" IF WE CAN UNDERSTAND NATURE'S EVOLVED RESPONSES AND ADAPTATIONS TO CONDITIONS OF ARIDITY AND IF WE CAN OBSERVE AND COMPREHEND THE LANDSCAPE FORMS THAT DERIVE FROM THOSE ADAPTATIONS, THEN WE MIGHT USE THESE AS BASIC ARCHETYPES FOR ARID AND SEMI-ARID REGIONS. "

ARCHETYPES IN THE ARID LANDSCAPE

John Tillman Lyle

In the United States, we have too often tried to ignore the difficult fact of aridity. This applies as much to people living in dry regions as it does to others - perhaps even more.

The inescapable fact is that about 40% of the American landscape is arid or semi-arid. This includes most of the region west of the Rocky Mountains. The sizeable exceptions are the high mountain areas and a narrow coastal strip in the northwest corner of the country. This vast dry region is extremely varied in character. It has an expansive, austere beauty of its own, but it also has a forbidding inhospitable quality that speaks to the human spirit but does not invite long-term residency. Crops grow here only if they are given water beyond that provided by rainfall.

AN OASIS IN THE SAHARA DESERT IN CHAD. SOME ARCHETYPICAL FORMS OF THE DRY LANDSCAPE INCLUDE THE WASH, OR *WADI*, THE DRYLAND RIVER, AND THE OASIS.

Most early settlers failed to come to terms with these conditions. The Mormons, who followed the Indians as early pioneers of irrigation in the West, were among the exceptions, but few followed their example. As a result, they left a trail of abandoned cabins and farms and scarred land. Scars last a long time in dry places and many of those left by the pioneers are still there.

Following the first of the great water diversion projects just after the turn of the century, water became available for both agriculture and urban growth in places where it had not been before, and the West began turning from browns and greys to bright green. Settlers tried to create lush water-rich landscapes like those of their former homelands in the eastern states and Europe. Cities became green with exotic plants brought from humid zones and supported by irrigation. Such artificial landscapes require enormous quantities of water usually brought hundreds of miles through pipes and channels. They also

XERISCAPE

A LANDSCAPING TECHNIQUE, BASED ON SEVEN SIMPLE PRINCIPLES, WHICH SAVE WATER, PROTECT THE ENVIRONMENT, AND COST LESS TO MAINTAIN.

require large inputs of chemical fertilisers and pesticides. Whereas natural landscapes are our major basic producers of energy and materials, these chemically and mechanically supported landscapes are net consumers of energy and materials. Furthermore, they offer little support for native wildlife populations and they emit quantities of water into the air, bringing about local climate change. Clearly, such landscapes are unsustainable. In fact, by consuming energy and materials year after year and returning only wastes in forms that are difficult to reuse, they represent the very essence of unsustainability.

1. SOIL ANALYSIS

In recent years, recognition of these problems has grown. The Xeriscape movement was developed by landscape professionals and water managers in Denver, Colorado, during a drought in the 1980s to solve a common problem-water wasted in the landscape. It has promoted use of drought-tolerant plants, and interest in native plants has become widespread. In a number of projects, landscape architects have planted communities of natives with beautiful and sustainable results. However, the use of local natives has its limitations. They provide a limited selection and cannot provide for all the functions and amenities that humans require in arid lands - for example, shade. Many dryland natives are hard to propagate, grow slowly, and often they are expensive to install.

2. PLANNING & DESIGN

3. EFFICIENT IRRIGATION

My design work in the arid and semi-arid landscape has been based on an approach that is both more analytical and subjective. If we can understand nature's evolved responses and adaptations to conditions of aridity and if we can observe and comprehend the landscape forms that derive from those adaptations, then we might use these as basic archetypes for arid and semi-arid regions. Such a vocabulary might achieve both sustainability and a visual and ecological fit with its naturally evolved context. These archetypal forms might also serve as bases for design expressions to connect the human psyche with the larger arid landscape. To explore this approach further, I want to look at a few archetypal forms of the dry landscape and the processes they represent.

4. PROPER PLANT SELECTION