

Alone in a World of Beautiful Wounds

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"A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise". –Aldo Leopold

Beauty in nature is not rare. It can be found almost anywhere and experienced in many ways. It can be heard in the yawn of a gentle wind blowing through a mountain forest. It can be smelled in the aromatic scent of creosote that envelopes the desert after summer rain. It can be seen in the ever-changing horizons of vast southwestern landscapes during the golden hour of twilight. Beauty can engage all of the senses and create memory that permeates our very being. Beauty is an elemental part of our experience of nature. Aldo Leopold thoughtfully observed that "our ability to perceive quality in nature begins, as in art, with the pretty. It expands through successive stages of the beautiful to values as yet uncaptured by language." This is the trap we unwittingly spring when we attempt to share the deep personal experience of our own perception of beauty in nature. Words are hardly adequate, but the need to share these experiences is irresistible. So here I am, attempting to share my own perceptions of beauty in nature.

Since I was very young I have been enthralled by the immensity of western landscapes. I imagine that the classic idea of landscape beauty is experienced by people who live in and visit the mountains, plains and deserts of the west. This is the kind of beauty that can even be absorbed at a glance while travelling at high speeds down expansive highways. It is immediate, accessible and requires no commitment. I have spent most of my life living and working all over the west I have come to realize that this snapshot of beauty is not what I experience. Postcard horizons have always captivated my imagination, but mostly because I wonder what is in that canyon or in those mountains at the edge of the sky so far away. I have always been most interested in the intimate folds and nooks that are hidden away in all of this vastness.

Eventually a good bit of luck and a well spent student loan allowed me the opportunity to secure my own fold in the vastness. I bought twenty five acres of brush, trees, box canyon and arroyo tucked away on the edge of a truly immense horizon. This was my first chance to set my own roots into the land, on my own terms, and the experience has been absolutely profound in my life. For the first time I had the chance to get to know a place in intimate detail. I came to know all of the individual players that shaped the landscape. I came to know the trees, the wildlife, the weather and the shadows. I came to know many small and beautiful things. I realized that this kind of knowing is slow, deliberate and requires a long-term commitment.

I have since spent nearly fifteen years on this piece of land with my hands in the dirt, moving rocks, planting trees, cutting brush, and attempting to re-shape my corner of the world into a form of my liking. It has mostly been a solitary task and a humbling endeavor, to say the least. Like so many others, I set out on this path with all of the best intentions, loads of youthful energy, and just enough

information to be dangerous; and I was. I struggled alone through eight years of pure trial and error erosion control in an attempt to solve a problem that didn't really exist. I can now say from all those years of experience that if you try hard enough to solve a non-existent problem you can certainly go a long way toward creating one; and I did.

Fortunately for my learning curve, and arguably my land, I decided to leave and seek out a formal education in my new found passion, watershed restoration. I moved about seven hours away to pursue a master's degree with the hope of discovering whatever it was that trial and error could not teach me. It turned out that this distance I created between my land and myself was an essential part of the learning I needed. During those years of infrequent visits, my understanding of the system I had been dealing with made great leaps forward. I always came back to my land with a slightly different perspective based on newly earned knowledge. I learned that the arroyo I was working on was not really an arroyo at all; it was an alluvial fan. I learned why my every attempt to stop the perceived erosion only created more. You can't treat an alluvial fan like an arroyo and expect it to remain stable. Trial and error had not revealed this fundamental truth.

During my studies I was fortunate enough to come across the stream restoration work of Bill Zeedyk, and even more fortunate to have the opportunity to learn from him by helping out on several Quivira Coalition volunteer projects. I learned that with keen observation and patience, one could actually help nature do its own healing. I embraced this philosophy immediately. "Letting nature do the work" just sounded right and, instinctively, I knew it was so. I also learned that in order to work with - rather than against - nature it was necessary to understand the many complex, overlapping processes and variables that shape ecosystems through time. I returned to my land and applied these new insights. I observed more, did less, did it better, and began to produce visible results. I began to see the beauty in what I was doing. I started to understand how this small fold in the vastness was connected to every other fold and to the vastness itself. I began to perceive the underlying processes that weave the fabric of this landscape together. My concept of a whole landscape began to take form.

Traditional design theory emphasizes two aspects of an object, form and function. Form is defined as the shape and structure of something and function is defined as the action for which a thing exists. While these two aspects of an object are necessarily intertwined, this definition implies that the relationship of form and function is a static condition. Nothing is static in nature. When we look at a vast horizon we see landforms that are the result of millennial geologic and weathering processes and while we may not be able to see it, these landforms continue to change grain by grain in every moment. Nature does not simply create forms for a static singular function. Natural forms are created by the ceaseless unfolding of complex processes. A process is a phenomenon marked by gradual changes through a series of states. A process is anything but static; it has no beginning and no end, just changes.

Process is the best way to describe how runoff flowing in an arroyo gradually changes its form at the apex of an alluvial fan and becomes dispersed sheet flow. This was a process I needed to understand on my own land. Process also describes how an eroded gully heals itself by continually eroding its banks, or how a wetland builds itself by growing plants that capture soil that grows more plants. I believe that Bill Zeedyk's greatest insight is that we as restorationists must become partners with natural healing

processes and the art is to know which part of the process we must become. At times we can act as catalysts, jumpstarting the establishment of plants that will provide stability. Other times it is only necessary to gently steer a process, as in favoring the natural erosion of one bank to build floodplain on another. Perhaps most importantly, we must know when it is necessary to just get out of the way and let a natural process unfold. In this case we can still serve a valuable function as eager students of nature and willing receptacles of its wisdom.

I have a background in sculpture and ceramic art, and I have always been interested in the creation of beautiful forms through complicated processes. Aesthetics continue to play a key role in all of the work I do because that is how I relate to the environments in which I work. As a professional restorationist I do a great deal of rock work in streams and wetlands and I find that what started as a desire to create beautiful structures now serves the function of connecting me to the intimate details and subtleties of a restoration site. This not only improves the overall aesthetics of my work, but is also an important part of blending my work seamlessly into the natural system. Aldo Leopold captured the essence of this idea when he said, "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise." I have learned that a thing that blends seamlessly into its environment is beautiful and tends to serve nature's function.

The form of any stream restoration structure is dictated first by the intended process it will drive, then by the characteristics of the project site, the availability of materials and the type of tools available to do the work. There is one more crucial element that dictates the form of a structure: opportunity. Careful observation and a clear understanding of regenerative processes will reveal a multitude of site specific opportunities. Recognizing these opportunities is truly an art. Opportunities can take the form of a boulder or bedrock outcropping, a clump of sturdy vegetation, a low bank or almost any other feature that can be used to advantageously create a unique solution. Utilizing every available opportunity creates strength by integrating structures into the skeleton of the land. An opportunistic approach creates seamlessness and finds agreement with long-term natural processes. My goal is to recognize the small opportunities that make a big difference and act on them. This is why watershed restoration is endlessly creative and endlessly rewarding.

I see myself as a creator of forms and a facilitator of processes. As I said, processes don't begin or end, they just change. Most often the change I seek is from a degradation process to a healing process and my job is to determine what forms best facilitate that desired change. This brings up an interesting question: *how does form drive process?* To begin with, the form should not remain static. Consider how a One Rock Dam stops erosion by driving the processes of moisture infiltration, plant recruitment and soil building. These processes are initiated by the single layer of rocks that comprise a One Rock Dam. This layer of rock acts as a mulch. Rock mulch alone will slow runoff, increase soil moisture, protect seedlings and retain soil particles. When placed in the context of an eroded gully, the rock mulch must be positioned properly and have dimensions that relate to the form of the channel. The form of the One Rock Dam and the way it interacts with the form of the eroded gully creates the additional benefits of channel stabilization, leading to increased plant cover and the collection of sediment that eventually fills the bed of the channel. Ultimately the form drives the healing process. With time, the specific form of

the One Rock dam becomes less and less important as natural regenerative processes take over. The One Rock Dam ultimately disappears as the channel continues to stabilize, aggrade and heal.

When I reflect on the path that I have travelled I can see how my own learning process was formed by the challenges of wanting more from our desiccated landscape. My imagined ideal of nature was just as vast as the one I observed around me, but maybe a bit greener and perhaps a little shadier. I now realize that I am not unique in my desire to live in a better version of this place. I think many of us look at the gullies and arroyos of this land and sense what was lost with all of that eroded soil. Aldo Leopold was sadly aware of this. He said, "One of the penalties of an ecological education is that one lives alone in a world of wounds." I started down my own path with that in mind and observed so many wounds, some superficial and some apparently fatal. I had no idea of what to fix, but felt compelled to fix it anyway. I started to do the work of healing without knowing the cause of the malady. I only knew enough to recognize the wounds. My unquenchable desire to do better by the land eventually taught me that all those wounds are opportunities yet to be realized. They are opportunities to connect with the land, with complicated processes, with natural beauty and ultimately with each other.

My desire to be part of the solution has connected me with many others who are driven by the same need. I have had the privilege to meet some of my best friends over headcuts. I have formed lifelong bonds while contemplating bank erosion. It turns out that I was never really alone. I was just caught up in my own little fold in the vastness. When I took the time to look around I found out that there were all kinds of people just like me who actually volunteered to do this stuff in their free time and even thought it was fun! The group energy was infectious. With all of those hands we could move mountains of rock in a day, and by the end of a weekend workshop we had healed many wounds.

I now have the opportunity to teach watershed restoration all over the southwest. I get to work with young folks, old folks and everyone in between. I work with groups of all types, all with a desire to be part of the healing process, regardless of their specific interests. I get motivated by how excited people are to learn that they really can do something to help and I am constantly energized by the ecstatic feeling they get when they create something beautiful. I try hard to catapult my students past some of my own pitfalls so that their learning is swifter and a little less arduous. When I teach, my goals are very simple. First, I stress the importance of recognizing degradation and identifying its causes. Secondly, I emphasize that there is always something that can be done and we all need to be empowered to do it. Finally, I encourage the sense of artistic fulfillment we get when we create something beautiful and seamless that is sure to work. I see this as my responsibility because I don't want to live alone in a world of wounds. I want to inhabit a beautiful world of opportunities to heal the land, and empower others to do the same.