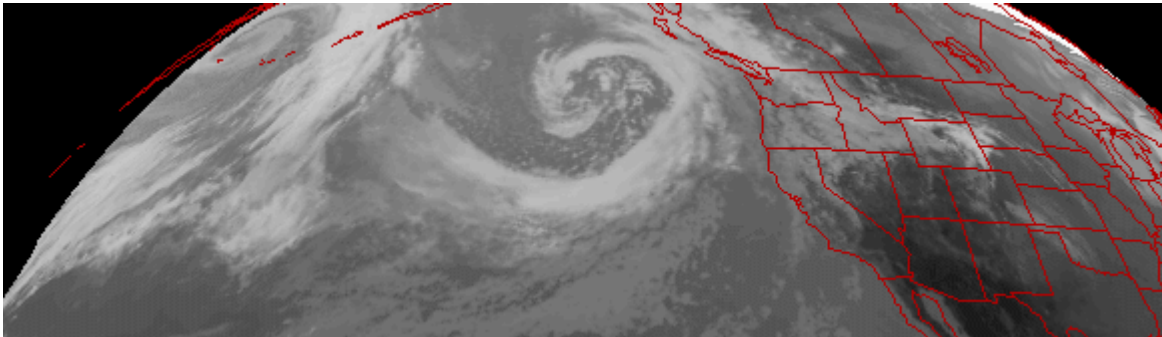


My Own Little Assortment

by Kent Duryée

Winter storms develop in the Gulf of Alaska. One of these storms hurls its bulk around the arc of the far Northern Pacific, and catches the jet stream south along the coastline over British Columbia, Washington, Oregon and California. Uncountable tons of water, heaved from the Pacific, are relocated onto the North American continent. Undeterred by the Cascade range and the towering Sierra Nevada, the storm crosses the Basin and Range Province and streams over Grand Canyon. At last, it pours down the cliffs of the Colorado Plateau and out over the Sonoran Desert. I am sitting cross-legged on a hilltop on the Cabeza Prieta Refuge, directly in the path of the oncoming giant. The first rain drops fall on my face, and I pull up the thin hood of my wind breaker for protection.



In my self-appointed role as nature-mystic-sitting-on-boulder-in-the-rain, I look at a nearby saguaro. Probably the definitive element of the Sonoran landscape, no other symbol evokes aridity and *The Desert* quite like this giant cactus. Here in the aridity of the Desert Southwest, you have to wonder where these giants find enough water to survive, let alone thrive, but they do. Each species of plant or animal that lives in the desert has evolved strategies – adaptations – to cope with the acute lack of water. So, I think about water and adaptations while sitting on a boulder in the rain. Don't you?

I once attended a field course in desert botany. The class journeyed to the desert near the cultural Mecca of Ajo and cordoned-off a likely, fully mature 200 year-old specimen of saguaro. It was late May, and the last rains had fallen the previous March. Rains weren't expected again for another month or so, when the summer monsoon would begin. We carefully measured the circumference of the trunk and arms, snaking the slender tape between the tinkling spines, as close to the dark green flesh as possible. Interpolating between the average measurements, we calculated a reasonable volume of stored water within the succulent mass.

Measurements taken, we agreed to meet back at the same spot at the end of September, after the brunt of the monsoon had passed. Most of us made it back again that Fall, and we re-measured the trunk. Its circumference had increased, accordion-like, a full four inches over the elapsed four months.



Sitting on my rock, I close my eyes and feel the gentle rain on my face. I don't move; the desert has been dry for so long, this abrupt change is welcome. Changing nature...To the ancient Taoists of China, water represented the two-fold character of existence. Water flows and accomplishes its work without working, moving over and around obstacles, always finding the path of least resistance. It can be at rest or in motion, but is always the same material. Water

adapts itself to its environment. This is the concept of *yin* and *yang*, represented by the familiar symbol of a circle divided into black and white halves by a river-like s-curve; female and male, peaceful and vigorous, dry and wet. A drop of water dangles from the brim of my hood for an instant, and then falls into my lap.

The *yin* nature of water is perfectly represented as it resides quietly within the branching arms of the saguaro, or dangles, quivering for a moment, from the brim of a hood. The *yang* nature of water therefore exists in the plummeting of the drop, and more vitally, in the flash flood. In this land of little rain, it is also possible to have too much water. Among the most horrifying sights of the Desert Southwest, these floods can also be sublime. In his book *The Desert Cries*, Craig Childs describes a flash flood in the Bradshaw Mountains north of Phoenix:

“My eyes freeze on the movement below me. The flood is unstoppable, but not careless. It makes courtly moves, whirlpools starting up, then quickly washing out when they are no longer needed. It displays discernment and intelligence, but not like our own. It is a different kind of animal, one that plays by an imperishable set of rules...[it] cannot be possessed or commanded.”

Childs then describes the ravages of five flash floods that coursed across Arizona during the summer of 1997, taking the lives of 22 people. Duality is the nature of water and the Universe.



Towering thunder heads on a sunny, summer afternoon; the plunge of a white cascade into a shaded, leaf-speckled pool; silver drops emerging from moss-covered stone. These are aspects of water that have inspired poets and philosophers and the rest of us throughout time. I shiver as a drop of rain trickles down my back. In the desert, there's usually a decided lack of this liquid air conditioner, and there are as many adaptations for dealing with this scarcity as there are animals that live here.

A vulture soars above me, angling down toward what is presumably his or her roost over the hill to the west. Some of the more timid may find the turkey vulture's gustatory habits a bit distasteful, given its propensity for necrophilia, or necrophagia; gross and disgusting, some would say. I hold out for clean, efficient and poetic, but I'm a known crank. Adaptable birds, vultures have the unsettling habit, on hot days, of defecating on their featherless, blood vessel-rich legs. Like all birds, vultures lack sweat glands, and don't have a separate urinary system. This process, termed urohydrolysis, utilizes the efficiency of evaporative cooling. The vulture

takes full advantage of the physics involved. His shins become whitened and caked with calcium to prove it.



I watch the rain slowly trickle into a round burrow at the base of my boulder. Making use of water in the desert means that first it has to be acquired. The kangaroo rat is a good example. This little rodent will seal up its burrow during the heat of the day, and recycle the moisture produced from its own breathing back into the bloodstream through the lungs. They also recycle the remaining water from urine back into their blood through the kidneys. The kangaroo rat has become so specialized at recycling its own water that they actually metabolize it from their diet of dry seeds. The little round-eyed rodent won't drink water, even if it is available.

Scarcity of water in the desert creates problems for animals that aren't always obvious to us bipedal thinkers. The desert iguana, for instance, like many desert animals, excretes no moisture. Instead it sees in the ultraviolet spectrum of light.

“What,” you say, “has vision got to do with not wasting water?”

In the desert, it would be reckless to eliminate precious water as waste, and so the desert iguana utilizes all it can, just like every other desert dweller. This results in the fact that the iguana's guano is dry as dust. The nature of this guano makes it difficult to mark territory, and so the iguana has developed ultraviolet vision as an elegant solution to a thorny problem: Part of the waste material excreted by the iguana consists of millions of fluorescent digestive bacteria. The iguana, excreting these glowing, cell-like animals, leaves behind a vivid marker for other ultraviolet-sensitive creatures, publicizing the proprietorship of a particular stretch of desert without the expense of leaving moisture behind. Or so we think that's why their feces contain these vivid bacteria. The actual reason may only be known by the iguana himself, but the fact remains that their fecal material glows under a blacklight like a hippie's room on a Saturday night in 1970.



A brief opening in the clouds allows a shaft of sunlight to shine on the desert below me. Each shrub and cactus in the pool of light is haloed by silver, falling rain against the darkening clouds. Survival in the desert is a delicate choreography of constraints and adaptations. As extreme as the desert environment can be, adaptations occur just as subtly – opposites merge into

the identical. In a sandy wash or sunburnt mountainside, each animal and plant is dependent on the others to sustain its own life. Each are interconnected by the unending flow of water through and around them. The thought of rain becomes sacred to the desert resident. Terry Tempest Williams says that water is the desert's blood. I can think of nothing more elegant.

As the rain continues to fall on the Cabeza, another white swirl appears over the blue Alaskan Gulf. If it masses into a full fledged storm cell, it might find its way down the coast of North America to southern Arizona. Or it might not. That's the gamble every desert species plays with life each year. Will there be enough water? Will there be too much? Again the duality emerges. The hiss of rain surrounds me, and my hood has soaked through. My hair, wet and clinging close to my scalp, conserves some warmth, but still I shiver a little. I think of a fire. You see, I carry a set of adaptations with me everywhere I go.

