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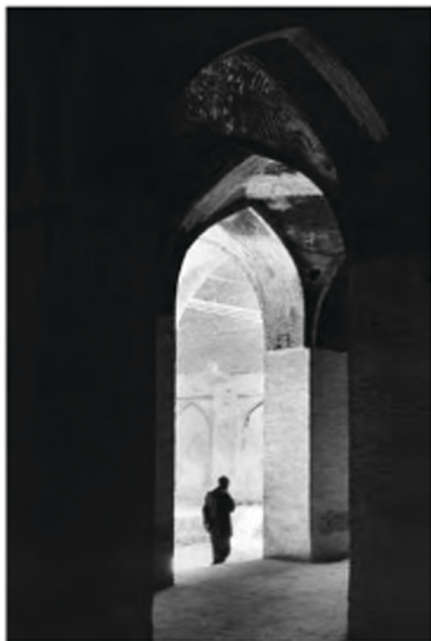
Staff Christmas Party [PG 14](#)



The Increasing Visibility of the Curator [PG 2](#)

Nothing dates like images of the future

Thrilling Wonder Stories II [PG 5](#)



AA ABK: Threads and
Connections [PG 28](#)



AA Unit Trips [PG 24](#)

Post-vernacular design and the case study of the Sévaré Cultural Centre

By Paolo Cascone



Beyond the rhetoric of the 'green' notion of sustainable architecture, a fusion of modern and traditional vernacular techniques in contemporary design is needed, in order to respond to the environmental crisis and the effects of globalisation in emerging economies. The need for this new approach, to a sustainable and post-vernacular architecture, could be determined through a systematic cause and effect analysis of spontaneous architecture and its climatic and cultural outcomes. This is aimed at reconciling humanity with its cultural, social and environmental settings, in order to optimise materials and resources while improving architectural practices. After vernacular traditions had been architecturally classified by Bernard Rudofsky (*Architecture without Architects*) and more recently Paul Oliver (*Dwellings*), anthropologists and scientists such as Ron Eglash started to observe the patterns and material organisation emerging in rural settlements. Both these patterns and vernacular designs were then explored using recursive construction processes, producing differentiated and self-organised systems that responded to microclimatic and social constraints.

In his book, *African Fractals*, Ron Eglash mentioned that if Cartesian coordinate systems characterised Euro-American cultures as a 'state society' with a top-down organisation, then fractals and complex geometry could be characterised by pre-colonial cultures as decentralised social groups with a bottom-up organisation; in which case the geometry becomes a cultural, social and generative medium for nonlinear, very complex shapes and architectural configurations.

The post-vernacular design agenda investigates the potential for considering implicit, and sometimes intuitive, generative processes as explicit trans-scalar models of evolutionary approaches for sustainable architecture. This is aimed at developing a morphogenetic approach integrating high-tech design processes and low-tech local construction techniques. I have been working on this technique with Fabrizio Caròla, an 80 year old architect who has worked with traditional construction techniques in Africa for almost 50 years.



Prototype for Sévaré Cultural Centre project.
Digital model by Paolo Cascone/COdesignLab

The Sévaré Cultural Centre: Extract from *Domus*

It was a lukewarm April day when I met Fabrizio (Caròla) in Brussels. We spent four hours together in a Japanese restaurant behind the Stock Exchange, talking and drawing as if we had always known one another. I was almost too afraid to show him my work, and scared stiff of not being able to explain it to him. But with his boyish enthusiasm Fabrizio thoroughly understood everything. He made it possible to reach that turning point which, to paraphrase Guattari, I call the 'fourth ecology': a sort of generational-cultural pact of knowledge and production processes shared through an evolutionary approach. This is where new technologies integrate processes that have been passed down for centuries, to make them still more sustainable, and reproducible on different scales.

The urge to put our enthusiasm to the test helped to create the immediate conditions for collaboration on the project for the cultural centre at Sévaré, in Mali. Fabrizio had already begun working on this task in 2007. When he spoke to me about it he pulled out a plan and said, 'This is what I have begun: use this as a starting point to develop it according to your own techniques'. Hence the ideas of considering this opportunity as a case study in a wider survey. I am developing this in Paris with my study on 'high-tech design processes and low-tech construction' in which I have involved of my French architecture students (half of whom are of African origin).

The project for Sévaré Cultural Centre, in its ecological being, is intended to become a construction site/school involving, in addition to my students, young people from other international universities, the local population, and other partners whom we are finding along the way. It is a participatory construction experience aimed at uniting people of different backgrounds and experimenting with new



Sévaré Cultural Centre guesthouse under construction. Photo Paolo Cascone

points of contact between traditional construction techniques and advanced design processes for a post-vernacular architecture.

The design process we developed starts from the initial genotype of Fabrizio's 2007 project. From it we abstracted what Deleuze calls the 'material system' (a series of principles governing morphological, tectonic and bioclimatic aspects) and then developed it according to a recursive, evolutionary process of its morphology. The restraints set by Fabrizio's initial idea on the development of a series of cupolas, linked together around a central space, guided the creative process. The result is the development of a series of successive generations (phenotypes) of design solutions through what I call 'contextual algorithms'. The help of parametric instruments and environmental simulations (thermal comfort, passive ventilation, natural light etc.) enabled us to generate and test families of different solutions in a correlated way. The morphology on the scale of the centre was differentiated according to the programme's spatial and ergonomic necessities: library, reading rooms, IT room, creative workshops, cafeteria and open-air theatre. The objective of this strategy is therefore to alternate a sequence of semi-covered patio/impluviums in clusters of terracotta brick cupolas, differentiated in their dimensions and forms on the basis of the various activities' spatial requirements.

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