BUILT HERITAGE IN MUD BRICK / ADOBE

From antiquity much use has been made of raw earth. Earthen architecture is one of the oldest forms of construction. It is primarily composed from unfired earthen materials, including “adobe” (sun dried mud-earthen bricks). The word “adobe” has its roots in Egyptian hieroglyphs denoting brick and evolved through Arabic and Spanish to its present form. From Mesopotamia to Egypt, Africa, the Middle East, North Africa, Roman and the Muslim civilizations built in earth as did in Asia, the civilizations of the Indus Valley, the Buddhist monks and the Empires of China. In the Middle Ages it was still used in Europe. In North America the Indians used it.

There are evidences that earth constituted a great part of man’s habitat, not to mention the temples in theocratic societies of the Mayas, the Toltecs and later the Aztecs. An area immensely constructed in adobe has been the North Coast of Ancient Peru across the Andes with civilizations of the Moches in the first millennium and later the Chimus and Incas before the arrival of the Europeans. Earth continues to be used to this day in Peru.

Earth not only served as a structural element for architecture, but its use was so that it rendered the unique possibility of establishing everlasting decorated surfaces. As such the variety of earthen structures have ranged over the centuries from simple forms to vast monuments of intricate and high complexity. For more than 10.000 years earth has been used to raise monuments both prestigious appropriate to the material and spiritual and functional development of human settlements. Earth constructions have always been and still are the best expressions of man’s symbiotic relationship to his environment. Its daily life, land and water. This is seen across all manifestations of mankind’s sustained existence and evolution.

Warehouses, ziggurats, pyramids, temples, churches. mosques, monasteries, palaces, stupas, full urban compounds, agricultural, rural settlements, all sought to use to the best advantages of the resource of this material to device the most varied architectural forms for/with it, without necessarily feeling constrained by its nature so often considered poor and weak. Man found ways to sustain it.

Over the last decades there has been an increasing concern for the protection and conservation of ancient historic monuments of adobe, looking for ways and means to conserve its material remains.

A major element in man's "common heritage" could be adobe structures across oceans, a globalized patrimony of mankind, not knowing borders, and yet with the common denominator of "earth" linking them.
In fact earthen architecture in itself is a **patrimony**.
It is imperative for us to find among the multitude of concrete forms and processes, those factors which have been common to all peoples of the world as they evolved from tribal societies, to the priest-dominated societies into the agricultural-rooted early class societies with state apparatuses and "empire" building potentialities. Earthen patrimony is a vivid example.
This concept of a **material** and **its traditional use** as being a **technological patrimony** opens future roads to go beyond time and space when referring to heritage and what we now call in the World Heritage Convention parlance, universal and mankind's **common heritage**.
In fact we could assert that comparative world archaeology and corresponding world pre- and proto-history become important integrative factors that show that below the diversity of cultural forms there exist important topographic, climatic and social-economic similarities. It is relatively easy to discover, identify *differences.* Greater knowledge, a more mature insight into the problems concerned, is required to see *common* basic characteristics and processes of development. It thus becomes imperative to find among the multitude of concrete forms and processes those factors which have been *common* to *all* peoples of the world throughout their evolution.
All studies of the complex and often so called "exotic" heritage aspects of the past may well be practically meaningless, unless they bring to the forefront the basic *unity* of mankind. Earth is a *unity* along man's creative capacity across the ages.

Adobe World Heritage Sites

Out of 600 cultural sites and 30 mixed properties inscribed in the WHL, almost 20% are in earth, in full or in part.
Furthermore there are numerous sites in the indicative Lists of State Parties fully or partially in adobe which are being protected by local/national legislation.
A tremendous wealth of earthen heritage, including archaeological sites, and a variety and rich "**vernacular**" architecture, representing a span of thousands of years.

Only if a pyramid in raw earth near Cairo could shout loudly the inscription observed in its base: **"Do not disdain me when comparing me to the pyramids in stone. I am as high above them as Jupiter is above the other gods, for I was built in bricks made from the silt of the bottom of the lake."**

How many adobe sites in the world would not share these inscribed views?

What a wealth. What a responsibility to preserve the past, to guarantee its sustainability and above all its present use and continuation as a traditional, technological heritage.

Whereas we advocate concerns for history, we have to voice our views on behalf of millions and millions of people who rest on continuity of this technology for their sheer existence, shelter, human development.

We should be aware of the connections that exist between present day communities and earthen structures, may they be in their vicinity as historical reminders, or simply the "pattern" of their daily lives, subsistence, and poverty.

As we note how earthen heritage is at present seriously menaced by natural and human causes of decay, physical and environmental deterioration, industrialization and ill-conceived technological penetration, and we make research and apply methods for conservation, mitigation, stability, mechanical behavior of structural forms and find appropriate technologies for restoration and adaptive reuse of adobe monuments, it goes without saying that we should look at adobe as a vital construction material for the poor. There are excellent examples of earth restoration projects in South America in buildings of the 17-20th century houses, haciendas, converted to Banks, Museums, Hotels, Health Centers, Ministries. Architects are facing this creative challenge in the region. Needless to say that restoration and consolidation for housing is a priority and should go along with adaptive reuse of a social mix.

One of the main problems in today's world is the housing shortage. We know that in the next 15 years or so, 700 million houses must be built to shelter the inhabitants of third world countries. Nearly 50% of the world population lives in slums, shanty towns or improvised shelters. But this can be reversed. The 1996 Habitat Conference in Istanbul has reaffirmed the sheer fact that at least 50% of urban families do not have the means to buy even the cheapest house on the market and although we are talking of low-cost housing for decades now, the majority of the world needs a house at no or very little cost.

Here again adobe comes into mind.
Adobe as a construction material could be applied as its conservation evolves for a decent housing for the poor.

Enhancement of earthen architecture for this material to be used in housing for the poor, for it to be used by themselves, it must be cheap, easy to manipulate, be labor intensive and immediately available. Traditional construction materials such as mud, wood, straw and stone have precisely these characteristics.
Mud is still the most widely used material. It seems to indicate that it will continue to be used for a long time. As my friend and colleague, the late Jorge Hardoy, the city planner, pointed out, the moment has come for housing planners to stop praising these traditional building materials and start using them. I add today in 2003: appropriate technology looks like a distant dream. So is "small is beautiful". Is "globalization beauty" now. Why not globalize traditional materials? Why not put all we have learnt on the conservation of adobe through scientific research and field work to the service of improvement of this material and its associated components, scientifically tested and proven, to the service of millions and millions of people? Our challenge today is not merely having housing policies to build houses, but to **house the populations.** This clearly means to focus efforts in self-help projects and improving the habitat offering the most crucial and basic services for health, water/sanitation, sewage, education and shelter.
I am an ardent believer that what the International Specialized Community in Adobe Conservation has done (UNESCO, WHC, ICCROM, CRATerre-EAG, ICOMOS, GCI, Aga Khan, WMF, the UNESCO Earthen Architecture Chair in Grenoble, universities, research institutions) can be put to the service of contemporary societies' basic needs and aspirations.
The UN and world leaders have pledged for **halving** poverty by 2015. How can this be achieved?
Already in late decades of the 20th century some leaders of the Third World, such as Nye ere and Indira Gandhi, have spoken about these problems. Says Nye ere: '(…) People insist on waiting for a corrugated tin roof and a house built of "European earth", that is, cement. If we are to progress, we must overcome these mental blocks (…) The majority of people do not possess the means necessary to buy a cement

house. Therefore, if we do not help them to build an improved house with traditional materials (…) we will have done nothing to help them live in a decent home (…)" Indira Gandhi, during an interview conceded to Earthcan in 1980 said: "All the new houses (…) are built to consume energy. They are hot in summer and cold in winter. But our old houses were not so (…) We must look into traditional technology. There is much logic to be found in what people have created throughout centuries, in harmony with their climate, their environment, their life-style. We cannot conserve all of it, because our manner of life has changed, but I believe a great part of it can be adapted and made more efficient."

We do pay homage here to the late Hassan Fathy, who enhanced earthen architecture in Egypt. Fathy, as a trained architect, saw how new cities such as Aswan had become small poor taste replicas of Cairo. In Gharb, on the contrary he discovered that traditional regional architecture, a clean harmonious city built in **adobe** following ancient traditions, architecture in perfect harmony with nature, was like its prolongation. In 1940 Fathy built a whole town in adobe near Luxor. He met opposition and scorn from fellow colleagues. In 1980 he obtained the Aga Khan Prize for Islamic architecture and today his work is considered a significant contribution to contemporary architecture. Architecture for the poor. A major exhibition of his works across the Middle East, North Africa, U.S.A., was recently shown in the Institute du Monde Arab in Paris, sponsored by Aga Khan Trust for Culture and the American University in Cairo. His book "Architecture for the Poor" is a vivid example of his vision. Needless to say that also Fathy's book on "Building with People" will remain a heritage in itself.

As H. Fathy said: Architecture is one of the most traditional arts and crafts. **An architectural work is destined to serve, its form is determined by earlier works and it finds itself in the midst of the population, which is to see it every day. The architect should respect the work of his/her predecessors and the sensitivity of the people. The architecture of an architect, H. Fathy said, should not be a means for personal publicity. No architect could avoid to use the work of his/her predecessors, whatever the originality of his/her research, a good part of his/her achievement is bound to be alike one or other tradition.**

This is our challenge today. It is the challenge of creators, conservators, architects, archaeologists, and professions of all walks of life.

How can the historical adobe sites, their conservation, their management, their enhancement, their visitation, their coexistence with present day nearby human settlements be of use to millions and millions of people and their habitats.

How can horizontal cooperation from Turkmenistan to Peru from Mali to Yemen, break away generally to existing technological dependence vis-à-vis developed nations.

There is no easy formula nor a black and white solution. It is the dialogue of cultures and technologies which is at play. Exchange of information is needed across the globe, Initiatives in Central Asia by CRATerre are in place.

In the field of adobe, we know the advantages, the disadvantages associated with it as erosion due to water (lack or plentiful), mechanical decay and others are being eliminated by improvements in design and technology. Adobe can thus become a seismic resistant material. It will sustain our Common Heritage of Earth and could be placed at the service of the community.

In continuation some descriptions of adobe WH-Sites from Latin America, Africa, Central Asia, the Middle East.

It is a good omen to see also that modern architects are using adobe in top-modern houses and other venues in places ranging from Santa Fe - New Mexico, to Brazil, to Morocco, to Benin and soon other places.

Vernacular architecture is also in itself a heritage. The Earthen Mosques in Mali photographed by a young Belgian photographer I met recently attests to this true continuous heritage.

Reference should now be made to the recent World Adobe Conservation Conference in Mali (early 2008) which is to update thinking and practices on this matter. (see World Heritage Adobe Mali site)

In 2012 **11th International Conference on the Study and Conservation of Earthen Architecture Heritage** was organized by the International Scientific Committee on Earthen Architectural Heritage (ISCEAH) and the Ministry of Culture of Peru in collaboration with UNESCO - World Heritage Centre, CRAterre, ICCROM, ICOMOS and the Getty Conservation Institute.