

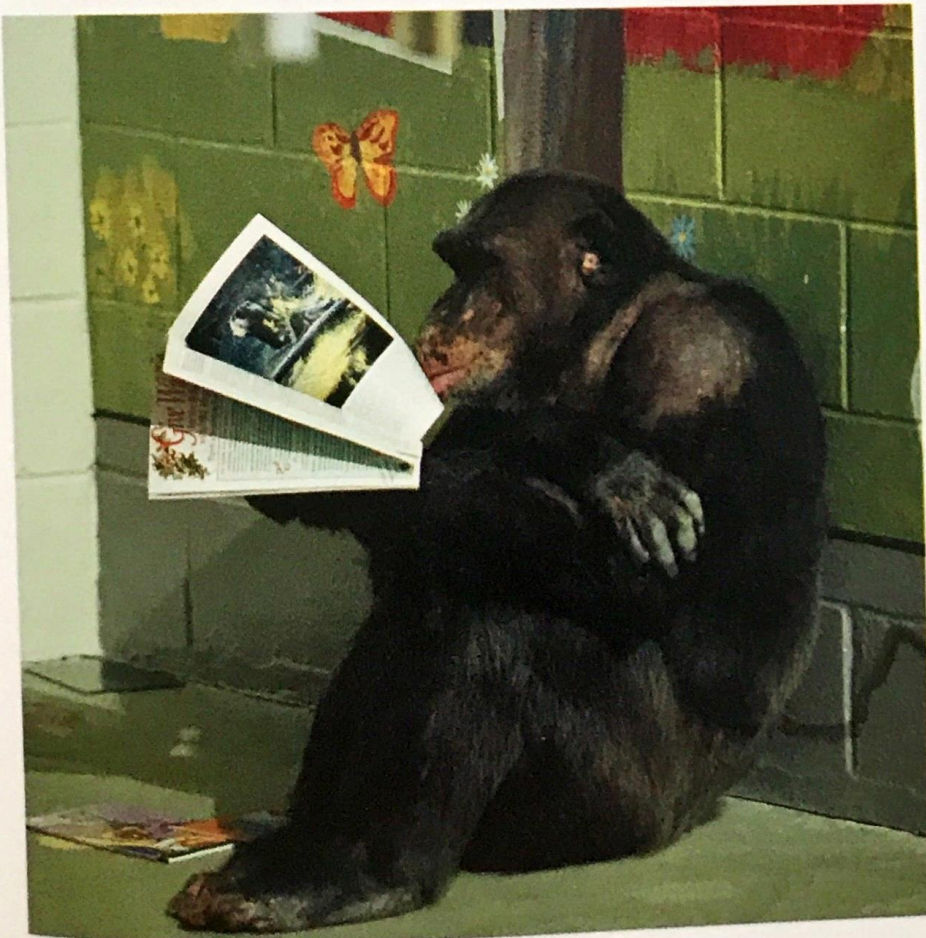
CHAPTER 3

WHO'S THE FAIREST OF THEM ALL?

OUR PLACE IN NATURE

“ CHARLES DARWIN

Yeroen swaggered up to the drums and began to play rhythmically. He started with a slow beat. Luit noticed his friend at the drums and began bobbing his head in time. Nikkie ran to join them, hooting and grabbing a handful of sand to toss into the air. Krom is deaf, but she could tell from the expressions of the others that something was going on, so she hooted, too. Yeroen leaped up onto the drum and alternated between striking it with his fists and jumping on it. Big Mama sat a short distance away, leaning against a tree and shaking her head.



A common chimpanzee catches up with the news. A chimp can't read, of course, but it can admire the photos in this magazine.

Is this some sort of rock band? In a way it is. Yeroen, Luit, Nikkie, Krom, and Big Mama are part of a band of chimpanzees that live at Burgers' Zoo in Holland. By watching—a whole *lot* of watching—scientists are not only learning about chimpanzees, but they are also learning about us.

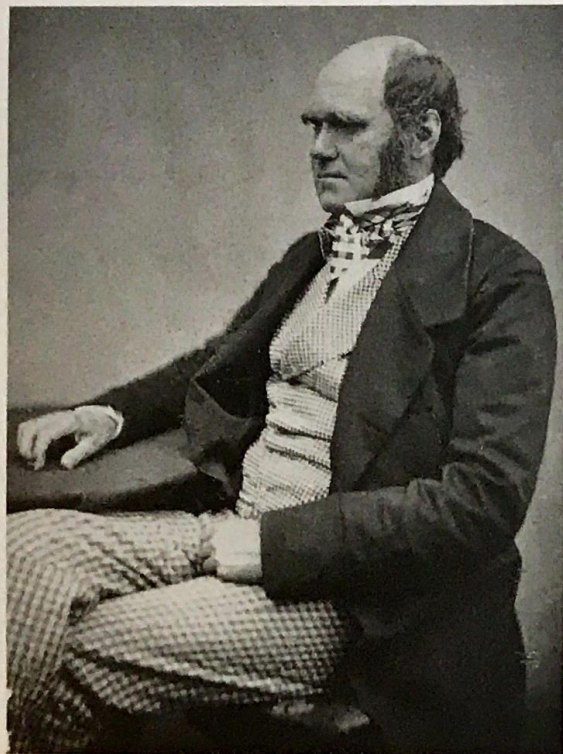
If you arrived from another planet and landed in the stands of an American football game, you wouldn't understand what was happening on the field at first. People leap on top of one another into piles, throw a ball around, kick it now and again, then stop the ferocious aggression for a group hug—all while a few puny men in stripes run around the edges blowing whistles. If you watched long enough, eventually things would begin to make sense. You would start to understand the rules of the game because the behavior would repeat often enough to reveal some logical explanation. During that hug people looked like they were planning something. One guy always seemed to get the ball first. The

ball must be a valuable thing because everyone fights for it, but they have very short memories because they quickly forget about it and walk away.

All right, so maybe you didn't get everything right. But some of your deductions were correct. The longer you watched, the more you would understand. Scientists watching the chimpanzees at Burgers' Zoo are beginning to understand some things. They are understanding more and more about chimpanzees' social life and are finding they are more like humans than we ever imagined.

Until fairly recently, humans didn't want to think that we were related to animals. We considered ourselves above animals. Even the scientific name for humans is pretty conceited—*Homo sapiens* means “the wise person.” No one believed that animals could be that smart. People believed that animals behaved the way they did because of instinct. Animals couldn't feel anger or happiness or

Charles Darwin was 42 when he sat for this photograph. Darwin might never have published his books on evolution if other scientists hadn't pushed him. He did not like confrontation and knew his theories would spark bitter debate, which they still do today, more than 100 years later.



even pain. It would be interesting to introduce these people to Jimmie, a chimpanzee at Burgers' Zoo. Like all chimpanzees, Jimmie likes to play games. She pokes a straw between the bars at passing humans. She holds it out to them. A present—for you—she offers sweetly. When someone reaches for it, Jimmie's other hand flashes out and nabs the poor sucker's arm. It takes several zookeepers to pry Jimmie off the unsuspecting human. She loves this trick and plays it over and over. Not so stupid after all.

One of the first people to understand our relationship to animals was the English naturalist Charles Darwin. In the 19th century most people believed all life had been created at once, just as we see it today, and that nothing had changed ever since. Darwin's theory was the complete opposite. He believed all life sprang from a common origin and was still changing. He wrote in his book *The Descent of Man*, “Man is descended from a hairy. . . quadruped.” Most people misunderstood what Darwin was trying to say. They thought he was telling them that humans had descended from modern apes. This started a wild goose chase that would go on for a century—the search for the “missing link,” the link between ape and human. What Darwin was trying to say was *not* that apes and humans were in the same line, like two connecting links in a chain, but that they both split off from a common apelike ancestor long, long ago. We are cousins, not grandparent and grandchild.

Darwin would not have been surprised at all to see the chimpanzees at Burgers' Zoo make their great escape. Rock, one of the oldest in the group, found the perfect branch. With some help from the others, he leaned it up against an outside wall. They climbed over the top, using the branch for a ladder, Rock in the lead. Hours later, Big Mama was found in a local restaurant, perched on the counter by the cash register sipping from a bottle of chocolate milk. Their enclosure is now patrolled daily for dead branches lying about. But don't worry, the chimpanzees have figured out how to use keys and are quite good at picking the zookeeper's pockets. They'll get out again. It's only a matter of time—and planning.

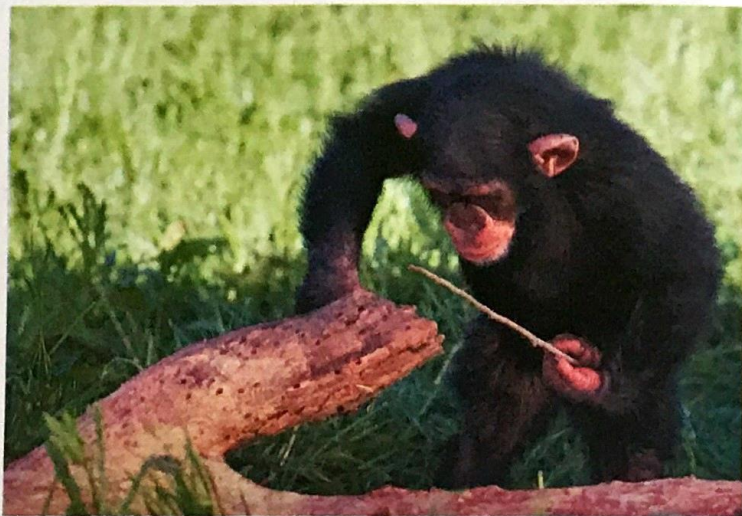
HAPPY BIRTHDAY

Charles Darwin and Abraham Lincoln were born on the same day, February 12, 1809.

{ *quadru* + *ped* = “four” + “foot”
If you walk on all four feet, you're a quadruped.

☞ Charles Darwin, *The Descent of Man*, 1871

A young chimpanzee uses a thin stick to fish in a log for termites or ants to eat. Chimps also use other tools, such as stones, to crack open nuts.



Darwin argued that apes could reason, use tools, imitate, and remember—all qualities that most people at the time thought only humans possessed. Rock certainly used reason to plan his escape, and, in the wild, chimpanzees make tools. They strip leaves off twigs, so the long narrow sticks can fit into termite tunnels. They poke the stick into termite nests, then pull it out and eat the termites clinging to the stick.

Imitate? At Burgers' Zoo, Krom may have something to say about that. "Krom" means crooked in Dutch. She got her name because she stands hunched over. Chimpanzees are always inventing new games, and for a while the hot new game at the zoo was to follow Krom, single file, mimicking her crooked walk. Krom couldn't hear what was going on behind her, which probably was a good thing. The others thought that this was hilarious.

Many 19th-century scientists believed in the gradual change that Darwin called evolution. They could see how changes came about. If an animal was born with something that, by chance, gave it an edge—an advantage over the others—it had a better chance at survival. It would live to pass that advantage down to its children, and they would pass it down to theirs. Soon those with the edge outnumbered those without it. Darwin called this process natural selection.

But even Darwin's followers thought he had gone a step too far in his book *The Expression of Emotions in Man and Animals*. In it Darwin claimed we share our emotions with many species—our fear, our grief, our joy, and our loyalty. We reveal the connection in the way we express our emotions. "The anthropoid apes . . . utter a . . . sound, corresponding with our laughter, when they are tickled, especially under the armpits."

In the Burgers' Zoo, a chimpanzee named Gorilla (how confusing—a chimpanzee named Gorilla!) had several babies over the years. They all died even though she was a tender, loving mother. Each time an infant died, she would grieve for weeks, huddled in a corner, ignoring the others, breaking out into screams now and again. Chimpanzees feel deeply. Do you think Darwin went too far?

Chimpanzees are our closest living relatives. They can catch our diseases. They can give us blood. They have unique fingerprints like we do. They can even speak to us. Jane Goodall, who has spent her life watching chimpanzees in the wild, wrote in her book *Chimps*, "They taught the sign language that deaf people use to a young chimp named Washoe. She learned over 300 signs. She even invented signs of her own. She called a fizzing soda a 'listen drink,' a piece of celery 'pipe food,' a duck on a pond 'water bird.'"

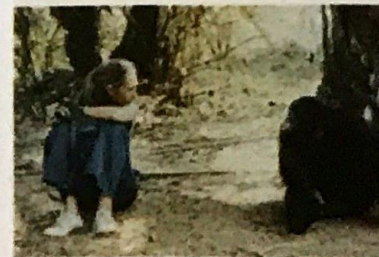
Humans and chimpanzees can recognize themselves in a mirror. They are aware of themselves. If you put a mirror in front of most animals, they will behave as if another animal has just entered the room. They'll growl, attack, play, sniff—until they get bored and walk away. The professor of primate behavior Frans de Waal wrote about the chimpanzees at Burgers' Zoo in his book *Peacemaking among Primates*, "Apes . . . start using the looking glass to inspect body parts (teeth, buttocks) that they normally cannot see. They also amuse themselves by making strange faces at their reflection, or by decorating themselves (placing vegetables on their heads, for instance)." Nobody said that just because you were self-aware, you were guaranteed fashion sense.

With so many similarities, you may be wondering how humans and apes are different. After all, we *are* different.

“ Charles Darwin, *The Expressions of Emotions of Man and Animals*, 1873

CHARMED BY CHIMPS

From the time Jane Goodall was a little girl reading Dr. Doolittle, she knew she would one day end up in the African forest among the wild animals. When she first arrived in Africa she worked in Kenya with the anthropologist Louis Leakey. He encouraged her to follow her passion and observe chimpanzees in the wild—observations he believed would answer questions to our own beginnings.



We're not as hairy, for one thing. Our faces are flatter. We walk on two feet instead of four, and our brains, although similar, are bigger.

We see so much of ourselves in Yeroen's expressive face that it is tempting to jump to false conclusions. It is tempting to believe that he is our primitive self—that we evolved from the apes—that Yeroen looks just like we would have millions of years ago. But that's not true. Yeroen has come as far in time from his primitive ancestor as we have come from ours. Both of us are long removed from the common ancestor we once shared.

The evolutionary process doesn't behave like a vine, groping higher and higher. It behaves more like a bush, branching off in all directions, each twig stretching outward



An infant chimp named Hoya holds out her hand to Mama asking for a hug or a kiss. Mama was 37 years old when this photo was taken.

CHIMPS AND HUMANS, BY THE BOOK

	Chimpanzee	Human
Superfamily	<i>Hominoidea</i>	<i>Hominoidea</i>
Family	<i>Pongidae</i> (Great Apes)	<i>Hominidae</i>
Genus	<i>Pan</i>	<i>Homo</i>
Species	<i>troglydtes</i> (common chimp)	<i>sapiens</i>

on its own. Many of the twigs come to dead ends, representing extinct species. Some continue to divide as new species branch off from their parents. The twig that represents Yeroen split from the twig that represents us a few million years ago.

Look around. Imagine every living thing, past and present, represented by a tip of a twig on that giant evolutionary bush. Imagine millions of species represented by millions of twig ends. The evolutionary bush is pretty unwieldy. Making sense out of it and all the organisms it symbolizes would be impossible without a system. In order to distinguish where we fit and where the chimps fit—where *any* living thing fits—in the animal and plant kingdoms, scientists have created a system that groups things according to their similarities and their differences. **Taxonomy** is the science that wrestles with the challenge of grouping living things according to their relationships to one another. The names of the groups are in Latin so that scientists all over the world can understand them.

Back at Burgers' Zoo there's a happy ending in the making. Gorilla, the chimpanzee whose babies died, has been given a foster child. Every afternoon Gorilla must take her new baby inside to feed her a bottle while the others stay outside. When the keeper calls to Gorilla to let her know it's time to go inside with her baby, Gorilla goes first to Yeroen and then to Big Mama, pats them, and kisses them good-bye.

taxis + onomy = "arrangement" + "many names"
The classification of all living things is certainly an arrangement of many names.