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## Great Escape: The Gorilla in the Room

How better, healthier zoos are making animals better at escaping

[chris sweeney](#)

One day in 1979, Jon Coe was perched at his drawing board inside the Seattle offices of Jones and Jones Architecture when the phone rang. Coe answered and was greeted by a reporter from the *Seattle Post-Intelligencer* who wanted to know if Coe had designed the new gorilla exhibit at the city's Woodland Park Zoo.

For decades, it was standard practice to house gorillas under lock and key, often in laboratory-like enclosures that were easy to clean. But at Woodland Park, gorillas were now roaming outdoors among vegetation on terrain that mimicked their native habitat. Strategically placed moats kept the exhibit free of imposing visual barriers, and there were burly trees for the gorillas to climb — an idea that for years had been written off as too risky.

Eager to extoll the many merits of the exhibit, Coe said that he and his associates were indeed the visionaries behind it.

“Then what do you think of the gorilla escape?” the reporter asked.

Unbeknownst to him, a 468-pound silverback gorilla named Kiki used a tree limb as a makeshift ladder to scale one of the dry moats and escape. A grounds crew first spotted Kiki at the polar bear exhibit, where he seemed to be sitting in peace. Next, he went to the Nocturnal House, where he broke into the kitchen, feasted on a stash of papaya and blueberries, and then checked out some Australian potoroos. Word of the escape got out, and police and local news crews soon swarmed. Between ushering guests to safety and monitoring Kiki's whereabouts, zoo staff had to lobby a local news station to keep its “Eye on the Sky” chopper away from the scene for fear of spooking the nearly quarter-ton animal.

The lead veterinarian tried to lure Kiki to safety with bananas and sliced apples, but when he ran out of cards to play, the vet shot the gorilla full of tranquilizers.

Coe was relieved to learn that neither man nor beast was hurt. He stressed to the reporter that Kiki wasn't so much escaping as he was exploring. “Kiki wanted to expand his horizons, to see what he can't see from his tree,” Coe reasoned. The reporter was satisfied, and the interview ended, but Coe was left knowing that a curious animal equipped with nothing more than a tree branch had bested years of planning and engineering.

Healthier enclosures make for healthier animals. Healthier animals make for savvier escape artists.

Today, Coe is one of the most influential and accomplished landscape architects alive. Born in California, he racked up degrees at the University of California, Berkeley, and the Harvard Graduate School of Design, where an adviser once quipped that nobody would ever be able to make a living by designing zoo enclosures. Now, at age 77, Coe's fingerprints can be seen on exhibits from Bali to Frankfurt to Pittsburgh. They can also be seen, indirectly, on a fair number of animal escapes: gorillas jumping over gaping moats, crafty orangutans channeling their inner Andy Dufresne. And seeing what he's seen had led Coe to believe

that today's zoo animals, particularly the great apes, appear to be better equipped physically and mentally to overcome the barriers that once contained them.

It's simple, really: Healthier enclosures make for healthier animals. Healthier animals make for savvier escape artists. The question follows: What should zoo designers do?

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The zoo industry that Coe stepped into as a young architect was a pretty dark place, especially with regard to the design of animal enclosures. Zoos only started gaining traction in the United States during the later half of the 19th century, and progress with regard to animal welfare — let alone animal rights — was slow. “The first real carefully planned zoo [in the United States] is Philly, which opened in 1874,” says Jeffrey Hyson, an assistant professor of history at Saint Joseph's University. “And they were hugely popular from the get-go.” Most of these early zoos consisted of barred cages with big locks and no-frills paddocks for hooved animals.

By the 1920s and 1930s, zoos began shifting to outdoor moated exhibits with generic molded rock. It was progress in the sense that the animals were outdoors and maybe had more space, but the environments were still as unnatural as the inside of a cage. Plus, Hyson says, it was common for zoos to create unsavory situations, like putting predator and prey — a few zebras and a few lions, for example — within eyesight of each other. “It was literally spectacle,” he says. “You'd get some very excited visitors, some very frustrated lions, and some very stressed zebras.”

Escapes were rare, but they did occur. In 1928, on opening day of the Detroit Zoo, a polar bear jumped over its moat and came face to face with the city's acting mayor, John Nagle, who was there to give opening remarks at the celebration. The story goes that Nagle, apparently unaware of polar bears' status as vicious apex predator, tried to give the bear a handshake before being pushed back by trainers. A grizzly made a similar leap over a moat in Pittsburgh, Hyson says.

Enthusiasm for these moated outdoor exhibits faded after World War II, and zoos retreated to their old ways. From the 1940s through the 1960s, Hyson says, “bars and cages took hold again and in a much more clinical and hygienic way.”

It was in this setting that Jon Coe began thinking critically about the conditions of captive animals. While a graduate student at Harvard studying landscape architecture, he visited Boston's Franklin Park Zoo and was dismayed by an elephant exhibit in which the animals were chained together and clearly upset. It left a lasting impression and pushed him onto a somewhat unexpected career path.

“Before we came along, the only way a gorilla would escape is if someone left the door unlocked.”

When Coe came out of graduate school, in the late 1960s, zoos were struggling simply to keep gorillas alive. The animals were prone to parasites and seemed to get sick constantly. The gorillas that did survive were often confined to dull enclosures that were “pretty boring, and so they ended up sort of being couch potatoes,” Coe says. It was obvious to him from the start that this was a problem that could at the very least be ameliorated through intentional architecture. And so he and his colleagues pioneered the notion of landscape immersion and began designing zoo exhibits that engaged animals and zoo goers in ways no one had ever imagined.

The 1979 opening of the gorilla exhibit at Woodland Park was definitely a turning point, says Hyson, the historian. The exhibit earned international praise, garnered significant media coverage, and positioned Coe as one of the most sought-after designers in the industry.

Having now spent the bulk of his career at zoos, Coe knows they aren't infallible institutions, and he's well aware of the larger ethical debates around captivity. But he also believes deeply that zoo animals are refugees from man's war on nature — a war that only seems to be increasing in intensity — and it's critical to provide them with the best possible livelihoods. From his vantage, zoos have made incredible strides since his salad days at Woodland Park. The exhibits are more enriching than ever, and advances in veterinary medicine and nutritional science are helping to optimize care for the animals.

As a result, Coe says, animals in today's zoos appear "smarter, stronger, and more motivated" than generations past. From a design perspective, this poses a problem: The more physically fit and mentally acute a zoo animal is, the more capable it is of getting out.

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Despite the attention they garner, zoo escapes aren't that well understood or closely tracked. There's no central repository of global zoo escapes. The Association of Zoos and Aquariums, which accredits zoos around the world, doesn't keep official data, but a spokesperson says escapes among its member institutions are rare. Just keep in mind that just 232 zoos worldwide are AZA-accredited (think big-ticket destinations like the San Diego Zoo and Bronx Zoo). And there are more than 2,000 zoos in the United States alone.

Plug "zoo escape" into a Google News search and it's easy to think we're living in a really dark director's cut of *Jumanji*. A sampling from June 2018: a lion escaping in Belgium and being fatally shot; Michael Jackson's former elephant leaving its enclosure in Florida; a grizzly bear leaving its enclosure in Milwaukee; a spider monkey breaking out of a Belfast zoo and getting killed by a car; a pelican flying out of a zoo in Amsterdam; multiple cases of peacocks wandering off zoo grounds; and two lions, two tigers, a jaguar, and a bear escaping from a private zoo in rural Germany after a powerful storm damaged their exhibits. (In that last case, the bear was shot to death, but the cats survived after a drone spotted them taking shelter under some brush just down the road from the zoo.)

"Why should an animal have to spend its life in one small area?"

Stunning as this list may seem, it's nothing special when considered in the larger context of zoos, says Robert Young, chair in wildlife conservation at the University of Salford. Peacocks tend to roam free, so they don't really count, he says, and birds are notoriously flighty. He does some back-of-the-envelope math, estimating that there are 10,000 zoos globally, each with an estimated 100 exhibits that in total house 1 million or so animals. Multiply that by the number of days in a year, and you get what Young calls 365 million "zoo enclosure days" a year. Factor in the proliferation of digital communications and the clickbait potential of an animal escaping, and the dozen or so instances I just rattled off, while somewhat tragic, isn't impressive or statistically significant.

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At their best, zoo escapes are whimsical reminders of nature's cunning that force us to reconsider animal intelligence. Case in point: the unfortunately named Fu Manchu, a Bornean orangutan that, in late 1960s, was discovered picking the lock of his enclosure with a small metal wire stashed in his cheek pouch. At their worst, zoo escapes are violent tragedies that end in the loss of human and animal life. Look no further than Tatiana, a Siberian tiger that in 2007 leaped from her enclosure at San Francisco Zoo and fatally mauled a 17-year-old before being shot to death by police.

The hypothesis that zoo animals are stuck in a sort feedback loop in which better habitats and care make them more capable of escaping is as provocative as it is disheartening. Is there anything to it? "It's an interesting line of thought," Young says. He recalls a zoo in southern England that kept its monkeys on a small, crowded island, where they were unfit and sluggish. "When they escaped, and they escaped a few times off the island, the staff could just run up behind them and throw their coats over them," Young says.

Eventually the monkeys were moved to a more spacious and elaborate habitat that was outfitted with several climbing structures. Eventually the monkeys escaped that enclosure, too. Only this time, the zoo staff couldn't catch them. "The monkeys were much faster and much more agile," Young says. "When you change the animal, you better get ready to change the exhibit, because the animal is now active, curious, and different."

When I mention the idea to Terry Maple, former head of Zoo Atlanta and a retired professor of psychology at Georgia Tech who has spent decades studying the effects of captivity on animal behavior, he launches into a tale about his daughter and an overweight alligator. She was working at a zoo in Florida where the

gator shared his enclosure with a sleek, beautiful night heron, a sort of *Odd Couple* scenario that played well to visitors.

Concerned about the gator's welfare, his daughter put the alligator on a diet and began exercising him, and over time the gator dropped weight and got its swagger back, so to speak. Then, one day, with a crowd of visitors huddled around, the gator suddenly turned toward the night heron and devoured it. Feathers flew. Visitors cringed. And Maple's daughter stood there stunned.

The gator didn't escape. But the story illustrates a broader point: "Wellness has consequences," Maple says. "When you change the animal, you better get ready to change the exhibit, because the animal is now active, it's curious, and it's different."

Nevin Lash agrees. The principal designer for a group called Ursa International, Lash is a landscape architect who has worked with Coe on a number of projects. Among the more eye-opening escapes he's encountered involved Olympia, a young female gorilla born and raised at Zoo Atlanta. In 2005, she broad jumped a 12-foot-wide, 10-foot-deep moat, landed on a narrow dividing wall, and then sprang across another moat and into a neighboring gorilla exhibit. "I was dumbfounded," Lash says. "But then again, when I had heard about it and thought about it, it made sense."

Lash explains that the AZA has strict rules and guidelines for zoo enclosures, but it doesn't dictate precise dimensions. There's no specific rule saying a wall for a gorilla enclosure must be X feet high or a moat must be X feet wide. Instead, designers, biologists, and zoo directors study what has and hasn't worked in the past and try to factor in potential risk when building a new exhibit. When a jaguar bites through a steel cable or a gorilla launches itself a stunning distance over a moat, these folks tend to take notice, and slowly the norms change.

"We used to think a chimp barrier was 12 feet because they were maintained behind 12-foot barriers. Now it's 17 or 18 feet. I've been on sites where we've done 20-foot walls because we were keeping them in a fairly wild situation," Lash says. "These zoo-born habitat gorillas, and orangutans, and chimps — and probably bears and tigers and any number of more-intelligent large mammals — are going to test their boundaries. And we'll probably see more escapes."

Coe doesn't lose any sleep over potential escapes. In some ways, it's the mark of a job well done. It's also one of potentially hundreds of variables that he and his colleagues weigh each time they're working on a project. The bigger, more obvious problem is that the more moving parts a zoo exhibit has, the more opportunities there are for things to fly off the rails.

"Before we came along, the only way a gorilla would escape is if someone left the door unlocked," Coe says. "Now you've got far more complex environments, so a lot more things can go wrong."

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It's been nearly 40 years since Kiki climbed a tree limb and went for a stroll through Woodland Park Zoo, and Coe still speaks of the event with a sense of awe. He doesn't romanticize the notion of an animal escaping, for he knows how badly these incidents can end. But he does say that there's something remarkable about an animal escaping, as it reflects a confluence of physical and mental ability.

"To be able to do any sort of extraordinary thing, and escaping your enclosure certainly counts as extraordinary," Coe says, "you need the physical fitness — the strength and agility. You need the mental acuity to figure out how to do it. And thirdly, you have to have motivation."

In the twilight of his career, Coe is as ambitious as ever, and his focus is trained on figuring out ways to afford zoo animals more diversity of lifestyle. His more recent works include an elaborate network of elevated steel-mesh tunnels at the Philadelphia Zoo that allow tigers, pumas, gibbons, orangutans, and other animals to get out of their exhibits, stretch their legs, and stroll through the campus.

"Why should an animal have to spend its life in one small area?" Coe asks. "It'd be like you spending your whole life in your bedroom and living room and never wanting to get out."

Put that way, who wouldn't try to escape?

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