Perceptions of the Environment among the Gebaliya Bedouin

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A B S T R A C T

This paper provides data about how a people still in close contact with their natural physical environment, yet moving from nomadism to a sedentary (though still largely agricultural) lifestyle, perceive their environment. Drawings were obtained from children, and interviews undertaken with adults among the Gebaliya Bedouin in the Sinai desert. The drawings reveal an abundance of animal and plant life and a relative paucity of human artefacts. Wildlife and landscape evidently constitute a central component of these children's environments. The adult interviews reveal how the relationship of the Bedouin with their physical environment, though still an intimate one, has changed in the last two generations. The results are interpreted in the light of social and cultural changes among the Gebaliya Bedouin. The findings reported here may need to be heeded if attempts to preserve endangered wildlife in the Sinai desert are to succeed.

Introduction and context

How do people 'see' the environment? Here, 'see' is used in its widest sense to mean 'perceive', 'understand', 'appreciate', 'interpret', 'construct' and so forth. The beginnings of an answer come from accepting that there is no one way of seeing the environment. Appreciating how particular groups of people - whether grouped by reason of geography, ethnicity, age, gender, schooling, socio-economic status, religious conviction, personal philosophy or whatever - see their environment is of academic interest, of educational value and of importance for wildlife and habitat conservation (cf. Agyeman 1998, Kahn & Friedman 1998, Bixler & Floyd 1999, Eagles & Demare 1999).

Here, the environmental perceptions among some Bedouin in the mountainous area of southern Sinai, Egypt are described and discussed. The Bedouin populations in southern Sinai consist of eight tribes; all the data in this study were collected from individuals in the Gebaliya (also spelt 'Jebeliyah' and 'Gibaliyah') tribe (Figure 1). Fieldwork was carried out in the year 2000 in the St Katherine Protectorate (Figure 2), a National Park of 4350 km^2 consisting of sandy plains, rock desert, desert valleys (*wadis*) and mountains (Hoath 2000).

Figure 1 Housin Salh, a member of the Gebaliya Bedouin

'Bedouin' means 'people of the desert'. There are some 11 000 Bedouin in southern Sinai. The 3000 or so Gebaliya Bedouin are largely the descendants of a group of Christians brought by the monks of St Katherine's Monastery from Wallachia in Romania to help them live in the Monastery. By the end of the 7th century of the Common Era virtually all of them had converted to Islam (Zalat & Gilbert 1998) and they remain Muslims to this day.

My reason for studying the environmental perceptions of the Gebaliya Bedouin were two-fold. First of all, while the Bedouin in Egypt and Israel have been quite intensively studied by anthropologists and geographers, so that a considerable amount is known about their social structure and lives (Abu-Lughod 1988, Hobbs 1995, Meir 1997, Cole & Altorki 1998), I have been unable to find anything other than brief anecdotal accounts of how they perceive their environment. Such knowledge is of intrinsic interest since, while there is a danger in seeing the Bedouin as an entirely aboriginal people, it is nevertheless the case that they live in a relationship with the land that is increasingly uncommon for any people. Every Bedouin family still relies, at least in part, on its own animals and plants for food and medicine, and on wild plants for firewood. While the men also work as guides, drivers and labourers, the women and girls look after the goats, sheep and hens that each family typically has. Some families also own camels and donkeys. In addition, small-scale agriculture is typical, being practised in walled gardens where fruits (e.g. grapes, apricots and almonds), vegetables (e.g. tomatoes) and cereals (wheat and barley) are grown and tendered by men and boys (Zalat & Gilbert 1998).

A second reason for wanting to study the environmental perceptions of the Gebaliya Bedouin is that, from the perspective of conservation biologists, the environment in which they live is a fragile one, and one that is threatened by tourism, overgrazing, development and hunting. For example the Sinai thyme (*Thymus decussatus*) has suffered from overgrazing. This is particularly unfortunate as this species is the food plant of the caterpillar of the critically endangered endemic Sinai Baton blue butterfly (*Pseudophilotes sinaicus*). The Sinai leopard (*Panthera pardus (jarvisi)*) may or may not still survive while Dorcas gazelle (*Gazella dorcas*) and Nubian ibex (*Capra ibex nubiana*) have both greatly declined as a result of hunting.

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Figure 2 A typical view of the mountainous region in south Sinai in the St Katherine Protectorate

Methods

Data were collected in two ways: from children's drawings and from interviews carried out on a one-to-one basis with adults. Data were collected in people's homes - either their main homes or their homes by their gardens. From an ethical perspective it has to be admitted that while relationships between myself and the participants in this study felt (from my perspective) entirely amicable, any attempt by an outsider (myself, not a Bedouin, nor were my Egyptian interpreters) to come in and obtain data from a group of people, particularly people in a very different culture, needs to be questioned. It would be facile for me simply to be viewed as 'the powerful one' - after all, any interviewee has a certain control over what they choose to reveal and there are as many problems in positioning interviewees as 'victims' as in not problematising their acquiescence. Nevertheless, while I (along with my funders, the British Council) hope that this research eventually helps to contribute something of value to the Bedouin, I think it likely that my research subjects (arguably a more genuine term than 'participants'), if they thought about the question at all, may have felt that they were giving me more of value than they were receiving in return. Unlike other studies I have done (e.g. Reiss 2000), I decided it made little sense in this instance to attempt to share with those I was studying information about the process and products of academic research.

Methodologically too, a study such as this raises issues. In non-participant research one way of viewing the relationship between the researcher and her/his subjects is as that between an audience and a group of actors/performers or as that between a reader and a text. As reader-response theory informs us, how a book is read or a play seen depends both on the book (play) and on the reader (audience). What I write is inevitably shaped by who I am. Had others - Bedouin or non-Bedouin - conducted the same study I am sure their accounts would have differed from mine, and it wouldn't have been the same study, anyway. That much is evident. What is, of course, not so clear, is how greatly their accounts would have differed.

In recent years, researchers have increasingly, and in my view healthily, grown suspicious of those who present a single description of events (Rhedding-Jones 1997). We now doubt those who purport to be able to provide a single canonical version of past events. After all, as has been widely noted, history is too often 'his story' - i.e. a story told by just one person from one particular perspective. Unreflective perspectives tend, often without intending so, to marginalise or misrepresent those who have different perspectives.

Accordingly I acknowledge that this paper provides just one vision and interpretation of events. Whether any of the characters in this paper will ever write their own autobiographical accounts of this period of their lives I don't know, but I would be so pleased if they would. Then others could compare the various versions, rather as theologians look at the four gospels, attempting to extract further meanings from both the agreements and the differences in the separate accounts (e.g. Hayes & Holladay 1982).

Children's drawings

Children were given a sweet and provided with an A4 sheet of white paper and a pencil and asked 'Would you please do a drawing of where you live?'. When each child had finished her/his drawing, (s)he was asked their full name, their age in years, and to identify the various objects in their drawings. This information was recorded on the back of the drawing. Each child typically spent about 15 minutes on their drawing.

There are, of course, many ways of gathering information about children's understandings of phenomena (e.g. White & Gunstone 1992). Most of these methods rely on children either talking or writing. Such methods include oral interviewing of students (e.g. Osborne & Gilbert 1980, Dettmann-Easler & Pease 1999), getting students to construct written concept maps (Novak & Musonda 1991), using questionnaires (e.g. Salmivalli 1998), using vignettes to uncover students' beliefs about the future (Sumrall & West 1998), recording students' spontaneous conversations (Tunnicliffe & Reiss 1999) and observing classroom lessons (e.g. Rickinson 1999).

In addition to these methods which rely on language, a number of researchers have used drawings as a way of examining children's understandings of the environment. Brown *et al.* (1987) looked at English children's drawings to reveal their changing perceptions of power stations, Barraza (1999) analysed drawings by English and Mexican children to evaluate their environmental perceptions and their major expectations and concerns for the future, and White (2000) looked at what drawings by Scottish children revealed about their perceptions of their local environment. In addition, geographers have long studied children's maps and interpreted these with reference to culture and education (e.g. Matthews 1995).

Every research technique has its advantages and disadvantages. I was keen to use a method which children would feel comfortable with, which did not rely too much on language skills, which did not ask any 'leading questions' and which could easily be carried out with children of a range of

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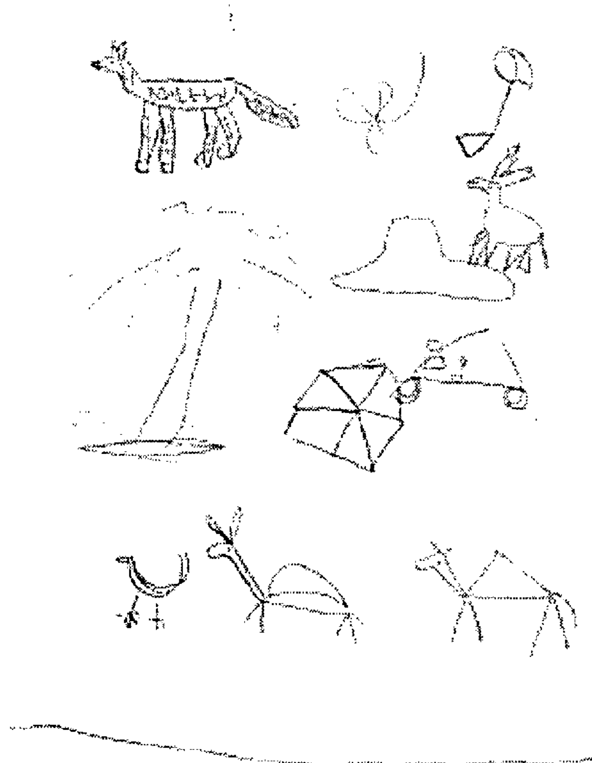
ages and in any locality. Asking children simply to draw where they lived met these requirements (cf. Matthews 1985, Payne 1998).

Figure 3 A drawing by a five year-old boy when asked to draw where he lived



Adult interviews

Interviews were semi-structured. They ranged in length from 9 to 37 minutes (median = 25 minutes). The main questions asked were:

- What was it like when you grew up as a child?
- Are things the same now or have they changed?
- What's it like living here?
- What do you think this area will be like in the future?
- What do you think life will be like for your children?
- What are your hopes for your children?

In an effort to increase the quality and validity of the data obtained, I had taken a considerable amount of advice from my interpreters as to Bedouin traditions and customs with regard to such things as how I should introduce myself, where and how I should sit, when I should remove my shoes, how much hospitality I should accept, how I should address and look at men and women, and so on. I also made every effort to make the interviews interesting for those I was interviewing. This had the advantage of substantially increasing the richness of the data collected. For example, when I found out that one woman was a grandmother, I told her about how much I had learnt from and appreciated my father's mother, who used to live with us; when one man volunteered the information (without my asking for it) that he got married at the age of 23, I told him that I got married at the age of 24; when one woman told me about the fact that they got mice eating their grain and fruit, I told her about how people in Britain controlled mice (cats, poison and traps), which led onto an account of how the Bedouin controlled mice; when I was asked why I didn't have children I answered truthfully, which led onto a discussion about whether children were a source of trouble (not my words!).

I was surprised, and greatly encouraged, at how readily and in what depth many of the Bedouin adults, particularly the women, talked to me. Anthropologists have long discussed both the advantages and disadvantages of belonging to a very different cultural group from the one that a researcher is studying - for an account specific to methodological issues when conducting fieldwork among Arab women see the papers in Altorki & El-Solh (1988). Certainly, there can be times when it is easier to talk to 'the other' than to someone one knows well; it is not unknown for people to pour out their hearts to someone on holiday or on a train whom they will never see again. However, it would be as naive to suppose that the stranger has access to 'the' truth in a way in which the insider does not as it would be to presume that only someone within a culture can understand and comment on it.

I was also greatly aided by the fact that my main interpreter, Yousria Abdel Baset Hamed (the only woman ranger in Egypt), was trained as a social and cultural anthropologist, knew the Bedouin in this area before the Protectorate was declared, and had worked for the last two years with them full-time managing a Craft Program among the women, and also being involved in health education among the women and environmental education among the children. Her English was extremely good and, being Egyptian, she was, of course, fluent in Arabic. She also knew a good number of distinctively Bedouin words.

Figure 4 A drawing by an eight year-old girl when asked to draw where she lived

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Analysis and results

Children's drawings

A total of 42 drawings were obtained. Five of these, though of interest and value, were excluded from the analysis on the grounds that three included elements drawn by elder sibs or a parent, one (though particularly beautiful and rich in detail) was drawn without me being present and one was drawn by a 1 year-old (and so contained no identifiable elements). The 37 remaining drawings were done by a total of 33 children as four children each produced two drawings. Throughout this paper the child is taken as the unit of analysis, so that the two drawings by a particular child are, effectively, treated as if each was a half drawing. These 33 children ranged in age from 4 to 14 years. Twenty of the 33 children were girls (median age = 10 years) ; thirteen of the children were boys (median age = 8 years).

I ordered the drawings by chronological age and sex of the child. Both the artistic quality of the drawings and the diversity of objects they contain generally increase with age, which is hardly surprising. Sex differences were not apparent with the exception that while seven of the girls drew boys or men, none of the boys drew girls or women. Seven of the girls drew girls or women; three of the boys drew boys or men. In all, 11 of the 20 girls drew human figures and another three drew hearts; three of the 13 boys drew human figures and another boy drew ghosts.

To my eyes the most obvious feature of the drawings is the wealth of animal and plant life portrayed. For example, Figure 3 presents a drawing by a five year-old boy. Starting from the top left and going clockwise, it shows a fox, a plant, another plant, a gazelle, a stone, a car, an umbrella, a camel, a donkey, a bird and a palm tree. Figure 4 presents a drawing by an eight year-old girl. Amongst other things it shows, set against a mountainous background with a goat and plants, a bird returning with food to its mate sitting on a nest with eggs in an *Acacia* tree.

A rather crude, quantitative analysis of the contents of the drawings is provided in Table 1. This analysis loses much of the richness of the drawings but has the advantage that it enables a straightforward comparison with any other drawings collected after children have been asked to draw where they live. It may also be that although such quantitative analyses are not value-free, they at least make specific the basis of any judgements in a way that the qualitative assessment of artistic quality may not. Awareness of the likelihood of cultural bias is especially important when commenting on drawings produced in another culture.

Of the 33 children, 32 (97%) produced drawings that showed animals and/or plants, the one exception being a four year-old boy who drew only ghosts. Fully 85% of the drawings contained plants, 79% contained non-living natural features (such as mountains and the Sun), 73% contained non-human animals (wild and/or domesticated), 52% contained humans or hearts, and 36% contained human artefacts (such as balloons or houses). (It may be worth mentioning that balloons - which were the most common human artefact depicted, featuring in 18% of the drawings - are used twice a year to celebrate religious festivals, including the ending of Ramadan.) The diversity of animal life is impressive. In all at least 16 different taxa (excluding humans) were represented. Plant biodiversity is undoubtedly under-represented by the account in Table 1 as a number of different herbs and palm trees were drawn. It is interesting to note that while all the children live for much of each day in houses, only four children (12%) drew houses. Where they live is portrayed more with respect to plants, animals and the natural environment than in terms of concrete and mortar, i.e. the built environment.

Table 1 Quantitative analysis of the contents of the drawings produced by the 33 children; percentages in brackets

Category	Number of drawings (%)
Animals (excluding humans)	24 (73%)
Bird	13 (40%)
Camel	9 (27%)
Cat	1 (3%)
Chicken	1 (3%)
Donkey	2 (6%)
Duck	2 (6%)
Fish	3 (9%)
Fox	1 (3%)
Gazelle	1 (3%)
Goat	1 (3%)
Horse	1 (3%)
Ibex	3 (9%)
Mouse	3 (9%)
Pigeon	1 (3%)
Sheep	1 (3%)
Snake	4 (12%)
Unidentified [goat/ dog]	1 (3%)
Plants 28 (85%)	
Herb	23 (70%)
Palm tree	17 (52%)
Other tree	5 (15%)
Humans/human anatomy	17 (52%)
Females	7 (21%)
Males	10 (30%)
Hearts	3 (9%)
Ghosts 1 (3%)	
Non-living natural features	26 (79%)
Cloud	8 (24%)
Moon	3 (9%)
Mountain	18 (5%)
Sea	1 (3%)
Star	1 (3%)
Stone	1 (3%)
Sun	16 (48%)
Human artefacts	12 (36%)
Balloon	6 (18%)
Car	2 (6%)
House	4 (12%)
Israeli star	1 (3%)
Monastery	1 (3%)
Swing	1 (3%)
Tent	1 (3%)
Umbrella	1 (3%)
Well	1 (3%)

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Adult interviews

Eleven interviews were carried out, six with men and five with women. The information from the interviews can conveniently, if approximately, be structured with respect to the past, the present and the future.

I was told that changes from the past to the present included the arrival of electricity, TV, schools and tourists, the movement from tents to houses, and the decline in traditional Bedouin clothing among adult women, adult men, girls and boys.

The move from tents to houses was generally welcomed. I was informed that in tents you slept with your goats and chickens and, when it was very cold in winter, the ice would sometimes cause the tents to collapse. Tents also let the winds in and you got wet when it rained. On the other hand, it was pointed out to me that tents were mobile and allowed families to move with their animals to find water and grazing. Food was reckoned to be more plentiful nowadays though there was a widespread feeling that food in the past both tasted better and was healthier. One woman told me that today's stoves were an improvement over firewood [i.e. an open fire] as firewood makes a lot of dust and that makes the cooking pot and their hands black and also makes the children ill in their chests.

In the past the environment was said to be more beautiful and quiet and calm whereas nowadays everything was so busy and there wasn't even 'time to collect some dried plants and burn them and sit around them, looking at the Moon and the stars and singing and dancing'. One woman said that 'people in the past were more loving. In the past no money and people always in need to one another ... now they don't need to talk to their neighbour'. Another woman also told me how 'in the past people were loving each other. Now it's quite different. Only the religious people visit their relatives and neighbours ... a lot of people visit me only for what they can get ... In the past people used to cry when they left each other'.

One of the men told me that in the past, because there was less food, they had to hunt animals - ibex, hyrax [*Procavia capensis*] and *dhabb* [Egyptian dabb lizard, *Uromastyx aegyptius*]. Because there was more rainfall in the past, the vegetation was more varied.

Traditional medicines, made from local wild plants, were still quite widely used. One of my interpreters was unwell one day with diarrhoea and one Bedouin woman, after asking what the matter was, collected the appropriate plant [*Artemisia* to my eyes], crushed it up into small pieces and gave it to my interpreter to take with some tea there and then. This woman then showed me another plant [which I could not identify] which could be used for treating kidney problems and told me 'Diseases make you know everything about plants'. She also showed us another plant [identified by my interpreter as *Teucrium*] which could be used for treating diarrhoea too.

Wolves and leopards were no longer seen, though foxes [*Vulpes vulpes*] were now much bolder than they used to be. The increase in the number of foxes was not welcomed - foxes take people's chickens. Only a few of the Bedouins alive today had seen leopards. One man told me how his grandmother had told him of the time when his father [her young son at the

Figure 5 A drawing by a twelve year-old girl when asked to draw where she lived

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time] was sleeping with her and woke up and told her that there was a leopard. She told him that there wasn't but he insisted there was - so that she thought he had been dreaming of one. In the morning, though, she found a number of wounds on his head. So she carried the boy to her husband who was working in St Katherine's Monastery. He came back, followed the signs of the leopard and shot it in its home. This man told me that the reason there were no leopards nowadays was because leopards like large forests and barren areas and these had been lost because of the infrastructure that there now is. The wolves, though, had decided some 600 years ago that they would gradually leave and so that was why their numbers had gone down.

One woman told me of how she used to see leopards a lot and of how, though she herself always escaped, they used to take her goats. This woman told me a tale of how in the *wadi* where she lived a girl in ancient times was grazing her sheep and goats and found that one of the goats was missing. She took her dog and went back to where the goats had been grazing and found a leopard. The leopard killed her and then lay down and slept beside her. When it got so late that her father was worried he came with a gun and found her dead. He shot the leopard and then buried his daughter and the leopard in separate graves. At that time the girl's fiancé was away. When he returned he saw the two graves and that night when he slept, the girl came to him in a dream and told him the story of how she had been killed. When he awoke he went to the girl's mother and told her the dream and she told him what had indeed happened. [Back in England, I subsequently found a related version of this tale in Hobbs (1995).]

Later I asked this woman if there were animals she would like to see more of. Yes, she said, she would like to see more ibex and hyrax. The ibex she liked for 'their huge horns which look like the shape of the mountains'. One of this woman's adult daughters volunteered a little bit later that she liked the fox 'because it has a beautiful shape'. On the other hand, mice were not liked 'because they eat the bread and tomatoes and clothes' though, as one of this woman's adult daughters admitted 'they have beautiful eyes'. [This might have been the Asian garden dormouse (*Eliomys melanurus*) - which I too consider to have beautiful eyes - rather than the more common spiny mice (*Acomys* spp.).] Another woman told me how she would like to see wild rabbits, ibex and some birds. However, she didn't like to see leopards, wolves and foxes - even in a zoo.

Looking to the future, there was near unanimous agreement that that was up to God. At the same time, it was widely hoped that the rains would come (1999 and 2000 were years of drought). For their children, people generally hoped for good jobs (especially for the boys), a good marriage (for the girls), for health and for happiness. There was widespread enthusiasm about education for children, facilities such as hospitals and the prospect of better employment. One man talked movingly about how he was pushing his six children to learn from their education even though he appreciated that 'when I am old they will think of me as ignorant'.

One woman told me that 'in the future ... a lot of people and a lot of problems ... Some of the problems will be because of the water and the land and anything which brings money. When you have much more money and more people, there will be more fighting and people will be more jealousy between themselves, saying "You have a house; I don't have a house. You have money; I don't"'. With tears in her eyes, she went on to tell me, in what sounded like an eschatological prophecy, of the time to come when the next generation would get married and 'the brother will not like his brother'. More mundanely, some Bedouin welcomed the advent of tourists. This was said to be 'very good because this will bring money and more jobs'.

Discussion

I felt very privileged to have been able to conduct the interviews and collect the drawings. Some of the drawings are of exceptional artistic quality. Figure 5 shows one by a 12 year-old girl which was handed to me the day after I had given a blank bit of paper to a friend of hers. (As it was not drawn in my presence it is not included in the drawings from the 33 children analysed in Table 1.) It is drawn in seven colours and graphite pencil and, in addition to birds, clouds, the Sun, five ibex, an *Acacia* tree, goats and camels, shows a girl wearing traditional Bedouin dress, and a traditional Bedouin tent with a fire, a millstone and rugs. I am reminded of the 19th century 'primitive' drawings by the native peoples of the Arctic collected by early explorers (e.g. Carpenter 1997) though the drawing in Figure 5 arguably provides a particularly rich and holistic appreciation of the environment.

Although I am unaware of any drawings that have previously been collected using precisely the methodology of this paper, the wealth of animal life in the drawings is impressive. I look forward to collecting drawings from other populations of children for comparative purposes. It is worth noting, in passing, that a careful comparative study of the views of rural and urban Brazilian children with those of African American urban children revealed surprising similarities in environmental views and values (Howe *et al.* 1996). In other words, it should not be assumed that urbanisation (let alone sedentarisation) necessarily leads to narrower perceptions of the environment.

In common with many other nomadic people, the Bedouin of Sinai are becoming sedentary. As has been noted, the move among nomadic peoples towards sedentarisation 'has not always been voluntary and spontaneous nor has it always been eased by the passage of time' (Meir 1997, p. 1). Sedentarisation is a complex process originating in external pressure but subsequently taking on an element of internal change. The implications of sedentarisation among the Bedouin of Sinai are likely to be profound. Among other Bedouin, sedentarisation has been associated with a raft of cultural and socio-economic changes including increasing individualisation, the beginnings of urbanisation, increasing inequality and a growth in the importance of notions of

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autonomy, privacy and self-development (Meir 1997). It has also been argued that sedentarisation is associated with the confinement of women's work to an increasingly separate and economically devalued domestic sphere as subsistence becomes based on cash rather than on the exploitations of herds and land which required the labour of both men and women. In addition, houses have a rigidity that tents lack, leading to a more enforced sexual segregation. After all, blankets - which separate female and male domains in a tent - are, unlike walls, both temporary and permeable (Abu-Lughod 1988).

It is as yet unclear whether, and if so how, sedentarisation among the Gebaliya Bedouin of Sinai will influence environmental perceptions. My hypothesis is that it will, partly through changes in the degree of intimacy of the contact between people and their natural physical environment, and partly because of increasing extra-Bedouin secondary socialisation through television, schooling and other influences.

Finally, it is worth commenting on the fact that the reduction or even extinction of carnivores such as leopards and wolves was universally welcomed by the adults I interviewed. World-wide, most people seem to view wildlife and the natural environment anthropocentrically (e.g. Kellert 1993, Howe, Kahn & Friedman 1996). Similarly, nature did not seem to be seen by the adult Gebaliya I interviewed as having a right of itself to exist. Its goodness or acceptability is viewed principally through human eyes. This means that there is a considerable gulf between the environmental views of the resident Bedouin and intentions of the National Park staff. One recent story among the Bedouin requires one to know that the Director of the St Katherine Protectorate is a man called John Grainger. The story is that the Bedouin manage to trap a fox which had been catching chickens. The fox looked all around in every direction but there was no escape. So it looked upwards and howled 'John!'. Some innovative environmental education in the years ahead may be needed if the numbers of such jokes are to decrease. Jokes are excellent things but conservation measures in the St Katherine Protectorate will be less likely to succeed if a situation develops in which the Gebaliya merely viewed environmental policy as something imposed on them by outsiders.

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