NATURE

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CO-OPERATION, SACRIFICE, DECEPTION.

SOCIETIES
THE ANIMAL KINGDOMS

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3 × 50 min., 4K, 5.1 + Stereo

TERRA MATER STUDIOS

Epic spectacle. Intense drama. Conflict, co-operation, sacrifice and deception. What lies behind the natural world's most engaging stories? The answer is social life. The need to work together to survive.

Hunting wolf packs, nest-sharing birds, rafts of sea otters holding hands or trees that support each other through difficult times; societies and social behaviour take myriad forms. This spectacular three-part series reveals the infinite and fascinating complexities of social living, as well as the challenges faced by any animal society.

What is social behaviour? How do societies form? How are they maintained? How are they exploited for individual gain? How do they fail?

Never explored before, this concept brings new behaviours and characters to our screens, while also approaching more familiar scenes from an entirely new angle. We revisit key characters in different episodes, supported by a host of extraordinary and surprising second characters to uncover the success, and failure, of nature's great societies. As a social species ourselves, viewers will be gripped and stunned by the mirror it holds up to our own way of life.

Episode 1 – Rise
(Evolution of Social Behaviour)

Most species on Earth are solitary, coming together only to breed. What is social behaviour? What benefits does it have? And how do complex societies form? Our first episode takes us to every corner of the planet, meeting species great and small to reveal how and why social behaviour exists in the natural world. From the most basic interaction to the most complex of societies, we discover the many benefits and challenges that come hand in hand with social life.

We begin in a raging winter storm. As waves crash all around, a huge raft of sea otters begins to form. They stay close, wrapping themselves in kelp, with some even holding hands. Despite tumultuous settings, it is the cutest sight in the natural world. Sea otters spend much of their time alone but, during bad weather, rafting together prevents them from floating off into the open ocean. Acts like these are among the simplest of social interactions. They may be fleeting and require specific conditions, but there are great benefits to the individuals involved. What's more, they set the stage for increasingly complex levels of social interaction.

As social interactions grow more complex, the family unit takes centre stage. It can be small, like the dedicated kinship that binds three lioness sisters taking on the brutal conditions of the Namibian desert. Or it can be much larger, like a meerkat family group over twenty strong. Naked mole rats take family relations to the extreme, their colonies made up of just one breeding queen and up to three breeding males. All others work exclusively to serve the colony, with food gathering, childcare and nest maintenance divided up between them. The different castes and roles in the colony make them the only mammals known to be eusocial, the same system found in immense colonies of ants and termites, which act almost as a single superorganism.

The most complex societies of all stretch beyond family ties, much like our own. Among them, beluga whales come together in groups two thousand strong. Scientists are still unlocking the secrets to beluga's extraordinary social interactions, but it involves shared care for young, lots of play and an exceptionally high input from fathers as well as mothers. These complex societies, from large troops of chimpanzees through to ancient, underground social networks that bind the tree community in forests, are some of the most fascinating of all. As we'll discover, the blueprint to societal success takes many forms.

Episode 2 – Dominion
(Finding Food and Raising Young)

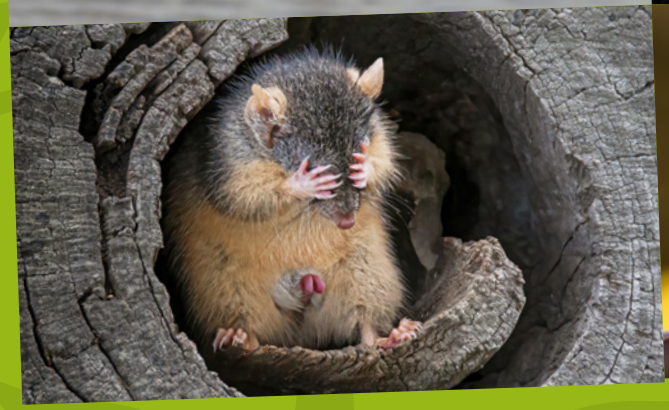
To function properly, every animal society must meet two main objectives: to find enough food and to successfully raise young. How does cooperation benefit individuals in need of food? What happens to communal spirit when the time comes to reproduce? And how do animals teach their young to be valuable members of society?

The way in which a wolf pack runs down prey shows teamwork at its most breath-taking. With each member playing a different role, the pack takes on targets far bigger than any individual could ever handle. But sharing the spoils of cooperation takes countless forms. Green-fingered termites grow their own food, gangs of honey buzzards team up to break into giant hornet nests, and pods of orca corral immense shoals of herring, before one moves in to tail slap and stun them. Group living helps all these species access food they otherwise couldn't.

But what happens to social cohesion when the time comes to reproduce? That's where things get complicated. Grouping together benefits females of many species because it forces male competition, improving the fitness of a potential mate. Male muskox butt heads at forty miles per hour to compete for females, leaving them with brain damage and a shorter life expectancy than females. Only the strongest gets to breed. What's more, the presence of a powerful male also keeps females protected from unwanted harassment.

For male chimpanzees, however, there is a way around this. If a weaker individual supports a strong leader, they'll get a share of mating rights. Though the strangest system of all belongs to antechinus, a small









marsupial. Each year, for two frantic weeks, instead of fighting, males focus their energy into simply mating as much as possible. They literally mate themselves to death as they race to father young, which must be born before a brief insect glut appears.

When youngsters are born, they need to become valuable members of society. A select few species are proven to actively teach. Chimpanzee mothers teach tool use to their young, meerkats demonstrate how to kill venomous scorpions and even one ant species painstakingly teaches the way to food sources, pausing at key landmarks on the way. As we discover, the future success of any society depends on the transfer of knowledge through the generations.

Episode 3 – The Call of Duty (Defence, Communication and Collapse)

All societies come under attack. Whether from outside or within, defence is a key foundation on which any social group stands. How does group living keep you safe? What mechanisms have evolved to protect the members of a society? And, ultimately, what causes some societies to fail? In this final episode we reveal complex modes of communication, as well as exposing the liars, cheats and thieves that seek to exploit social harmony.

Every society needs to protect itself as well as the crucial resources on which it depends. For chimpanzees, violent territorial defence is a necessary part of maintaining social cohesion, one that requires great sacrifice. Indeed, self-sacrifice can be found throughout animal societies, from exploding ants to emperor penguins taking turns on the outside of the huddle, at the risk of freezing to death. For many, the benefit of social living is simply safety in numbers. Snow geese, nesting en masse alongside snowy owls, are kept safe from Arctic foxes. But the owls, who drive the foxes away, also hunt goslings when they hatch. At least with so many snow geese around, some will manage to raise young successfully. Group safety clearly offers rich rewards, but it can come at a great cost.

A key part of defence is effective means of communication. Elephants recognise the calls of hundreds of other individuals, even keeping in touch by sensing vibrations through the ground over vast distances. A complex vocal repertoire helps them avoid conflict, reunite with friends, find potential mates and crucially, warn of danger. Parrot families have both a first name and surname, taught by the parents, so the family can stick together and not get lost while flying in flocks thousands strong. And while meerkats hunt for food, a designated lookout uses a regular safety call, along with different alarm calls for different predators. This, however, is readily exploited by drongos, who mimic the alarm call. When the meerkats scatter, the drongo flies down and steals their food.

There is a dark side to society, one of exploitation. And this brings out a fascinating range of behaviours. Gentoo penguins steal pebbles from their neighbour's nests. Squirrels, wary of would-be thieves, only pretend to stash nuts if they think a rival might be watching. Greater anis, who share nests, eject the eggs of other females and lay more of their own if no one is watching. A small amount of exploitation has limited impact, though sometimes it can be catastrophic. Cordyceps fungi turns ants into zombies, making them climb to a high point above the colony. The fungal spores then fall onto the other ants, allowing cordyceps to infect a new victim, sometimes wiping out entire colonies. Be it savage infighting among primates, the death of a leader, disease or overuse of precious resources, at some point all societies change or vanish entirely.

A production of Terra Mater Studios and Dandy Lion Films

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