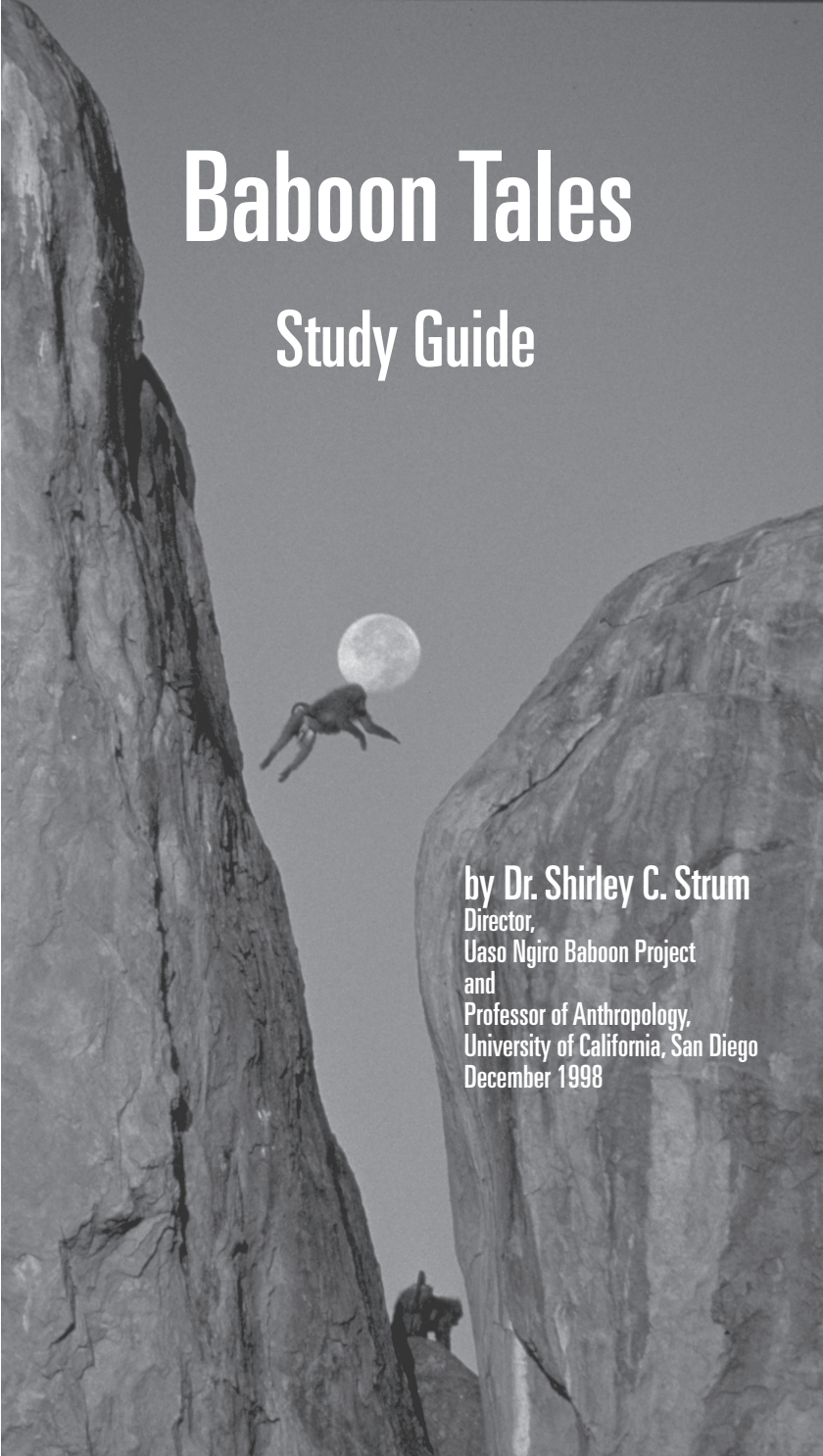

Baboon Tales

Study Guide

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The 52 minute video **BABOON TALES**

A Tamarin Production • narrated by Glenn Close • directed by Gillian Kovanic

— Contains uncensored animal behavior —

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About this film

Few of us, in modern human societies, have much contact with or understanding of the natural world. This deficiency has been lessened, to some extent, by the many nature and wildlife documentaries made over the past 20 years. In fact, to judge by the daily television schedules, people really like to watch "nature" programs. The most popular shows share some common characteristics. They are either filled with action, drama, and usually a good amount of aggression, fighting, blood and guts or they are about cute and sympathetic animal characters with whom the TV audience can identify. Through these documentaries and nature books, we have come to care about the natural world around us and the current "biodiversity crisis"—the disappearance of habitats and animals. Some of us are even moved to action. That is good.

However, at the end of the millennium it is time to ask whether our view of nature, particularly of animals as either aggressive brutes or cuddly creatures is accurate, appropriate and useful. The question is important because how we see nature determines how we value it, and how we value it influences our actions: which animals to save and which to ignore, what is important in nature and what is not. Identifying and caring about nature was the important first step of the 20th century. Understanding nature on its own terms is the challenge of the 21st century. Successful conservation will require going beyond "human-based" visions of nature to more sophisticated "biocentric" understandings. But how do we understand nature on its own terms? Science is crucial.

Baboon Tales is a collaboration between anthropologist/primatologist Dr. Shirley C. Strum, who has studied baboons for 26 years, and the award-winning team of filmmakers of Rudi Kovanic and Gillian Darling Kovanic. They took up the challenge of making a film which would show a complex animal society the way it really exists and works for the animals, rather than how we humans assume or expect it to function. This intimate portrait takes the baboons' "point of view" in a number of ways. It is shot at baboon level, using close ups, and, as much as possible, tells the story through "baboon spectacles", particularly as worn by a group of babies who are the film's main characters. Fortunately, the remarkable similarities between baboons and humans (as well as the provocative differences) mean that the viewing audience, young and old, will nonetheless be captivated by the film. In the process as humans we come to appreciate another creature "on its own terms".

By the end of the film, the audience should have changed its mind both about what it means to be a baboon and what it means to be a human. Humans are very impressed with their own achievements. From pathetically dependent creatures we can become artists, scientists, or politicians. But the accomplishments of baboons are equally remarkable, as you will see. They, too, are born knowing little—only how to cling and how to root for the nipple. Everything else must be learned but without the many advantages that humans have. No one teaches them directly. There is no language to help convey the message and no symbol system to help store the information. And yet the social world of baboons is nearly as complex as the social world of humans.

The essence of the film is to show how individuals begin to "compose a life" without the advantages of language and culture. To understand this accomplishment we must see how each life starts and how it ends up, what makes it

a success and what contributes to "failure". This is a story about how knowledge and skill are acquired and the difference they make. It is also about personal dramas where past history and family status are important but where happenstance and even accidents of life make a difference in learning to navigate the incredible network of family, friends and foes that represent the baboon social web.

Background

Primates

The animals in *Baboon Tales* are olive baboons *(Papio anubis)*. They are "primates", the biological order that includes strange looking creatures called "prosimians" as well as the more familiar monkeys and apes. Humans are also primates. Together, all primates share the basics of genetics, anatomy and behavior. Each species, however, has a unique cluster of characteristics that have developed over long periods of evolutionary time in response to the environment where it has lived.

Evolutionary Theory

The modern study of animals, including primates, began after Darwin proposed the "theory of evolution by natural selection" in the mid 1800's. Until then, people thought that all animals were created as they were and never changed. After Darwin, scientists became particularly interested in those species most closely related to humans — the other primates — because they might shed some light on human evolution.

The first evolutionary studies on non-human primates seem laughable from today's perspective. There were only a few projects, mostly on captive monkeys and apes. Because we knew so little about primate behavior, scientists were not able to ask "intelligent" questions. The answers they proposed were not only wrong, they were silly.

Ethology

Things changed in the 1920's with the advent of ethology, as the modern study of animal behavior is called. Ethologists proposed new ways of asking questions and developed rigorous methods for studying animals both in captivity and in the wild, methods and frameworks that we still use today.

There were a few studies of primates in the 1920's and 1930's. Field studies — that is watching how animals behave in the wild — were interrupted by the Second World War but resumed again in the 1950's. The interest in studying primates has grown steadily since then. Today there are hundreds of studies of wild primates in Africa, Asia and Latin America and thousands of studies of captive primates, mostly in Europe and North America.

The interest in baboons really began in the 1950s because of their unique position among primate species. Before then, at the turn of this century, Eugene Marais did a remarkable long-term study of several groups of baboons in South Africa but his work was "lost" to science until it was rediscovered in the 1960s. Marais was ahead of his time and even ahead of ideas about baboons that were prevalent in the 1950s and 1960s. He recognized individuals, identified the importance of emotions and mind to baboons, and demonstrated that they had "traditions", much like a culture, which were passed on between generations through observation and learning.

Sherwood Washburn

It was Sherwood Washburn, a famous anthropologist, who helped restart primate field studies after the war. He thought that we needed more information on animals in the wild if we were to correctly interpret the fossil evidence for human and primate evolution. To know what the bones meant, we had to learn what primate behavior looked like, the range of environments in which

primates lived, and how primates used their bodies in that environment. Although Washburn sent his students into the field to study various types of monkeys (and studies of apes began a little later), he was most interested in baboons.

Primates are an "arboreal" order. They are forest dwellers and much of their behavior and anatomy can be understood as an adaptation to living in the trees. Only a few primates have left the forest and tried their luck living in the open. Humans and baboons are the most successful of these experiments. Washburn suggested that we could use living baboons as models for the earliest stage in human evolution. Through baboons, scientists could see what challenges "savanna" life posed for basically arboreal primate creatures and what solutions were possible. We already knew that humans developed many new adaptations that were different from baboons, but scientists could better interpret how and why these developed by looking at what baboons did and didn't do.

Washburn and his student, DeVore, studied baboons in several places in Kenya and visited baboons elsewhere in Eastern Africa. What they found made a lot of evolutionary sense. First, baboons have special adaptations to the dangers of life away from the trees. There are several large adult males in each group. These males are nearly twice the size of females and have specialized anatomy including huge sharp canines and a large mantle of hair around the head and shoulders, which can be made to stand erect and give the male the appearance of being even larger. Washburn and DeVore viewed this as the anatomy of "aggression" that would be useful both in defending the group against predators and in competition between males for access to limited resources.

Baboons seemed to have adapted behaviorally as well. When travelling, the most important big males were in the center "protecting" the mothers with young infants. Around them were the other females and on the edge of

the formation were the more “dispensable” males. If a predator made a sneak attack, these males would be the first to go. But when a predator was detected, the troop formation changed. The big males moved from the center of the group and out in front to face off the danger. Several sets of flashing canines seemed to be a formidable threat even for lions.

There were other ways that baboons seemed to have adapted to savanna living. The group was large and very cohesive, always staying together and constantly monitoring each other’s movements. There was also a very obvious and predictable structure. The males organized themselves through bluff and aggression into a dominance hierarchy. An individual’s rank in the hierarchy determined his access to resources. Other group members focused on the males and the male hierarchy provided a general structure for the group. This attention to the males and intervention by the males was like social “cement”. In all, baboon behavior and anatomy presented a compelling set of evolutionary interrelationships which helped explain how baboons could survive away from the safety of the forest.

Understanding baboon behavior highlighted the challenges that must have faced early humans. The solutions minimally had to include a cohesive social group of a certain size, predator defense tactics, the “strategic” use of male aggression and dominance, and a predictable structuring of society which seemed inevitably centered on the males of the group. The Washburn/DeVore vision of baboons became a powerful model which made its way into both scientific and more popular versions of human evolution.

Other studies of baboons conducted at around the same time and those that followed afterwards did not always agree with the Washburn/DeVore findings. For example, Thelma Rowell who studied the same type of baboons on

the forest edge in Uganda, noted that dominance was not that important and that when predators appeared, it was the males who ran away first, leaving the mothers and infants completely vulnerable. Studies at Gombe Stream Reserve in Tanzania, where Jane Goodall has watched chimpanzees, also did not find the same patterns. Females and their offspring seemed the most important core of the group while males came and went, adding their "two cents" when they were resident.

There have been long-term studies of baboons since the 1970's at Amboseli National Park in Kenya, at Mukumi National Park in Tanzania, at the Okovango swamp in Botswana and my own study which began in 1972 in Kenya. These studies suggest some diversity in baboon behavior and social organization, which we might expect, now that we understand baboons and their ecology better. My own long-term study offers a very different picture of baboons (and by implications, of the starting point of the human experiment) than Washburn and DeVore presented.

First, as most later studies have found, it is the females and their families that form the stable core of the group. In fact, the social structure of baboons is organized around "matrilines", often ranging from great grandmother down to great granddaughters. Families are arranged in a dominance hierarchy. Everyone in a family shares the same rank, and everyone in a family ranks either above or below the other families. Within a family, the mother ranks highest and because she supports the youngest of her children. They rank next and so on until the oldest offspring who is the lowest ranking of the family.

At adolescence, most males leave the group where they were born and go to seek their fortune in a succession of other baboon troops. Therefore, each troop always has adult males who have come from elsewhere and who stay a varying amount of time, depending on how successful

they become. Males do have the anatomy of aggression which they use occasionally against other males and in rare moments against predators. But life is infinitely more complex. How big and strong you are as a male does count but so does how smart you are, how much you know and how skillful you are at forming relationships (friendships with females and youngsters, alliances with other males).

Tim Ransom had identified "friendships" in his early study at Gombe. But he and others were uncertain what they signified. By watching baboons for 10 years, I was able to see that friendships were strategies, ways that animals could make others baboons into allies and enlist their support when needed. For example, since males are so much larger than females, all males are dominant to all females. Even the highest ranking female needs help at times as when a male attacks her, perhaps in a disagreement over some preferred food. She has a great advantage if she can get help from another male who is her friend. This is usually enough to stop the disagreement and at times may even help her get the food. Big males also need help. Sometimes they help each other, ganging up on a stronger or more frightening opponent. But sometimes they get help from an infant or female friend. Using a friend as a shield or "buffer" turns off the aggressive male for reasons that can only be understood in light of the complexity of baboon society.

The baboons that I have studied for 26 years have politics, friendships, family networks and the "golden rule": do unto others as you would have them do unto you. If you want help, you have to be willing to help. This is very different from the original baboon model where male aggression and dominance were central and all the rest of the group organized themselves around the males and through the males. In fact, males and females have need of each other; they have complementary relationships and roles. While aggression and dominance are sometimes

important, baboons have many other options.

How do you study an animal that doesn't talk?

One of the most daunting challenges to modern science, perhaps as difficult as exploring space, is learning how to study an animal that doesn't talk. We want to find ways to let that creature "speak" to us which are not just projections of ourselves into that creature. Studying animals in the wild, in their natural habitat, is an important first step. It is there that they evolved and there where you have the best chance of seeing what the behavior is supposed to do and gain insights about interpreting what it might "mean". Studying animals in their natural setting is not as easy as you might think. First it is a long way away, often in remote and inaccessible areas. Furthermore, in today's world, most wild animals have had bad experiences with humans (except in protected areas). They are afraid and run away.

Before you can study an animal in the wild you have to win their trust. This is called "habituation" and requires a great deal of patience. Unlike birds and some mammals, baboons and other primates aren't fooled by blinds, places where you hide out of sight so that you can see your animals but they can't see you. There are two ways to convince baboons, for example, to come close or let you get close. The first is to offer them food. But this actually changes their behavior with each other, increasing competition and aggression, and leads them to expect food from you. The second is to spend as much time as necessary, days and weeks, at whatever distance allows the animals to feel comfortable with your presence, doing nothing to frighten them. Eventually they will relax and let you get a bit closer. Weeks later, a bit closer, months later a bit closer. After 6 months with the baboons, I could be in the middle of the troop, watching as an insider rather

than an outsider. The main rule is to be inconspicuous, avoid frightening anyone, especially the babies, until they act as if you aren't there. Of course they know you are!

Next you need special methods to observe, record and analyze their behavior. That means first you have to understand their "language", which in the case of baboons and other non-human primates isn't language at all but a system of gestures, postures and sounds that reflect an animal's emotional state. When you start, as in the early primate studies and in the beginning months of modern studies, you do what is called "naturalistic" observation. You simply record what you see in the best way that you can. However, we know that this way of collecting information can be filled with unintended biases. Big noisy animals get more attention than small quiet ones. Certain common behaviors may be ignored in favor of rarer infrequent actions or vice versa.

In the 1970's, primate watchers switched to more systematic and rigorous ways of both describing and recording what they saw. Today we make certain that we decide in advance which animals we will watch and when (this is called "sampling"), and we watch each in the same way, at the same time of day with the same rules and lists of behaviors (called "ethograms"). This insures that biases are minimized. Watching individuals this way gives us greater confidence in our results: if the individuals behave differently it is not because of some hidden difference in the way we have watched them.

Watching systematically is not enough, however. For primates, it is crucial to watch a long time. A female baboon can live well into her 30's. Given such a long and diverse life, what can you understand from just a one year study? And which year should you watch? This is the value of long-term studies. They allow us to track individuals through his or her life cycle. In addition, if you watch for a long time, you can also watch more

individuals: 50 females rather than just one. This larger sample gives you a more representative idea of what it means to be a female baboon, for instance, as well learning about what is shared by females, in general, and what can vary between individuals.

Primates, because they are creatures so like humans, create special problems for scientific studies. It is very tempting to read our behavior into their behavior, particularly because there are striking similarities. Doing this is called anthropomorphism, projecting human-like characteristics onto animals. We also often do the opposite when we are interested in finding the origins of our behavior. This is called zoomorphism, projecting animal-like characteristics onto humans. Somewhere in between anthropomorphism and zoomorphism is the correct balance.

With the help of our growing scientific knowledge, we are slowly learning what is justified and what is not. Baboons do have friendships and they resemble human friendships in many ways. But there are differences. How important are the differences compared to the similarities? Maybe we should develop new words to refer to baboon friendships in order to keep the differences clear or maybe it is more important to emphasize the similarities by using the same words. Answering this question is one of the most interesting challenges facing the modern study of primates and other animals.

How we can use baboons to understand humans today

Just as Washburn suggested, but with a picture of baboons that is drastically different from what he proposed, understanding baboons creates a foundation for understanding human evolution. First, what we know about baboons now demonstrates that many characteristics of behavior

and social organization are not uniquely human, as scientists previously thought. There are even evolutionarily older primate patterns upon which human behavior and society are based. Even the small list that follows suggests that we would be wrong to look for the origin of these behaviors during human evolution. Instead they are the human inheritance from our primate past with which we began our evolutionary journey.

For example, all primates are social and have a strong attraction for others. Society is the product of emotional bonds created between individuals, first among family members and in some complex societies like baboons, between friends as well. Most of what is necessary to successful living has to be learned. This is through observation and play, through trial and error and imitation. Aggression is adaptive but baboons illustrate that even non-human primates have complex options. Some strategies involve skill and management of relationships so as to avoid aggression, and even outwit the aggressor.

Many of the models of human evolution have assumed that the human experiment began with limited social resources, instinctive and compulsory aggression, male domination and rigid hierarchy. But these models seem faulty if we now know that "lowly" baboons are more complex and have more diverse options. Were the earliest humans not as smart or skillful as baboons? By using baboons, we reset the baseline for humans and, in turn, this new baseline forces us to ask old questions in new ways and also to ask new questions.

Let's consider aggression. If we feel modern humans are very aggressive, hierarchical and obsessed with status and dominance, we can no longer say that it is just our "instincts", inherited from our ancient animal past. Instead, in light of the baboon information, we must now ask how humans got this way, having started with a more flexible and diverse baboon-like set of options.

The reconfiguration of questions about human evolution does not stop with aggression. There is controversy about some topics. We now realize that baboons have "minds". This may seem obvious when you watch *Baboon Tales* but since the 1920's, most scientific studies of animals assumed they didn't need "mind". What kind of mind does a baboon have? And how do we study mind since, unlike behavior, we can't directly watch a baboon's mind at work or ask a baboon what he or she thinks? It is the same with "emotions" and with "personality". Scientists are seeking methods that would be appropriate to animal studies, particularly primate studies. If successful, we might end up asking different questions about human emotions and personality.

The early baboon studies intended to use baboons as "models" for the first humans. Today we know that no species can be a "model" for another. Instead, scientists use comparisons across many species to create a framework with which to evaluate any one species, including homo sapiens. The result is more rigorous and accurate evolutionary interpretations.

How we can use baboons to understand nature today

Baboons are like humans and they are different. This set of characteristics makes baboons a useful bridge to understanding "non-human" nature. For example, our awe and amazement about baboons is made possible by our greater ability to relate to them than to, say, an earthworm. Yet, starting with baboons, we may eventually learn to respect less familiar creatures on their own terms, not just because they are like us. The baboons also show us that it is a mistake to put human value judgements on what happens in nature. Predation isn't "bad". The female who injures Rama is not "cruel". There is more to group life than cute babies. You can't, and maybe shouldn't,

intervene to "save" individuals.

From the scientific studies of baboons during the 20th Century, and particularly those of the last 40 years, we now know what makes a baboon population vulnerable to extinction and what basic resources it needs to survive, and even how to save it, if we need to. (See "Moving Day for the Pumphouse Gang", *National Geographic Magazine*, November 1987, and the later chapters of my book *Almost Human*.) *Baboon Tales* helps us to understand what is important to the baboons so that when attempting to save a population, we ensure the continuation of their social world.

It is striking that, even for baboons who have the anatomy of aggression, life is usually peaceful, mundane perhaps, but full of challenges that require smart and skillful solutions. Baboons can't change their sex or family or accidents of history, but they can change almost everything else, including rank, friends, feeding strategy, and mating tactics (within some limits). So their fate is partially within their own control. If this is true for baboons, certainly humans have the same flexibility, although of course the context is infinitely more complex. But humans tend to forget the power of natural cycles and forces. We try to control and tame these forces, but in the end, for us as for the baboons, life has no guarantees.

Before showing the film

1. Discuss what primates are. Discuss what students think they know about monkeys, apes (specifically, what are baboons?) and the relationship between them and humans.
2. Discuss (from background material) why scientists study baboons.

3. Show a segment from the film without the sound.

A CLIP HAS BEEN SELECTED FOR YOU. *(This silent clip can be found after the end credits, at the end of the videotape.)* What do you see and what do you understand? You will then show the complete film with sound.

4. Give other relevant information from Background section.

After the film

Re-show the silent clip again and discuss what they understand now after seeing the film, as compared to what they thought was happening before. If you have time, show the selected clip with sound *(it can be found after the silent clip)* and see whether this gives them any additional information that is useful. If it doesn't, discuss why not. If it does, discuss why and how.

About the Silent Clip

Baboons can't talk so they have to use behavior and their specialized anatomy to communicate their intentions to each other. In this sequence, the two males are "talking" about their relationship using the aggressive signals. Moon is still an adolescent. He is both smaller and less experienced than Gama, an adult male. For the time being he is also lower ranking but this will change over the next few years. There is tension because Gama is close to Moon and their relationship is currently unstable. Moon grabs Kiwi, the infant, to use as a "buffer" against Gama. By holding Kiwi as a shield, Moon gets some extra protection because if Gama continues to be aggressive and frightens Kiwi, the whole troop will come to Kiwi's defense and attack not Moon but Gama.

However, we see in this sequence, Moon's inexperience. Although he is friends with Kiwi and his mother, and Kiwi normally would be trusting and cooperate with Moon "telling" the troop that it is Gama who is

causing the problem, not Moon, the adolescent male forgets to do the right things. He is holding Kiwi too tightly and not giving Kiwi the reassuring grunts and lipsmacks that would calm him. Kiwi is therefore not completely comfortable being with Moon and struggles to get away. Meanwhile, because Kiwi is not so cooperative, the aggression escalates, It goes from the signals of "threat" just yawning and molar grinding (which is so severe that Moon actually cuts his gums and some blood comes out of his mouth) to the next stage, actual chase and counter chase. Male baboons have large upper canines which are kept sharp by grinding on the lower ones. The back of these teeth can be like razors. The canines are used in aggressive "displays". It is like showing your weapons in advance of attack. Actual fighting is relatively rare but when it happens, those canines can inflict a lot of damage. By keeping Kiwi with him, Moon avoids an actual fight.

The aggression fades away without anyone being the winner. This is because Moon had Kiwi, and Kiwi's presence inhibited Gama from a full attack. Afterwards, Kiwi still seeks some reassurance from Moon but the adolescent male still doesn't do what he should. Finally he lets Kiwi go. Later, as the troop leaves the rocks for their daily foraging, Moon tries to make amends and repair his relationship with both Kiwi and the mother. He approaches them with an appropriate greeting of grunting and lipsmacking which says "I am a friend and will do you no harm".

Questions and Projects

1. Compare the first year of life in humans with what you know about Kiwi and Dawa's first year. What is different? What is similar? Are the differences related to the timing of events (for example the same things happen earlier/later) or are they really different in substance and form? Think about landmarks of life in the first year, particularly about what an infant knows, what it can do

and how independent it is. Also think about the social relationships an infant has: who are they with, who started them, and who is responsible for maintaining them?

2. Do the baboons you saw in the film have "personalities"? How would you define personality? Given this definition, could you tell if different baboons have different personalities? Part of what personality is includes the way we react to the world. If baboons have personality, what might cause different personalities to develop? Is this similar to, or different from, humans?

3. The film suggests that baboons "compose" their life using family and friends, through watching and learning, then testing and adjusting. It makes a difference whether you are male or female, who your family is, and....what else might be important? Do humans compose their lives? How? What is similar and what is different?

4. The baboons use both aggression and social strategies to get what they want. However, aggression is often less effective for very "baboon" reasons. Humans may be different. To test this out, create a drama in which you have two groups. One group acts like the bad guys in action videos. They use aggression, power, might to get their way. The other group acts like sophisticated good guys. They make friends, influence people, manage and manipulate relationships to get what they want. This is sort of "Godzilla meets Bambi". Your goal is to find out in what situations the "bad guys" win and in what situations the "good guys" win. You can do this by setting up different objectives. For example, how do you convince someone to go out with you? How do you win a fight? How do you get a piece of a candy bar that someone has, etc.? Once you have enacted these simple situations, make them more complicated and see what happens. For example, the person you want to date is already interested in someone else; the person you are fighting is bigger than

you; the candy bar owner wants something that you have, etc.

5. Humans have baboon-like communication also. This is a system of nonverbal communication consisting of facial expressions, gestures and postures that indicate our emotions. Without realizing it, while we speak we are also giving important information about what we feel. There are several projects that can be done to explore this part of human communication. One thing to keep in mind during these projects is that you can't let your subject know that you are watching otherwise they will freeze up or change their nonverbal behavior in reaction.

a.) Secretly pay attention to the facial expression of someone who is talking to you and see if you get extra information that way. Are they telling you the truth? In other words, are the emotional communication and the talking communication saying the same things? Try lying to someone and see if they can tell (your mother would be very good at detecting lies based on your nonverbal communication!).

b.) Create experiments with two sets of people. One group will be asked to say certain things about themselves that are true and some things that are false. The second group tries to guess what is true and what is false. Afterwards discuss whether the evaluators who were correct used cues from the nonverbal communication of the proposers.

c.) It is interesting to watch a group of people respond to one person who is talking. A good situation is a classroom where there are the students listening and the teacher teaching. Paul Ekman who studies human nonverbal communication found that those who like or agree with the speaker often shift their positions and move in ways that correlate with the speakers movements while those who disagree or don't like the speaker shift out of sync. Without attracting attention to yourself, watch your classmates when the teacher is talking and see what happens in body movements. You might also want to look

at facial expressions that are exchanged between students and teachers, particularly at a time when the two might not agree on an assignment or a task.

d.) Small children are not so good at communicating with words. Instead they really use the other channels to communicate what they think and what they need. Go to a preschool and observe how the nonverbal and the verbal are used. Compare this to a groups of successively older children at your own or another school. Can you trace the shift from nonverbal, baboon-like, communication to the more human reliance on language to convey what we mean?

e.) Try to communicate something without using words. This is not like charades because you can't use any symbols or shake your head "Yes" or "No". You can only use your facial expressions, postures and the shape of your body. You will notice that it is nearly impossible to say anything complex except if something happens around you and you are showing a reaction which the audience can interpret in terms of that context. (This is exactly what baboons do.) Also remember that you, as a human, are at a disadvantage compared to baboons, because you lack the special body features adapted to nonverbal signalling that they have, like big canines, hair that stands erect, white eyelids to flash, etc.

6. What difference would a human language (words/symbols) make to the baboons? Could they do things differently? Better? Faster? Think concretely and systematically about the infants, the mothers, young males like Moonbase, Gama and his brothers, and the old female Zilla.

7. Do you think the baboons understand death? Discuss the example from the film. Are there other non-human animals that might comprehend death? Given what you have just discussed, what abilities are needed in order for an animal to have a concept of death? Does it need a large brain? Consciousness? The ability to recognize others as individuals? A concept of self? A way to

symbolize or understand time (past, present, future)?

8. The baboons seemed helpless in the face of the drought. Their fate was determined by whether the rains came. There was nothing they could do but wait and see, struggling as best they could in the meantime. Were the Masai pastoralists better able to cope with drought? Why and how? Are we more modern and industrialized societies better able to cope with drought? Why and how?

9. Humans care. Usually we care because we can identify with people or things. We can empathize or sympathize with them. We can put ourselves in their place and sometimes we care for others because we care that it could happen to us. Identification is therefore a very powerful tool in building concern. For example, we never think about stepping on an ant and yet we laugh and cry at the fortunes of ants in *Honey I Shrunk the Kids* or in *Antz*. This is because we have been able to identify with the ants as individual characters, even though they are insects.

Baboon Tales may have had more impact on you because there were distinct individuals whom you came to know and like. Think about your reaction to the baboons in the film and compare what you feel about the baboons that are named and treated as individuals and those who are in the film but are not identified with names. This raises a very important issue in today's world. Can humans be concerned, care, about parts of nature with which they cannot identify: the small things like bacteria, fungus, insects, birds or the larger things like a herd of wildebeest or elk or the really large things like ecosystems? Can we conserve nature if we don't have a feeling for the organism?

10. Recently, many scientists and international personalities have argued (*The Great Ape Project*) that the UN charter on human rights should be extended to include chimpanzees because they are so like humans. They have

even suggested that a "country" in Africa be set aside as a chimpanzee "homeland". Baboons seem like us in many ways also, once we understand their lives and society. Do you think chimpanzees and/or baboons should be treated as humans and granted "human rights"? If you agree, are there other animals to which you would extend these rights? Where would you stop? When the "human" rights of humans and of chimps come into conflict, how would you decide what to do?

11. What else would you have liked to know about the baboons in this film?

Key Concepts

1. Baboons are primates, so are humans. We are both similar and different because of our evolutionary history.

2. Being social is a primate's most important resource. As part of a social group, an individual gets protection, knowledge, mates and social partners.

3. Baboons have strong family ties. These are mother-based families (matrilines) which can extend across generations from grandmother to grandchildren. Families stick together, prefer each other's company, and defend their own. There are no known "fathers", but adult males often make friends with either a mother or her infant, and act like a surrogate father.
4. Baboons live in an orderly society and often have a rank relative to other baboons. Whole families rank above or below other families. An infant assumes its family's rank at birth, but depends on the rest of the family to enforce that rank until it is older.

5. Baboon friendships are important. Friends are like family, and friendships are created through grooming and proximity, and offer company and mutual assistance.

6. Baboons have social strategies which can be used in defense and in competition with other baboons. Big males need to be friends with infants because they can use an infant friend as a shield during a fight with another male. Friendships, like that between adult males and females, offer advantages to both partners and can be seen as part of "social strategies".

7. There is no one leader among baboons. Individuals have influence depending on their age, rank, family size, friends, skill and knowledge. Because of the variation in all these characteristics, individuals exert different degrees of influence in different situations.

8. Baboons are born knowing nothing. To be a successful adult they have to learn not just what to eat and where to find it and what dangers they might encounter, but also how to create and maintain relationships and navigate the complex web of their society.

9. Growing up baboon takes a long time. Even by 1 year of age, an infant baboon is just beginning to know what to eat and how to get it efficiently. The infant at that age knows only a fraction of what it needs to understand about relationships and the society in which it lives. By adolescence, knowledge about what to eat and where to find it is nearly complete but social skills still need to be perfected.

10. Baboons don't learn by going to school or by someone actively teaching. They learn by watching and imitating. The mother is the first model, then other family members and friends, and then they learn through play with other youngsters.

11. Aggression is not that common among baboons. When it occurs it is usually bluff but the rare serious fights are what give bluffs their meaning.

12. Although baboons are capable of aggression and use it selectively, much of what happens in daily life revolves around who is related to whom and who is friends with whom. Important relationships among family and friends are created and maintained by grooming and by being physically close.

13. For baboons, their social life and society is intimately tied up with the environmental conditions. How much food there is determines how far they range in a day, their physical condition, the timing of births and deaths, whether there is energy enough to play or mate or fight, and how much free time everyone has.

14. The baboons have a daily routine that begins at the sleeping rocks and ends at the sleeping rocks. There are periods of intense social activity, of foraging, and of resting. This routine varies depending on the season and the availability of food.

15. The baboons, and their neighbors the Masai pastoralists, face the same problems and environmental hardships, but the Masai have human advantages: tools, language, growing their own food, division of labor between individuals, and sharing of resources.

16. Baboons live in a complex society composed of family, friends, acquaintances, playmates and individuals, who are both friendly yet might be temporarily hostile.

17. To become a successful baboon you need intelligence, skill, knowledge, experience and help from your family and friends.

Glossary

Note: There are no technical words in the script for the film. The following few words might need definition or clarification.

aggression: threats of physical harm done to others or actual attacks.

agonistic: includes both aggressive behavior and the submissive behavior that is often used to prevent or stop aggression from happening.

buffer: (or agonistic buffer) to use another individual as a shield to protect against someone else's aggression.

boma: the enclosure used to contain the livestock of Masai pastoralists, a "corral".

grooming: searching for and removing debris and parasites from the skin; although grooming has a hygienic function, it is also the main way to create and maintain emotional bonds between individuals.

Masai: a pastoralist tribe (cattle/sheep/goat nomadic herders) that lives in East Africa.

nonverbal communication: gestures, postures and sounds used in communication between individuals, mostly unconsciously and mostly about emotional states.

present: to present your behind in a gesture of greeting, submission or sexual solicitation to another individual.

sexually receptive: baboon females have sexual cycles much like humans only they last 40 days instead of 28. In the middle, at the time of ovulation, females are able to conceive and are interested in sexual behavior.

social complexity: social life which has many dimensions and many relationships that come into play simultaneously.

social network: the system of relationships that tie baboons together, primarily family bonds, friendships, hierarchy, alliances and antagonisms.

troop: the social groups of many monkeys are called troops.

Further Reading

General Animal Behavior

There are many classic books which are now out of print but are available in the library.

*Note: I have tried to select books that are written for a general audience and that might still be easily available. *Denotes more technical books*

Classical Ethology

Niko Tinbergen, *Curious Naturalists*
Konrad Lorenz, *On Aggression*
Konrad Lorenz, *King Solomon's Ring*

Evolutionary Theory

Charles Darwin, *Origin of the Species*
Charles Darwin, *The Descent of Man and Selection in Relation to Sex*
Loren Eiseley, *Darwin and the Mysterious Mr. X*
Stephen Jay Gould: *Ever Since Darwin, The Panda's Thumb*, etc.
Jonathan Weiner, *The Beak of the Finch*

Sociobiology and Behavioral Ecology

Richard Dawkins, *The Selfish Gene*
Richard Dawkins, *The Blind Watchmaker*
E.O. Wilson, *Sociobiology**

Human Evolution

Jared Diamond, *The Third Chimpanzee*
Donald Johanson and Blake Edgar, *From Lucy to Language*
Donald Johanson, Lenora Johanson and Black Edgar, *Ancestors: In Search of Human Origins*
Roger Lewin, *Bones of Contention*
Glenn Conroy, *Reconstructing Human Origins: A Modern Synthesis**
Robert Foley, *Another Unique Species**

Primates: General

Noel Rowe, *The Pictorial Guide to the Living Primates*
Linda Fedigan, *Primate Paradigms*
Alison Jolly, *The Evolution of Primate Behavior*
Robin Dunbar, *Primate Social Systems**
Alison Richard, *Primates in Nature**

Baboons

Hans Kummer, *In Quest of the Sacred Baboon*
Eugene Marais, *The Soul of the Ape*
Shirley C. Strum, *Almost Human*
Jeanne Altmann, *Baboon Mothers and Infants**
Timothy Ransom, *Beach Troop of the Gombe**
Barbara Smuts, *Sex and Friendship in Baboons**

Apes

Dian Fossey, *Gorillas in the Mist*
Biruti Galdikas, *Reflections of Eden*
Jane Goodall, *In the Shadow of Man*
Jane Goodall, *Through a Window*
Frans de Waal, *Chimpanzee Politics*

Conservation

Jonathan Adams and Thomas McShane, *The Myth of Wild Africa*
Alston Chase, *Playing God in Yellowstone*
Jan DeBlieu, *Meant to be Wild*
Dale Peterson, *The Deluge and the Ark*

David Quammen, *Song of the Dodo*
Philip Sabecoff, *A Fierce Green Fire*
David Western, *In the Dust of Kilimanjaro*
Roderick Nash, *Wilderness and the American Mind**
Roderick Nash, *The Rights of Nature**
David Western, Michael Wright and Shirley C. Strum, *Natural Connections**

Animals Rights

Peter Singer, *Animal Liberation*
Paola Cavalieri and Peter Singer, *The Great Ape Project*
Tom Regan and Peter Singer, *Animal Rights and Human Obligations*
Marian Stamp Dawkins, *Animal Suffering: The Science of Animal Welfare*
Deborah Blum, *The Monkey Wars*
Douglas Preston, *Jennie: A Novel*
Bryan Norton, Michael Hutchins, Elisabeth Stevens, and Terry Maple, *Ethics on the Ark**

References

Background Section

Primates: see above

Evolutionary Theory: see above

Ethology: see above

Modern Studies of Primates: see above

Washburn and baboons

Note: All the Washburn related references to these issues appear in *The New Physical Anthropology,* S.C. Strum, D. Lindburg, and D. Hamburg, Eds, (Prentice Hall, 1999)

1951 "The new physical anthropology", *Transactions of the New York Academy of Sciences*. Ser. II 13:298-304
1962 "Analysis of primate evolution with particular reference to the origin of man" in W.W. Howells (ed.) *Ideas on Evolution: Selected Essays*, 1949-61. (Harvard University Press)—with DeVore
1961 "Social behavior of baboon and early man" in S. L. Washburn, ed., *The Social Life of Early Man. Viking Fund Publication in Anthropology No 31*. (New York: Wenner-Gren Foundation)
1961 "Social life of baboons", *Scientific American* 204:62-71.

Baboon model

Robert Ardrey, 1961, *African Genesis*
Robert Ardrey, 1966, *The Territorial Imperative*
Lionel Tiger and Robin Fox, 1971, *The Imperial Animal*
Lionel Tiger, 1969, *Men in Groups*

Other Baboon Studies

(representative books and papers)

Stuart Altmann and Jeanne Altmann, 1970, *Baboon Ecology: African Field Research.*
William J. Hamilton and J. Bulgar, 1990, "Natal male baboon rises in rank and successful challenges to resident alpha males", *Behavioral Ecology and Sociobiology* 26:357-362.
Glenn Hausfater, 1975, *Dominance and Reproduction in Baboons (papio cynocephalus).*
Craig Packer, 1977, "Reciprocal altruism in *Papio anubis*", *Nature* 265:441-443.
Timothy Ransom, (see above)
R.J. Rhine, 1975, "The order of movement of yellow baboons (*Papio cynocephalus*)", *Folia Primatologica* 23: 72-104.
Thelma Rowell, 1966, "Forest living baboons in Uganda", *Journal of Zoology* 149:344-364.
Robert Sapolsky, 1990, "Adrenocortical function, social

rank, and personality among wild baboons", *Biological Psychiatry* 28: 862-879.
Robert Seyfarth, 1978, "Social relationships among adult male and female baboons", II Behavior throughout the female reproductive cycle. *Behaviour* 64: 227-247.
Barbara Smuts, (see above)
Samuel Wasser, 1993, "Reproductive competition and cooperation among female yellow baboons", in S. Wasser, ed., *Social Behavior of Female Vertebrates.*
A. Whiten, R. Byrne, and S.P. Henzi, 1987, "The behavioural ecology of mountain baboons", *International Journal of Primatology* 8:367-388.

Studying an animal that doesn't talk

see references listed above under "ethology", "primates", "baboons", "apes", and specific baboon references
Also check out Paul Martin and Patarick Bateson, *Measuring Behavior: An Introductory Guide.*

Using baboons to understand humans

see references listed above under "human evolution", "sociobiology and behavioral ecology", "baboons", "animal rights".

Using baboons to understand nature

see references listed above under "evolutionary theory", "conservation", "animal rights".

Articles

"Life with the Pumphouse Gang", *National Geographic Magazine*, May, 1975.
"The Gang Moves to a Strange New Land", *National Geographic Magazine*, November 1987.
"Animals at Play", *National Geographic Magazine,* December, 1994.
"Moving the Pumphouse Gang", *International Wildlife*, May/June 1998.
"A Kenya Sketchbook", *Natural History Magazine*, December 1996.

Book

Almost Human: A Journey into the World of Baboons. Norton publishing. Paperback Edition

Television Features

PBS: *Kratt's Kreatures: Mgobo of Baboon Mountain*
Survival Anglia: *History of the Pumphouse Gang*
Wild Guide: *Baboons*
National Geographic Explorer: *Among the Baboons*

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