

COMMENTARY

Opportunities Lost: Zoos and the Marsupial That Tried To Be a Wolf

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In the archives of the National Zoo there is a story of an opportunity lost. As zoo stories go, it is not unique. There are many others like it. Such stories sometimes tell us about ourselves.

It started sometime in early 1902. Zoo director William Hornaday wanted to exhibit a thylacine: *Thylacinus cynocephalus*—the pouched beast with a dog's head. Depicted by Patterson as “a species perfectly distinct from any of the animal creation hitherto known...” [Quammen, 1997:281], the thylacine had been described almost 100 years earlier. Though sometimes called the Tasmanian tiger because of its striped coat, this strange marsupial was actually a “wannabe” wolf. The long-muzzled head with its short ears, the deep chest, and the feet and legs were distinctively dog-like, but the rear end and long tail hinted of marsupial ancestry. True dogs can wag their tails. This one could not. All the same, the thylacine remains a remarkable example of convergent evolution, and the largest carnivorous marsupial to survive into the 20th century.

Hornaday made his wishes known to a Washington diplomat and zoo buff, Dr. F.W. Goding, who was U.S. Consul of New South Wales. Although thylacines had disappeared from mainland Australia before Europeans arrived on the scene, they still survived in Tasmania where they preyed on sheep and consequently were considered a nuisance. Goding used his influence. In due course, a Tasmanian trapper caught a female, which was shipped to the states. The creature endured the confines of a crate for over 3 weeks as the steamer carried it across the Pacific and a train conveyed it to the nation's capital.

Upon arrival in September 1902, the animal's shabby condition showed that the journey had taken its toll. Until then, the strange-looking animal also had kept a secret. She was a mother. Three pouch young, no bigger than rats, had miraculously

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survived the voyage hidden within the mother's marsupium. The new acquisition and her pouch young were installed in the National Zoo's Lion House. One of the offspring died 9 days later, but the mother improved in condition and raised her two remaining offspring, a male and a female, to maturity.

It is doubtful that this was the thylacine's first litter. Evidently Hornaday recognized the value of a proven breeder, and wasted no time making new arrangements with the faithful Goding to acquire a mate. An adult male thylacine joined the family of three in July 1904, but time was running out for the female. She began to fail, refused food, and 4 months after the male's arrival she died. Necropsy revealed "an acute and intense inflammation of the entire intestinal tract," and extensive encysted tapeworm larvae in the body muscles. Two months later the 2-year-old male offspring died. Diagnosis: hemorrhagic enteritis.

We can only surmise that the keepers attempted to breed this newly imported male with the young female. He bit off part of her ear in 1905, perhaps in a mating tryst, for we know that the courtship of dasyurid marsupials is rife with hostile confrontation. But we will never know for certain. For over 5 years, the male lived in the Lion House with the surviving female from the litter, but he too succumbed to hemorrhagic enteritis. The female lived for over 7 years, and apparently died of fatty degeneration of the liver.

Over a period of about 90 years some 13 zoos on three continents exhibited about 55 thylacines [Guiler, 1986] (Jones, personal communication). Farmers killed nearly 2,200 for bounties during a 21-year period starting in 1888. The last recorded shooting of a thylacine was in 1930. Six years later the last captive animal died in the Hobart Zoo [Beresford and Bailey, 1981]. Even in recent times footprints allegedly have been sighted, but irrefutable evidence of the thylacine's survival is lacking. In reality, the thylacine seems to be gone forever [Quammen, 1997].

What did we learn from the thylacines that lived in zoos? Almost nothing. Guiler [1986:66] commented that "[t]here was an extraordinary apathy shown by the various zoos for the fate of the thylacine." String their lives together and you have more than 100 thylacine years in captivity—ample opportunity for some keen observer to note a few details. Hundreds of thousands of zoo visitors saw them each year, and keepers knew them as individuals. No doubt directors commented knowingly about them at cocktail parties. But the zoo legacy to knowledge and conservation of this species is scant. It is recorded in some amateur movie footage, and a few photographs. The rest is stored in a few museum cabinets.

I feel a nostalgic longing when I think of thylacines. But I feel the same way when I visit a zoo and look at any mysterious creature or endangered species. Will they too become opportunities lost to the institutions that celebrate their uniqueness? How many species we now exhibit will share the planet with us in 25 years, when our numbers reach 10 billion? I don't believe zoos are apathetic about the fate of their charges, but I am concerned about their ability to have a lasting and meaningful impact in a rapidly changing world. The biodiversity crisis is on our lips, but our actions send another message. We know zoos can't change the world, but many of us believe we can have a far greater impact than we do at present.

Zoological institutions have clearly acted upon the calls of their visionary leaders to heed the global biodiversity crisis. In the 1980s, the conservation movement added a challenging new dimension to our profession. We saw a remarkable convergence of purpose among the rank and file of our association. Directors, curators, and

keepers from different zoos found themselves working together on AZA Species Survival Plan (SSP) committees. Talented keepers and curators discovered latent skills. For many curators, humdrum jobs suddenly became more interesting. New friendships emerged based on a shared vision. The movement grew into a groundswell. The AZA's conservation movement, embodied in the SSP, Taxon Advisory Groups (TAGS), Scientific Advisory Groups (SAGs), and Conservation Action Partnerships (CAPs) are extraordinary examples of planning and cooperation among institutions [Hutchins and Conway, 1995]. The IUCN/Species Survival Commission's (SSC) Conservation Breeding Specialist Group (CBSG) was born as a parallel movement in the international realm.

But not everyone was ready to ride the new wave. More midlevel zoo personnel were committed to the movement than directors, and some of the latter believed that "the tail was wagging the dog." When the AZA examined its mandate in the late 1980s, the board of directors consulted with institutional directors, and determined that the association's highest purpose was to provide members with services. While these services were seen clearly by the directors as serving the conservation mandate, the decision was disappointing for those who had been lifted by the surge of the new wave. Many midlevel members of the AZA had hoped for a declaration of commitment to a higher cause. They acknowledged that the AZA had made great advances in developing a conservation ethic, but their perception was that the organization's leaders were unable to agree that, as a unifying principle, conservation transcended the need for services. Services seemed to have become the highest calling of our collective enterprise. In reality, the decision was seen as a political statement about who calls the shots. The nearsighted majority had made its point, but the AZA lost an opportunity to set an example for other zoo organizations.

Never mind. The AZA's support for the conservation movement didn't erode. The Conservation Endowment Fund grew greatly, and partnerships evolved with non-governmental organizations and federal agencies, such as the U.S. Fish and Wildlife Service [Harrelson et al., 1998]. Our leaders, however, continued to meet under the aegis of the World Zoo Organization (IUDZG). Their collective vision culminated in the World Zoo Conservation Strategy [IUDZG-WZO (IUCN/SSC CBSG), 1993], a manifesto that urges zoos and aquariums to dedicate their collective potential to environmental education and research, and species and habitat conservation. This visionary document addresses a wide audience: national and international decision-makers, government authorities, nongovernmental conservation organizations, zoo and aquarium benefactors, and zoo personnel at all levels. It also speaks to the integrated value of cooperation, coordination, and interaction with other organizations.

But what effect has the World Zoo Conservation Strategy had on individual institutions in the past 7 years? Shouldn't there be tangible signs of change in some of the 1,000 institutional members of WZO? How many personnel in your institution are aware of the Strategy, and how many have actually read it? How many directors have used this document as a guiding set of principles within their own institution? Have any directors revised their mission statement to reflect the strategy's three main objectives? Has your organization accelerated its conservation efforts? Is it implementing the objectives?

Until we adopt a unifying philosophy for zoos and aquariums, our collective potential will not be achieved. We have all said it: "The public goes to the zoo to have a good time. Sure we 'do education,' but the hook is recreation." It's that famil-

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iar notion of service. We serve the public what it wants (entertainment) and at the same time we give it what it needs (education). But the word “entertainment” somehow doesn’t do justice as a reason for keeping wild animals in captivity. Think about it. Isn’t education the highest service zoos and aquariums can offer the visiting public? Surely, as a means of achieving conservation, it deserves to be our highest institutional mandate.

But there is another defect in what many perceive to be mainstream thinking about zoos and aquariums, and that is the notion that our visitors represent the ultimate target audience. Looking back, we can honestly say that the 18 zoos that exhibited thylacines certainly served their visitors, but did they serve society as a whole? They might have, had they been able to work together to prevent the thylacine’s extinction. Serving society is a lot different from entertaining the public. Here is where science, captive breeding, reintroduction, education, and in situ conservation play a role. Unfortunately, the public doesn’t always understand the benefits to society from zoos and aquariums. That’s our responsibility, and that is what zoo and aquarium education should be all about.

Zoos and aquariums of the past didn’t have the resources to study and conserve every species in their collections. The biodiversity crisis didn’t loom darkly on the horizon. Nevertheless, people like Hornaday knew what was happening in the world, and took decisive action to save the American bison from extinction [Rorabacher, 1970]. A lot has happened since then. Time is of the essence, and if we don’t act soon, the world will lose much of its biota, including many of the most charismatic and engaging life forms we exhibit. Conway [2000] recently cited a prevailing excuse for inaction voiced by some of our colleagues: “Zoos and aquariums were not designed to be conservation organizations.” Zoological institutions have unique and rich resources, staff with diverse skills and talents, and prominence in society. But do the leaders of our profession have the foresight and will to retrofit their organizations for a higher cause, and to make conservation and science their primary reasons for being? Let us think deeply about it, and resolve not to witness another opportunity lost.

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