Thinking Like a Canyon: Wild Ideas and Wild Burros

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Compared with the minor changes of the last 100 years that are seen in repeat photography, the changes of the last 40,000 years that are revealed through the fossil record were monumental. Grand Canyon is rich in dry caves, suitable shelters for the large herbivores of the Pleistocene and ideal tombs for their remains: not only their bones but also their droppings, horns, hair, and hooves. In these caves ecologists have found the remains of mountain sheep, deer, Harrington's mountain goats, ancient equids (relatives of the modern horse), and Shasta ground sloths. Also surprisingly common in some canyon caves was a giant scavenging bird, the California condor.[1]

Ancient dung deposits show that the native grasses, Mormon tea, globe mallow, prickly pear, saltbush, and other plants eaten in this century by mountain sheep, burros, deer, and cattle were eaten during the Pleistocene by ground sloths, mountain goats, and even Colombian mammoths.[2] Before the extinctions, mammoths, camels, and other large herbivores must have been numerous on the Kaibab Plateau, generating enough carcasses to sustain the nestling condors and their parents in their canyon aeries. Such clues from the fossil record suggest that the native plants of the New World were accustomed to being eaten, and not just by the deer and mountain sheep that have survived to the present.

Nevertheless, these days not all herbivores are granted equal rights to eat plants in national parks. A case in point is the controversy that decided the fate of burros in Grand Canyon National Park. As early as the days of Stanton's photographs, burros released from or escaped from mining camps were inadvertently boxed in by cliffs to populate some parts of the Inner Gorge. Occupying their range for a century did not guarantee usufruct. Guidelines written by highly regarded specialists recommended "that the biotic associations within each park be maintained, or where necessary recreated, as nearly as possible in the condition that prevailed when the area was first visited by the white man."[3] To guarantee action, the National Park Service provided funding for research on "the burro problem" leading to a final solution.

Counter-arguments from skeptics were ignored. No matter that many other alien species (such as tamarisk, red brome grass, camelthorn, house sparrows, houseflies, carp, and trout, to name a few) would not be purged because their eradication would be too difficult or too expensive. No matter that burros ate alien as well as native plants and that their carcasses might feed scavengers in a future restoration project for condors or wolves in Grand Canyon. No matter that the burros' genealogy could be traced to the evolution of horses (the Equidae) in western North America—beginning over 60 million years ago—and that the equid fossil record in the New World vastly exceeds that of mule deer and mountain sheep.[4] Resource managers ruled that only the deer and sheep enjoyed incumbency, making one concession: if the public objected to the killing of all the burros (it did) and could stand the expense (a private organization could), hundreds of wild burros would be (and were) rounded up and flown out

by helicopter to be adopted by caring members of our species. The remnants, wily escapees that could not be captured, were hunted down and shot.

Early in this century many land managers, including rangers in Grand Canyon and other national parks, underwent a rebirth in consciousness. They had been "helping" nature, as they understood nature, by destroying coyotes, mountain lions, wolves, and other "bad" predators that killed the "good" deer, elk, and pronghorn. Then some perceptive biologists saw the profound error in this logic and reformulated their practice according to a new vision. Some, following Aldo Leopold, called the new policy "thinking like a mountain."[5] A mountain fears its deer (for overbrowsing) and loves its wolves (for keeping the deer in check). Although these ideas on natural regulation were also flawed, they at least served as something of a reprieve for the targeted predators.

Evidently, managerial protocols can suddenly change. The idea that wild burros may add value to the Inner Gorge, once rejected out of hand, deserves more thought.[6]

Surely management of national parks and other public lands is myopic if the goal is limited to preserving or re-creating what Spanish explorers and missionaries saw beginning in the sixteenth century. Arizona and the West were not "pristine wilderness" when Europeans arrived. America was already inhabited, in many places abundantly inhabited, by indigenous people. At least 11,000 years before Columbus, the first colonists arrived from Asia to witness and perhaps assist in the aforementioned extinctions.

The struggle to fathom nature and to manage it accordingly continually challenges bureaucrats, philosophers, advocates, scientists, and, not least, the public. Some turn to history to run ecological experiments. Robert Webb's research is one provocative example; it could mean that some desert plants will stop growing when not eaten! The presence of fossils of condors and other extinct species in Grand Canyon caves suggests another, even wilder, experiment for the future: restoration ecology. I call this view "thinking like a canyon." Canyons fear nothing, neither herbivores nor predators, neither native species nor aliens —only that alien human beings might sell a canyon short. What might the North American landscape and its inhabitants look like if the cast of large herbivores and carnivores included species equivalent not only to those seen by the first white explorers, but also those seen by the first Native Americans? Could wild burros provide a food supply for wolf restoration in or around Grand Canyon, as has been accomplished in Turkmenistan in the Commonwealth of Independent States? When people begin to think like a canyon, a brighter day for many more kinds of large animals—wolves, condors, and burros included—must lie ahead.