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## Environmental Restoration

*"Roughly ninety per cent of the earth has felt man's hand already, sometimes brutally, sometimes gently. Now let's say, that's the limit' we should go back over the ninety and not touch the remaining ten per cent we should go back, and do better, with ingenuity. Recycle things. Loop the system."* *Encounters with the Archdruid* by John McPhee

The concept or commitment of a designer to use the remaining "ninety" is an opportunity around which one could construct a satisfying and fulfilling career. Protecting the past - its natural resources as well as its ideological and cultural resources, engaging the future and its ecological requirements, and responding to the present in terms of advanced technologies are, in my opinion, the backbone of what architecture should strive to accomplish. Portions of this idea in architecture are what some have referred to as critical regionalism (Frampton, 16), but in my research and practice, I am interested in studying those examples that not only advance the profession and the local community, but also seek to advance the potential of the landscape, the existing ecology of the site and the built environment. I am intensely interested in examining landscapes where man has done the most damage through mining, drilling and quarrying natural resources. My interest in this subject is heightened by the intellectual possibilities of being in a position as an architect to revive — not necessarily restore - damaged landscapes for human habitation.

There are two types of contemporary situations that lend themselves to this type of investigation. The first condition is the *brownfield*. A brownfield is a site that has previously been built upon and sometimes contains contamination. Brownfields are tracts of land that, having suffered the most intense exploitation and contamination are now unsafe or even, plainly uninhabitable. They are the most challenging areas of the earth and most will not regain health without new human intervention. They pose the biggest challenge: imaginative solutions emerging from multidisciplinary thinking where architecture has a role to play.

In the last two years, I have had the opportunity to concentrate on adaptive reuse and environmental restoration in three studio projects. This work, coupled with further study in ecotourism and ecology has unquestionably established my interest in contributing to projects that respond to the reconfiguration or renovation of brownfields for new purposes. The depot project, for example, was a proposal for the adaptive reuse of a brownfield located near the downtown area of Gainesville, Florida. The area was originally the town's central hub where the train depot was located. The renovation proposed a live-work situation that incorporated an

educational city garden and a bicycle repair program for at-risk teens that would coordinate with the rails to trails endeavor. This site was to be part of a larger revitalization effort in downtown Gainesville to incorporate a storm water reclamation park for the city. The idea of reusing the land and reconditioning it for a new purpose is very exciting to me and I believe that the investment that new uses will bring - if approached intelligently" can be the seed for positive environmental impact.

The second condition that exists currently - and is also in need of immediate attention - is that of our landfills, quarries, mines and mineral pits. This is a situation at hand that has been long ignored or perhaps simply accepted as a convention of our time, but is now in a position for immediate change. Many limestone pits and similar quarries - landfills included - are finding themselves either filled to capacity or the opposite - stripped bare of natural resources and rendered "useless" by developers. In both situations, there is an abandoned section of land that is or has done damage to the earth, its neighbors or both.

These two modern situations, regardless of their history or controversy, seem to be perfectly poised to offer opportunity in modern architecture, if taken seriously as potential development sites. In fact, in a recent article, the American Institute of Architects called this new typology a "new market frontier" (AIA, January 23,2002). The AIA is referring mainly to brownfield sites, but environmental restoration projects are similar in intent and intellectual scope. While these two types of situations might seem somewhat disconnected, it is my contention that architects of today are very possibly creating the brownfields of tomorrow, if we do not take a more thoughtful role in the planning of our future spaces. So, perhaps the brownfield, the quarry, the mine and the landfill can be understood as a similar conditions in the contemporary landscape - those that are the most urgent — and that need quick but careful consideration to transition into the future.

To make the transition, the issues of planning must be reconsidered — perhaps revised — at two scales: the micro scale (that of the house or building) and the macro scale (that of the site or region). By nature, in adaptive reuse situations, the future use of the building is not known. The trend lately has been to plan or design for the immediate use of the client and structure, with little consideration that the building might outlive its original owner and be reprogrammed in the future. This inevitable situation (if one adopts the commitment to the reuse of the "ninety") offers the architect an opportunity (and obligation) to investigate a methodology to create a language of making that is transmissible over several ideologies, cultures and groups of people - as well as the potential for spatial transcendence in relationship to original program use. This undertaking allows the investigation to proceed at a micro scale, or at the scale of the building. The site then can be considered at the macro scale, as it also has a role to play in the reinvention of the modern landscape through the adaptation and reprogramming of a previously undesirable site.

The quarry, landfill or mine offer the additional unique possibility for ecological stabilization and prescribed ground transformation that transcend the typical site situation if preplanned wisely. There are several projects similar in intent to this idea that have successfully transformed abandoned industrial sites into recreation areas. These projects tend to be located in European countries due to their early industrialization and the current wealth that allows for the investment that environmental restoration needs. Of particular interest are five projects located in Spain, Switzerland and Italy.

Two of the projects are deeply related to Spain's reliance on a tourism-based economy - much like Florida. Imma Jansana Ferrer's project Passeig Maritim de Gava is a revitalization of Barcelona's coastline after years of degradation due to tourism (Cerver, 10). Barcelona has had a rather temperamental relationship with its coastline - it has been long been considered an unhealthy area due to malaria in prehistoric epochs and now because of the invasion property speculators, the coastline has been severely damaged by the growing influence of the metropolis. The new beachfront in Gava, however, is part of a recent effort to stabilize the delicate ecosystem by planning and executing pathways, which will not prohibit dune formation, and at the same time help in the re-growth of the ecosystem (Cerver, 12). Ricardo Bofill has recovered one of the most populated tourist areas in the Parc de l'alguera project in the city of Benidorm in Spain (Cerver, 41). This project is built in an abandoned riverbed. The river was redirected to prevent flooding. The scheme called for a series of classical gardens to transform the riverbed. The new park completely alters the character of the original bumpy site, but is now a meeting place for the people of the city, which consists of a large grouping of new urban spaces (Figure 1). It is believed that the city can somehow uncover its urban identity through the transformation of its terrain (Cerver, 44).

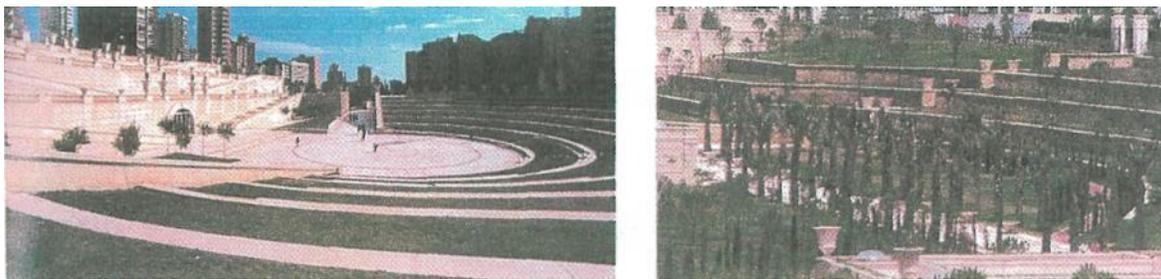


Figure 1

The Saline Osta Antica project in Rome is an example of the effort to revitalize particular areas of the urban fabric that that been in unrelenting (and unplanned) cycles of constant reuse. This proposal seeks to reconnect the relationships between the built city, the agricultural and historical landscape, the area between the River and the sea (Ruano, 157). The Colletta di Castlebianco Televillage in Savona, Liguria,

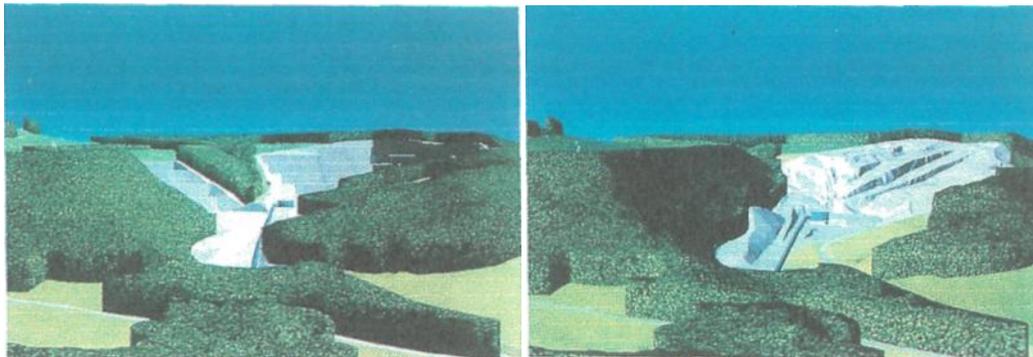


Figure 2

Italy is an environmental and ecological project that seeks to incorporate new technology into an historical setting while maintaining the purity of the land and history of the culture (Ruano, 1976). This is a rehabilitation project for a now deserted but otherwise perfectly preserved hillside community. This project is interesting because after the work has been completed, the inhabitants will not be the same, in fact, the land will not even be used in the same way that it was intended many years ago. New technology will be brought in and adapted to the hillside buildings forming a link between the secluded hilltop and the vast world around it. The

aim is to reuse the village - and to an extent, restore the place, but with an emphasis on ecology and sustainability. The precious features of the urban hillside tradition will be complimented with the advantages of current innovation.

Another project of interest is in Switzerland and is a successful example of a limestone quarry restoration based on a conservation policy (Cerver, 33). This project is of vital interest because it is the fulfillment of the planning process as it relates to the environment. This quarry was issued a 15-year exploitation license with the agreement that it would be restored to a suitable public use when the term ended. Governed by Switzerland's current conservation policy, this site comes complete with a contract which ensures that major public works should save resources, be environmentally friendly, and replant indigenous plants so that the site will be suitable for future uses. The policy also states that the quarry be integrated into the original landscape. The project was planned from its inception in relationship to schedule, restoration of flora and fauna and protection of the ecosystem.



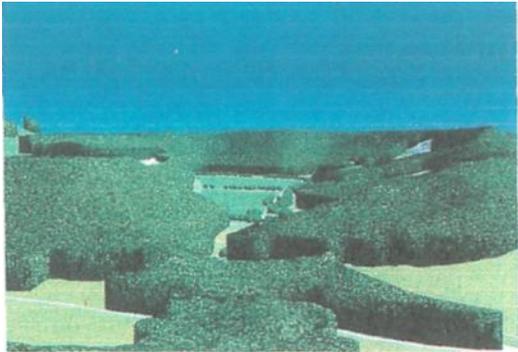


Figure 3

The importance of planning is underscored in a project like this because of the explicit geological gash that will scar the earth. Paul Stockli is the landscape architect responsible for the project and he has integrated the phasing of the digging with the anticipated final outcome (Figure 3) (Cerver, 34). This spatial experiment, although benign and global in conception, should seek to incorporate the traditions and ethnicity of its surroundings at both the micro and macro scale. Granted, this is an agreed upon goal of architects, but it is also an objective with constantly changing parameters. For example, the history of a site is inherent and crucial to the development of the project. The word palimpsest refers to traces of history still found at the site. This is a way of working that architects like Scarpa used in practice for many years. There is also evidence in the contemporary work of Michael Gabellini in a parking garage project at the Piazza Isolo in Verona, Italy to suggest that it is still a satisfying, responsible and sensitive method of working. The history of the site actually shaped the literal and conceptual design of these projects and in that, an opportunity for further experimentation in architecture.

The history of a site is sometimes apparent, but often hidden. Sometimes referred to as 'invisible architecture' the palimpsest represents what is not shown on the map, not read in the books and not visible on the site. But it is the connection of ideas, old and new, collected and organized into a new use or structure. The culture, craft and society of a people are where the opportunities lie in architecture. Today, we call this Intangible Cultural Heritage, This highlights the importance of interaction - between races, cultures and financial rankings. In architecture, they show us the reliability of various materials and let us peak into cultures before building codes and restrictions became forefront. Old ideas are often presented in layers - in such a way that one begins to think almost linearly when considering the past - like a timeline with certain broad events marked heavily and daily activities not marked at all. But opportunities in architecture are such that we can call the memory back, engage the past in a new way and begin to understand it on another level relevant to our present. A profound example of this type of work lies in Mexico at the hand of

Luis Barragan.

Luis Barragan relied at times on nostalgic memories of his childhood to move his design ideas further. They begin with his own personal memories of his childhood and traditional Mexican culture: "my earliest childhood memories are related to a ranch my family owned near the village of Mazamilita. In this village, the water distribution system consisted of great gutted logs, in the form of troughs, which ran on a support structure of tree forks, five meters high over the roofs. This aqueduct crossed over the town, reaching the patios, where there were great stone fountains to receive the water." (Attoe, 36). And while he was practicing at a critical moment in history - the surge of modernism - he was still able to connect with the culture and quality of Mexico while engaging the possibilities of a modern world. After a lifetime of searching, achieving, and thinking Barragan's work culminated in El Pedregal, a vast garden project in Mexico City that was built on a molten lava field - a result of an ancient volcanic eruption. This site, by all accounts was ruined and unworthy of developmental consideration. Barragan however envisioned a garden carved into and on top of this mass. This project was an example of recognizing value in what otherwise would have gone overlooked and unused. Barragan reinvented the landscape and made possible the future on an otherwise destroyed area of land.

Maurice Merleau Ponty wrote: "How would the painter or poet express anything other than his encounter with the world?" In his words, I find the validity of what we can accomplish as a profession. Architecture is a profession that allows us to respond to and question our own encounters with the world. I grew up in west Texas and was constantly influenced by my surroundings. Because west Texas exists in such an extreme climate, I find that my views of ecology and the environment tend to differ from that of people who grew up in other regions of the United States. Situated in the heart of the dry and arid climate of the desert, west Texas has extreme environmental needs in terms of water, but also offers unique resources in terms of oil. Because of this harsh environment, I learned very early how the climate and natural resources affect the condition of the urban and rural landscape. I find now that I have developed a respect and understanding of the environment that is both beneficial and extremely satisfying to study in conjunction with architecture.

West Texas, particularly the Permian Basin that was my home, also had (and still has) many social issues associated with the oil industry, both positive and negative. Obviously this area was developed based entirely on the natural resources that it offered to the oil and gas industry. The economy in this area has been based on the degradation of the earth and I grew up experiencing both the booms and the busts of an oil-driven market. The moral responsibilities that accompany the natural ecology of the land and its resources were constantly in debate and discussion while I was a child. I developed an understanding of the challenges and opportunities that such an area can offer, both materially and morally. I am still intrigued by this area of the

world and the possibilities it offers with respect to architectural restoration and the desert landscape.

The geographical location of my childhood instilled an interest in me to learn more about the earth and encouraged me to experience different climates and ecologies. Like Barragan, I believe that my history is a key contributor to both my current and future interests. This investigation leads to an architectural question of ecology, fundamental ideologies and truths is an important one to pursue for planning the outcome of our future living situations.

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