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VIEWING WHAT COMES NATURALLY: A FEMINIST APPROACH TO TELEVISION NATURAL HISTORY

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Synopsis — Using a small (random) corpus of natural history films shown on British television in the early 1990s, this paper demonstrates, through analysis of the language, stories, visual-verbal rhetoric, and the address of the narration, how the familiar and cherished formats of the genre are not innocent providers of edifying entertainment, but are complicit in the reproduction of an ideology of the "natural" where the female is marginalised, Other. Their "masculine" qualities and focus reinforce the appeal of science to male audiences; and their current enthusiasm for biological determinist interpretations of animal behaviour serves women's interests poorly. This reflects women's position within scientific culture, which still argues its "objectivity." The scarcity and marginalisation of women as scientists and in the television industry (the natural history sector is exceptionally male-dominated) militates against progress in the exposure and popularisation of alternative readings of animal nature. © 1997 Elsevier Science Ltd

The prestigious status of natural history programmes and their wide popularity afford them considerable cultural importance. It is hard to conceive of television schedules without them, and their security is assured not just by high ratings, but by their long shelf-life and their high export potential. Individual films and series may attract (usually adulatory) critical attention but the genre itself seems critically immune. It has, until now, largely evaded the academic scrutiny to which other kinds of science on television has been subjected (e.g., Corner, Richardson, & Fenton, 1990; Gardner & Young, 1981; Hart, 1988; Silverstone, 1984, 1985), criticism that includes content analysis, popularisation processes, and discourse stylistics. Wildlife programmes are much less controversial and less urgent than the kind of "hard" science that deals with nuclear expansion, genetic engineering, or surveillance techniques, and the way their subjects and arguments are presented — at best brilliant, at worst predictably formulaic — is rarely seen as exceptionable. They are generally perceived, from both sides of the screen, as neutral and a-political — not qualities that attract academic critiques.

This paper will argue that they are not the impartial documentaries they appear to be, but are indeed political, their ideological work, going on largely below the level of conscious decisions, being extremely supportive of patriarchal structures and relations. Because they are for most people the major source of knowledge about biological science outside school, the version of science and of the "natural" that they promote may have a particularly powerful bearing on the understanding of gender in contemporary society. An inherent conservatism in many aspects of the form, reinforcing attitudes and assumptions about female and male, combines with a conservatism in disregarding — or not seeking out — the potentially disruptive contributions and challenges to conventional scientific thought and method that have come from recent feminist science. This absence is no doubt connected with the disproportionately small number of women working in this sector of the industry.

Reality for male scientists, filmmakers, and audiences is subtly different from that of their female counterparts, and part of the feminist project is to challenge the hegemony of a male reality. In literature, "women's writing" has

emerged reclaiming the experiential difference, and reception theory has recognised that woman's culturalisation teaches her unproblematically to read as a man; the issue of audience positioning is as central as representational issues are in feminist cultural studies for understanding the negotiated relationship between readers and texts. In this paper, insights gained through the theories, analytic methods and research of different academic fields (literary studies, media studies, and feminist science) are combined, in the spirit of "re-visioning," to illuminate some aspects of the popular representation of natural history today, and to tease out their gendered implications.[1] The films referred to do not constitute a formal research corpus, but have been selected to illustrate tendencies detected in many wildlife films shown on television in Britain — some as repeats — during the early 1990s. They have been considered, by regular viewers who have been consulted, and indeed by filmmakers in the industry, to be unexceptional examples of the genre, and thus can be seen as an informally representative sample.

A distinctive feature of wildlife films in general is their success in straddling the functional divide between entertainment and education. They also straddle the conceptual divide between science and art, marrying — with no apparent complications — two disparate traditions and aesthetics. Their style has become so conventionalised that it is easy to overlook the sophisticated processes of representation involved. For a start, it is important to notice that narrative plays a key part in the mediation of natural history, and that stories have tellers and audiences, and, as part of their rhetoric, use language to please and persuade as well as to inform.

The patriarchal legacy of the language — "the animal kingdom" and the use of "man" to describe both a whole species and the male of that species — may be perennial irritants; but in zoological contexts the myth of the gender-absorbency of the pronoun "he" is particularly dangerous as it imperceptibly encourages a view of maleness as the norm of biological (and not just social) existence, and femaleness as Other.[2] There are also those phrases which, by their recurrent use in descriptions of only one sex, reinforce a particularly gendered view of animal behaviour: male animals' "competitive behaviour" and "territorial aggression" seem the most common references, while well-worn phrases for females are "mothering instincts" and "sexual receptiveness." Indeed, what is labelled "sexual aggression" in males may be termed "initiation behaviour" in females.

Descriptive language like this lies on the margins of anthropomorphic usage, that is, describing animal behaviour in terms that play on, if not reflect, aspects of human behaviour. Gendered behaviour is a staple. Blatant examples (like Mrs. Badger cleaning out the bedding) are rarer now, but a more insidious drip-drip of metaphors exist around mothering and fathering roles, jilted lovers, polygamy, jealousy, coyness, and so on. In this way animals are presented as having a gender (culturally-shaped characteristics) rather than a sex (biological differences). If sex and gender are conflated, there is a danger that animal behaviour perceived as reflecting a gendered human social role may in turn appear to validate this particular behaviour as "natural" in human culture by "finding" it among animals.

Some anthropomorphism is probably inevitable when speaking of animals, and it does offer scope for an entertaining script, as this example from David Attenborough's *Trials of Life* demonstrates:

> Crabs wear suits of armour which makes mating impossible; but this big male has detected a faint taste in the water which tells him that the little female is about to shed hers. As soon as she slips out of her shell while her new one is still pliable she and he can become intimate, and he's going to hold on to her so that no other male will get the chance to claim her at that crucial moment.
>
> Her moult has begun. Her shell has split along the underside and he is helping her to disrobe. The empty suit of armour lying in front of her makes it seem as if he has two females in his embrace. The fact that one is merely the ghost of her former self is revealed only by its vacant eyesockets and the way the current blows it about.
>
> Now the female with her new shell still soft and leathery crawls beneath him. He fertilises her swiftly before her shell hardens. She won't be able to mate again until her next moult. Soon he will abandon her, but he has already ensured that the eggs she will nurture

for the next few weeks will carry his genes. (*Continuing the Line*, 1990)

Assuming it is handled with obvious irony, anthropomorphic discourse can be fun, but it also raises serious epistemological questions. Scientific researchers steeped in the patriarchal linguistic tradition and the perceptual patterns it supports, will, not surprisingly, observe the subjects of their research according to paradigms drawn from their own experience of society, a society that has consistently marginalised and sought control over the contribution of women. Historically the discourse of science and its normative categories has been developed by men; and men, still dominating the scientific field, will unproblematically tend to see males at the centre of the picture.[3] Examples of androcentrism abound in wildlife films. Some are almost imperceptible: "The overwhelming driving force in nature is to reproduce. It is not enough just to sire a lot of cubs" (*Queen of the Beasts*, 1989); others are larger scale:

> A male butterfly has to be just as alert as a crab if he's to secure a mate. And this forest in Costa Rica is full of competitors for the females who are appearing from pupae hanging in the bushes.
>
> This is a male Heleconius butterfly and he's settled on a pupa which he knows contains a female. He's waiting for that moment when the female will emerge, a virgin, and then in the first few seconds of her adult life he'll mate with her. And so intent is he on achieving that that he won't move even if I touch him with my fingers. But watch what happens if I take this, which is an adult female which is newly mated. What happens if I brush him lightly with her? [Male flies off.]
>
> The reason he left is because this female, when she was mated, was given a particular smell, which even I can detect — a smell that all other males find very repugnant. So if I let her fly away that male may return to complete his business. [Releases female.] And even before the newly-emerged female's wings have expanded he mates with her, dabbing her with his smell which will repel other males for weeks. No rival will displace his sperm. (*Continuing the Line*, 1990)

Here the script reflects the conventional male view of the sexual act, through the use of the passive voice in the phrase "when she was mated," the source of the active agency in "he mates with her," and the gratuitous inclusion of the phrase, "a virgin."

In instances like these scientific practice betrays its orientation, reflecting the perceptual world of the filmmaker. A group of animals is often described in terms of a leader and his "harem," a phrasing that stresses, unproblematically and at a stroke, both the sexual status of a dominant male (rather than any other responsibilities leadership might bring) and the leadership role as naturally a male one. A section of a film which is applauding the highly cooperative behaviour of wild dogs provides a clear example of this last point — leadership being male. The whole pack is seen to share collective responsibility and there is no evidence of any hierarchy; but towards the end the behaviour of one puppy (who makes off with a large morsel of meat and prevents the other pups getting any of it) is interpreted as demonstrating leadership potential, and despite any clear genital indication it is referred to as male:

> It's been said that all the competition in a wild dog pack is to be bottom not top dog. An animal as fierce as this simply cannot afford internal strife. But even that doesn't explain the seemingly selfless care of mothers and young, old and injured.
>
> And now the whole litter gets its share of meat. The impressive thing about this care of young is that even when there isn't enough on a kill for the hunters to gorge themselves they still share with the pups.
>
> In any litter of domestic puppies there's usually one braver than the rest. The same seems true in this case. Maybe the possessor of this titbit is already on his way to becoming a future pack leader. If so the signs of dominance will be subtly recognised by his litter mates. (*The Parenthood Game*, 1976)

The qualities of that puppy, perceived as demonstrating dominance, were given a positive interpretation, and its maleness causes no discord because its behaviour is associated with conventional human gender attributes.

It is far more common too for a male animal to be the subject of a wildlife "bio-pic" than a female one; and even collective studies, unless intentionally female-angled, tend to focus more on males. For example, *Orang-Utans . . . Out on a Limb* (1994) was billed as following "the treetop lives of baby Yossa, his dominant parents Yet and Nur, and a young upwardly mobile male called Boris soon to challenge Nur's supremacy" (*The Guardian*, January 6, 1994). The 3:1 male to female ratio is symptomatic not only of the relative interest in the sexes but of the kind of adversarial activity that is perceived as saleable in the industry.

A recent job advertisement for producer/directors within the BBC Natural History Unit required "a firm grasp of storylining and dramatic structure" (*The Guardian*, June 24, 1996) — open recognition of the key role that narrative plays in their mediation of scientific research. This has significant bearing on how nature is represented, as the stories in which the footage is framed function to interpret the recorded data — and many of the story-types tend toward androcentrism. Three of the most characteristic are the life-cycle story, the quest narrative, and the triumph of science (or culture) over nature — mastery over mystery.

The life-cycle format is not a birth-to-death narrative, but a birth-to-reproduction one, the familiar classroom-biology model of animal life that nurtures the kind of biological determinism feminists have long been campaigning against. It says little about life beyond reproduction, about infertile and post-reproductive animals, or about aging, or relating outside the clan. Ultimately, the life-cycle structure underpinned David Attenborough's BBC series, *The Trials of Life*. This covered 12 stages, 12 struggles, in the lives of countless species throughout the world; and while Episode 1 was called *Arriving*, Episode 12 wasn't *Passing On*, or *Dying*, but *Continuing the Line*. And the "line" in question was (as it usually is) the male line, another aspect of this conventional model of reproduction. A female's line is presumably assured simply by her being receptive to a male's sperm; the narrative interest is provided by the males' struggles against each other to continue their line, the enactment of the Darwinist imperative of competition. Survival of the fittest is repeatedly presented as about the fittest male — a cognitive slippage around adaptive fitness and physical fitness. A section on Canadian wolves illustrates this:

> A female wolf who's just become sexually receptive joins her howling pack in the Canadian north. All the males are interested in her but there's a ranking system in the pack and the senior male has priority in mating. Others who try their luck have to be reminded who's boss. And he claims his rights. [They mate.]
>
> But he does not now leave her: indeed he couldn't even if he wanted to. His genitals have swollen so greatly inside her that the pair are locked together.
>
> This is no unfortunate accident. It's an important part of the male's breeding strategy. Remaining tied for so long gives his sperm time to reach her eggs before a competitor can displace him. It may be half an hour or so before they're able to pull apart.
>
> The aftermath of such a genital lock may be slightly painful, [shot of male wolf licking his genitals] but the process has virtually guaranteed him his paternity. And animals that don't take such precautions can't be nearly so certain. (*Continuing the Line*, 1990)

The subject of the story is the powerful male and his breeding strategy (not hers, not theirs); the discomfort of the female, or the procreative chances of the weaker males, or patterns of rivalry or sexual arousal in other females to get the fittest male, are disregarded. This was the paradigm for the whole episode, and for so many other contemporary films. It is an open secret in the industry that the quantity (and quality) of a film's mating and fighting footage will affect its chances: "blood and bonking" scenes are heavy artillery in the ratings battle, and scripts are crafted around them. "The public" are said to "demand" them, a justification apparently confirmed by the sales figures of home videos of predatory animals.[4]

The privileging of males, and the preoccupation with the strong male in particular, underlies another typical story — the naturalist as hero, a man with a quest. There is a long tradition of quest narratives in Western folklore, which chil-

dren have cut their teeth on for centuries, and which involves us in the process of identification with a male figure who abandons his home comforts to "do what a man's gotta do." Television often presents wildlife subjects through this man's journey of research. Significantly, unless they feature as the hero's "helper," women field researchers, like Dian Fossey or Jane Goodall, tend to become the subject of full-length feature films, where the treatment focuses more on their personal adaptation to life in the wild, their relationships with the animals they observe, their femaleness in a masculine world.

A third recurrent narrative, the triumph of science over nature's mysteries, presents an enigma or puzzle from the animal world which, after certain false trails, is explained or resolved by the rational processes of science. This is science represented as revealing the truth, a celebratory discourse. *Queen of the Beasts*, a film about the social life of lions, is framed in this structure. "Why," it asks in its introduction, "of all the wild cats in the world, is it only the lion that lives in groups?" Three hypotheses are tested out; the first two are found unsatisfactory; the third is presented as solving the mystery. The framing, of rational systematic progress, sets its own agenda, which validates only certain lines of inquiry — and (a point to be raised later) only certain responses.

All narrative seeks closure; different narrative forms set up different criteria of satisfaction. What is notable about all these three favoured narrative formats is that they are emphatically end-oriented, their single-strandedness part of a stylistic adherence to principles of linearity and cohesion. In literature, these same structural features of textual unity and linearity have been conceptualised as phallocentric, a masculine form of discourse. Initially it was French feminist theorists (like Cixous, 1976; Irigaray, 1980) who recognised that the institutions of Western culture (literature, law, politics, science, philosophy) have always placed value on seamlessly presented texts, organised by one central idea and strong internal cohesion, just as they have admired single-mindedness, consistency, and strongly-held, strongly-argued opinions. Women's experiences, and indeed their very bodies, they suggest, are more in tune with multiplicity and diversity than with singularity and unity. This multifaceted approach can be better represented in a mode of writing they call *l'écriture feminine*, a style associated primarily, but not exclusively, with modern women writers reacting against conventional grammars and phallocentric form, a style that moves between and challenges conventional categories, playing with their boundaries.

This kind of thought signals possibilities — if only distant ones at the moment — for opening other ways of responding to and representing the natural world. In literature it has provided a kind of legitimation for more experimental styles and structures which, it is suggested, women may unconsciously have more affinity with. In natural history, it might encourage more adventurous producers to break away from the predictable end-oriented climax-seeking narrative formulas. Perhaps unification rather than diffusion of ideas, statement rather than suggestion, does contribute to a certain "masculine" flavour about the genre, in keeping with their male viewpoint and androcentric stories, and reflective of the historical maleness of science. Doubtless the demands of tidy packaging for the schedules and the danger of slipping ratings militates against formal or stylistic innovation; but equally there are serious counter-arguments. Perhaps a new aesthetics should be championed, acknowledging that there's art involved in both story-telling and film-making. Finding more fluid forms might better accommodate the hypothetical and interpretive aspects of science, and allow for more open-endedness, and — to move on to narration — differing perspectives, and different voices.

How a text addresses its audience, the speaking and receiving positions it constructs, is a crucial area of its rhetoric, the means by which it appeals and persuades. The voice fronting wildlife films is almost always male: in Britain, David Attenborough's is used frequently, or an actor with an accent that carries comparable class authority. Through this mouthpiece, scientific knowledge is confidently presented as empirical truth, and supported by a smattering of scientific terms and an impressive barrage of details and figures. The relationship of the verbal script to the images is important to its revelatory style: the photography appears to reinforce the words, providing "ocular proof" of their veracity. When the authorial voice thus captions the images we see on screen, viewers are not expected, not positioned, to challenge its interpretations or to ask questions. This is par-

ticularly true when the mediating presenter is there in person, his look to the camera addressing each of us directly, inviting us to share his experience, and indeed his responses.

That fusion of the empirical with the experiential is a very special quality of the rhetoric of wildlife films. For the viewer, the immediacy of the filmic experience, and our sense of complicity in the surveillance of closely observed creatures, pulls us into a position in which we go along with the attitudes and responses signalled by the narration. The objective, rational tone and the male-voiced narration, joining the androcentric narratives and perspectives, could be said to construct a masculine reading or viewing position. Sometimes when this "preferred" interpretation is at odds with our own response — if we don't delight in watching the brilliant mechanics of the spider trapping the fly, or if we feel we are being excessively prurient or voyeuristic — we can feel quite uncomfortable, and wish for a different perspective on it. If we have a more feminine response to the film (more emotional, tentative, or ambiguous perhaps) we can feel ill at ease, marginalised by the address. These feelings do exist, among male and female viewers, but are not acknowledged in the terms of the address.

The problems of a "masculine" narration are well illustrated in an excerpt from *Queen of the Beasts*, a film about a pride of lions. It explores the females' co-operative strategies on which the success of the pride depends, while males are seen to be pretty marginal, their main role being to father cubs. Its narrator is the actress Rula Lenska, which also raises interesting issues about gendered voice. Here, a pair of males from outside the pride have just routed the one male with any seniority:

> The new masters of the pride have come for the females. [Two lions sniff ground, raise heads, shake manes, bare teeth.] One sniffs the spot where a lioness has urinated. Wary of these new and strange males, the females have wisely gone into hiding. [Cubs gradually revealed under small bush on plain.]
>
> But in this hide-and-seek game of life there is another and more immediate problem for these males. They cannot mate until the lionesses come into season. But the females already have cubs and so will not be ready to mate for another year or more. [Close-ups of cub intercut with lion preparing to attack.] The new males simply cannot wait that long for their chance to father some cubs of their own. They are in their prime now and may only have possession of the females for two years — just two years in which to ensure their genetic patrimony. They cannot afford to look after another male's cubs; they cannot spend their short time at the top protecting another lion's young whilst waiting for their turn to mate. They have done their waiting out there on the plains where they wandered for years in search in search of this opportunity; they can wait no longer. If the females lose their cubs they will come into season within days. The imperative for the new males is overwhelming: they must kill the cubs. [Male attacks and kills three cubs in turn.]
>
> Despite all the years of research into lion behaviour infanticide has rarely been seen and never before filmed. For all its apparent ferocity, the killing is only an expression of the urgent demands of the situation. But if the male's behaviour seems harshly pragmatic, perhaps the female's is even more surprising. [Male lions beside river are approached by female and whipped across the head with her tail.]
>
> Bereft of their cubs the females now have exactly the same drives as the new males. They can expect around two years of stability. If they are to raise cubs they must start immediately. Within as little as 24 hours after losing their cubs the females come into season and start flirting outrageously with the new males. [She settles near them, and one male mounts her briefly, then follows her away.] The females are nervous at first, a bit scared of the new males; but the orgies in the first few months after a takeover are a good ice-breaker, and soon strong bonds are formed. (*Queen of the Beasts*)

There is something disconcerting about a female voice delivering this script, which undoubtedly bears the signs of a "masculine" text in its narration (the way it tells the story) and its address (the attitudes it assumes or requires us to share). Some viewers may, unconsciously or consciously, be aware of absences, not only in the content (why don't the females try to protect

the cubs?), but also in the area of emotional address; and aware, too, of a masculine slant to the language, imagery, and attitudes. For instance, after the emotionally very powerful scene of considerable savagery, the script's immediate concern is to acknowledge the skill of the photographers in netting a first: "Despite all the years of research into lion behaviour, infanticide has rarely been seen and never before filmed." It continues without even pause for reflection: "For all its apparent ferocity, the killing is only an expression of the urgent demands of the situation," and then slips quickly into humour with reference to outrageous flirting. The decision to employ a female narrator here (where the lionesses are nominally the focus of the film) seems somewhat analogous to employing female commentators for women's tennis: the substance of the commentary — the script — does not change, only the voice does. (It is nonetheless welcome to hear a female voice handling scientific subjects.)

If natural history films do largely reflect a masculine aesthetic, we might expect statistical evidence to support the suggestion that, despite their undoubted intention to appeal to men and women equally, on the whole, male viewers feel more addressed by them than female audiences do. Although they are not normally perceived, in critical or domestic circles, as gendered television (unlike, say, soap operas and sport), in a 1991 survey of viewing preferences men claimed to feel an affiliation toward this genre only surpassed by the late evening news, and even higher than sport. They did not feature at all among women's 10 favourite programmes (BRMB, 1991). Obviously this does not reflect the actual viewing proportions, but it seems reasonable to infer from the response that the language, perspective, form, and address of the genre may indeed contribute to the emotional attachment men feel to the genre; as may other things, such as the heavy emphasis on "facts," the scientific associations, the concentration on fighting and copulating, and the photographic and technical virtuosity. It is just possible that this apparently neutral discourse may have a link with girls' disaffection with science, as the ethos of toughness in laboratory practice has been shown to do (Birke, 1991).

Most wildlife programmes are, appropriately, transmitted in the slot scheduled as family viewing time, the couple of hours before the 9 pm watershed. There has been considerable ethnographic research into the way television is used by different audience groups and the positions they take up in respect of the perceived "message" (e.g., Ang, 1990; Gauntlett, 1995; Hobson, 1990; Lull, 1990; Morley, 1986, 1992; Seiter, 1989), and the family as a viewing group has elicited particular attention. Morley (1986) demonstrates that just watching television together is, for many families, a high point, if not the climax, of family interaction, an opportunity for raising and discussing personal issues vicariously, and seeking and giving opinions. Some families find natural history programmes provide an opportunity (the only opportunity they make, in some cases) for discussing sexual matters — the so-called "facts of life." The animal examples on the screen — literally the birds and the bees — allows allusions to be made without anyone being personally implicated. If wildlife programmes do have this valuable educational function, families, and women and girls in particular, could surely be better served by a more gynocentric focus.

Close examination of the dynamics of representation in these programmes is instructive for observing the processes by which our understanding is mediated. A semiotic analysis draws attention to the constructed nature of audiovisual texts and the way meanings are produced through the specific operation and interaction of different sign-systems. It can uncover, or at least suggest, how connotations and expectations are encoded in the images and language of a text (and its other technical practices like lighting, editing, and music), the result of largely unconscious decisions made by filmmakers, according to professional and generic conventions, which viewers, by similar practice, learn to decode. The demystification of those processes is valuable in making the conventions, and the unconscious, visible, thus loosening the grip of the ideologies embedded in a text.

To give an example, in a section of a programme about seahorses, semiotic principles can illuminate how the ideological encoding of femininity operates. Although the description of the seahorses' behaviour itself is worth attention for the standpoint of its narration, for its anthropomorphic play, and for the slippage between sexually determined behaviour and polarised gender characteristics, the analysis here will concentrate on the film's representation of a woman scientist:

[Music. Seahorse illuminated against very dark background starts making jerky movements. Then tiny seahorse babies are expelled from the body and float luminously in the dark.]

[David Attenborough, voice over:] Yet seahorses are actually fish, and they are as remarkable in their behaviour as in their appearance. This is a male — and he's pregnant, about to give birth. He's nurtured these youngsters in his pouch for two weeks; they're the only kind of animal in the world to be conceived inside their father. [Music stops. Cut to brighter panning shot across fish tanks to where young woman in yellow short-sleeved shirt has her arm in a tank. Close-up of hand fishing out seahorse.]

[Attenborough, voice over:] In this laboratory at Cambridge University there're probably more pregnant males concentrated together than anywhere else in the world. Here Amanda Vincent studies their bizarre breeding behaviour and, as in any maternity ward, she has to keep alert for the unexpected. [Shot of Vincent lifting out seahorse, occasionally looking direct to camera while talking with an amused tone and wry smile. Shot of hands delivering baby seahorses.]

[Vincent, to Camera:] This male seahorse is having problems with a breech birth, so I'm having to act as the midwife. Although it's pregnant I know that it's a male, for, like all other male animals, this seahorse produces sperm. Oh, and female seahorses produce the eggs.

[Attenborough, voice over:] These babies have got stuck and Amanda is gently teasing them out of their father. [Seahorses swimming in tank.] In most animals it's the females that care for the young, and males compete with one another to mate with the females. The result is that males tend to be bigger, more aggressive and more macho than females. An exception to the rule might help us understand why. [Medium shot of Amanda lowering herself behind tank and talking to camera through tank with seahorse activity in foreground.]

[Vincent:] By studying the seahorse in which the male invests so heavily in his offspring, I'm trying to understand what really is the foundation of these sex differences...

[Attenborough, voice over:] Since males put so much into pregnancy, Amanda wondered whether sexual roles were completely reversed. Perhaps seahorse males are not macho and females are the more aggressive sex. By changing the ratio of males to females she found out which would compete most vigorously for the other. [Three seahorses swimming, one with bowed head moving away from another's advances.] If there was only one male to several females they did seem to compete for him, but not very enthusiastically, and he always started the courtship. No sign of female forwardness here. But if two males were let free with a single female the situation was quite different. Even nipping was not ruled out by the two potential fathers as they tried to outmanoeuvre each other for female attention. They may be left holding the babies but seahorse fathers still maintain their more usual male roles. If they put so much effort into pregnancy and are also the aggressive sex, the females must have an unusually easy time. [Close-up of Vincent's head in profile gazing into tank.] Amanda is continuing her research to unravel more behind this apparent paradox. (*The Tale of the Pregnant Male*, 1988)

Amanda Vincent is end-credited as the film's scientific adviser. The narration humorously introduces her as a "midwife" in a "maternity ward," and she is referred to throughout by her first name, not by her title. Though she is (briefly, twice) granted the privilege of direct address, her quiet, unassertive North American delivery is sandwiched between blocks of Attenborough's voice talking authoritatively about her work. Refreshingly, she is not coded as a scientist, neither in language or dress nor in the conventional iconography of the lab (though she is photographed with, and indeed through, tanks); but despite this the camerawork seems to focus attention as much on her gender as her work, by drawing on the conventions of Western film aesthetics, making her the object of the viewer's gaze — lingering shots on her face, close-up of her eyes "observing," low lighting

used to advantage, and so on. Individually, none of these is particularly significant; but collectively they all contribute to a systematic (even if unconscious) deprofessionalisation of her role, an undermining of her status. At this stage in history this has considerable ideological bearing.

An advantage of the semiotic approach, drawing attention to the text as a construct, is that it counters the tendency all viewers have to think of television discourse — and for that matter the discourse of biological science — as "natural," a transparent medium, just recording what's there. One reason for this illusion is that wildlife films generally use the techniques associated with realism, the aesthetic mode conventionally used in fiction films, which conceals its elaborate production and post-production processes — no microphones or cables visible, seamless editing, fluent narration, no hiccups. Indeed the realist illusion sustains the genre's reliance on fictionalised stories and sequences, which many viewers find hard to believe are edited from several pieces of film, some borrowed from libraries, and not actuality sequences despite giveaway technical clues like multiple camera vantage-points and lighting changes.

To draw attention to the naturalising effects of the realist mode, there might be an argument for developing a more Brechtian aesthetic for natural history programmes, that is, one which undermines the viewer's direct emotional involvement in the matter of the film (the product) by refusing to suppress the apparatus, techniques and agents of production, thus alerting us to the processes which mediate what we perceive as "truth." After all, the realist style, with the production team and its technology kept well out of view, hides from audiences the fact that most film crews contain very few women, some none at all. In addressing issues about representations of nature the industrial angle is a crucial one.

Equal Opportunities is a very serious issue in broadcasting as a whole. In Britain, men make up about 75% of producers and directors, while women represent about 75% of wardrobe and make-up. Nearly 90% of Production Assistants are female, but only 5% of technical grades are (IMS, 1989). In the senior positions of most broadcasting companies, the permanent staff jobs are still mostly held by men; and the switch over to the temporary contract economy militates against the balance changing, as it denies women the chance to rise to real positions of institutional influence and power.

And the natural history sector is a particularly male bastion as the end-credits of almost any film publicly confirm. The nature of the work, particularly filming in exotic locations, can obviously be exciting, attractive to women as much as to men, but, because shoots may be protracted and hours erratic, they tend to be deemed unsuitable work for anyone with domestic responsibilities. This, fortunately for the men, generally means women, who may (understandably in these circumstances) exclude themselves from prestigious projects, or find themselves victims of a sort of compassionate disqualification. The aura of exclusivity, the macho work ethos, and the fantastic technology now available, makes women less likely to gain access to wildlife production teams. A real commitment to equal opportunities would be shown in attempts to modify working conditions and encourage more women to participate. For without more women working in the genre, and in positions of influence and authority — enough women, that is, for an alternative critical and working culture to be taken seriously and male agendas decentred — there is far less chance that it will reflect the subtly different relationship and responses women have to the world; nor will it find ways to address and respond better to the female audience, or explore the challenging and exciting contribution feminist science could make.

A considerable body of scientific scholarship — too large to do more than gesture towards here — is already challenging the patriarchal tenets of science and the cultural power it wields.[5] There's a central assault, coming from many quarters, on the myth of objectivity and neutrality, which of course forms the basis of "rational" science. Even the language of science can construct an illusion of objectivity. Its depersonalised style ("The subject was observed . . ." rather than the active "I observed the subject . . .") denies human agency and suggests complete neutrality, a scientific convention which becomes confused with science itself. There is evidence suggesting that field researchers' own personal and cultural histories, as well as their terms of reference and scientific procedures, are responsible for producing disturbingly significant differences in their empir-

ical findings (Haraway, 1988). This clearly challenges the notion of a universal objectivity.

Indeed, the terms and categories used to describe and differentiate scientific subjects, and the knowledge on which these depend, are themselves being recognised as potentially preemptive. For instance, Ruth Bleier (1984) draws attention to the dualistic mode of thought that has long ordered external reality, mapping it through oppositional relationships like dominance and subordinance, control and submission, male and female, culture and nature. Women's place in this last oppositional pair is decidedly ambiguous, being included in the term *man* yet significantly marginalised by culture, a sphere defined by men and men's achievements; and women are conventionally represented as closer to Nature than men are, attributed with characteristics like "female instinct" and "irrationality" as nonhuman species are. Many women scientists are understandably attracted by ethology, and especially primatology, as it offers scope for reinterpreting group behaviour and relationships, and for reconsidering essential distinctions about culture and nature, human and animal, active and passive, sex and gender (see Haraway, 1988).

Sexual dualism itself, the cognitive division into male and female, is used with increasing wariness by many scientists now because it tends to over-simplify, polarise and universalise the experience of the sexes (e.g., Sperling, 1991). In science, as in other areas, feminists are trying to move away from a simple male/female opposition towards concepts that recognise differences within a sex too; it is becoming clear that there is considerable sexual diversity within a species, even within a group, and inconsistent behaviour in an animal individual. This angle could easily be explored in wildlife films,[6] along with other topics currently occupying feminist ethologists, such as the behaviour and role of infertile or post-reproductive females; the fate of the less bullish males and other substandard individuals; the concept and function of leadership; bonding; bullying; and — a useful topic for the family education sessions, perhaps — evidence of sex-play undertaken for pleasure, not just reproduction.[7]

But the teleological urge to seek explanations for all aspects of animal behaviour is strong, and considerable gratification can be found in solutions offered by sociobiology and its neo-Darwinist discourse of genetic programming. Sociobiology, which combines interpretation of human behaviour with animal behaviour by reading analogies between them and developing shared social theories, is a cause for concern among many scientists arguing against essentialist and determinist positions; as Stephen Jay Gould eloquently argues, this kind of approach eradicates the biological potentiality of humans as learning animals (Gould, 1991). Comparisons must be made only with caution. But because reproduction is so central to sociobiological theory, differences between the sexes are overemphasised and universalised, predictably in the male/active, female/passive model. Although it has generated some valuable biological research, and some of it feminist (e.g., Hrdy, 1981, 1995; Sperling, 1991), sociobiology can also be manipulated to support pretty crass social and political agendas, as racist and homophobic rhetoric demonstrates. Popular biologism can be dangerous. For example, the tenet that penetrative sex is an overwhelming, uncontrollable genetically programmed drive among males in the animal world can too easily be recruited to "justify" aggressive sexual behaviour in the human male.

The attraction, and problem, of sociobiology is that it lends itself to easy equations and reductive formulas; and this — passed off as science — is exactly the kind of material that suits entertainment television rather too well, and passes easily into folk knowledge. Desmond Morris's recent series, *The Human Ape* (1994), is a case in point. But David Attenborough's espousal of sociobiology in the acclaimed *Trials of Life* series — which even its producer claims "was really about us," (Rowe, 1990) — gives it much more the status of orthodoxy with the public, and he gives no hint of how widely and vigorously it has been contested. Biological determinism is always used to argue the inevitability of existing social arrangements (Gould, 1991), and sociobiology has been a useful buttress for patriarchy. Its discourse of inheritance and blood lineage, monogamy and polygamy, territory, competition, and domination, echo the concerns of the Establishment.

The development of science is characterised by Donna Haraway as a sequence of "contesting stories," myths that support particular political positions in relation to sex, race, class, and so on (Haraway, 1988, p. 79). She sees the role of feminist interpreters of science as central in

the current stage of this storytelling contest. The continuing resistance in science to female-centred stories and perspectives has to be seen in its social and historical context, as political; unconscious perhaps, but contributing nonetheless to the uneven balance of power in society. To contest this in the popular idiom, on peak-time television, in a male-dominated genre whose conventions are so thoroughly suited to sustaining the genetic patrimony of the scientific establishment, is a real challenge.

Sometimes there are moments when the fig-leaf slips, and the vulnerability of patriarchy is illuminatingly exposed, men's deepest fears betrayed. The end of the film on seahorses is one of these:

> Seahorse fathers show that it's possible to be both a macho male and a caring parent, though why they in particular have such a tough time remains a bit of a mystery. On the other hand they are probably the only fathers in the world who can be really certain, one hundred percent, of the paternity of all their offspring. (*The Tale of the Pregnant Male*, 1988)

It is not easy for male filmmakers to recognise the self-interest implicit in their products and practices, nor to grasp the implications of so many aspects of representation. But a broader consideration of their social responsibilities in matters of sex and gender is due; and not just of the subjects, angles and style of their films, but the sex of their audiences and all the production team too.[8] The natural history genre has made extraordinary achievements over the last half-century in extending and popularising scientific subjects and knowledge; but developments in literary theory, reception theory, and representational theory, as well as feminist science, are exposing the bias of its vision. It has served women, on both sides of the screen, poorly, with a diet that suits male tastes, prepared according to the patriarchal recipes familiar to Western culture. We need popular television of this sort to tell less comfortable stories, to help dislodge the myths of "natural" social relations between man and woman. We need it to contribute to the kind of work Donna Haraway's book *Primate Visions* was attempting, "to facilitate . . . new possibilities for the meanings of difference, reproduction, and survival . . . on both sides of the bio-political and cultural divide between human and animal" (Haraway, 1992, p. 377).

ENDNOTES

1. "Re-vision — the act of looking back, of seeing with fresh eyes, of entering an old text from a new critical direction — is for women more than a chapter in cultural history; it is an act of survival. Until we can understand the assumptions in which we are drenched we cannot know ourselves" (Rich, 1979, p. 35).
2. In popular discourse too, animals of indeterminate sex (not "marked" by, say, an udder or young) are generally referred to as "he" rather than "it," compounding the marginalisation of females.
3. The relation between scientific discourse and scientific "truth" is examined in a great many feminist critiques of science; for example, Birke, 1994; Harding, 1991; Martin, 1991; Schiebinger, 1993.
4. In America, a bestselling compilation video of the most gruesome scenes from *The Trials of Life* is advertised as "the gripping award-winning nature video series that exposes the struggle to survive, through uncensored, shocking photography . . . find out why we call them animals." See also Mills, 1989.
5. Of the large and growing number of feminist critiques of science and its historical development, an indicative selection would have to include Birke, 1994; Bleier, 1988; Haraway, 1992; Harding, 1986, 1991; Rose, 1994; Schiebinger, 1993.
6. There are indications of movement in this direction already: for instance *Kangaroos: Faces in the Mob* portrays each kangaroo as an individual, and shows their young flourishing or failing through different styles of mothering.
7. The homosexual intercourse between bonobos — whose constant hetero- and homosexual interaction is referred to in the BBC's *Monkey in the Mirror* (1995) as the "social cement" of bonobo society — defies sociobiological explanation. According to Sarah Hrdy, a feminist sociobiologist, it can ultimately only be understood as the pursuit of pleasure (Hrdy, 1995).
8. This is a lesson commissioning editors and executive producers need to learn too. The effects of the androcentric agenda in other areas of television production is addressed in Crowther, 1997.

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