

Table of Contents

Acknowledgments	xiii
Introduction <i>by Ianto Evans</i>	xv
What This Book Offers You	xvi
About the Authors	xvii
Questions & Answers about Cob	xviii
PART I: PHILOSOPHY, BACKGROUND, AND DESIGN <i>by Ianto Evans</i> (What You Need to Consider Before You Start to Build)	1
Ianto's Story	3
Peasants and Farmers	4
The Importance of Housing Yourself ..	5
Chapter 1: Natural Building	7
Learning from Nature	8
The Rise of Architects	8
Natural Laws	9
Learning from Conserver Cultures ...	10
What Are Natural Materials?	14
Unprocessed and Uncombined ...	14
Primary and Secondary Processing	15
Component Assemblies	16
Why Build With Earth and Other Natural Materials?	16
Health	16
Psychological Well-Being	16
Financial Empowerment	17
Comfort	18
Democracy and Empowerment ...	18
Tradition and Heritage	19
Durability	19
Environmental Impact	19
STEEL ROOFS IN KENYA	20
The Natural Building Resurgence ...	21
WHERE'S THE DUMPSTER	22
Chapter 2: Oregon Cob	24
A Brief History of Cob	25
WON'T BURN DOWN, BUGS CAN'T EAT IT, AND IT'S DIRT CHEAP <i>by Kiko Denzer</i>	26
The Birth of Oregon Cob	28
Cookstoves As Inspiration	29
Our First Cob House	30
Characteristics of Oregon Cob	33
What Cob Does Best	33
MASS COOLER	34
Where Oregon Cob May Be Inappropriate	36
Cob in Hybrid Natural Buildings ...	37
COB AND STRAW BALE COMPARISON CHART	39
Chapter 3: Creative Economics	40
Building for Yourself	40
THOREAU ON SHELTER	41
Trading Money, Skill, and Time ...	42
Cheap Housing for Those Who Need It Most	45

Getting Free from the Trap	46	Interview: Eric Hoel's House	73
Finding Inexpensive Places to Build	47	Chapter 6: Designing with Cob	76
EDWARD'S ALMOST FREE HOUSE	47	The Box Police	76
Borrowing Money	48	WHEN THE MATERIALS DESIGN THE HOME	78
Checklist: How to Keep Costs Down	49	A Currency of Pennies	78
Interview: Brigitte and Elyse's House	51	Cob's Natural Geometries	79
Chapter 4: Tilt and Spin	54	FOR YOUR EDIFICATION	80
WATCHING EARTH TURN	55	Thermal Mass	80
Some Cosmic Fundamentals	56	Essentials of Passive Solar Design	81
A COSMIC QUIZ	57	Heating and Cooling Your Building	84
Let Your Home Reflect Cosmic Awareness	57	Be Stingy with Glass, Unless Your Climate Is Mild	85
Chapter 5: The Site You Build On	60	Natural Lighting	86
Choosing a Suitable Property	61	CATNAP RESEARCH IN A COB GREENHOUSE	86
Consider the Local Bioregion	61	The Heart House	87
Spend Time on the Land	62	Chapter 7: Redefining "House"	93
Selecting the Precise Site	63	Intuitive Design	93
Create a Master Plan	63	Dispense with Convention	94
Minimize Ecological Disruption	64	Brainstorm a Lot	94
Consider Soils and Drainage	65	The Site Was There First!	95
Determine the Microclimate	65	Share Your Home with Nature	95
Look for a Far Horizon	66	Keep It Small!	96
Look for a Dominant Permanent Feature in the Landscape	66	Places, Spaces, and Rooms	96
Build on Slopes If Possible	67	CURVED SPACES FEEL BIGGER: THE CASE FOR ROUND FEET	97
Respect Your Neighbors	68	Banish the Old Noun-Rooms	100
TAKING TIME	68	Act Out the Dance of Your Daily Life	101
Testing Your Choice	68	Think Gloves Not Boxes	103
Dealing with Problem Situations	69	Your Workplace	104
Short of Sun	69	Outdoor Rooms	104
No Trees on Site	70	Orient to Earth's Tilt and Spin	106
Noise	70	Make a Model	107
INVISIBLE ARCHITECTURE	71	Make an Outline Plan	109
Not Enough Privacy	71	Adjusting the Time-Depth	109
NOT A SITE FOR A COB BUILDING	72	"I DESIGN OLD BUILDINGS"	111

PART II: BUILDING THE COB COTTAGE <i>by Michael G. Smith</i>	113
Michael's Story	115
BUILDING A COB COTTAGE	
STEP-BY-STEP	116
Chapter 8: Materials and Tools	119
Raw Materials and	
Where to Get Them	119
THE GEOLOGICAL HISTORY	
OF YOUR SITE	120
Composition of Soils	120
Determining a Soil's Suitability	122
Sand	123
Clay	124
THE ISLAND WITHOUT CLAY	127
Straw	128
How Much Raw Material	
Will I Need?	130
NUMBERS ARE NOT SIZES	131
Finding Other Building Materials	132
Scavenging in the City	133
Scavenging in the Country	134
Tools	134
A Cobber's Tool Kit	135
Hand Tool Reflections	
<i>by Jan Stürmann</i>	137
Chapter 9: Site Respect and	
Preparation	141
Respect the Deep Ecology of	
the Site	142
Don't Clear Any Trees Yet	143
Work Slowly, Carefully,	
by Hand	143
BACKHOE MADNESS IN	
CALIFORNIA	145
Work Out the Best Routes	
for Deliveries	146
Protect Sensitive Areas	146
Walk-in Buildings	146
Site Preparation	147
Dig Test Holes	147
Transfer Your Design	
onto the Ground	148
Build a Full-Scale Mock-up	150
Drive in Foundation and	
Datum Stakes	151
Finally, Begin Clearing the Site	151
Erect a Temporary or	
Permanent Roof	152
Interview: Site as Sanctuary	152
Chapter 10: Drainage and	
Foundations	155
Site Drainage	155
Rubble Trenches	156
Other Drainage Techniques	156
Digging Trenches	157
THE IMPORTANCE OF	
GOOD DRAINAGE	157
Filling Trenches	158
Foundations	159
Building a Stone Stemwall	161
Experimental Foundations	164
Chapter 11: Making the Best Cob	166
How Cob Was Mixed Historically	166
Preparing Clay Soils for Mixing	167
Testing Your Mix	168
The Snowball Test	168
The Crunch Test	168
Test Batches and Test Bricks	169
Mixing Cob on Tarps	170
Notes on Tarps	173
The Pit Method	174
Using Machines for Mixing	175
MUD, LABOR, PLEASURE	176
Tips for Speed and Efficiency	177
COB MIX TROUBLE-SHOOTING	
GUIDE	178
Custom Mixes	178

Chapter 12: Building Cob Walls	180	Chapter 14: Windows and Doors	212
Cobs, Gobs, and Blobs	180	Keeping the Wall Strong above	
Trodden Cob	182	Openings	212
Cob Loaves	182	Connecting Cob to Door and	
Gaab-cob	183	Window Frames	214
Creating a Monolithic Structure	184	Installing Nonopening Windows	216
Connecting Two Cob Walls	185	Replacing Broken Windows	218
THREE CONTAGIOUS		Window Placement	219
CONDITIONS	186	Windows for Magical Light	219
Wall Thickness	186	Windows for View	220
Drying	187	Windows and Solar Gain	221
Settling	189	Windows vs. Ventilators	222
Getting It Straight	190	Doors and Doorways	223
Tapering Walls	191	Half-Doors	225
Trimming Off Excess	191	Chapter 15: Roofs for Cob	227
Tools for Trimming	192	THE PARTS OF A ROOF	228
Pipes and Wires	193	Roof Design	229
Incorporating Other Materials	193	The Shape of a Roof	230
Reaching Higher	194	Building a Roof Structure	232
Scaffolding	195	Ceilings	234
Second Stories and Up	195	Roof Sheathing	235
How Fast Can I Build?	195	Living Roofs	235
Chapter 13: Sculpting with Cob	197	Thatch	238
Sculpting a Whole House	198	Metal Roofing	240
Remodeling	199	Tiles, Shakes, and Shingles	240
Built-in Furniture	200	Roof Insulation	242
Corbelled Shelves, Arches,		Wool	243
and Niches	200	Straw and Straw-Clay	244
Starter Projects: Garden Benches		Chapter 16: Natural Floors	246
and Walls	203	Mass Floors	247
LEARNING AND GROWING WITH		Preparation for a Mass Floor	247
GARDEN WALLS	204	Poured Adobe Floors	249
Earth and Fire: Cob Hearths	206	Tamped Cob Floors	252
A Heated Cob Bench	206	An Adobe Block Floor	252
Rumford Fireplaces	207	Oil and Wax Finish	253
A Lorena Cooking Stove	208	Other Materials	253
An Earthen Bread Oven	209	Hydronics and Hypocausts	254
Mass Heating Stoves	211	Suspended Floors	255

Chapter 17: Plasters and Finishes	257	GENERAL TIPS FOR PLASTERING	265
Exterior Stuccos	258	ONE-COAT KAOLIN PLASTER	266
Don't Use Cement Stucco	259	<i>Litema</i> Clay-Dung Plasters	267
Interior Plaster	260	Gypsum	268
Materials for Stuccos and Plasters	260	Lime-Sand Plasters	269
INNER LIGHT	261	Washes and Paints	271
Tools for Plastering and Mixing	262	Limewash or Whitewash	271
Preparing a Wall for		<i>ALIS</i> by <i>Carole Crews</i>	272
Stucco or Plaster	263	Other Natural Paints	272
Earth Plasters	264	Water-Resistant Finishes	274

ONWORD: BRIDGING THE INNER AND OUTER WORLDS

by <i>Linda Smiley</i>	275	Joan	288
Linda's Story	277	Mike	289
Sculpting Sacred Spaces		Elisheva	289
for Well-Being	279	Tricia	290
Intuitive Design and Magic Spots	280	Relationships and Cob	
Intuitive Design Exercise	283	Love Stories	291
WRITING IN A MAGIC SPOT	284	A Match Made in Mud: Misha	
Make a Model	284	and Elisheva Rauchwerger	291
Cob and Health—They Belong		EARTH, OVENS, ART	
Together	285	by <i>Kiko Denzer</i>	292
Mud Dancing	286	A Mud Artist Soulmate	293
Cobbers' Stories about Delight			
and Quality of Life	288		

APPENDICES 295

Appendix 1: Common Errors in		Appendix 5: Research Needed	315
Cob Construction	295	Appendix 6: Wildlife in the Home	
Appendix 2: Codes and Permits	298	by <i>Ianto Evans</i>	319
Appendix 3: Cob and Water	304	Appendix 7: Teaching and Learning	323
Appendix 4: Cob and Earthquakes	311		
		Glossary	330
		Resources on Cob and Natural Building	334
		Recommended Books	337
		Index	341