

POLITECNICO DI TORINO
SECOND SCHOOL OF ARCHITECTURE
Master of Science in Architecture
Honors theses

Technologies for habitat in extreme conditions, the living cold

by Marco Pannoni

Tutor: Nuccia Delfina Maritano Comoglio

Co-tutor: Irene Caltabiano

Paraphrasing the title of the thesis may be tempted to think that the extreme conditions are only those of very hot or very cold. You lose a lot of other environmental situations that must be solved through technology, understood as the use of materials, types, construction processes, economics.

Extreme can become a condition of poverty, or lack of materials has always been at no cost, as the air we breathe or the sun. The conditions are proper environment that welcomes the human community, but they can also be its own community within a hostile environment for nothing. And then it becomes extreme condition in which to create a habitat that welcomes a non-blind person, a non-ambulatory, a chronic patient.

This thesis does not purport to address all habitats, wants to present some aspects of the resolution of the problem, illustrate a sort of survey method and its solution in some particular situations.

A designer must pay attention to human needs and satisfy them. A definition of quality to serve the designer to move within the parameters that guide him, not that prevent him from experiments and alternatives.

The research that exists, sometimes complicated by the paucity of documents dealing with extreme environments, has not prevented us to understand what it covers in depth the technology. If the key is to read man, that is what man does for man, a lot of questions, which does not seem to find answers in the pages of magazines, stuck in the photos, books consulted, are really easy and obvious.

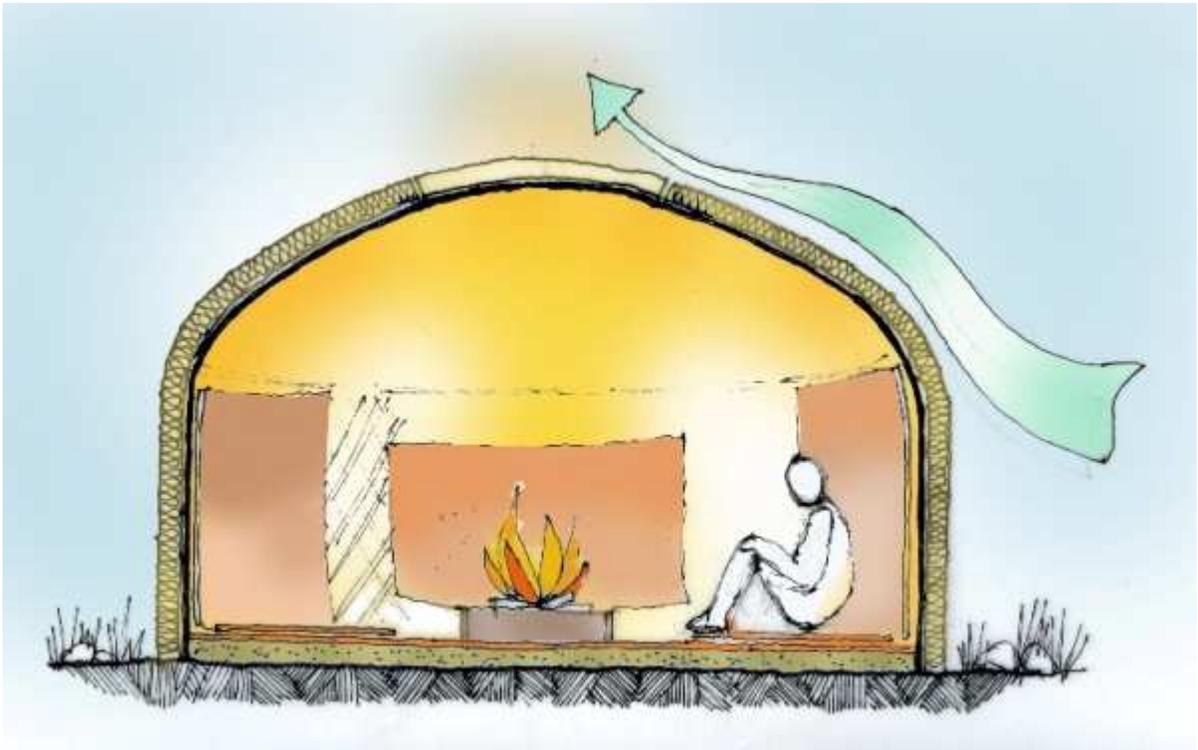
The ability to also evaluate projects that have stalled on the same pages of those magazines, and other projects that have not yet completed, has allowed us to understand the correct locations, or even the correct results, and runs as a process technology, from its early stages of investigation esigenziale, until you get to a product. If a project is not built, it certainly has rejected at least some initial requirement, if only the budget allowed.

We found that achievements over the years have revealed their weaknesses, but it seemed to us interesting to note, to confirm that a real technological process does not stop when you close the site, but must be improved in order to follow the construction in the years and occur in years when really what we expected from that project has been fully realized. Just the scientific bases in Antarctica, in such a short life, we have allowed this analysis, their projects until their abandonment / removal.



Fabermaunsell-Broughton; Architectural Review, n°1302, 8/2005, p.18

Our analysis of the traditional architecture has had the same luck, because if a type architecture has survived the winters, surely it had met all initial requirements. Not only that: the evolution of a type, such as Lapland Yurt, showed us that technology fixes, builds, adds performance, precisely because man's needs change over time, and must satisfy them.



Yurta, situazione invernale; Clara Masotti, Manuale di Architettura di emergenza e temporanea, p.23, Esselibri Ed., Napoli, 2010

The thesis then allowed us to simulate some of the technological design, collaborating with various professionals, forced us to make choices and verify it with the methods given to us, to evaluate the accuracy of such choices, we imposed a plan to build esigenziale be taken as a guide to your choices, research materials, their technical verification, the simulation of the physical behavior with the software.



Nuovo Bivacco Gervasutti, render di progetto. Brochure di presentazione del progetto per il nuovo bivacco Gervasutti; Studio Gandolfi Gentilcore Architetti, Studio CLIOSTRAAT

Our original hope, our search for everything and nothing, was rejected. The man with the help of man, can live, study, work, eat, sleep, and look out, all over the world.

Thanks to:

Arch. Carlo Micono, Arch. Massimiliano Ferrari, for the advice of Technical Physics.

Arch Alfredo Pannoni, for advice on Photovoltaic

Arch Luca Gentilcore, for projects of Bivouac Gervasutti

IEK - Rivoli, for assistance on Photovoltaic Products

For further information, e-mail:

Marco Pannoni: marco.pannoni@tin.it