Dilwara temple, Mount Abu, India 129, 129
jalousie doors 271
jalousie windows 273
Jameson, Kevin 228
James Stewart Polshek and Partners, Architects 258, 472
Janovic Plaza, New York 323
Japan 126–28
Japanese Homes and Their Surroundings (Morse) 126
japanned lacquer 90
jaspé cloth, 380
Jean-Georges Restaurant, New York 296
Jeanneret, Charles-Édouard see Le Corbusier
Jefferson, Thomas 95
Jencks, Charles 318
jersey 380
Jessico & Whiles 237
Jiricna, Eva 493, 498, 534
J. M. Kaplan Space Carnegie Hall, New York 472
John F. Kennedy International Airport, New York 117, 251, 547
Johnson, Philip 117, 117, 121, 526
Johnson Fain and Pereira Architects and Planners 285
joints 423
Jones, Inigo 90
Jordan, Greg 58
Jordan, Michael 264
Jorns, Kenneth 185
Joubert, Gilles 90
Judith Stockman & Associates 166
Jugendstil movement 103
juniors 549
Juster Pope Associates 227
jute 280, 384

K Kahn, Louis I. 31, 367
Kapitzki, H. W. 455
Kate Mantilini restaurant, Beverley Hills 532
Kate's Paperie, case study 156–59
Katsura Detached Palace, Kyōto 128, 128
Kaufman, Roger Zenn 440
Keith Kroeger Associates 332
Kent, William 91
Kenwood House library, London 92
Keswick, Maggie 318
K. I. D. Associates Co., Ltd. 360
Kimbell Art Museum, Fort Worth 367
KinderZeet 221
King, Perry A. 365
Kirshenbaum, Bond and Partners 150
kitchens 482–95; American Colonial 482, 483; design 196, 481, 483, 484; for disabled access 227, 485, 489; elderly 223; elements and materials 487–91; planning for 482–87, 486; programming 482, 484; replanning of 482; Royal Pavilion 94; skylight 290; universal design of 218; work centers in 485–86, 486, 493; for yacht 398
Klancher, Robert 203
Kligerman, Thomas A. 149
Klimt, Gustav 105
klismos chairs 75, 96
knitting 387
knockdown (KD) furniture 401–2
Knoll Bassett, Florence 115
Knoll Group 417, 471
Knoll Planning Unit 115
KnollTextiles 268, 393
Knossos, Crete, palace 73, 74
Kohler Co. 499
Kohn Pedersen Fox Associates 365
Kolatan/Mac Donald Studio 407
Koolhaas, Rem 121–24, 124, 217, 531
kotatsu (charcoal burner) 127
Kraetsch and Kraetsch 484
Kralingse Plaslaan, Rotterdam 172
Krampen, M. 455
Kuppers, Harold 312
Kuppers system 312

L Labrouste, Henri 99
lace 380
lacquer 425
ladder-back chairs 206
laminated glass 254
lamps 347, 349–54; antique reproductions 368; Costanza 361; Forcolini 359; Joe Columbo 185; Tiffany 105; Tizio 359; types of 358–63; Zink 359
lampshades 358–59, 361
Landahl, Greg 525
Landahl Group 525
Landau, Emily 448
Landmark Mandarin Oriental hotel, Hong Kong 22
landmarks 206, 479
landscape architecture 516
"landscape" (open) office planning 174, 416, 522, 523
land use 203–4
Lannuier, Charles-Honoré 90
L'Archevesque, Dana 352
Larkin Company Building, Buffalo 109, 109
Larsen, Jack Lenor 17, 279, 386, 389, 391, 509
Larson, Kent 31
L'Art Nouveau, Paris 126
laser light 354

- Late Modernism 117–18, 119
 late Renaissance 82
 “Late Sofa” 434
 lath and plaster 261
 Laurentian Library, Florence 84
 lavatories 495
 layering 557
 Lazzarini Pickering Architetti 331
 lead-based paints 241
 leather 255, 281, 380, 392, 393, 407, 424
 Le Brun, Charles 89
 Le Corbusier 47, 105–6, 112–15; furniture 15, 112, 185, 430; Modulor 61, 61; Notre-Dame-du-Haut 113, 115, 140; Ozenfant House 62; Villa Savoye 112, 112
 LED (light-emitting diode) light 352–54, 353
 Ledoux, Claude-Nicolas 92–93, 93
 Lee, Spike 393
 leno fabric construction 387
 “Less is more” 112
 Le Vau, Louis 87, 89
 Lewis, Sally Sirkin 393
 Liberman, Don 352
 libraries 84, 99, 152–53, 204, 332, 505, 542–43, 543
 licensing 25–26
 Lieshout, Joep van 57
 light and color 306–7, 326
 lighting 331–75; ambient 326, 341, 344; artificial 339, 354–456; codes and regulations 370; Color Rendering Index (CRI) 354; daylight 184, 203, 209, 252, 332, 336–39; distribution patterns 357, 357–58; economic issues 356; for elderly 223, 343; energy consumption 466; fixture location and spacing 368–71; fixture selection 356–68; gas 207; kitchen 491; needs in 340–43, 371; planning for 144, 181–82, 339–40; recommended levels of 342; selection 349–56; special-purpose 344–47; task 340–41, 344, 344–45; and vision 333–36; visual effect of 340
 lighting consultants 20
 lightness 59
 Lightscape 340
 Lindeberg, Harrie T. 324
 linen 280, 380, 383, 384
 lines: curved 53, 54, 56, 67; diagonal 53, 54; horizontal 53; vertical 53, 54
 Linley, David 487
 Lloy Hack Associates 300
 LLP (limited liability partnership) 569
 load-bearing walls 235, 259
 Lodex manual fire-alarm system 228
 loft apartment, case study 517–19
 lofts 161, 162, 276, 505–8, 509
 Lombardi, Lisa 434
 Longfellow, Henry Wadsworth 96
 Longleat great house, Wiltshire, England 90
 Longo, Robert 409
 Loos, Adolf 58, 105
 Louvre Museum pyramid (Pei), Paris 140, 140
 Love Fellowship Tabernacle, Brooklyn, New York 305
 love seats 409
 Low, Glen Oliver 182
 low (darkness) 59
 low value 59
 lumber 242
 lumens 342
 luminaires 357
 Lupo, Frank 207
 Lutron lighting control 473
 Lutyens, Candia 64
 Lutyens, Sir Edwin 41, 64
 Luxo lamps 359, 368
- Luzzi, Robert 18
 Lyndhurst, Tarrytown, New York 97
- M** MacCracken Architects 246
 machine art 43
 MAC II, New York 275
 Mackintosh, Charles Rennie 103
 Mae, Ann 440
 Magistretti, Vico 409
 mahogany 244, 419
 Maillart, Robert 43
 Maison à Bordeaux, France 121, 217
 Malevich, Kazimir 121
 malimo fabric construction 387
 Maloof, Sam 434
 Mandalay Bay Resort and Casino, Las Vegas 533, 548–49
 mandapa (pillared hall) 129
 Mannerism 82, 84, 124
 maple 419
 maquettes 304
 Marbury, Elisabeth 106
 Marelli, Leonardo 363
 Marjorie Powell Allen Chapel, Missouri 542
 marketing 560, 564, 564–66
 marquissette 380, 387
 Martin-Senour Paints 303
 Mary P (yacht) 398
 Mascheroni, John 407
 masonry 246, 246–51, 249, 277
 match line 389
 matelassé 380, 386, 387
 materials 38–39, 236–91, 573, 574; basic 238; for ceilings 288–90; checklist for 259; evaluating 255–57; floors 277; genuine vs. imitation 256; green issues 236–41; in relation to use 258; resources consumed in 237–40; selecting 144, 205, 255–57; structural and interior 235–36, 238–40; in their setting 257
 Matisse, Henri 452
 matrix chart 168, 170
 mats 277
 matte 56
 Maya Lin Studio 372
 Mayan themes 131
 Mayfair Looseback chair 427
 McClelland, Nancy 107–8
 McCracken, John 276
 McCulley, Anne D. 33
 McKim, Mead, and White 106, 107, 143, 543
 McLaughlin, John 22
 meaning, use of term 58
 measuring up 165
 mechanical engineers 20
 mechanical systems 291, 457–79; acoustics 468–72; building codes 477–79; electrical 463–65; energy consumption 466; HVAC 291, 457–63, 464; plumbing 466–68, 495; safety 473–74; vertical transportation 474–75; wired 472–73
 Meda, Alberto 361
 media rooms 511, 512
 Media Shades Systems 191
 medical facilities see healthcare
 Medical Innovations 194
 Meier, Richard 22, 118, 119, 144–45, 161, 537
 Meket-Re, Egyptian house of 73
 melamines 255
 Meltzer, Abraham 472
 memo squares 305, 378, 383
 Memphis furniture 33, 121, 432
- Menil Collection, Houston 49
 mercerization 389
 Merchant & Main Bar & Grill, Vacaville, California 289
 mercury lighting 354
 Messana, Brian 489
 metallic colors 325
 metals: ceilings 290; doors 269; fibers 280, 384; furniture 424–26; interior 252; structural 251; wall covering 268
 metamerism 326
 metaphors 121
 Metcalfe, Sally 388
 metopes 74
 metric equivalents 574–75
 Metropolitan Museum of Art, New York 34
 Meyer, Scherer & Rockcastle Ltd. 523
 Mezger, Wolfgang C. R. 414
 Michelangelo 84, 452
 Michelozzo di Bartolomeo 82
 Microsphere workstation 415
 Middle Ages 78–81, 82
 Middleton Inn, Charleston 442
 Midland Bank, Poultny, London 41
 Mies van der Rohe, Ludwig 105–6, 111, 111–12, 117, 140, 174, 235, 262, 424
 mildew resistance 389
 Millard House 131
 Millen, Karen 172
 Miller, J. Irwin 117, 118
 Miller, R. Craig 34
 Miller House, Columbus, Indiana 118
 Miller SQA, Holland, Michigan 191, 203, 203
 mineral fibers 280, 384
 Minimalism 484
 Minoan civilization 73
 Minter, Susan 499
 Miranda, Santiago 365
 Mission or Golden Oak style 99
 Miyawaki, Mayumi 185
 mobiles 118
 modacrylic 280
 models 50, 150, 557–58
 modern, use of term 428, 430
 Modernism 106, 110, 112, 115–17, 121, 174; Late 117–18, 119; Post 92, 117, 120, 120–21, 432, 432, 433; Postwar 115
 modular furniture 401
 modular planning 127, 174
 Modulor 61, 61
 mohair 280, 380, 384
 moiré 380
 moldings 74
 Mondrian, Piet 111, 140, 296
 Moneo, Belen 517
 Moneo Brock Studio 517–19
 monk's cloth 380, 386
 monofilaments 385, 385
 Monticello, Virginia 95
 Montoya, Juan 274
 Montreal World's Fair (1967) 118
 Moon Soon Restaurant, Sapporo 401
 Moore, Charles 229
 Moore, Sheila 203
 Moorish style 130
 Morgan Library, New York 143
 Morphosis 532, 536
 Morris, William 99–101, 264, 265, 405
 Morris chairs 410
 Morris & Co. 100
 Morse, Edward S. 126

mosques 130, 130
Moss, Eric Owen 252
motels see hotels and motels
moth-repellent 389
Mt. Sinai Medical Center, New York 540
Mount Vesuvius, eruption of 75-78
move-in, supervision of 155
moving sidewalks 475-76
Muennig, Mickey 24, 258
multifilaments 385
multiple glazing 337
multiples (prints) 449
Munsell, Albert Henry 309
Munsell Color System 309, 309-11, 313
muntins 273
Murphy, Brian A. 409, 434
Murphy beds 412, 412
Musée du Louvre, Paris 140, 140
Museum of Modern Art, New York 40, 40, 121
Museum of Modern Art, San Francisco 521
Museum of Welsh Life, Cardiff 237
museums 40, 40, 161, 542; architecture 97, 109, 109, 118, 118, 120, 120, 121, 122, 140, 140, 243, 250, 251, 543; computer models for 558; dining area of 100; exhibits 34, 60, 121, 237; lighting 367; plans for 68, 68-69; signage for 228; structural materials for 250, 250
music tower 472
muslin 380, 386
muslin, dotted swiss 381

Naggar, Patrick 54
Napoli-Afragola train station, Naples 133
Narita Express, Japan 21
Nash, John 94
National Audubon Society Building, New York 203; case study 212-15
National Council for Interior Design Qualification (NCIDQ) examination 25, 26
National Fire Protection Association (NFPA) 370, 392
National Gallery, London, Sainsbury Wing 120
National Gallery of Art, Washington, D.C., East Wing 68, 118, 118
Native American design 131
Natural Color System (NCS) 312, 312
natural fibers 384
Natural Resources Defense Council (NRDC) 203
nature, design in 41, 41, 41-42
NBBJ Architecture Design Planning 208, 539, 561
NCIDQ examination 25, 26
needlepoint 380, 389
Nelson, George 117
Neoclassicism 87, 92-94, 96, 97
neon lighting 354
Nessen, Walter von 362
net 380
Neue Staatsgalerie, Stuttgart 120
Neumann, Johann Balthasar, Residenz, Würzburg 87
Newman, Barnett 40
new towns 204
New York Bar Association library 258
New York City: row houses 96; subway system 454
New York Public Library 543
New York University, study carrels 344
Nikko Kirifuri Resort, Japan 120, 120, 134
Noferi, David 539
noise 198-99; excessive 468-69; pollution 199; in space selection 162; transmitted 469-70

noise isolation class 471
Nokia IPRG, San Francisco 432
nonstructural elements 235
Norman architecture 78
Normandie (French Line) 115, 274
Norman Foster Associates 476 see also Foster, Norman
North America, design in 94-95, 97
Notes on the Synthesis of Form (Alexander) 141
Nutting Apartments for Disabled Persons, Amherst, Massachusetts 227
nylon 280, 384

Oak 419
occupancy, building codes 477
occupant load factor 478
oculus 77
off-gassing 205, 241, 403
Office for Metropolitan Architecture 124
office planners 19
offices 522-26, 565; case studies 186-89, 212-15; color in 297; electronic 525-26; HVAC delivery to 462; landscape 174, 416, 522, 523; lighting in 344-45; special-purpose spaces 525
oilcloth 389
oil finish 425
Okusawa house, Japan 185
Olbrich, Josef 103-5
Old Hickory Chair Company of Indiana 103
olefin 280, 384
Oliver, Richard B. 229
Olson Sundberg Kundig Allen, Architects 145
Olympic Tower Residence, New York 481
opacity 59-60
opal glass 60
open plans 174
Opera House, Paris 106
Opsvik, Peter 221
optical mixture 326
Optical Society of America (OSA) 312
Opus One Winery, Oakville, California 285
Opus Restaurant, Santa Monica 348
orders, classic 65, 73-74, 74-75
organdy 380
Oriental rugs 131, 279, 279
ornament 58
O'Rorke, Toby 489
Orr, Eric 276
orthographic projection 147
OSA-UCS 312
osnaburg 380
Osterly Park library, England 92
Ost/Kuttner apartment, New York 406-7
Ostwald, Friedrich Wilhelm 309
Ostwald color system 308-9, 312
outdoor spaces 515-16
oval rooms 67
overheard speech 470-71
overlay circulation diagram 174, 175
Owen, Robert 203
oxford cloth 381
Ozenfant House, Paris 62

Pahlmann, William 108
Paimio Sanatorium, Finland 115
paint 241, 263-64, 266-67, 277, 284, 425
paintings 449

Paiute baskets 42
Pakistan 128
Palace of Minos, Crete 74
Palais Stoclet, Brussels 105, 105
palazzi 82, 83
Palazzo Carignano, Turin 87
Palazzo del Tè, Mantua 84
Palazzolo, Carl 22
Palazzo Massimo alle Colonne, Rome 82, 83
Palazzo Medici-Riccardi, Florence 82
Palazzo Remer, Venice 431
Palazzo Strozzi, Florence 83
Palio, New York 532
Palladio, Andrea 60, 61, 75, 83-84, 84, 85, 90, 91, 95
Pallotta TeamWorks, Los Angeles 457
palm fibers 384
panic bolts 478
Panini, Giovanni Paolo 77
Pantages Theater, Hollywood 117
Pantheon, Rome 67, 75, 77, 246
Panton, Verner 427
Pantone system 312
Pantos Chef kitchen 486
parabolas 54
Paramount Hotel, New York 501
Parc de la Villette, Paris 121, 123
Parish, Mrs. Henry 322
Parish-Hadley 322
Paris Opera House 106
Parthenon, Athens 74-75; metopes 452
particleboard 244, 420
partitions 261-62, 471, 524
partners 551-52
partnerships 568-69
Pasquier, Nathalie du 433
patina 252
Patino, Bob 494
patios 515-16
Patrick H. Dollard Discovery Health Center, New York 540
pattern 41; and color 325; as design concept 58
Paul Daly Design Studio 500
Pavlik Design Team 35, 532
Paxton, Sir Joseph 99, 100
Pazzi Chapel, Church of Santa Croce, Florence 83
Peacock Room 124, 126
Pei, I. M. 68, 118, 118, 140, 140 see also I. M. Pei & Partners
Pei Cobb Freed & Partners 140
Pelli, Cesar 69
pendentives 246
Penguin Products 227
Pennsylvania Amish 34
Pennsylvania Railroad Station, New York 78, 106, 106-7
Pensi, Jorge 417, 488
people movers 475-76
perception 49-51
Percier, Charles 93, 94
performance evaluation 195-97
Perkins Coie LLP, Seattle 523
Perkins & Will 287
Perrinard, Charlotte 112
personal distances 193
Personal Space (Sommer) 69, 192
perspective 147
perspective drawings 148, 560
PERT (Project Evaluation and Review Technique) 137-38, 138, 155, 565
Peruzzi, Baldassare 82
Peter L. Gluck and Partners 31, 40, 262, 347, 505, 537

Peterson, Paul 64
 Petit Trianon, France 87, 92
 Phelps-Hathaway House, Connecticut 440
 Phoenix Level Restaurant, Cherry Hill, New Jersey 500
 photography 450
 photo sensors 368, 369–70
 Phylle, Duncan 97
 Piano, Renzo 49, 120, 143, 250, 251
 Picasso, Pablo 448
 Pickwick Dam Powerhouse, Tennessee 547
 pilasters 82
 Pile, John 150
 pine 419
 piracy 389
 Piva, Paolo 431
 Place de la Concorde, Paris 92, 93
 plane figures 54
 planes 54
 plan layout, quality of 162
 planned communities 203–4
 planned development 204
 planning 161–89, 560; case study 186–89; for circulation 174–76; conflict resolution in 182–83; evaluation of 183–85; furniture layout 176–81, 398–99; of kitchens 482–87; of lighting 144, 181–82, 339–40; preliminary steps in 161–65; of space 165–83
 planning units 552
 plant fibers 280
 plants 443–48, 445; in conservatories 512, 513; in greenhouses 513
 plan types 147, 172, 173–74
 plaster 249, 261, 288, 289
 plastic coating 425
 plastic laminates 426
 plastics 237, 242, 254–55, 281; foamed 426–27; furniture of 424, 426–27, 427; molded 426; as wall coverings 268
 plastic sheet 381
 Platner, Warren 412
 plenum 288
 plumbing systems 466, 466–68, 495
 plush 381, 386
 plywood 244, 245, 265, 421, 422
 Poggenpohl: PLUSMODO cooker 488
 pointed arch and vault 80
 Poker Face, Tokyo 17
 Poliform Systems 31
 Pollack Studio 377
 pollution: air quality 241; noise 199; and toxicity 205; and waste 240–41
 Polo, Antine 568
 polyamide 384
 polyester 255, 280, 384, 385
 polymers 384
 polyolefin 386
 polypropylene 280
 polystyrene 255
 polyurethane 384
 polyvinyl chloride (PVC) 268, 281, 384, 385
 Pompeian red 77, 78
 Pompeii 75–78, 92; House of the Silver Wedding 71; House of the Vetti 77
 pongee 381
 pools 515, 515, 534
 Pope, Alexander 91
 poplar 419
 poplin 381
 porch 516
 portable lighting 356–57
 Port Authority of New York and New Jersey 455

porticos 73
 Portland Public Service Building, Oregon 121
 Portraits of Jermayne McAgly (Warhol) 49
 Port Royal Parlor, Winterthur Museum 95
 Post, George B. 212
 Postal Savings Bank, Vienna 105
 post-and-beam assembly 125, 246
 post-and-lintel construction 246, 246
 post-completion 155
 Post-Modernism 92, 117, 120, 120–21, 432, 432, 433
 Post Ranch Inn, Big Sur, California 24, 258
 Poulsen, Louis 365
 Poulton, Neil 365
 Powell Gardens, Missouri 542
 power management 281
 Prada Epicenter Store, Los Angeles 531
 Prang, Louis 311
 Prang system 311
 Pre-Columbian civilizations 131, 131
 prehistoric design 72
 presentations 145–48, 151
 preshrunk 389
 primary function 38
 Princess from the Land of Porcelain (Whistler) 124
 Princeton University, New Jersey 29
 printing, of fabrics 388–89
 prints, art 450
 Priteca, B. Marcus 117
 problem solving 142
 problem statement 162
 Procter & Gamble 365
 professional organizations 26, 575
 program, use of term 161–62
 programming 138–39, 165–67
 project brief 162
 Project Evaluation and Review Technique (PERT) 137–38, 138, 155, 565
 projects: beginnings of 137–38; budgeting for 137; management of 565–66; outlining scope of 137; researching 138–39; scheduling of 137–38, 565, 566; supervision of 155
 proportion 60–61
 proposal, written 564
 proxemics 194
 proximity 177
 Prudential Health Care, Lithonia, Georgia 300
 Pruitt-Igoe housing project, St. Louis 193
 psychology: of color 313–16; experimental 194
 public corporations 569
 public interiors 520–48; case study 548–49; commercial space 522–32; contract design 521–22; cultural and recreational 542–43; exhibition spaces 544; hospitality spaces 532–35; industrial work spaces 547; institutional spaces 534–39; transportation 544–47
 Puck Building, New York 508
 pueblo architecture 131, 131
 purchase orders 155
 Pushelberg, Glenn 50 see also Yabu Pushelberg
 Putman, Andrée 18, 54, 499, 531
 PVC (polyvinyl chloride) 268, 281, 384, 385
 Pyramid du Louvre, Paris 140, 140
 pyramids, Egyptian 72, 73
 Pythios 75

Queen Mary (Cunard Line) 115
 quilts 391

R Radburn, New Jersey, planned community 204
 radial symmetry 62, 63
 radiant heating 460, 461
 Radio City Music Hall, New York 115
 rafters 125
 rail-and-panel construction 81, 82
 Randolph, John 407
 rattan 420, 421
 Rauschenberg, Robert 121
 Ravenna, Italy 78
 rayon 281, 384
 recreational and cultural space 542–43
 rectangles 67
 rectilinear relationships 56
 Recueil de décorations intérieures (Percier and Fontaine) 94, 94
 redwood 419
 reflected ceiling plans 147, 340, 340
 refrigerators 490, 490
 Regency style 94, 94, 97
 regulations see building codes
 rehabilitation, U.S. standards for 206
 religious buildings 542, 542; Byzantine 78, 78, 130; computer design of 31; early Christian design 78; Georgian style 95; Gothic 80, 80–81; Greek temples 73–74, 75; Inner Shrine, Japan 126, 127; Jain Dilwara temple, India 129, 129; Le Corbusier's designs 112, 113, 140; Renaissance 83, 84–85, 87, 90–91, 91; Romanesque 80, 80; Sistine Chapel frescoes 452
 Renaissance architecture 56, 61, 81–87, 97
 Renaissance furniture 84, 87
 repetition 64, 64–65
 research 29, 138–39, 194–95, 560
 residential design 20, 23, 110, 111; bathrooms 495–96; case study 45–47; city apartments 232–33, 327–29, 372–75; furniture planning for 177–79; historic preservation in 206–7; loft apartment 517–19; special-purpose spaces 481–82; storage 502, 503, 504
 resilient flooring 284
 restaurants 24, 166, 532, 532–33; acoustical ceiling in 289; bathrooms in 500, 500–501; case study 548–49; color in 296, 298, 298–99; construction drawings for 557; furniture in 399, 401, 417; lighting in 346–47, 348, 360
 Reston, Virginia, planned community 204
 rest rooms, public 500
 retail stores 529–31, 531; case study 156–59; color in 299–300; lighting in 346, 347, 367
 Revett, Nicholas 97
 Revit 556
 Rhode Island School of Design, Providence 218
 rhythm 64–65
 Richard Meier & Partners 57
 Rietveld, Gerrit 110, 111, 404, 405
 Riley, Charles 179
 Riverbend House, Great Falls, Virginia 15
 Rizzatto, Paolo 361
 Robbins, Sherry 202
 Roberts House, River Forest, Illinois 108
 Robie House, Chicago 108, 108–9
 Robinson Mills & Williams 274
 Robsjohn-Gibblings, T. H. 108
 Rockburne, Dorothea 526

Q Qiora Store and Spa, New York 387
 Quantrell Mullins & Associates 300
 Queen Anne style 429
 Queen Elizabeth (Cunard Line) 115

Rockefeller Center, New York 115
rocking chairs 404, 410, 434
Rococo 82, 87, 90, 92
Rodchenko, Aleksandr 121
Rogers, Richard 120, 250, 484
Rolling Power (Sheeler) 43
Romanesque design 78–80, 80
Romano, Giulio 84
Rome 75–78; baths in 107, 246; palazzi in 83
Ronan & Erewan Bouroullec 434
rondels 83
Ron Rezek Lighting & Furniture 359
roofs 515
room dividers 412, 414
rosewood 244, 419
Rothman Rothman Heineman Architects 300
rotundas 56, 67, 77, 285
round rooms 56
Royal Avenue House, London 484
Royal Pavilion, Brighton, England 94
Royal Saltworks, Arc-et-Senans, France 92, 93
Ruand, Paul 114
rubberwood 244
rugs 277–79, 279, 282–83; fire safety of 284; Islamic design 131; Oriental 131, 279, 279
Russian avant-garde 121
rustication 92
Ruthless People set design 33

S Saanen, Eero 117, 118, 251, 427, 545
Saddlery Building, Des Moines, Iowa 42, 475
safety and security 185, 197–98, 200–201; checklist 474; for children 220–21; crime prevention 198; for elderly, 223; of furniture 402; health hazards 198; lighting 344; systems 473–74
safety glass 254
sailcloth 381, 386
Saint Martin's Lane Hotel, London 303
Saint-Sernin, Toulouse, France 80
St.-Louis-des-Invalides, Paris 67
St. Paul's Cathedral, London 91, 91
St. Paul's Church, Covent Garden, London 90
St. Peter's Basilica, Rome 83, 85, 87
St. Stephen's Walbrook, London 91, 92
Saladino, John F. 37, 289, 332
Salginatobel Bridge, Switzerland 43
sample boards 305
San Carlo alle Quattro Fontane, Rome 84–85
Sanders, Joel 556
sanforized 389
San Giorgio Maggiore, Venice 84
San Giovanni Laterano, Rome 75
Santaren, Manuel de 461
Sant' Ivo della Sapienza, Rome 85
Sapper, Richard 359
Sargent, John Singer 59
sateen 381, 387
satin 379, 381, 386
satin weave 387
Sauerbruch Hutton Architects, 462
Sayers, Robert 390
SBK Entertainment World, New York 321
scale 60
scale plan 163
scatter rugs 279
Scheeren, Ole 531
Schinkel, Karl Friedrich 97
Schlesinger Library renovation, Radcliffe Institute, Harvard

University 152–53
Scholar's Library, Olive Bridge, New York 505
Schröder House, Utrecht 110–11, 111
Schultz, Richard 516
Schumacher 390
Schwitters, Karl 140
Science and Industry Business Library (SIBL), New York 204
Scient Corporation, New York 464, 525
S. C. Johnson & Son, Inc., Racine, Wisconsin 109
sconce 363
Scotchgard 388, 389
Scott, J. Robert 386
Scott, Owen 455
Scott Brown, Denise 120 see also Venturi, Scott Brown & Associates
screen printing 388
screens 276
screen walls 174
scrim 381
Secession Building, Vienna 103–5
secondary functions 38
sectional drawings 148
sectional elevation 148
security see safety and security
seersucker 381
SEI Investments, Oaks, Pennsylvania 523
sequential outline 135–37
serge 381
Serlio, Sebastiano 87
Serra, Richard 121
set design 33
Seth Stein Architects 33, 443, 512
shades (color) 310, 310
shades (window) 272, 274, 274
Shaker design 34, 101, 102, 404
shantung 381
shape (form) 54–56
Sharpe, Bill and Juanita 134
Sheeler, Charles 43
sheetrock 288
shellac 425
Shepley Bulfinch Richardson and Abbott 538
Sheraton, Thomas 91–92, 92
Shinto shrines, Japan 127
shopping centers 531
shops see retail stores
showers 496
showrooms 532, 561
shutters 275, 275
sick-building syndrome 241
Sierra Mar Restaurant, Big Sur, California 24
signage 228, 291, 453–55
Silcraft Corporation 226
silent partners 568
silk 280, 384
Silver, Joel 294
Simon Martin-Vegue Winkelstein Moris 298
simultaneous contrast 325, 326
sinks: bathroom 499; kitchen 490, 490
Sirius Satellite Radio, New York 529
Sistine Chapel frescoes 452
size 60
sketches, concept 140–41
sketching, empathic 134
Skidmore, Owings & Merrill 29, 115, 527, 532
Skolnick, Lee H. 508
skylights 288, 290, 336, 337, 515
Skyscraper bookcase 114
skyscrapers 250, 251

Slipper chair 427
smart rooms 473
Smirke, Sir Robert 97, 97
Smith House, Darien, Connecticut 119
Smythson, Robert 90, 91
Snaidero 493
snail shell, pattern of 41
social responsibility 27–28, 191, 199–209; adaptive reuse 206; case study 212–15; environmental (green) concerns 199–203, 203–6; historic preservation 206–7; quality vs. profit 199; role of designer in 209, 211
sodium lighting 354
sofas 415, 434; Le Corbusier 430; Stuart 433; vintage 452
softness 56
softwood 243, 420
Soho House, New York 534
soil-release finish 389
soil repellence 389
solar cloth 389
solar energy 464
solar heating 460, 461
sole proprietorships 568, 568
Solomon R. Guggenheim Museum, New York 68–69, 108, 109, 228, 251
Sommer, Robert 69, 192
Sonneman, Robert 363
Sony, New York 526
Sottsass, Ettore 69
sound absorption 470–71
sound blocking and masking 471
South Asia 128–29
Sowden, George J. 433
space: allocation of 139; analyzing and evaluating 44, 163–65, 165; area assignment 167, 168; and color 325; combined spatial forms 67–68; commercial 522–32; designing 171–73; entering 183; as expressive medium 65–67; hollow 56; measuring up 165; moving into destination of 183; outdoor 515–16; perception of 50–51; planning 165–83; selecting 138, 161–62; special-purpose 481–519; storage 482, 502–5; survey of 139; symmetrical and asymmetrical design in 63–64; utility 183
space planners 19, 142, 522
Spaces for People (Bennett) 69
Spada, Charles 231
spandex 281
SPD glass 252
special needs 217–33; case study 232–33; checklist for 230; of elderly 221–23, 222, 228, 302, 343, 402; of people with disabilities 224–28
specialty shop, case study 156–59
specifications, preparation of 153, 557, 560
spiral form 41, 41, 109, 284, 285, 287
sport facilities 534
sprinkler systems 468
stacking chairs 409–10, 411, 427
stacking plans 167, 170, 170–71
stain 425
stained-glass windows 452
stairways 57, 254, 281, 284–87; establishing slope of 287; safety hazards of 344; spiral 41, 41, 284, 285, 287
Stamberg Aferiat Architecture 264
Standard Building Code 370, 477
standpipe systems 467–68
Star Alpha, Tokyo 4
Starck, Philippe 59, 303, 367, 406, 433, 501
steam heat 458–59

steel 250, 251, 252, 255
 Steelcase 417, 464, 524
 Stein, Seth 33, 512
 Stephenson, Robert 99
 steps 284
 Stern, Robert A. M. 21, 149
 Steven Ahrlich, Architects 553
 Steven Harris Architects 511
 Stickley, Gustav 99; Craftsman workshop 404, 405
 Stirling, James 120, 120
 Stocksdale, Bob 22
 Stockton, Mary Evelyn 207
 Stokke 221
 stone: masonry 247, 249; wall covering 269; walls 259
 storage: furniture 412–14, 414, 415; for kitchens 490,
 490–91; nonresidential 502–5; replanning of 482;
 residential 502, 503, 504
 Storer House, Hollywood 131, 294
 stores see retail stores
 storm windows 337
 stoves 291, 487, 487, 489, 489
 strapwork plaster ceiling 91
 Strasman, Jim 396
 structural elements 235
 structural engineers 20
 structural materials 235–36
 structural steel 250, 251
 structure 38–39
 Stuart, James 97
 Stuart Moore Jewelers, New York 347
 Stuart sofa 433
 Stubbs, Del 22
 stucco 249
 Studio Gaia 264
 Studio Kairos 415
 studios 508, 508–9
 Studio 80/Shigeru Uchida, Tokyo 4, 17, 538
 study carrels 344
 Stumpf, William 409, 524
 stupa 128–29, 129
 Suarsu, Putu 257
 subtractive color 308
 successive approximations 142
 Süe, Louis 414
 suede 392
 Sullivan, Louis H. 105, 105, 108
 sunlight 339
 Sunnyside Gardens, New York, planned community 204
 super graphics 455
 supine workstation 218, 218–19
 Surf lighting system 365
 Sussman & Prejza 270
 Swaim 407
 Swanke Hayden Connell Architects 529
 Swiss Re Building, London 53
 switches, lighting 369
 symbols: architectural 571; electrical 572; furniture 572;
 materials 573
 symmetry 51, 62–63, 62–64
 Syon House, Middlesex, England 92, 93
 systems furniture 397, 414
 Szoeker, Andrew 411

T Taber test 392
 tables 404; case study 435–37; English Regency
 94; folding 406; French Empire 90; German
 Biedermeier 91; glass 407; selection chart 408;
 system 406

taffeta 381, 386
 Taj Mahal, Agra, India 130
 Talman, William 58
 Tange, Kenzo 128
 Taniguchi, Yoshio 40, 40
 Taos Pueblo, New Mexico 131, 131
 tapestry 381, 387
 task lighting 340–41, 344, 344–45
 taste, use of term 40
 Tate Modern, London 60, 542
 Tatlin, Vladimir 121
 Taylor, Michael 320
 teaching hospitals 538, 540
 teak 244, 419
 tea trolley 405
 Tech Center, San Diego 180₆
 technological design 41, 42–43
 technological vernacular 42–43
 technology: digital 28–29; High Tech design 118–20,
 120, 120, 250, 463, 529; information 558–61
 Teflon 389
 Telford, Thomas 99
 temperature control 473
 tempered glass 252
 Tempietro, San Pietro, Rome 63
 Temple of Athena Polias, Turkey 75
 Tennessee twig chairs 515
 Tennessee Valley Authority 547, 547
 terraces 515, 515–16
 terrazzo 277
 terry cloth 381, 386
 textiles 377–93; color of 378–82, 388–89; construction
 of 385–87; finishes of 387–88, 389; identifying 391;
 in interiors 379–81; names of 280–81, 393;
 selecting 378–83, 382, 383; special characteristics
 of 389–91; testing 392–93; types of 383–91
 texture 56; and color 325
 Thad Hayes Design 411
 theaters 543
 Thematic House, London 318
 thermal glass 252
 thermoplastics 255
 thermosetting plastics 255
 Thonet, Gebrüder 422
 Thonet, Michael 245
 Thonet chairs 47, 422
 three-dimensional forms 54, 56
 Thun, Matteo 534
 Tick, Suzanne 268, 393
 ticking 381
 Tiffany, Louis Comfort 105
 Tigerman, Stanley 344
 Tigerman McCurry Architects 525
 Tight Spaces (Sommer) 192
 Tihany, Adam 296, 533, 548–49
 Tihany Design 298
 tiles 249, 250, 268, 268, 277
 time schedules 137–38, 154–55
 tin ceilings 290
 tints 310
 Tippy Jackson folding table 406
 toiles 388, 390
 toilet partitions 261–62
 toilets 222, 495, 500, 500
 tokonoma (alcove) 128
 Tomb, Bruce 407
 Tooke, James and Robert 289
 Torus House, Old Chatham, New York 151
 TOTO Neorest toilet design, Wellington, West Palm Beach
 532

Towards a New Architecture (Le Corbusier) 62, 112
 toxicity 205
 track lighting 363–68, 367
 trading rooms 528–29, 529
 traditional forms 42
 translucency 59–60
 transparency 59–60, 252
 transportation facilities 117, 133, 210, 251, 454,
 544–47, 545
 triacetate 281
 triangles 53, 55
 triglyphs 74
 trim 291
 trompe l'oeil 84, 256, 268
 Tschumi, Bernard 121, 123, 258, 498
 tubular steel chair 430
 tufted fabrics 389
 Tugendhat House, Brno 111, 262
 Tuller, Andrew M. 504
 Tuller-McNealus Architects 504
 tungsten-halogen lamps 349
 TWA Terminal, John F. Kennedy Airport, New York 117, 251
 tweed 381
 twill weave 386
 two-dimensional forms 54–56

U Ullman, Johan 194
 UNA Hotel, Florence, Italy 57
 underlayment 281
 Underwriters Laboratories 80
 Uniform Building Codes (UBC) 370, 477
 Uniform Color Scales (OSA-UCS) 312
 Union Station, Washington, D.C. 210
 United Crafts, Eastwood, New York 405
 United States Child Center, Lemoore, California 220
 unity 62
 Universal Kitchen Project 218
 University of Cincinnati, Ohio 121, 122, 536
 University of Frankfurt, Germany 121
 University of Washington, Seattle 279
 upholstery 382–83, 427, 427–28, 429
 Upper Belvedere Palace, Vienna 87, 88
 urethanes 255
 user participation 193–94
 use testing 392

V Vacheron Constantin Headquarters and Watch
 Factory, Geneva 4
 value: color 309, 309–10; use of term 58–59
 Van Alen, William 115
 Van de Velde, Henry 103
 variety 62
 varnish 425
 Vassall-Longfellow House, Cambridge, Massachusetts 96
 vaults 67, 75, 80, 246, 247
 Vaux-le-Vicomte, Paris 87, 89
 veiling reflection 335
 velour 381, 386
 velvet 381, 383, 386, 388
 velveteen 381, 386
 veneer 244, 245, 420–21, 421
 ventilation 457, 460–62
 Venturi, Robert 120
 Venturi, Scott Brown & Associates 29, 120, 134, 152–53
 vernacular design 41, 42
 Veronese, Paolo 84

Versailles palace, France 34, 89, 90
vertical lines 53, 54
vertical transportation 474–75
Victoria and Albert Museum, London 100
Victorian era 99–103; bathroom 497; furniture 404, 429;
gallery 98; porch 516
Vienna Moderne style 105
Vienna Secession movement 103–5, 386, 503
Vieyra, Paul 4, 45–47
Vigilius Mountain Resort, Meran, Italy 534
Vignelli Associates Designers 228, 411
Villa Barbaro, Maser, Italy 84, 84
Villa dell'Ava, Paris 121
Villa Foscari, Mira, Italy 60, 84, 85
Villa Mairea, Noormarkku, Finland 115
Villa Rotonda, Vicenza 83
Villa Savoye, Poissy-sur-Seine 112, 112
vinyl 255, 281
Virgo galaxy 41
virtual reality 28, 34–35
vision and lighting 333–36
Vistosi, Luciano 549
visual impressions 51
visual perception 49–51
Vitra 433, 434
Vitra Factory and Furniture Museum, Weil am Rhine 395
Vitra International, Sweden 182
Vitruvius 38, 78, 82
VOCs (volatile organic compounds) 205, 268, 462
voile 381
volutes 75
Voorsanger & Mills Associates, Architects 323, 344

W

Wagner, Albert 508
Wagner, Otto 105
Waisbrod, Ilan 264
Walata, Mauritania, house 72
walk-in closets 502
Wallace, Tim 415
wallboard 288
wall covering fabrics 268–69
wall-mounted lamps 363, 363
wallpaper 264–65, 264–65
walls 235; curtain 252; finishes 263–69; glass-block 268;
load-bearing 235, 259; partitions 259–62; storage
414, 504; window 339

wall systems 442
wall tiles 268
walnut 419
Warhol, Andy, *Portraits of Jermyne McAgly* 49
warp and weft 385, 386
Warren Platner Associates 412
Washington, D.C., Metro (subway) 547
waste disposal 205–6
water closets 495
watts-per-square-foot average 356
wax finish 426
weaves 385–87, 386
websites 564, 564
Weisz & Yoes 305, 352
Wells, Douglas A. 42, 475
Wendy Evans Joseph Architecture 38
Westbury House, Old Westbury, New York 126,
512
Westover, Virginia 95
Whalen town house, New York 511
wheelchair access 223–28, 224, 226, 227, 228,
231, 232
wheelchairs 410
Wheeler, Gary 287
Wheel-Gersztuff Associates 186–89
Wheels (Sheeler) 43
Whippary Park 454
whispering gallery 67
Whistler, James Abbott McNeill 124, 126
Wiener Werkstätte shops 105, 386
Wilkinson, Clive 457
Willamette University, Oregon 471
William McDonough Architects 263
William McDonough + Partners 191
Williams, Bunny 494
Williams, Tod 565
Williamsburg, Virginia, Colonial style in 483
Wilton carpet 386
Wilton House, Wiltshire, England 67
window glass 252
windows 273; acoustical treatment for 469; daylight
through 336–39; orientation of 162; stained-glass
452
window treatments 272, 273–76, 337–39, 388
window walls 339
wire glass 254
Wirkkala, Tapio 22
Wolfe, Elsie de 106, 107–8

Woo, George 316
wood 242–45; alternative species 420; ceiling 288;
characteristics of 419; doors 269; floors 277;
forest depletion 237; as fuel 464; furniture 419–24;
furniture finishes 425–26; grain patterns 245; interior
243; joints 423; most-used 419; paneling 265; rare
205; structural 242–43; walls 259–62
Wood, Ruby Ross 107–8
wool 280, 384
working drawings 151, 154
work orders, issuing 155
workshops 509, 509
workstations: design of 523; executive 506; furniture for
181, 182, 399, 415, 415; of interior designers
552–53, 568; lighting for 344–45; supine 218,
218–19
World's Columbian Exposition, Chicago 106
Wormley, Edward 108
Wosk, Miriam 279, 314
woven textiles 385–87, 386
Wren, Sir Christopher 90–91, 91, 95, 96
Wright, Eric 294
Wright, Frank Lloyd 67, 105–6, 108–9, 110, 128;
Fallingwater 109; Guggenheim Museum, New York
68–69, 109, 251; Imperial Hotel, Tokyo 109;
interior design by 108, 109, 294, 399; Larkin
Building 109, 109; Roberts House 109; Robie
House 108, 109; Storer House 131, 294; swivel
chair 109
Wyzenbeek testing machine 392

Y

Yabu Pushelberg 50, 486
yacht, kitchen space in 398
Yale University, New Haven 538, 545
Yarinsky, Adam 387
yarn 378, 385, 385
Yokoyama, Minoru 435–37
York Street Studio 268
Yoshida Kogyo Company, Japan 365
Yudell, Robert (Buzz) 146

Z

Zanuso, Marco, Jr. 414