

Natural Building
hands-on construction using on-hand materials

[Current Workshops](#)

Natural Building Topics:

[Rocket Stoves](#)

[Two-Chamber Cob Oven](#)

[Earthen Materials,](#)

[Cob and Cob/Bale](#)

[Paints and Pigments](#)

[Fire Science](#)

Foundations and
Drainage

Greenhouses and
Rainwater Gardens

[Boats](#)

(no, we haven't tried
to make one out of
cob.... yet...)

Drafting, Design,
[Writing and](#)

What is Natural Building?

Natural Building is a trend, movement, or vocation, of creating structures using minimally-processed materials. Common techniques include adobe, cob, straw-bale, timber frame, sod, rammed-earth, wattle-and-daub or *bajareque*, and others. Most natural building techniques are derived from traditional building techniques around the world, as people have quite naturally been building with local materials for thousands of years!



Natural Builders enjoy using 100% natural materials like earth, straw, round wood timbers, stone, and clay. Many also include locally-sourced and recycled materials such as scrap metal, broken concrete, parts of existing buildings, local and recycled timber and paint. Some techniques call for small proportions of new and/or synthetic materials in order to meet building codes or allow for unusual functions -- like the plastic membrane that seals a living roof.

These materials offer unusual opportunities and challenges for



Illustration

Conventional building / code considerations

Other Skill- Building Topics:

Fire Science

Ice and Crystals

Natural Building

Rocket Stoves

Masonry: Rock Art

Water Science

Kitchen Alchemy: 3-
Hour Bread

Kitchen Alchemy:
Special Diets

Arctic and Maritime
Safety

Paper Arts

Messy Science: Purple
Plant Potions

Memoirs: Writing
your Life Legacy

designers. Masonry, while generally a poor insulator, has great potential for passive solar heating and cooling due to its thermal mass. Round wood, freeform cob, and straw-bale allow for unconventional shapes, very different from rectangular variations on 4'x8' panels. Thick walls offer space for niches or shelves, built-in furniture, dramatic doorways and windowsills. Designers often examine local conditions like sun angles, wind direction, rainfall, soil types, temperature extremes, and vegetation plans before designing a particular building.

Hiring an architect to do this much research could get expensive quickly! but most natural-building designers are also owners and builders, whose time is rewarded by a rich relationship with the place they live.

Natural Building is often more labor-intensive than conventional construction, but much less energy- and waste- intensive. It can cost as much, or as little, money as the owner wishes, as long as other resources are supplied instead. Natural Building emphasizes human-scale activity. Much of the work may be done by hand, and in groups. A workshop or "barn-raising" can be a fun, social, creative experience.

Some natural builders enjoy speeding things up with heavy machinery or prepared materials: a tractor or cement-mixer to process large batches of cob, for example; commercial pigments instead of locally-sourced ones. Others prefer to make the process as "natural" as the product, recruiting rockhounds and throwing parties where large work crews to dance with muddy feet.

Whatever the method, natural building tends to produce unique, sculptural buildings that are full of an earthy human energy. They may call to mind hobbit houses, ancient ruins, artistic fantasies, or dwellings from an earlier, simpler time.

Natural building vs Modern

Materials:

We often get asked "Why not use concrete?" when discussing earthen building. This reflects a modern preference for the products of the petroleum age: hard-setting concrete (baked lime, crushed rock, and various chemical additives), with or without other rigid masonry components, which must be reinforced with steel and protected with petroleum-rubber expansion joints.

Concrete and cement-based mortars are marvelous, particularly in conditions of ongoing damp, such as buildings without eaves, bridge pilings, and basements. Unfortunately, the very rigid and waterproof nature of these mixtures means they can damage any natural materials used in the same buildings.

All of this means that a modern 'masonry' building is really designed to last as long as the steel that ties it together - or as long as its roof and cladding prevent damp and oxygen from attacking that steel. For any building to remain durable, it must be protected from weather by a good hat, and from ground damp by a good pair of boots.

Ancient building methods used more flexible and resilient natural materials, placing the



emphasis on local ability to source, build, and repair with the same materials. Over time, systems of building developed that allowed the creation of structures like the lighthouses and manor houses of medieval Europe, and the monumental architecture and earthen skyscrapers of the Middle East. Traditional systems of building may be more labor-intensive than the modern ones, because modern 'labor' has been subsidized by fossil fuels to produce quick-installing, energy-intensive materials. This may not remain true as the petroleum age wanes. Time and skill is required to turn local, biodegradable materials into structures that remain sound and dry. However, they may also be longer-lasting, easier to repair, and healthier to live in than an all-modern building.

Mixing modern and ancient building methods requires careful thought, because modern materials can actually concentrate damp in adjacent natural materials and cause rotting or mold problems. Some winning combinations include concrete footings or basements, with appropriate ground-damp controls, under natural walls and roof; and the use of modern roofing materials (with appropriate ventilation and provision for dripline softening) over traditionally-built buildings.

For more detail on the composition, compatibility with modern materials and methods, and best building practices for natural materials in English-language sources, we like

[Mike Wye and Associates](#), UK

[Graeme North Architects](#), NZ

[Cob Cottage Co](#), OR, USA

World Heritage Organization's [Earthen Architecture Initiative](#)

Our work has focused on temperate climates, and within those primarily in maritime climates, so we are most interested in concerns of damp, cold, and so on. The first three resources are excellent for these conditions.

There may be far more builders working with earth in arid, hot, and other climates. The WHO resources describe efforts in Africa, the US Southwest, and other regions. We welcome recommendations for other reliable references.

How we got involved:

Ernie Wisner grew up on the southern Oregon coast, a stone's throw from where [Cob Cottage Company](#) now operates in Coquille, OR. Boom- and- bust cycles in the coastal economy had Ernie on the lookout for a growing, sustainable, low-cost alternative to early retirement in a trailer. Natural Building looked like a great alternative for durable, elegant, DIY housing. After a few years of researching the field, Ernie dropped his other plans and took on a two-year apprenticeship under Ianto Evans.

Natural Building appeals to Erica's interests in ecology, art, architecture, and hands-on

Return to main page: <http://www.erniewisner.com> [Ernie's Audio Drafting](#), engineering, and other physical sciences and arts in college,

then began to actually get her hands dirty working with Portland's [Village Building](#)

[Convergence](#) and local workshop hosts such as [TLC Farm](#) and [Flying Hammer Productions](#).

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