

Culture and Gender do not Dissolve into how Scientists “read” Nature: Thelma Rowell’s Heterodoxy

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Rebel Animals

“The males of nearly every social primate play a special role in challenging predators, particularly if an infant is threatened”, primatologist Alison Jolly wrote in her 1972 book *The Evolution of Primate Behavior*. More precisely, “defense seems to be a male role throughout at least the monkeys and apes. Furthermore it may be concentrated among the dominant males, as in macaque troops, or even be the clearest sign of dominance, in the cebus monkey(...). When a savanna-living baboon troop encounters a big cat, it may retreat in battle formation, females and juveniles first, the big males with their formidable canines last, interposed between the troop and the danger.” This beautiful pattern, however, Jolly concluded, has one exception: “Rowell’s forest-edge baboons simply run away to the safety of the trees, each at his own speed, which means strongest males first and females and infants lumbering at the rear.”¹ In the case of these baboons, as Thelma Rowell herself later states, there was no heroism going on at all.²

Jolly mentions also that among Rowell’s baboons, young male infants get more attention from the males than do young females, a fact that has never been described in any other baboons.³ But the strangest thing comes out when Jolly compares the social behavior of these baboons with those that have hitherto been observed in all studies. In Rowell’s troop, males were extremely peaceful: they formed a coherent cohort, “constantly aware of each other’s movements, but with scarcely any aggressive interactions.”⁴

These eccentric baboons had been observed from the beginning of the 1960’s at the edge of the forest of Ishasha, in Uganda, by the primatologist, Thelma Rowell. From her very first descriptions, Rowell’s observations contrasted sharply with those of her colleagues working with similar animals.⁵ Not only were Rowell’s baboons peaceful, but males were bizarrely not competitive. There was much positive or friendly interaction. Aggression was rare, even at feeding places: baboons almost never stole food from each other. A typical day of an Ishasha adult baboon involves long periods of social interactions, playing and reciprocal

¹ Alison Jolly, *The Evolution of Primate Behavior* (New York: Macmillan Publishing, 1972), 73.

² Thelma Rowell, my interview, June 2003. This interview was carried out June 1-3 2003 during the making of a documentary (Vinciane Despret and Didier Demorcy “Non Sheepish Sheep”, 2005) for the exhibit “Making things public. Atmospheres of Democracy”; ZKM of Karlsruhe, Germany, spring 2005. See also Vinciane Despret, “Sheep Do Have Opinions” in the catalog of this exhibition (edited by Bruno Latour and Peter Weibel) (Cambridge (Mass.): ZKM&MIT Press, 2005).

³ Jolly, “The Evolution of Primate Behavior”, 250.

⁴ Jolly, “The Evolution of Primate Behavior”, 181.

⁵ Thelma Rowell, “The Habit of Baboons in Uganda”, *Proc. E. Afr. Acad.*, Vol. II (1964); « Forest-living baboons in Uganda », *J. Zool. Lond.*, 149 (1966).

grooming. Of course, there are some tensions between males, but these are mainly expressed by an absence of grooming between themselves and a high frequency of exchange of gestures of “politeness” or “conciliation”. “The dominant impression of interaction between males”, Rowell concluded, “was that of active cooperation.”⁶

Baboons had hitherto been unanimously described as extremely competitive, intensively aggressive towards each other and involved most of the time in fight over food or females. This picture of very aggressive and very competitive animals originated, in fact, at the end of the 1920’s, with the observations that the zoologist, Solly Zuckerman,⁷ had made in the colony of hamadryas baboons in the London zoo. The story of this colony considerably influenced the construction of this image and the theories which accounted for social organization of primates: of the one hundred baboons, mostly males, which founded this colony in 1925, twenty seven adults died during the first six months, most of them showing wounds indicating recent participation in fights. In 1927, thirty adult females were brought to the remaining population: things only got worse and fights over females exploded. Today, we realize that the colony contained too many animals, stranger to each other, in too small a space and combined in inappropriate sex ratio. Zuckerman, however, believed he was watching “normal” behavior and extrapolated from his observations a general thesis of social organization in primates: sexual instincts were the cement of the group, sexual competition the basis of primate society.⁸

From Zuckerman’s observations grew a theory that was to become a hallmark of primatology: dominance-hierarchy is the most important principle of all primate social organizations. Defined as priority of access to desirable objects, dominance was based on the ability to fight.⁹ However, ultimately, the function of dominance was to reduce the amount of aggressive behaviors in the group; once dominance was established, supplanting and avoidance interactions replaced the fights over desirable objects. Dominance had also selective advantages: since the desirable objects included oestrous females, dominance would imply increased numbers of descendants for males. According to this theory, females had no social role and had no rank in the hierarchy, other than subordinates. “Female baboons are always dominated by their males,” Zuckerman wrote, “and in many situations the attitude of a female is of extreme passivity.”¹⁰

With subsequent researches, in captivity as in the wild, scientists’ interest in dominance theory continued to grow; they also retained their conviction regarding females’ social insignificance. These views of primate’s social organization still held true at the end of the 1950’s, in the writings of the most influential primatologists: the physical anthropologist Sherwood Washburn, observing baboons in Southern Rhodesia, and his student Irven DeVore, working in Kenya, wrote that “the main characteristics of baboon social organization (...) are derived from a complex dominance pattern among adult males that usually ensures stability and comparative peacefulness within the group, maximum protection

⁶ Thelma Rowell, *Social Behaviour of Monkeys* (Harmondsworth: Penguin Books, 1972), 44.

⁷ Born in South Africa, Solly Zuckerman carried his studies at the London Zoo where he was Research Anatomist in the early 1930s.

⁸ Solly Zuckerman, *The Social Life of Monkeys and Apes* (London: Routledge, 1981, first ed. 1932), 218-219.

⁹ Sherwood Washburn and Irven DeVore “Social Behavior of Baboons and Early Man” in *Social Life of Early Man*, ed. S.L. Washburn, 95 (London: Methuen, 1962).

¹⁰ Zuckerman, 237.

for mothers and infants, and the highest probability that offspring will be fathered by the most dominant males.”¹¹

As philosopher of science Donna Haraway notes, dominance became to primatologists what kinship had been to anthropologists: “at once the most mythical, most technical, and discipline-grounding of a field’s conceptual tools.”¹² Dominance hierarchy was so commonly accepted, Rowell herself remarks, that where groups had been observed in which the usual criteria of rank were not obvious, the concept of “latent dominance” was used to explain an apparent lacuna in an otherwise universal phenomenon. If we go back to the baboons observed by Thelma Rowell, we may now give a full account of their oddity. In all studies the same pattern of organization was observed: baboon societies were male centered, competitive over females and food, very aggressive, rigidly organized, and hierarchical. Social roles were sexually distributed: males were leaders, defenders and policers while females were described as dedicated mothers to small infants, and sexually available to males in order of the males’ dominance rank, but otherwise of little social significance.

In Rowell’s troop, not only did it seem as if the baboons were living in peace and harmony, with little or no competitive interaction, but there seemed to be no observable hierarchy as well. It could neither be detected among males themselves, nor, even more surprisingly, could it be inferred in the relationships between males and females. In fact, females seemed to hold what all other studies considered as the dominant male’s role. Whereas in all troops males were leaders, in Rowell’s group it was the older females that determined the daily route. Everywhere, males had been the center of the troop. In Rowell’s baboons, it was the females who acted as a focus of the group’s social activity. They were, in fact, the nucleus of the troop.

“Contrariness”

Are we to imagine then that these animals have been infected by some sort of “contrariness” - what has since been called, by some primatologists, the “Thelma effect”?¹³ Of course, “contrariness” had actually been used to characterize a human heuristic device, the practice of thinking “thoughts opposite to the currently accepted ones”; but how then are we to understand how a scientist’s thinking thoughts opposed to the general way of thinking can lead to animals behaving bizarrely or unexpectedly?

One could close this debate by referring to those arguments put forward by science studies experts who conclude that animals are guided by the expectations of those who study them. We are reminded of Bertrand Russell’s astonishment at the high incidence of animals conforming to the behavior expected of them by observers.¹⁴ Before Rousseau, they were ferocious beasts, subsequently conforming to his noble savage cult. During the Victorian period, primates were virtuous monogamists; during the post-Freudian era of sexual liberation, one could have been appalled by the considerable deterioration of their moral standards.

¹¹ Quoted by Allison Jolly, “The Bad Old Days of Primatology?” in *Primate Encounters: Models of Science, Gender and Society*, ed. S. Strum and L. Fedigan, 78 (Chicago: University of Chicago Press, 2000).

¹² Donna Haraway, *Primates Visions*, (London: Verso, 1992)164.

¹³ Shirley Strum, « Science Encounters » in Strum and Fedigan, 484.

¹⁴ Bertrand Russell, *An Outline of Philosophy* (London : Allen&Unwin, 1927).

If we adopt this research framework, the tracks are laid out for us: we could assume that baboon females may claim for a social role when it is a female primatologist who observes them; or that the male baboons act considerably less heroically or certainly more peaceably when their story is told by a woman. Thelma Rowell's "contrariness" can be put down to a matter of gender. Solly Zuckerman had, himself, affirmed in 1963 that "among field workers the observer's own temperament and sex might be an important filter in determining, for example, the amount of agonistic behavior observed and reported in groups of primates"¹⁵. Primatologists Shirley Strum and Linda Fedigan note, in their introductory chapter to the book *Primate Encounters*, the considerable change in scholars' interpretation of primate behavior: "We have moved from a general vision that primate society revolves around males and is based on aggression, domination, and hierarchy to a more complex array of options based on phylogeny, ecology, demography, social history and chance events. The current image of primate society, (...) would be a strong counterpoint to the earlier view. It would highlight the importance of females within society, emphasize tactics other than aggression (particularly those that rely on social finesse and the management of relationships), and argue that hierarchy may or may not have a place in primate society, but that males and females are equally capable of competition and rank ordering"¹⁶. These changes, the authors add, have generated a great deal of interest among feminist historians of science, and in the popular media, because they have been linked to a provocative claim: that women scientists played a major role in the revision of the primate's image.

Numerous observers among primatologists and science studies scholars have suggested that women observed differently. For some, women's patience makes them ideal observers.¹⁷ The well-known paleoanthropologist, Louis Leakey, deliberately chose to send women — Jane Goodall in the early 1960's, and later, Diane Fossey and Biruté Galikas — into the field because he assumed that they were better observers of primates and would be more emotionally connected to their subjects, the animals¹⁸. This characteristic has been largely supported by what has been called the "*National Geographic* effect" which "had done much to create the myth that primatology is a type of mothering activity."¹⁹ This conception gives rise to the idea that women are better observers of animals because they have a special relationship with nature.

Another line of argument is proposed by the feminist philosopher of science, Donna Haraway, who suggests that "the unifying theme in the primatology done by women has been their high likelihood of being skeptical of generalizations and their strong preference for explanations full of specificity, diversity, complexity, and contextuality. In the 1960s, consider Jane Goodall, Thelma Rowell, Alison Jolly, Phyllis Jay, and Suzanne Ripley."²⁰ We can certainly find some similarities between Thelma Rowell and those few women who were working in

¹⁵ Quoted by Thelma Rowell, "Variability in the Social organization of Primates" in *Primate Ethology*, ed. Desmond Morris, 222 (London: Weidenfeld&Nicolson, 1967).

¹⁶ Shirley Strum and Linda Fedigan, "Introduction", in Strum and Fedigan, 5.

¹⁷ See for a good account on these issues Londa Schiebinger. *Has Feminism changed Science?* (Cambridge, MA: Harvard University Press, 1999).

¹⁸ This hypothesis, we should note, discloses some of the privileged links our cultural tradition makes between women, nature and emotions. See Vinciane Despret *Our Emotional Makeup* (New York: Other Press, 2004) and Donna Haraway, "Primates Visions".

¹⁹ Linda Fedigan, « Science and the Successful Female : Why There Are so Many Women Primatologists », *American Anthropologist*, 96, 1994: 529-540.

²⁰ Haraway, "Primate Visions", 397, fn.13.

the field of primatology right at the beginning of the 1960's. For instance, Jolly is often compared to Rowell in that both are recognized²¹ for having shown very early on that the generalizations of primate behavior based on very few field studies were, as Rowell herself stated, "too slender pillars to support the edifice built on them."²² It is no coincidence that Jolly, when she reviewed the results of primate studies, enthusiastically underlined the baboons extravagances described by Rowell. Jeanne Altmann may also be compared to Rowell²³ : not only did Rowell suggest that females are the nucleus of the troop; she also stressed the value of adopting the female monkey's point of view in that it has the power to challenge accepted explanations.²⁴ Altmann, for her part, proposed new sampling methods that encouraged the inclusion of females as research subject. Common characteristics are also mentioned between Jane Goodall and Rowell : notably, they were both credited for having succeeded in shifting primatology's focus on group dynamics to the individuality of monkeys, a very different approach to that taken by ethology.²⁵ Still in the beginning of the sixties, Phyllis Jay's descriptions of a troop of hanuman langurs in Central India were that of peaceful and relaxed males living in perfect harmony; dominance was not particularly visible or important in langur life. Similarly to Rowell, she suggested that females are the core of the group's social life.²⁶ It is worth mentioning, even if Shirley Strum appeared more than ten years later, that the latter also challenged the dominance model in baboons—with equally iconoclastic observations.²⁷

All these women share one common feature: they have taken an original stance in their field. May these marginal positions be linked to the scientist's gender? Let us put this hypothesis to the test by reviewing the events that led Thelma Rowell to take up heterodox positions.

Being a Woman Primatologist

Originally, Thelma Rowell had no ambition to become a primatologist²⁸. Born in Bradford, in Yorkshire, in 1935, she studied zoology at Cambridge and planned to work on rodents. At the beginning of the sixties, after her ethological dissertation on maternal behavior in golden hamsters, the zoologist, Robert Hinde, invited her to work as research assistant in the Madingley Laboratory at Cambridge University. She then started to work with captive monkeys and undertook with Hinde a number of mother-infant studies.

In 1961, inconspicuously signing herself T.E. Rowell, she submitted a paper on her findings to the Zoological Society of London Journal. The society was impressed and invited T.E. Rowell to come down from Cambridge and give a talk to the fellows; but when it was discovered that T.E. Rowell was, in fact, a woman, there was some embarrassment. She was

²¹ Haraway, "Primate Visions", 124.

²² Rowell, "Variability in the Social Organization of Primates", 220.

²³ Jeanne Altmann was a mathematician who worked on the field of primatology with her primatologist husband, Stuart Altmann.

²⁴ Rowell, « Introduction. Mothers, Infants and Adolescents » in *Female Primates : Studies by Women Primatologists*, Meredith Small ed.,16 : (New York : Allan and Liss, 1984).

²⁵ Donna Haraway, "Primate Visions", 301.

²⁶ See Jolly, "Variability in the Social organization of Primates", 181 ; Strum and Fedigan, 12.

²⁷ Strum showed that male investment in "special relationships" with females had greater payoff than did a male's rank in a dominance hierarchy.

²⁸ Considering the increasing number of women primatologists in the 1980's, some commentators have suggested that the choice of studying primates was linked to gender, (Fedigan, "Science and the Successful Female").

able to give the lecture but not to sit with the fellows for dinner because of her sex. The solution was to ask her to sit behind a curtain, out of sight, and eat her meal. She declined.

This anecdote provides a good illustration of the situation faced by women in the field of ethology, particularly those wishing to pursue an academic career. There was no question of employment for women at a university at that time. However, women could get grants for research. That is what Rowell did.

In 1962, she followed her husband, a neuro-ethologist, to Uganda, where he held a post at Makerere University. She decided to continue with her own primate field studies and embarked upon a study of the olive baboon in a forested area of the Queen Elizabeth Park – the forest of Ishasha. Rowell habituated the Ugandan forest baboons to her presence and began her research, spending two weeks with the baboons and two weeks in Kampala, working there with captive monkeys. The main focus of her research was to compare the social behavior of wild and caged baboons, and try to find a way of assessing the differences between them. This research broke new ground in two ways. In captivity, on the one side, Rowell invented sophisticated cage-design that considerably reduced stress and competition among the animals. She built large cages in which cover was provided by a series of solid partitions so arranged that each animal could choose to be out of sight of his companions; the group could subdivide in more complex ways. She also took care to give more than one source of food and water so as to reduce competition. In the field, on the other side, she would stay five years with the baboons of Ishasha, an exceptionally long period for this era.

Here is another common feature with other women working in primatology in the beginning of the sixties: all women remained in the field longer than the majority of men. The hypothesis according to which women were better observers because they were more patient or more emotionally connected to their animals therefore deserves a slightly different version: women had observed other things because they had stayed longer with their animals. The hypothesis “they stayed longer because they were women” is of course correct, provided we give a historical and social meaning to the word “woman” — as having no access to an academic position.

Staying longer in the field had major consequences. Rowell was able to achieve an unexpected proximity; habituation allowed for closer observation and for a greater ability to recognize the individuals of the troop. Let us take, for example, Rowell’s iconoclast proposition according to which females are the core of social organization. One could suggest here that it was because Rowell was a female herself that she took an interest in females.

Things however are slightly more complicated. The female’s central role hypothesis actually came out from a totally unexpected observation: in Rowell’s troop, no adult male had stayed through the entire time of the study ; they constantly moved from one troop to another. Until then, primatologists held the firm belief that individuals stay in the same group for their entire life. No scientist had remained long enough in the field— or was sufficiently familiar with his animals to be able to recognize individuals— so as to detect the males’ nomadic movements. This finding could radically challenge all the accepted ideas about social organization in baboons: indeed, Rowell concluded, if males never remain more than a few weeks or a few months, they surely cannot act as the nucleus of the troop; who can therefore? Rowell’s observations answered the question: all the animals of the troop repeatedly solicited grooming from the females, who as a result acted as a focus of the group’s social activity. This role was accentuated by the interest all baboons had in the young infants, who are, of course, with their mothers. In the same vein, one may understand why the older females held the role of leader in the daily foraging trips. After all, who, in a given territory, knows where to find the figs at a given moment, water in periods of drought? Those who have lived their entire life in that

environment and who have learned all the secrets of this environment from their own mothers and grandmothers. These are the females.

Isn't Dominance a Male's Problem?

We are still left with an unresolved oddity of the baboons of Ishasha: they were not aggressively competitive and, above all, did not demonstrate the rigid dominance hierarchy that was the characteristic of all primate species. Here again, the hypothesis of the influence of the observer's gender had been suggested —we have already referred to Phyllis Jay's description of peaceful and relaxed langur males for which dominance was not particularly important. It is also worth mentioning the early accounts Goodall gave about her chimpanzees associating fluidly and forming a harmonious open society²⁹. Should we then accept Zuckerman's argument that there was a difference between the way men and women detect or construe competition and aggressive behaviors?³⁰

Rowell, in fact, chose a radically different path. Of course, whether or not the animals are competitive, whether or not they are rigidly, hierarchically organized actually depends on the observer. However, it is not a matter of how the observer *interprets, construes, subjectively perceives* the situation as these theories assume. Rowell's explanation is much more provocative and, above all, more radical: hierarchy is really nothing but an effect of observation. In other words, dominance hierarchy only exists where the observer creates it. It is an artifact.

In captivity, Rowell explained, hierarchies are known to flourish under two conditions: those in which monkeys are total strangers to each other and those where they lack the facilities ordinarily available in the wild. For example, hierarchical behavior might be induced by reducing the available space or by making animals compete for food. This is precisely how dominance experiments are usually carried out. "The experimenter will report that his trials have demonstrated a dominance relationship between the monkeys, while in fact they (the trials) have actually *caused* it."³¹ In the wild, the process is very similar. Let us point out that before the practice of habituation, the covert method used by primatologists to achieve some (relative) proximity with their animals (in a very short time) was provisioning³². Unknown to

²⁹ I say "early" accounts as far as the descriptions of the chimpanzees will dramatically change at the end of the sixties— see further for a plausible hypothesis.

³⁰ It is important in this discussion to remind the reader that, in the beginning of the 1930's, Clarence Ray Carpenter observed howler monkeys in the island of Barro Colorado (Panama) and reported that howlers rarely threatened each other at all. Chacma baboons, observed by Ronald Hall in the beginning of the 1960's in South Africa, behaved, according to Rowell, much more like "her" baboons than the ones Washburn and DeVore observed... "so it was assumed that they belong to a different species". Rowell, « Forest Baboons- A Recantation ». Unpublished paper prepared for the Seminar of the Wenner-Green Foundation, « Baboon Field Research : Myths and Models » ; June 25-July 4, 1978.

³¹ Rowell, "The Concept of Social Dominance" *Behavioral Biology*, 11 (1974) :136.

³² "This," according to Rowell, "may also explain the historical change in perspective about chimpanzee society observed by Goodall's team, with the original stories from each of several study sites being amazed that the peaceful nature of chimp society, and then increasingly stories about aggression". Provisioning had progressively accentuated competition among chimpanzees and produced social disruption. (Interview; Rowell is referring to Margaret

the scientists, this changed the behavior of the animals. For instance, the baboons that were described as aggressive to each other and involved in frequent dominance interactions were, in fact, brought into competition for titbits thrown from the observation vehicle. Rowell stresses that in the film made in Nairobi by the American primatologist, Irven DeVore, for his students, “the commentary points out very clearly the central position of the dominant male. If you turn off the sound, the students are more likely to spot the peanuts being thrown during filming. The center, in this case, was defined by the trajectory of the peanuts, which were mostly intercepted by the adult males.”³³

It seems quite possible that many of the characteristics which had been thought to belong to the normal repertoire of baboons, Rowell concluded, and she explicitly mentioned DeVore’s work of 1964, “might in fact be related to artificial feeding. One such a character is a high degree of aggressiveness and obvious hierarchy among adult males, which were described for macaques and baboons which were fed, but not seen in the Ishasha baboons which were not.”³⁴ Ishasha baboons, therefore, were not so eccentric: they were just observed by a cautious primatologist. And other baboons testify only about one thing: rigid hierarchy is nothing but the animal’s answer to the social disorder created by the setting; it is the answer to the competition-inducing stress imposed by the observers.

Until then, no researcher had even questioned the existence of dominance— understandable, as this concept was the pillar of all the models of organization of primates. Let us remember that the concept of “latent dominance” was used for the groups in which the usual criteria of rank was not obvious. Rowell, in this respect, had radically been an iconoclast. We cannot however neglect the fact that other women would also criticize the dominance-hierarchy model. Alison Jolly did not seem to deny the concept itself, but challenged the view that aggressive dominance is universal in primates³⁵. In the 1970’s, Shirley Strum would adopt a more radical stance claiming that hierarchy is a myth. Other feminist scientists, like Fedigan, would likewise criticize the model. Should we not assume then that being a woman might have made certain scientists more suspicious concerning this type of theory? A hypothesis taken by the feminist “Standpoint theories” could be put forward here: the fact of having suffered the effect of sexism— the effect of being subordinate in a rigid male dominance system— may have given women scientists an “epistemic privilege”.³⁶ This standpoint brings with it an acute sensitivity, creates a critical consciousness, concerning the way male scientists give preference to models based on competitiveness and dominance. Without a doubt this critical awareness led Thelma Rowell to ask if our own species is not “more than usually bound by hierarchical relationships, at least among the males, who have written most about this subject?”³⁷

An alternative hypothesis, arising from the same “Standpoint theories”, in so far as it is close to the peculiarity of Rowell’s practice, may be more convincing. Let us remember that Rowell’s mistrust of the dominance-hierarchy theory is rooted in a critical analysis of the

Power’s research : *The Egalitarian: Human and Chimpanzee* (Cambridge: Cambridge University Press, 1991).

³³ Rowell, “A Few Peculiar Primates”, in Strum and Fedigan, 61.

³⁴ Rowell, “Social Behaviour of Monkeys”, 72.

³⁵ Jolly, “The Evolution of Primate Behavior”, 172.

³⁶ See about Sandra Harding’s work, Sarah Brake and Maria Puig de la Bellacasa « Building Standpoints » ; Alison Wylie « Why Standpoint Matters » in *The Feminist Standpoint Theory Reader*, ed. Sandra Harding (New-York: Routledge, 2004).

³⁷ Rowell, “The concept of social Dominance”: 132.

empirical conditions of research. According to feminist theorists, this characteristic is linked to the gender of the scientist: women are more attentive to the empirical conditions of knowledge. It is true that the scientists could respond that the detection of the artifacts belongs to the know-how of good scientists rather than being a matter of gender. However, we cannot neglect that not only did Rowell insist upon the fact that hierarchy and competition are the consequences of situations in which animals are subjected to stressful conditions; she also took care to offer the best conditions to the animals she studied, for example, by devising sophisticated cages that considerably improved the well-being of her captive baboons. Some feminists have also claimed that women's ways of practising sciences could be related to "caring labor": a knowledge that is at the same time completely "immersed in the practical world" and attentive to the demands of those we study.³⁸ A knowledge which weaves affects, sensitivity, concrete and material conditions, bodies ... A practice which, above all, involves the one who questions.³⁹ However, this characteristic is not confined to women scientists. The contrast we could draw between genders is traced along similar lines between scientific knowledge and that which we call "informal knowledge": the knowledge of animal keepers, of animal trainers and of breeders.⁴⁰ For them too, knowing and caring are inseparable. We only really know what we care for; we only take real care of that which we know well.⁴¹

Beyond Primates

This is the main constant of Rowell's work: she has always paid intense attention to the conditions which allow the animal to deploy a full, flexible and varied repertoire. This preoccupation had been foremost when she compared the behavior of monkeys in captivity and in the wild; it was at the core of each of her iconoclastic stances and, most especially, in her latest research— her latest heterodoxy.

In 1968, she left Uganda and, in 1970, went to California. After research in the zoo of San Francisco she moved to the Zoology Department at UCB. She stayed in Berkeley until her recent retirement, in 1994, dividing her time between teaching and field work with diverse monkeys. Although Rowell's latest study, in the late 1980's, was not with primates, the scenario we described in the beginning of this chapter was reproduced: like the baboons of Ishasha, these animals appeared to contradict entirely what could be expected from them. However, this time, the rebellious animals were... sheep.

³⁸ Sarah Ruddick « Maternal Thinking as Feminist Standpoint » in Harding, 163.

³⁹ Isabelle Stengers. *Power and Invention. Situating Science* (University of Minnesota Press, 1997).

⁴⁰ Concerning this issue, read the work of circus and zoo animals expert, Henri Hediger, *Les animaux sauvages en captivité. Introduction à la biologie des jardins zoologiques* (Paris : Payot, 1953). See also Donna Haraway, *The Companion Species Manifesto : Dogs, People, and Significant Otherness* (Chicago : Prickly Paradigm press, 2003).

⁴¹ Vinciane Despret, « The Body We Care for. Figures of Anthro-Zoo-Genesis » in *Body&Society. Special Issues on « Bodies on Trial »* ed. M. Berg and M. Akrich, 2004; Sage, 10 (2-3) : 111-134.) Let us just stress that the comparison with informal ways of knowing may avoid an essentialist definition of woman's way of thinking and considerably enlarge the definition of gender.

According to ethologists, sheep were rigidly hierarchically organized: the dominant male led the flock, followed by the other males and then the females.⁴² Relationships between individuals were very simple: they were competitive and based on the dominance hierarchy pattern. Moreover, extensive studies had shown how sheep lack an essential skill for us to be able to afford them the title “socially sophisticated” – they do not form long-term relationships.⁴³ In Rowell’s sheep, the flock is led by the oldest female rather than the male. There is no hierarchy in the current sense of the word; a ram may invite others to follow him, getting up and pointing his nose in a given direction; at times they will oblige, other times not.⁴⁴ And still in Rowell’s troop, sheep make lasting bonds; males weave individualized friendship networks – noticeable, particularly, in their choice of certain “friends” – while conflicts are rare and limited in duration. Actually, they do work hard maintaining bonds and group cohesion – especially in the pre-mating period when the tension mounts. Moreover, it seems that when conflicts do occur, sheep demonstrate increasingly friendly behaviors. They frequently stop fighting to rub their heads and cheeks together. These gestures should, according to Rowell, be interpreted as reconciliatory, similar in their function to those recently discovered by the primatologist, Frans De Waal, in chimpanzees⁴⁵.

The comparison with chimps’ behavior is not due to hazard: it is the consequence of the research device itself. The heterodoxy, this time, is not confined to the behavior described and to the challenge to the theories: the heterodoxy lies within the methodology itself. Thelma Rowell had decided to treat sheep as chimps, to ask sheep questions hitherto only addressed to primates. We can evaluate how iconoclastic her proposition was considering the reaction of the sheep experts who had to review her paper when she tried to publish the first results of her studies, in the beginning of the 1990s: they were all appalled by what they saw as anthropomorphy, and had difficulty understanding why she should have been interested in questions of social organization.⁴⁶ The prejudice of these ethologists deeply reflect the well accepted ideas about sheep: sheep are socially stupid whereas primates are socially sophisticated. But are they really? This prejudice might simply be a consequence of the way in which the researches are organized. “We have given primates multiple chances: the more research advances, the more interesting the questions about apes become, and the more these animals turn out to be endowed with elaborate social and cognitive competences.”⁴⁷ By contrast, sheep have been victims of questions of little relevance compared to their ability to organize themselves socially. Moreover, on closer examination we immediately see that their conditions made it very unlikely that sheep could prove to have sophisticated social

⁴² Valerius Geist, *Mountain sheep: A study in Behavior and Evolution*. (Chicago: University of Chicago Press, 1971).

⁴³ See for example Alistair Lawrence, “Mother-daughter and peer relationships of Scottish hill sheep” *Animal Behavior*, 39 (1990).

⁴⁴ Thelma Rowell and C.A. Rowell, “The organization of feral Ovis Aries Ram Groups in the Pre-rut Period”, *Ethology*, 95 (1993): 213-232. See also Thelma Rowell, “Till Death do us Part: Long-lasting Bonds between Ewes and their Daughters”. *Anim. Behav.*, 42 (1991) : 681-682.

⁴⁵ Thelma Rowell “The Ethological Approach Precluded Recognition and Reconciliation” In *Natural Conflict Resolution*, ed. Filippo Aureli and F. De Waal, 227-229. (Berkeley : University of California Press, 2000).

⁴⁶ Rowell, in Strum and Fedigan, 69.

⁴⁷ Rowell Interview; see also Rowell « The myth of Peculiar Primates » in *Mammalian Social Learning : Comparative and Ecological Perspectives*, ed. Hilary O. Box and Kathleen R. Gibson, 9 (Cambridge: Cambridge University Press, 1999).

behaviors: most of the research was carried out on groups formed for the experiment, consisting of animals bought for that purpose and which had never met before. Only a miracle could have allowed lasting bonds to be established.

In other words, Rowell proposed to give sheep a better chance of being socially complex⁴⁸: creating a troop with respect to equilibrium in sex and age, allowing them to form links, ensuring an absence of all stress — notably when she would give them extra food by distributing it in such a way as not to create competition.⁴⁹ Rowell understood just how much an impoverished, stereotyped and oversimplified repertoire may be nothing but the result of a bad setting. Baboons had been testifying for years.

Indeed, the baboons described nowadays are much more similar to those of Ishasha than to those that dominated both their companions and the theories of the 1960's — one could return to the beginning of this chapter and reread the first lines of Strum and Fedigan describing the changes in baboons. Of course, these changes are also due to the work of numerous scientists: they no longer perceive the baboons in the same manner since they have learned to ask them other questions; more radically, baboons do not behave in the same fashion because their scientists have learned to question them differently. We may, however, assume that both the change of questions and the transformation of methodology are partly the result of Rowell's work. Rowell's intense attention to the conditions of settings deeply influenced her colleagues; her savvy in-cage design allowing captive primate behavior to take place in unusual depth and complexity is a recurrent theme of the interviews carried out by Haraway.⁵⁰

The effect of her work goes deeper: what has been called the “Thelma effect”, the practice of thinking “thoughts opposite to the currently accepted ones”, led Rowell to challenge the primatologists' most authoritative orthodoxy: the belief that baboons are, everywhere, hierarchically organized and aggressively competitive. She boldly claimed that these observations were no more than the result of the research conditions. Moreover, the emphasis on the variability of the behavior both across and among species eventually succeeded in questioning the existence of “the” model that had so much weight in this domain—but we must surely talk about collective achievement taking into account the role of Phyllis Jay, Alison Jolly and many others.

Of course, if we are reminded that, as Haraway stated it, the unifying theme in primatology practiced by women researchers has been their high likelihood of being skeptical of generalizations and their strong preference for explanations full of specificity, diversity, complexity, and contextuality, we could relate the “Thelma effect” to a matter of gender. Indeed, Haraway's well accepted assumption among primatologists could fairly account for Rowell's heterodoxies. One could even presume that Rowell would accept it. But that would be leaving aside the “Thelma effect”: Rowell might as well construe Haraway's assumption as...another currently accepted theory, if not a generalization, that should also be challenged.

⁴⁸ Bruno Latour “A Well Articulated Primatology : Reflections of a Fellow Traveler” in Strum and Fedigan, 367.

⁴⁹ “What I do is to give as many bowls as there are sheep, plus one, so that every sheep can always find a bowl for itself without having to compete with another sheep. And the bowls are fart enough apart that you can't reach one from another. And my hope is that it would reduce their need for fighting between animals over food which I don't want to happen”. Rowell, Interview.

⁵⁰“Primate Visions”, 398, fn. 16.

So she does, when, to that hypothesis she replies, with disarming simplicity: “that was my Cambridge training. We were always taught to question authority : the more authoritarian it is, the more you question it. »⁵¹

⁵¹ Rowell, Interview.

Further reading

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