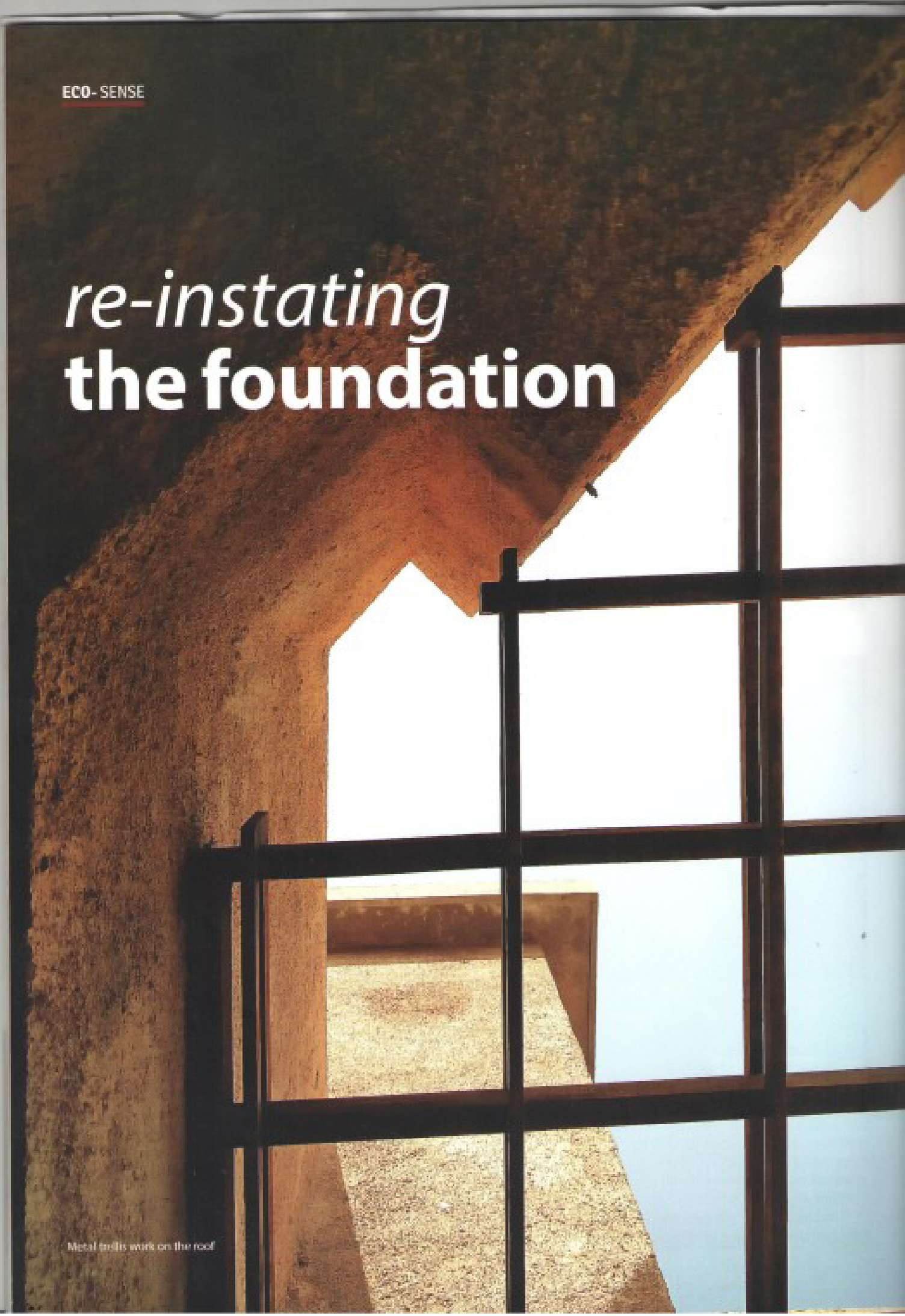
re-instating **the foundation**



Metal trellis work on the roof

Ar. Nilesh Bansal of Chaukor Studio proposes the benefit of Regenerative Architecture in order to create ecologically-sound building environments

With integration of modern technologies, today buildings have become information power houses, but are lacking the wisdom of formal expression. As a result, the structures today consume more resources and energy from the natural environment (biotic and abiotic) instead of conserving, when supporting human life form. As many natural resources are consumed, much of the natural habitat is lost when building activity takes place. In order to counteract and overcome this loss of habitat, the concept of sustainability becomes inevitable to reduce environmental impact. It becomes fundamentally critical to generate processes that can restore and regenerate the natural balance. Thus, in order to restore the imbalance caused by modern day technology and to avoid the negative environmental impact of the building caused by the consumption of natural resources and energy, it is essential to encourage the practice of Regenerative Architecture.

Ways to Restore

The term 'Regenerative' describes processes that restore, renew and revitalise their original source of energy and materials. It aims to create sustainable systems that integrate needs of society with integrity of nature. Evolution is fundamental to the art of building as to any natural organism. Buildings are not mere containers; they are fundamental to holistic human experience. With the art

> "We firmly believe in practising Regenerative architecture and due to this concept we have been able to systemise and reduce large amounts of information and observational data to fundamental design principles that can be used in construction technology and buildings"

Detailed brick work at the Central Courtyard

Large window openings in the central courtyard that provide indirect sunlight

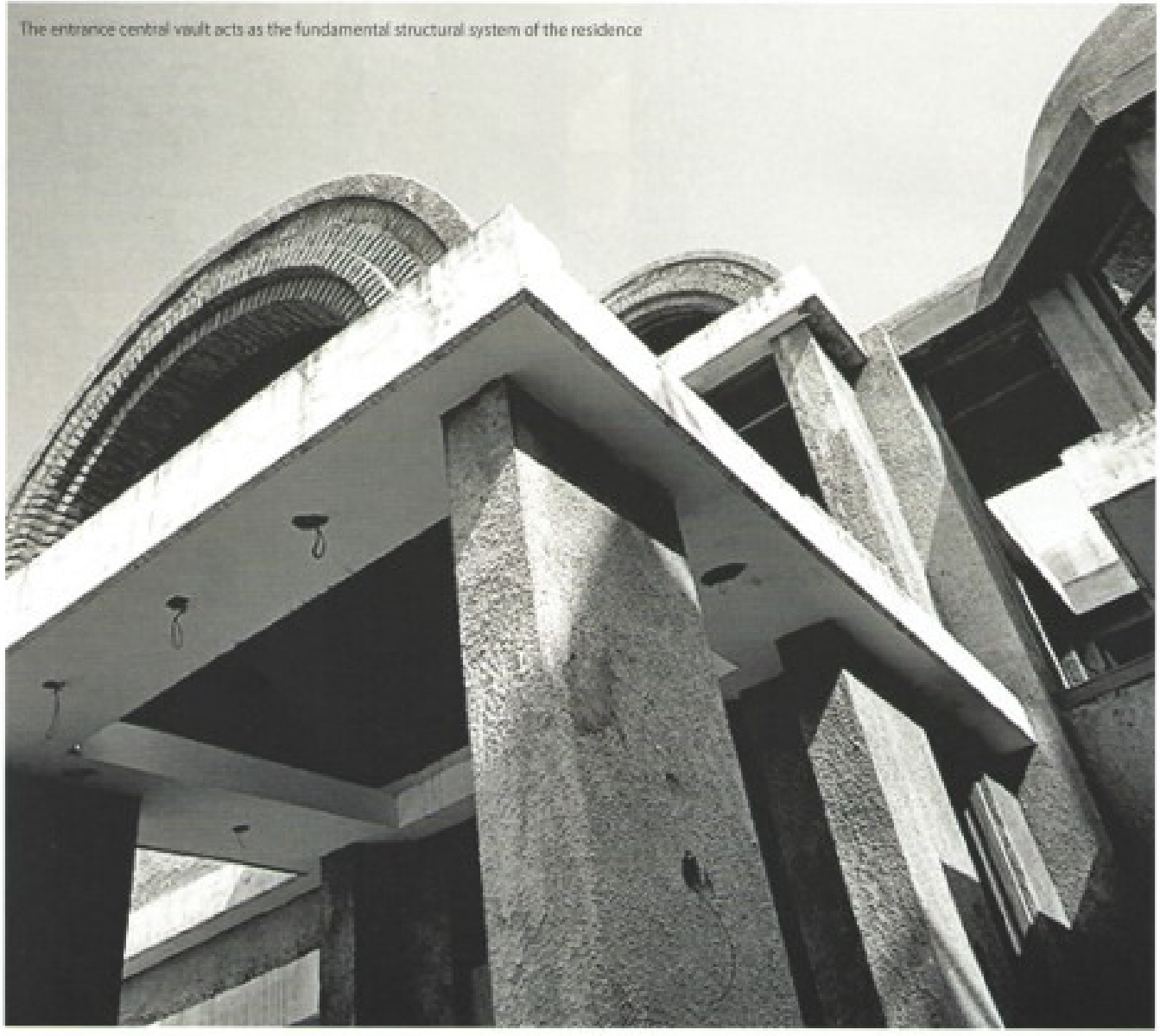
of building gradually fading; the lost knowledge needs revival along with repair of the lifeless buildings. This creates a fundamental necessity for a regenerative process to foster holistic growth and evolution.

The concept aims to integrate vernacular construction methods, locally available materials and modern day technologies that lead to buildings that are naturally responsive and environmentally sensitive. With this systematic design process, sustainable architecture becomes Regenerative Architecture. This aspect brings about the significance and the importance of preserving traditional wisdom and methods of construction. Besides this, special emphasis is laid on the building's climatic orientation, natural ventilation and daylight, passive cooling and heating techniques which are observed, implemented and analysed.

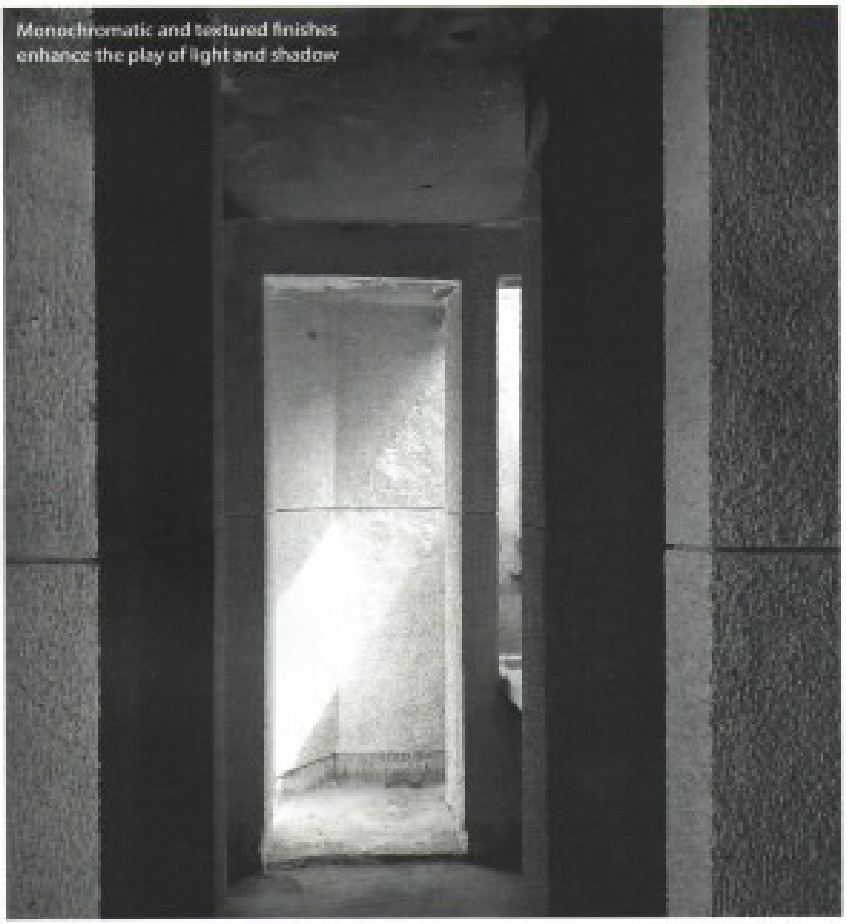
At Chaukor Studio, we firmly believe in practising Regenerative architecture and due to this concept we have been able to systemise and reduce large amounts of information and observational data to fundamental design principles that can be used in construction technology and buildings. Thus, with the help of documented knowledge of building construction that has evolved over

> “With the art of building gradually fading; the lost knowledge needs revival along with repair of the lifeless buildings”

centuries and easy access to modern day technologies; buildings with positive response to the environment and minimal implications can be conceived and generated. In short, with help of regenerative architecture which emerges from the natural environment can be made to support, give back and revitalise the very surroundings from where it has been generated.

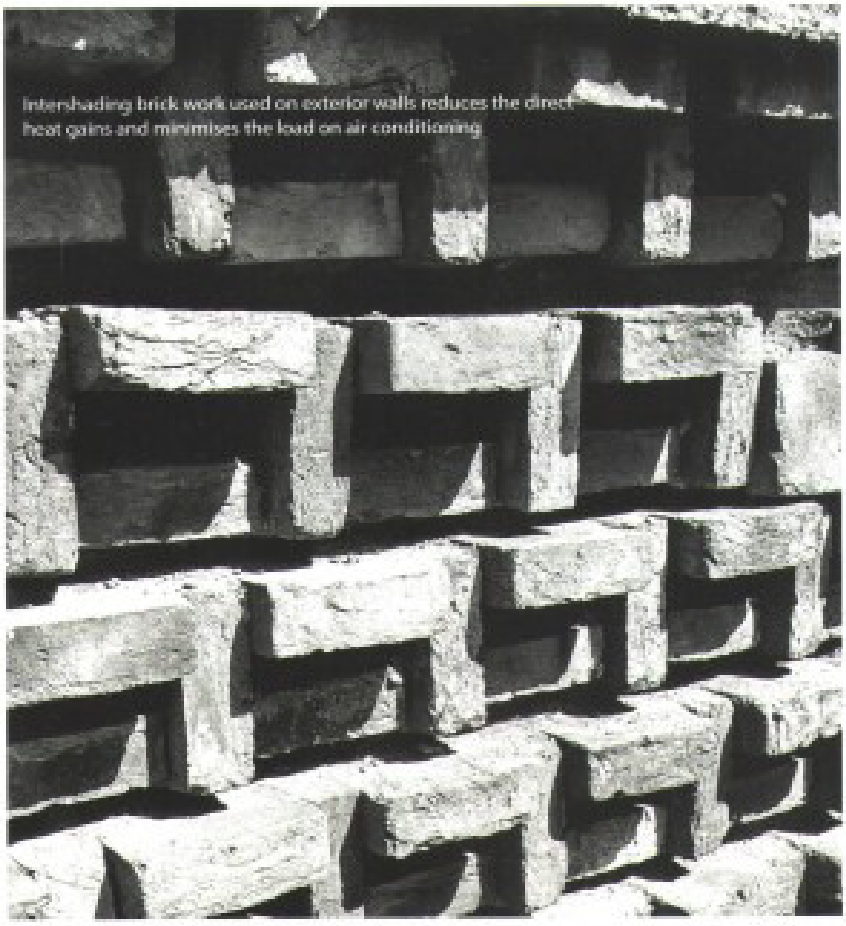


The entrance central vault acts as the fundamental structural system of the residence


Monochromatic and textured finishes enhance the play of light and shadow

Case Study: Vault House

The Vault House residence is planned along the principles of Regenerative Architecture where locally available materials and methods have been fused with modern technologies and systems. The building is oriented at an angle of 45 degrees to plot and align with the prevalent direction of the wind. With regards to the material palette used for the project, locally available and low cost construction materials have been used for the primary structure and interior finishes as well. Labour intensive structural systems like vaults and arches are employed as the fundamental structural system of the residence. Besides the use of locally furnished materials and finishes reduces the need to rely on prefabricated and industrialised products and finishes that are expensive and consume enormous amounts of energy. Monochromatic and textured finishes enhance the play of light and shadow which enriches the overall experience. Self-shading brick work is used on west and south facing exterior walls which reduces the direct heat gains and minimises the load on air conditioning. Bio Wall/ Living Wall is planned in the central courtyard which reduces the ambient temperature in the house and improves the indoor air quality. Skylights are installed in the residence to provide external view and are designed with double panelled insulated glass which reduces heat gains. Deep planters are planned on the first floor that increase the thermal mass of the roofs and reduce heat gains. Vaulted brick roofs on the first floor have lesser heat gains as brick has higher thermal mass compared to concrete; also the vault has lesser heat gains compared to flat roofs due to the shape and exposure to direct sunlight. Large window openings are provided in the house that opens in the central courtyard that provides required daylight without direct sun.


Intershading brick work used on exterior walls reduces the direct heat gains and minimises the load on air conditioning