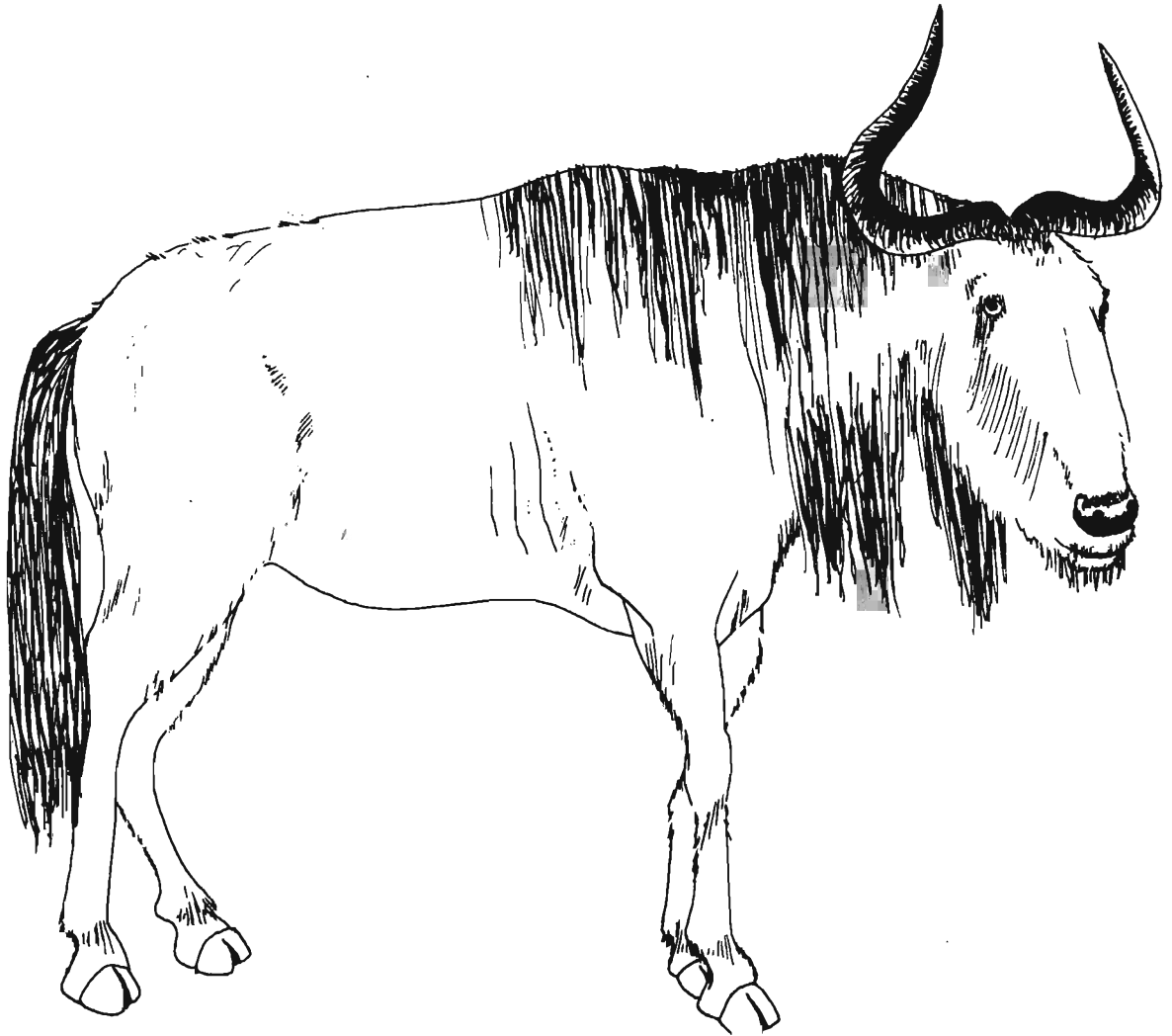


The Gnu



The Gnu

THE NEW GNU

Eight months after the mating season, a female gnu gives birth to a single calf. Most calves are born in the morning; hardly ever are they born at night. In this way, the calf has one long day in which to learn to recognize its mother by her smell, to gain strength and to practice running before it faces the dangers of the night. The biggest danger is night-hunting hyenas, who eat their victims, bones and all. And a young calf is most often their prey.

Minutes after it is born, a calf tries to stand on its long shaky legs. It falls. It rises, it falls. But the mother cow does not let the calf rest. She urges it up with her nose and by calling to it, "Huh!"

As soon as the calf stands, it nurses. For the first day, the mother lets her calf nurse as much as it wants. After that, the mother cow moves away before the calf has drunk its fill. The infant follows close to its mother at all times, always eager to nurse again. And because it is always slightly hungry, the calf soon begins eating grass. By the end of the first week, the calf is chewing grass like the adults, although it continues nursing for eight months.

A mother stays next to her new infant until it learns to know her. She even grazes in a tight circle around her calf as it sleeps. There is a danger that the mother and calf will be separated because a new calf follows almost anything that moves. Females and their newborn calves live in small groups of about ten members called "nursery herds." These groups often include young and childless females. If her calf follows another female in their nursery group, the mother pushes her way between them. She does not allow another gnu to come between her and her calf, and she may even fight another cow who shows too much interest in her offspring. The calf soon learns to recognize its mother's voice and comes to the mother if it hears her call.

If a predator appears, the mother immediately runs into the nearest group of gnus, her calf following as best it can. Mother and calf can be separated when they dash into large herds. One scientist described a cow looking for her calf lost in a herd of hundreds. She walked through the herd calling "Huh! huh!" over and over. Every time she came to a calf, she stopped and sniffed it since a gnu recognizes her young by its smell. Luckily for the calf, the mother found this infant. A young calf who loses its mother for good also loses its life.

GROWING UP

A calf does not remain completely dependent on its mother for long. A one-month-old calf spends much time with other calves its age. They may race around the adults, play-fighting and

chasing each other. They may sprawl fast asleep together on the grass while their mothers run about calling and searching for them. Or they may even answer with the same call at a high, squeaky pitch, but refuse to come. As the calves become used to the safe feeling of being surrounded by others in a herd, they want their mothers near them less and less.

INDEPENDENCE

In some years, most young gnus catch a virus called "yearling disease" before they are a year old, and fewer than one half may survive the sickness. If a sick calf lags behind, its mother may leave it there to die. Because of disease, predators and lost calves, only about one out of five gnus normally lives through its first year. But females produce a new offspring every year from the time they are two years old until close to the end of life, which for gnus is about fifteen or sixteen years. Enough new gnus keep coming to replace those who die, and the herds survive.

The birth of a new calf loosens the ties between a mother cow and her year-old offspring. The mother will not let any other gnu come between her and her newborn infant, even if it is her older calf. She pushes the older calf away from her, over and over again. This upsets the peace in the herd. Other gnus also chase away the year-old calf, now called a yearling, because it disturbs them. After many attempts to stay close to its mother, the yearling gives up and goes away. A male yearling goes to join other males in a "bachelor" herd, and a fe-

male yearling joins another nursery herd.

A female mates for the first time as a yearling, but most males do not have an urge to mate until they are three, when they reach full adult size. Then a male is strong enough to try to win a piece of land for himself by fighting other males for it. Once he has his land he will not allow any other male to set foot on it. His land is called a territory. Only males with a territory have the urge to mate. Males without their own piece of land, called bachelors, do not have the urge to mate.

A BULL WINS A TERRITORY

A group of gnus may have thousands of members, with females and young in nursery herds, some males in bachelor herds, and some males standing alone on their own territories. A territory may be the size of half a city block. Usually all the grazing land within the groups' area is held and defended by some adult male.

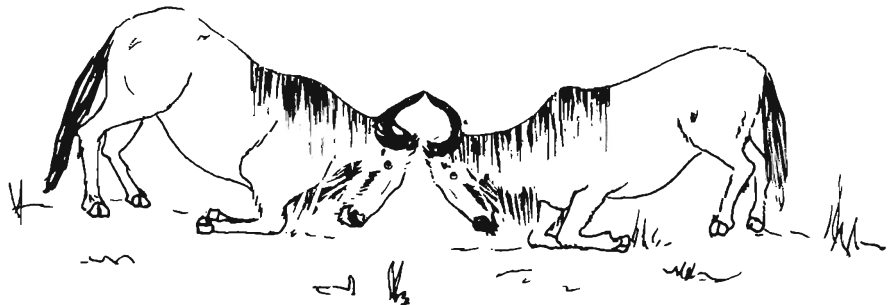
A young bull in search of a territory looks for a place that seems to be only lightly defended. He may find such a place in an area of long grass. This is an unpopular area because gnus find short grass more tasty and never eat long grass if there is a choice. Or he may find a territory whose owner is old or weak.

When the bachelor approaches, the owner chases him away. And the bachelor runs without putting up a fight. But the bach-

eloc comes back to the territory again and again. As the owner gets tired of chasing him away, he defends his territory with less and less effort, and sometimes does not bother at all. The newcomer begins to feel that he practically owns the territory, and his feeling of power grows. Finally, after days or even weeks, he feels confident enough to stand up to the other bull, even to the point of fighting.

Bulls fight on their knees, facing each other, with their foreheads toward the ground. They push against one another, and they duel with their horns, sometimes stabbing their opponent in the chin or throat. But the throat skin is well protected; it is very tough and covered with a thick beard.

Gnus do not fight to the death. If one is getting the better of the fight, the other gives up and runs away. If a territorial bull runs away, the territory is no longer his and he becomes a bachelor again. But the new owner in turn must defend his territory against all other males. A territorial bull hardly ever leaves his territory except to go to a water hole. Otherwise, he might return to find another bull had



taken it over while he was gone. He may keep his territory for years and years, perhaps for most of his life. All this time, he does not allow another male on his territory without challenging him to leave or to fight.

A gnu who gets a cut or a sprained leg in a fight may soon be a dead gnu; lions and hyenas are quick to single out and run down any animal that looks less fit than the others. And fresh gnu is a lion's favorite dish.

GNUS WITHOUT TERRITORIES

Usually, fewer than half of all adult males have a territory. The remaining males live in bachelor groups that may have only a few members or more than 400 members. Males of any age from one to sixteen may be in the group. These males do not mate during the mating season or fight with each other at any time. They spend their days calmly eating grass and resting together.

Although a nursery herd stays within a particular area as long as food and water are plentiful, the group does not have a territory. Females and the young are usually free to roam around in any territory they choose. But from time to time, bulls may chase whole nursery herds out of their crowded territories. The herd scatters in all directions as it dodges the bull and runs from him, and calves and mothers can lose each other. But territorial bulls behave differently in the mating season. Each territorial male then tries to keep the cows from leaving his territory.

BULLS WHO MATE

Territorial bulls mate and territorial bulls fight. Bachelors do not mate because they do not fight.

During the mating season, a territorial bull does not let cows leave his territory. And in any season, he does not let a bachelor onto his land without challenging the newcomer to a fight. Since bachelors do not have an urge to fight with territorial bulls, they have no chance even to get near a cow.

Only bulls holding a territory have the confidence to fight other bulls. A territorial bull has defeated another male to win his territory, and every day he defends his territory successfully against other males. Whenever a territorial bull crosses over from his own territory to his neighbor's, he is threatened by the owner: he may give alarm snorts and he may bang his head into the neighbor's with a crash, but they rarely fight. Then the neighbor goes home to his own land, having been shown that the owner is ready and willing to defend his territory.

A territorial bull feels confident and powerful when he is on his territory. You can pick out a territorial bull in a crowd of bachelors because he holds his head up high. (The heads of bachelors droop below their shoulders.) A territorial bull is willing to fight for a female because he knows he always wins. This willingness to fight is necessary to produce the urge to mate.

The gnu's urge to fight and his urge to mate are connected with owning a territory. This explains the puzzling fact that only territorial bulls mate.

THE MIGRATING GNUS

Gnus eat only plant food. Some years there is little rain, and new grass will not grow to replace the eaten or sun-scorched grass. Water holes go dry.

If there is grass available not too far away, the nursery herds and the bachelor herds are quick to take advantage of it. Several different herds may graze together during the day, but each group returns to its regular sleeping spot at night. The territorial bulls are so unwilling to leave their territories that they will make do as long as possible with whatever food is there. At the end of a dry season, a bachelor may be in much better condition than a half-starved territorial bull. At this point, the territorial bull who went hungry to save his land may lose it to the stronger bachelor!

Sometimes all the gnus set forth in search of food. The largest animal groups in Africa are the migrating gnu. They travel in groups of 15,000 often, 50,000 sometimes, and even 500,000 in times of serious drought.

Migrating gnus head toward falling rain in their search for food. On the African plains a storm can usually be seen fifty miles away -- it looks like dark columns topped with clouds.

The sound of thunder may start a herd moving, or the smell of unseen rain. Some herds may stop at an area where there is no grass but where rain is falling. They wait there for a day or two until the grass begins to grow.

Sometimes a herd migrates only a few miles, finds plentiful food and water, and settles down on the new grounds. Other herds may cover thousands of miles, wandering from place to place, never staying anywhere long.

MIGRATION: A MATING PROBLEM?

The migrating gnu herd travels in single file in columns that may stretch for miles and miles across the plains. There may be only one column, but at times two or three columns walk side by side. A gnu seems to have an urge to follow another gnu. Just as a newborn calf follows any other gnu, so the migrating adults follow directly behind each other.

If it is the mating season and the whole group is migrating, there would seem to be a problem. Traveling males have no territories and males without territories have no urge to mate. Without mating, no young would be born and the whole group would die out.

Temporary territories solve the problem before it arises. The moment a column stops moving and spreads out to graze, the males try to make the land they are standing on their temporary territories. The bulls clash over the territories

and the new territorial bulls force the bachelors to the outer edge of the scene.

In the midst of all this action, each territorial bull is also chasing cows onto his new land. When he has rounded up a group of some fifty cows and their calves, he runs around and around the group, forcing them into less and less space in the center of his new territory. Now he acts just like a bull with a permanent territory -- he holds his head up high, he has the urge to mate, and mates, and he defends his territory against other males.

After a few hours or a few days, the gnus move on again in search of food and water. All the males again are bachelors, marching in the long columns across the plain.

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