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**Beyond Concrete.**  
**Strategien für eine postfossile Baukultur /**  
**Strategies for a Post-Fossil Baukultur**

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## How Will We Plan and Build in the Future?

→ How can construction become CO<sub>2</sub>-neutral, resource-saving and thus sustainable?

→ On the chances of recycling and reusing building materials and components in architecture

How will we plan and build in the future? In view of the finite nature of our resources, a rethink is also required within the building industry. For this it needs a constructively motivated design culture that shows new ways of dealing with building materials.

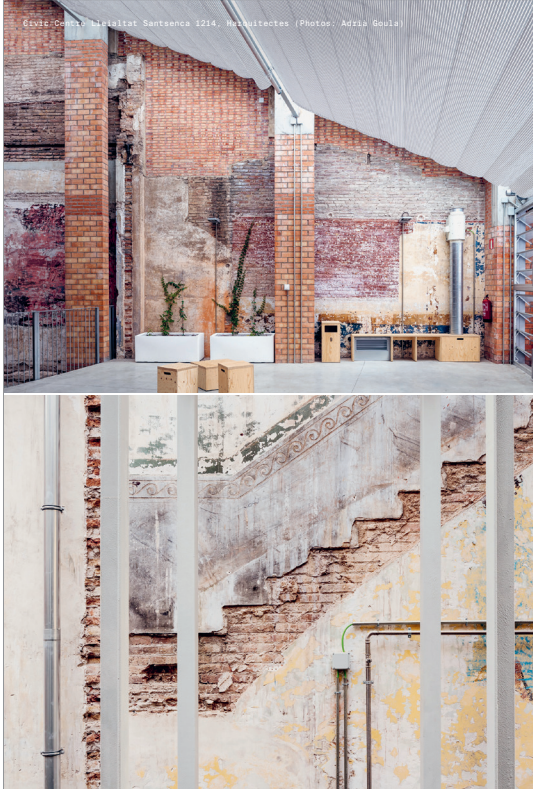
*Beyond Concrete. Strategies for a Post-Fossil Baukultur* aims on the one hand to provide an overview of the current environmentally relevant challenges of building, and on the other hand to point out concrete strategies and present projects that exploit hitherto underused potentials and contribute to the development and unfolding of constructive ideas for the future.

The first part, entitled “Status Quo. The Need for Fundamental Change”, brings together theoretical studies on historical backgrounds, scientific foundations and material-related developments within the building sector.

The second part, titled “Circular Construction. Keeping What’s Good”, focuses on the potentials of reusing components and buildings.

The third part, “Possible Constructive Futures. Exemplary Projects”, features three architects whose projects represent possible constructive futures and thus provide a positive view of the future.





**2. Known materials and technologies have uses we have yet to discover. Experiment boldly.**

If you see an object simply as a clay pot then all you will see is that you can use it to fetch and store water, or cook food in. If, on the other hand, you can see it as an object with a convex surface made of a sturdy material, then you can conceive other uses for it. For example, you could use it as lost formwork for a coffered ceiling. By removing concrete from that portion of the slab experiencing tension, we make the slab stronger, lighter, and cheaper to produce.

Baked in-situ mud houses, which look a lot like traditional housing, are a novel way of recombining a known material (mud) and a known process (kiln firing). This novel approach does away with the need for cement (one way to reduce embodied energy, more on which later) since the bricks that make up the house are fused together during firing. Of course, the finished bricks require no (energy for) transportation since they are fired in place. Additionally, the house works as a kiln to bake other clay goods with marketable value (capturing heat energy that would go waste).

In summary, treat your project as a laboratory in which you encourage risk-taking to discover new ways to reduce the overuse of finite natural resources.

**FIG. 2** Wall House (Auzoville, 1996) was a living laboratory that housed a decade of building technology experiments and prototyping. From 1" thick, pre-industrial schikal bricks, to vaulted brick and terracotta roofs, to coffered/filler concrete slabs, to innovative spaces and volumes, the Wall House has explored a range of building technologies using common materials and products (not typically used in building construction) in unexpected ways. The laboratory helped train a community of craftsmen who have since gone on to build commercially thriving construction ventures. Photo: Javier Callejas



**3. Old can be gold.**

What one person thinks of as old-fashioned, another might consider a classic. Perceptions matter.

Around the world there are a plethora of time-tested, traditional building methods and styles (so-called "vernacular") that offer important lessons and inexpensive alternatives to modern modes. However, they do not attract the research and marketing funds that routinely flow to industrial technologies and products. The creators of the latter self-servingly (and incorrectly) presume that traditional systems are fossilised in time. Modern building codes therefore come to emphasise standardised industrial products and systems while extinguishing traditional methods that could offer equivalent benefits at a lower environmental cost.

Many traditional methods have been found to be cheaper, less wasteful, and better for local craftsmen and economies. By using them whenever practical, we can improve their odds of equal representation in regional and national building codes.

**FIG. 3** Earth construction is a common example of an age-old residential construction technology that is, unfortunately, no longer permissible under most building codes. Yet, the method is inexpensive and more than adequate (structurally and climatically) - especially when you consider the unmet needs of hundreds of millions of people. Photo: Andreas Delfino





