EARTHEN ARCHITECTURE AND SOCIOCULTURAL CHALLENGES

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Abstract
The direct link between earthen architectural heritage conservation and local sustainable development has been recently established but it sounds necessary to enlarge the criteria and the spectrum of values to be considered in order to adapt to current global challenges and facilitate efficient implementations at different scales. It is of major importance to integrate the analysis of political, economical, environmental, human, social, scientific, technical and educational values. This paper intends to present a contribution to the definition of a new cultural foundation between heritage, contemporary construction-related practices and sustainable development, offering a different approach of the notion of cultural significance and demonstrating its importance for the future.

"Anything that degrades culture shortens the path that leads to servitude" (Char, 1951).

1. INTRODUCTION
In compliance with the Hegel's *Aufhebung* concept - dealing with the notions of conservation and elevation of a previous stage – we believe that the future path that earthen architecture should take, in order to contribute to new social challenges in the fields of contextualized eco-housing, the conservation of heritage and the maintenance of an evolving cultural diversity in a globalizing world, should deal with the regeneration of the many « values » of heritage. But beyond any social, economic or environmental implications constituting the pillars of sustainable development, would it not be beneficial to replace Man and culture at the core of the paradigm?

2. EARTHEN ARCHITECTURE AND SUSTAINABLE DEVELOPMENT
2.1 Converging agendas
The conservation of earthen architectural heritages now shares the sustainable development challenges faced by the construction sector. Indeed, the number of architectural heritages of cultural value is considerable, as revealed by the latest evaluation studies showing that nearly 80% of the world's population lives in vernacular structures (Paul Oliver's work[1] quoted by Avrami, 2004), 50% of which lives in earth-built homes, a phenomenon which is not only true for rural areas, as it concerns many historic urban centers[2]. The English architect Paul Oliver, from Oxford Brookes University, believes that vernacular architecture will be necessary in the future to "*ensure sustainability in both cultural and economic terms, beyond the short term.*" (ibid., p.1). Thus, one can say that the agendas for both the conservation of

architectural and cultural heritage and "sustainable construction", are converging. Today, we refer more to the idea of a "sustainable built environment" by integrating not only the construction in itself, but also the "processes" of implementation necessary to achieve them, the operators involved in the commission and the execution, the management and the maintenance, but also the direct beneficiaries of society: humanity and its habitat. The re-evaluation of the domination of the building construction sector within the "*modern capitalist-industrial society*" (Cecere, 1995, p.87), and the necessary control of the negative externalities produced by this sector[3] may seem to possibly be based on the re-definition of the sustainable development model and its three virtuous pillars.

2.2. Which sustainable development are we referring to?

The approach and the recognition of the humanist and cultural dimensions of development as tools to build a "sustainable" future originated in the realm of humanities and social sciences. Ignacy Sachs, who founded the concept of "eco-development" during the Stockholm conference (1972), quoted by Sylvain Allemand (1999, p. 14), considered it is necessary to "*agree on the content, in this case the harmonization of social, ecological, economic but also ethical objectives*". Thus, economic activity cannot be considered independently from the biosphere, the social cultural and the natural spheres. This is how humanity, now questioning itself, facing the future of the planet and humankind, finally begins to express an ethical point of view and ask not "how to produce more" but "why produce more?" We are witnessing the development of other militant visions in favour of a "friendly degrowth" or a "sustainable degrowth" or other ideas that call for "getting out of development" as suggested by the French economist Serge Latouche (2003, pp.15-18) extending the thought of Nicholas Georgescu-Roegen, for whom "*there is no doubt that sustainable development is one of the most harmful ideas*"(quoted by Bonaiuti, 2001, p.53[4]). Have we not realised the power of Ivan Illich's[5] ideas, around for already nearly forty years? Where, then, does earthen architecture stand, given all the considerations that we have just briefly stated?

2.3. Towards a human and cultural sustainable development model

The concept of sustainable development remains contested when mainly based on economical considerations, without being structured by a vision and a political momentum, giving priority to mankind and the improvement of living conditions, globally and locally. It is therefore desirable to pursue an effort to focus on cultural and "societal" issues, moving towards collective benefit sharing (more equity). The experience gained over the last twenty years in the field of conservation of earthen architectural heritages, in the framework of international and regional projects[6] has led to further questioning the concept of sustainable development, attempting to articulate the issues, questions and answers at the crossroads of "local" development schemes, linking economic, social, environmental and cultural components. This new perspective implies a greater complexity which seems to be in opposition with the normalization of the international concept and its "reproduced" models that neglect the diversity of contexts. Thus, one can reformulate the three pillars, focusing on a new centrality, that of "Culture" repositioned in the heart of the paradigm and display a new anthropological and societal vision of cultural and human "contextualized" development, opposing the "multiple" to the "unique" and think more in terms of "diversity" instead of considering universal "commonplace". And thus calling upon a "globalization" leading towards the blooming of Man and cultures... and "resist" against what some have called a "dirty globalisation" (in French: *immondialisation* - Singleton, 2004, p.440), generating even more human misery (Rahnema, 2003, p.129–130[8]).

What is the best way to react to the decay of the environment, and what opportunities are there to define and implement a new "sustainable system" where sustainability would be perceived as the maintenance of a triptyque of "capitals" (Gladwin (1999)[7]:
- The "ecological" capital (environmental or "natural"): preservation and management of renewable resources, cyclical biological processes and functions, services;
- The "material" capital (physical and financial): preservation and management of geological and non-renewable resources (minerals, fossil fuels, water aquifers);
- The "social" capital: everything dealing with education and learning, health, nutrition, skills, motivation and the ability to make projects, protection and security, social cohesion, rights and duties, standards and rules, fairness and freedom of opinion and association, the capacity to participate and decide for sharing societal benefits.

And how to redefine the strategies for balancing the interaction between these three capitals, and their focus on Man and culture, for the benefit of the global environment and humanity as a whole? How to move towards a projection of a "global" civilization, integrating and valuing "local" cultures? How to work towards more equity, justice and less poverty? And towards maintaining the biological and cultural diversity in a globalizing world that seems to produce more and more "scarcity"? (Yapa, 2003, pp.114-124).

3 - HUMAN AND CULTURAL STAKES
3.1. But what do we mean by "human"?
The French philosopher Michel Serre (2003, pp.69-105) considers Man as being at the heart of a "Great Tale" and as a "creator of evolution" in "exodarwinism", setting himself free from "creative evolution". He tells us that new answers are now to be found at the crossroads of new disciplines that "shed new light" on the subject (ibid. p.70). These new disciplines are, for example, nuclear physics, astrophysics, genetics, "hard" and "soft" sciences. Through the contribution of these disciplines, we are able to reconnect the long-lost link between nature and culture. We can thus distinguish a "natural time" that lasted for ages, through billions of years, and a "cultural time", short, having only lasted a few milleniums: the time of cultures and civilizations. Man has transformed since barely half a century "*under the pressure of elements, more natural than cultural*" (ibid. p.80). We learned more about matter (the atom). We know better what life is with all the advances in biogenetics that shorten the time of Darwinian evolution and the mutation of the species. Astrophysics has opened new doors to the knowledge of the universe. Advances in communication technologies open new paths into space and time and significantly extend our relationship to knowledge (Internet). Development is no longer based on the relationship between Man and his environment, but on knowledge and its technical applications.

Thus, we have entered a different time, a time that is "condensed" by our technical actions that set us free from millions of years of "contingent" evolution. The human concept is, therefore, more of an adaptation to time, a "time short-circuit" (ibid, p.95). But this colossal condensation of "natural time" within the Great Tale, in the short span of the technician action, equals the projection of memory onto birth, and therefore, "we give birth to ourselves" (ibid. p.96). We escape from history, which becomes "a pit of oblivion" (ibid. p.102). Evolution is now in our hands and we can see that we end up depending on things that depend on us. Here is time for decisive choices if we claim to be able to preserve the length of human time and of the species. These decisive choices are estimated by our own ability to measure the temporal scope of our technician actions, which condense time. *Homo causa sui* - we are our own cause Serres concludes by stating that "*a culture is born today from discovering the secrets of every birth; in this way, it is born from this nature*". Now is the time to acknowledge the "natural Contract" (ibid. p.105) that reconciles Man, nature and culture. A contract that

invites us to come to grips with the construction of our "promise of humanity" (Picq, 2003, pp.64-67), this "dignity to conquer" (Vercors, 1952 and 2002, p.662).

At the heart of this contract, undoubtedly, earthen architecture's techniques and building cultures, developed throughout the very short period of "cultural time", in view of the societal challenges that we are facing today in a time increasingly ruled by the technoscience, seem to create new opportunities for the development of "other 'habitable' spaces" based on the reconciliation between nature and culture. But before, we must break free from the "alienating" image of a dominant productive system and its excesses that have only served as factors of separation between nature and culture.

3.2. So, what is "culture"?
To consider the "human" dimension, beyond its organic and biological unit, can only be achieved through the prism of culture, or rather of "the cultures" in all their diversity. Claude Lévi-Strauss defined culture as follows: *"Any culture can be regarded as a set of symbolic systems that includes first and foremost language, regulations governing marriage, economic relations, art, science and religion. All these systems are designed to express certain aspects of physical reality and social reality, and more importantly, the relationships between these two types of reality and the relationships that symbolic systems maintain with each other"* [9] (1950, p.19).

UNESCO defines culture as follows: "*Culture in its broadest sense is defined as the whole complex of distinctive spiritual, material, intellectual and emotional features that characterize a society or a social group. It includes, aside from the arts and literature, the lifestyles, the fundamental rights, the value systems, the traditions and the beliefs of human beings.*[10] (1982).

In both definitions, we identify several components of the concept of culture: values, norms, institutions and artefacts, but also a dual significance of culture as both individual and, more importantly, "collective". But also the other dimension of a culture that is both "material" (or tangible) and "immaterial" (or intangible) as defined in the Convention for the Safeguarding of the Intangible Cultural Heritage, adopted on October 17th, 2003 and ratified on June 20th, 2007. Questioning the relationships between "cultural" earthen architectural heritage and sustainable development, and moreover, the relationship between technical applications, habitat and time, the duration of time of which we are solely responsible for, since becoming "creators of evolution" (Serres, 2003), we would like to refer to the principles of "responsibility" and "precaution" as expressed by the German philosopher Hans Jonas, (1979), hoping to control the Promethean techno-behaviour and preserve a "habitable" earth. For the etymology of the word culture, brings us back to the Latin *colere* which also means "to inhabit". In this way, the reference to the history of earthen architecture and building cultures, their tangible and intangible values, their evolution, their recreation and their renewed transmission, allows us to consider new responses to the challenges faced by society today.

4. EARTH ARCHITECTURES' VALUES FOR SUSTAINABLE DEVELOPMENT
4.1. The production of "scarcity", subversive values of earthen architecture for a sustainable human and cultural development

One of the main critics of the development is that it is based primarily on the economy. This critics shows that this type of development generates a social construction of scarcity and that "*it is (...) impossible to eradicate poverty by producing "more*" *in contrast with "producing better" through "selective growth", for the constant creation of scarcity is precisely the lifeblood of economic production*" (Yapa, ibid, 2003, p.114). It would therefore be necessary, in the sense expressed by Jacques Derrida, to

"deconstruct" the opposing binary pairs that characterize Western thought, giving more importance to one of the elements to the detriment of the other: NATURE vs. culture, MALE vs. female, SPEECH vs. writing, CENTER vs. periphery, RICH vs. poor, DEVELOPED vs. underdeveloped, etc. These pairs constantly reinforce the centrality and uniqueness of the hegemonic model of developed countries. This hegemony must be opposed by the idea of a "multiple" centrality. Make sure that populations can meet their needs by valorising their own available resources "for" themselves in various ways, through "centralities" that are more fair socially and more economically viable, compatible with the local cultures and safe for the environment.

In tune with the goal to regenerate multiplicity, earthen architectures offer many advantages. They can help to subvert (reverse) the production of scarcity, to decentralize and to bring autonomy, in many different ways:
-   Subvert technical scarcity, through the use of widely available materials, directly accessible locally, with different properties and adaptable to a wide range of building materials and a wide range of construction methods and techniques easily accessible and manageable;
-   Subvert environmental scarcity by giving priority to nature (raw, unprocessed materials), helping to preserve scarce and non-renewable resources, reducing the use of fossil fuels (low grey energy consumption), using less water, reducing the negative externalities of industrial pollution;
-   Subvert political and socio-economic scarcity, by giving back to the civil society and particularly the poor, the ability to handle and solve their own housing related problems, by helping to promote self-reliance, participatory approaches, mutual aid systems and labour-barter, "the mutual gift" (Mauss, 1923-24), self-produced materials and self-building, through a wide range of professions, jobs, the creation of small and medium enterprises and micro industries and by consolidating the exercise of "non-sovereign power", as defined by Michel Foucault (as opposed to class power and the narrow interests of capital in relation to the general interest);
-   Subvert cultural scarcity, by valorising the knowledge and know-how linked to local building cultures, by revisiting the material and immaterial values of societies conveyed by these cultures as founding elements of social cohesion, and celebrating the strong creative potential of earth art which also play a part in the creative fulfilment of local populations (valorisation of the "pleasure" involved in creative processes using earth materials).

These are just some of the many subversive potentials of earthen architecture that should be explored further. These potentials convey a wide range of "societal values" that should be reconsidered in light of diversity, plurality and the multiplicity of forms of a "contextualized" sustainable development:
-   Moral and ethical values or "virtues" (alterity, respect, sincerity, effort, courage...);
-   Anthropological and cultural values (symbolic systems, social codes...);
-   Political values (participatory democracy, responsibility...);
-   Social values (social cohesion, solidarity...);
-   Economic values (employment and job creation, decent incomes);
-   Environmental values (resources and energies savings, reduction of negative externalities, protection of fauna and flora...);
-   Scientific values (multidisciplinary research);
-   Educational values (primary and secondary schools, universities, vocational training, public awareness);
-   Spiritual values (inter-religious dialogue);
-   Secular values (freedom and autonomy, equity and solidarity, brotherhood and responsibility);
-   Historical values;
-   Aesthetic values: a shared definition of "beauty";

- Sanitary values (health, pollution reduction);
- The values of the quality of life, welfare and well-being (comfortable spaces and environments...);
- …

4.2. Towards fairer measures

Many contemporary thinkers, in response to the negative externalities generated by human activities and their impact on the ecological footprint, have alerted us regarding the excessive nature of our actions, and the paradoxes in the way our society is perceived. Sociologist and anthropologist Frédéric Lemarchand has recently written (2003, p.77): *"(...) we are witnessing a fundamental division between a vision of society linked to the pursuit of the progressive ideal of "liberation" from all moral and political foundations (...) under the influence of technology on one hand, and, on the other hand, an imaginary of "exodus" from modernity, or even a resistance, a call for self-restraint and prudence, to establish a new ethic of responsibility aiming at re-establishing strong links between Man and his living space."* Reversing this paradox implies the definition of better-adapted scales, especially as a way to slow down the outburst of Promethean technoscience. Prefer the "less" and the "better" to the "more". Develop conditions of greater justice and equity. Focus on time, duration, the only dimension that we can control. Instead of focusing on profit and accumulation, focus on quality and not on quantity. This all leads to rethink the place of Man in nature, but also in relationship to the "other" more than in relationship to himself and his own "self-being" (Levinas, 1990).

4.3. An elementary need still not met for all: a home!

Earthen architectural cultural heritages may contribute, once again, to sustainable development through the conservation of earthen architectures, as well as through the reactivation of the creative path of the building cultures. In order to achieve new earthen architectures and thus contribute to human development, here considered as the improved living conditions and well-being, both physical and psychological - of individuals and communities. Individuals and communities need to be empowered to better manage and enjoy their living built heritage, but also to regenerate or recreate this heritage, for it is, fundamentally, the expression of their cultural identity inherited from the past and without which a present and a future cannot be envisioned. If the concept of development is understood in this manner, then we may recall that already in antiquity, the philosopher Epicurus (Letter to Menoeceus) identified four main needs. These were:
- The natural needs essential to sustain life (drinking, eating, sleeping), welfare (a home, hygiene, diet, disease management) and happiness (philosophy, friendship, wisdom);
- The natural aspirations, which we can do without (love, games, arts, sciences, etc.);
- The aspirations of human creation, which are artificial (wealth, glory, etc.);
- Mythical aspirations that are not achievable (desire for immortality, etc.).

More recently, the renowned sociologist and psychologist Abraham H. Maslow (1908-1970), one of the main protagonists of the humanistic approach to human development, focusing mainly on his "superior" motivations to achieve "self-fulfilment" and satisfaction, essential to his psychic health, conceived his famous hierarchy of needs (Maslow, 1943) in five levels from bottom to top:
- The satisfaction of physiological needs: food, drink, sleep;
- The satisfaction of safety needs: housing, resources, good health, protection against violence, enjoyment of psychological and moral security, enjoyment of emotional (or family) stability;
- The need for a sense of belonging, which is a social need: belonging to a group, being loved, being able to communicate and express oneself;

- The need to achieve self-esteem: respect oneself and respected others;
- The satisfaction of the need or desire for self-realization: enjoy full access to knowledge, and contribute, even modestly, to the development of the world.

But before reaching the top of the pyramid, how many humans today still have no access to the basic needs corresponding to the first level as defined by Epicurus and the first two levels as defined by Maslow, including the need for a shelter? Three billion, as estimated! The valorisation of "local" resources and cultures of earthen architecture will undoubtedly contribute to change this situation. And since we became "creators of evolution", it is up to us to decide and loudly demand the "right to build with earth" (LIVING IN EARTH Manifesto, 2009).

4.5. Earthen architecture and life cycle: products or processes of human and cultural development?
Which response strategy is carried by earthen architectures, for a sustainable development, between its cultural significance, both preserved and upgraded, and a regenerated modernity? This question invites us to revisit the concept of Life Cycle Assessment (LCA), which emerged in the 1970s, and the methods that it produced, aiming at determining the environmental profile of "products". These methods take into account all stages in the life cycle of products, "from cradle to grave", from the extraction of raw materials until the end, through all the intermediate stages of production, transmission and consumption. Applicable to buildings, a Life Cycle Assessment or an "ecobalance" is primarily a method for assessing their environmental "performance". The concept of life cycle mainly takes into account the calculation of "induced energies" and relates to a "consumable" architecture, entropic and with a limited lifespan (100 years maximum, or less). In fact, what is designated by the concept of induced energy does not take into account other important considerations such as the pollution of soil and water, and the impact of materials to our health.

However, we do not have access to all the necessary data to adequately investigate the life cycles of all components or products used to construct buildings. Despite of the interest evoked by this theory, we primarily focus on energy consumption in terms of environmental impact. Thus, the theoretical methods, the models used for LCA studies, more or less inspired from one another, inevitably refer to "multi-criteria" decisions and induce different levels of management of complexity. In terms of use, it is virtually impossible to meet all criteria, which leads to make choices based on the recognition of fundamental concepts and essential ideas, and to base our choices on often "subjective" considerations. Finally, the performance assessment methods based on LCA studies can only be "consensual". Through these considerations, it seems clear that there is a need to place Man and culture at the core of analytical models of life cycles, taking more into account the "processes" of human and cultural development and not only focusing on the "products". Beyond the Human Development Index (HDI), put forward by the UNDP since 1990, could we not suggest a new indicator that would also take into account cultural development, the HCDI, "Human and Cultural Development Index"? Aside from considering the life expectancy, the level of adult literacy and the level of income per capita, this index would incorporate the approaches of Epicurus and Abraham H. Maslow, aiming for the development and self-realization of Man, not only as a global objective but rather as a contextualized objective, concerning the strengthening of "multiple" cultural centralities.

Going back to the brief analysis of the values suggested above, balancing it with the elements of the life cycle analysis, we can clearly see that the integration of the human and cultural components of sustainable development in the new paradigm requires that all phases of the life cycle of processed materials, from their transformation to their recycling, be reconsidered in light of the analysis of values. This concerns all products

and processes. Perhaps, then, we would be more capable of integrating other considerations - with their induced actions and activities - such as:
- The perpetuation of a cultural identity rooted in the recognition of "belonging" and being part of the history of cultures and civilizations;
- The valorisation of traditional knowledge and know-how, the crafts and the arts;
- A better cooperation between knowledge and know-how throughout the whole life cycle;
- The ability to transmit knowledge and know-how, to ensure the continuity of local architectural building cultures;
- The ability to reinterpret, through continuity and change, the tangible and intangible values brought by the architectural cultural heritage: the regeneration of anthropological and sociological references for the production of housing structures, spaces and practices that correspond to local cultural identities and lifestyles, with high-quality standards;
- The reconsolidation of social cohesion around the value systems conveyed by a heritage that is preserved, managed and maintained with pride, through responsible and participatory approaches;
- The ability to maintain the human scale in the production of architectural and landscape elements, encouraging cultural exchanges and confrontations, social exchange and environmental awareness. To follow the path of "reason" and "wisdom" of ancient builders, opposed to the technological arrogance and "sacralization" of technology: balance vs. excess;
- The development of a form of social "aesthetic ethics" that is more widely shared: the ability to regenerate the architectural heritage by continuing to provide a sense of beauty, recreating the relationship between building, architecture, the crafts and the arts. The reinforcement of the capacity to resist a global macro-culture that includes mediocre or even distasteful catalogued products, folklorist approaches, and arrogant iconic architectures;
- The impact on the social behaviour of individuals and groups, regarding "urban" values and virtues: politeness and courtesy, attention, kindness and civility, communication, dialogue and expression, life skills and social skills, dedication and solidarity… all of which can contribute to stop all manifestations of savagery in urban contexts, resulting from a loss of social cohesion and the violent assertion of the self in relation to others;
- The cultural development manifested by the impact on the improvement of freedoms, the recognition of the most disadvantaged members of society, the protection of women and children, still too often mistreated, and generally, the improvement of the living conditions of disadvantaged populations;
- and… what else?

5. CONCLUSION: an inspiring heritage to fulfil our "promise to humanity"?
The updating and renewal of earthen architectures, of Man's relationship to territories and their natural and cultural resources, creates the opportunity to help developing a more "sustainable" vision of society and habitat that are better adapted to the true nature of humans and cultures. Maybe then can we hope to bring further responses to Diogenes' famous aphorism: "*I am looking for Man*", which may be interpreted as "I am looking for the humanity of Man" or "I contribute to the advent of Man's humanity". Indeed, if we are "creators of evolution", if we are born from ourselves in an environment that is "projected" by ourselves, should we not, after having realised the danger of extinction of our planet, try to reach our own humanity, and accomplish our "promise of humanity"? (Picq, 2003, p.67). How? By opening up to the world and to a better recognition of a differentiated "alterity" (Levinas, 1990), diverse in its "natures" (or births) and its "cultures" (or histories). Through a reconnected dialogue between nature and culture, the two concepts being parallel, distinct and incomparable, insubordinate to each other and complementary. By building the "humanity of the

human" through an ethical dialogue, without domination (Habermas, 1990). By leaving behind a humanity that is working obsessively to achieve constant innovation and technologic renewal. By overcoming our fears and paralyzing blockages (Jonas, 1998) and repositioning ourselves in a vision different from the "ideal of progress", that has become an increasingly abstract moral and political basis, only subject to technique, which is itself subject to high productivity growth. By repositioning ourselves in an " imaginary of exodus" (Lemarchand, 2003) or within a "resistance" based on caution and prudence, to start a new ethic of responsibility supporting the process of re-rooting Man to his living territories. Are earthen architectures, millennia-old and universal as demonstrated by their constant presence throughout the humanity's "Great Tale", this short period of culture and civilization, able to inspire us as models, both "preserved" and "surpassed" (recreated), to restore better bonds between Man, nature and cultures? Yes, we still have the right to live on this earth, and thus to build with earth, a right that becomes, then, non-negotiable.

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Notes:
[1] Centre for Vernacular Architecture Studies, Oxford Brookes University, United Kingdom.
[2] Among the 227 towns which are registered in the list of the Organisation of World Heritage Cities, 61 are either built in earth or a great portion of their urban tissue is built with this material.
[3] The construction sector is consuming about 50% of the resources extracted from nature, and 25 to 40% of energy used globally; the wastes of this sector arise to 30 to 50% of the total amount of waste produced by the richest countries.
[4] Mauro Bonaiuti is a professor at the University of Modena, Italy. In this book, the author quotes a correspondence between Nicholas Georgescu-Roegen and J. Berry.
[5] Ivan Illich founded the CIDOC (Centro Intercultural de Documentación) in Cuernavaca, Mexico.
[6] We are referring to "Gaia" and "TERRA" projects (CRAterre, ICCROM and GCI) and to Africa 2009 programme.
[7] Thomas N. Gladwin is a professor at the Max McGraw Foundation and at the School of Natural Resources and Environment of the University of Michigan, Chicago. We refer to an article that he published in the Financial Times, on Dec 13th, 1999.
[8] We clearly distinguish poverty from misery, as stated by Saint Thomas Aquinas who defined misery as the lack of access basic vital resources. See also Majid Rahnema – Quand la misère chasse la pauvreté. Paris : Editions Fayard/Actes Sud, 2003.
[9] Quoted by Denys Cuche, in *La notion de culture dans les sciences sociales*, La Découverte, Paris, 2004 (3ème édition), p.43.
[10] Mexico City Declaration on Cultural Policies. World conference on Cultural Policies, Mexico City, July 26th – August 6th, 1982.

Curriculum

Hubert Guillaud: architect, professor at the National Superior School of Architecture of Grenoble (ENSAG), France, scientific director of CRAterre-ENSAG research laboratory. Responsible of the UNESCO Chair "Earthen architecture, building cultures and sustainable development". Co-author of the Traité de construction en terre, 1989.

Hugo Houben: physicist, research engineer at CRAterre-ENSAG research Laboratory where he is responsible of the research programme on earth materials. He has been the co-director of the successive Gaia and Terra Projects which have been implemented with ICCROM and the Getty Conservation Institute between 1987 and 2007. Co-author of the Traité de construction en terre, 1989.