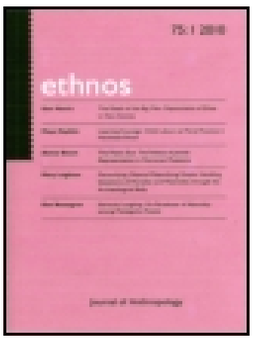

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Listening to the Zoo: Challenging Zoo Visiting Conventions

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ABSTRACT

In academic discourse, zoos have often been conceptualised as places of spectacle, with scholars focusing on the ways in which these institutions enable the viewing of other-than-human animals by human publics. This article, however, describes a set of guided listening visits conducted at two UK zoos. The visits were designed to question, disrupt and offer alternatives to ingrained zoo visiting conventions. They were also used to generate data on how sound mediates, or has the potential to mediate, relations between zoo visitors and zoo animals. The article describes the visits, reflects on their conceptual underpinnings and discusses themes emerging from participants' experiences. It demonstrates the relevance of listening walks as a research methodology and illustrates the complexity of sound as a form of multispecies entanglement in the zoo context. The listening visits are also shown to indicate potential directions for wider changes in zoo visiting culture.

KEYWORDS Animals; listening walks; sound; soundwalking; zoos

Introduction

It is just after 9 am on a May morning in Paignton in the Southwest UK. The zoo, one of the main visitor attractions in this seaside town, has not formally opened yet, but a group of people are nonetheless walking along a path just inside the main entrance. Like the timing of their visit, the behaviour of this group is somewhat unusual. They are quiet. No one speaks and instead of individuals following their own interests and determining their own way around the zoo they move as a unit. One member of the group, a researcher, is guiding while two others, also researchers, bring up the rear to ensure everyone stays together. The rest of the group is made up of 10 volunteer participants and a representative of the zoo. When they stop inside the zoo's walk-through Desert Zone exhibit, the purpose of this peculiar zoo visit becomes apparent. The group is there to listen.

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The Desert Zone is about 50 metres long and 18 wide. Its walls and ceiling are made of glass panels, giving it the feel of a huge greenhouse. A concrete path snakes along one side of the building while the rest of the floor is covered with sand, groups of rocks and scattered planting: giant yuccas, aloes, agaves, date palms and other species. There are also hundreds of birds here. The particular kinds might not be immediately obvious, but signage explains that there are several crested pigeons (*Ocyphaps lophotes*), numerous cut-throat finches (*Amadina fasciata*), budgerigars (*Melopsittacus undulatus*), Timor zebra finches (*Taeniopygia guttata*) and princess parakeets (*Polytelis alexandrae*), as well as Wonga pigeons (*Taeniopygia guttata*), Bourke's parakeets (*Neopsephotus bourkii*) and hooded parakeets (*Psephotus dissimilis*). A few elegant crested tinamou (*Eudromia elegans*) and bush thick-knee (*Burhinus grallarius*) wander about on the ground. To human ears, the sound made by all these birds is striking. There is a continuous chorus of calls and squawks of various tones, volumes and patterns. Vocalisations come from all around the space. Because this is an open area, the whirr of wings is also conspicuous, describing flight paths through the exhibit. Sound indexes the size and speed of individual birds and the small flocks of which many are a part. Aspects of bird behaviour, such as the energy and intensity of their interactions, are also strikingly audible.

The guide leads the group in what he calls 'an attuning exercise'. They are asked to close their eyes and concentrate on what they can hear. He provides prompts in the form of questions, allowing time to elapse between each one:

Which distinct sounds can you pick out in this busy sound environment?

What can you hear in the foreground near you?

What sounds can you hear in the middle distance?

What sounds can you hear beyond the enclosure?

What kinds of movement can you hear within and across the space?

After a few minutes the group are asked to open their eyes. The guide explains that as well as directing attention to the sound environment, this visit aims to provoke thought on how animals in the zoo might hear their surroundings. With this in mind, the group leaves the Desert Zone and embarks on the next stage of their listening visit, walking in silence (to facilitate attentive listening) along a path towards the Ape Centre exhibit. When they arrive they will be invited to reflect on how a group of captive western lowland gorillas (*Gorilla gorilla gorilla*) might hear sound in their enclosure and in the zoo environment more generally.

Scholarship has often characterised zoo visiting as a visual activity. Malamud, for example, describes zoos as 'venues for visual consumption par excellence' (2012: 115, see also Acampora 2005). They serve to render other-than-human animals (henceforth 'animals') 'visible to us easily and on our own terms' (Malamud 2015: 400). Montgomery writes that zoos are places which one visits 'to see the sights, to take in animals with regard to their capability for spectacle and performance' (1995: 574). Perhaps Berger puts it most simply of all: '[v]isitors visit the zoo to look at animals'

(1980: 23). Despite considerable innovation in zoo enclosures in recent decades (partly in line with growing public and professional interest in animal welfare), Mullan and Marvin argue that 'zoos still consist of animals kept in enclosures of greater or lesser complexity which the public can walk past to *view* the animals' (1987: 115, emphasis added). Immersive exhibits arguably shift the visual perspective from one of looking through or across a barrier to looking around an environment. Ultimately, though, they afford different but still primarily visual ways of encountering captive animals. Braverman (2013) positions zoo animals as subject not only to the gaze of zoo visitors but to increasingly intense surveillance (including visual monitoring) from keepers and researchers as they seek a detailed knowledge of animals' health, diet, reproduction and so on. Professionally directed human gazes thus increasingly pervade many of the off-show areas in modern zoo enclosures that allow animals to be away from the eyes of visitors.

Spectatorship, looking, seeing, watching, observing, gazing, witnessing, 'peering in' (Bishop 2004: 115), 'gaping' (Montgomery 1995: 575) 'gawking' (Malamud 2012: 123): vision has been a pervasive theme in academic discourse on the zoo. This article, however, focuses on a set of *listening* zoo visits which were conducted as part of a wider study entitled Listening to the Zoo. The overarching aim of the project was to explore how sounds are woven into experiences of zoos for visitors, but also for staff, people who live near zoos and for zoo animals themselves. It sought to broaden and diversify the ways in which zoos are conceptualised in academia through a focus on sound. Combining approaches from the social and natural sciences, the Listening to the Zoo research team consisted of scholars from social anthropology, anthrozoology, philosophy and animal behaviour. The project was conducted in collaboration with two Zoos: Paignton Zoo (owned by the Wild Planet Trust) and Bristol Zoo Gardens (run by Bristol Zoological Society).

The rationale for the listening visits was multifaceted. They were designed to encourage members of the public to consciously engage with sound and thus foreground it in their zoo visiting experience. At the same time, they were intended to unsettle the 'sensory habits' that underpin conventional zoo visiting (Gallagher & Prior 2017: 169). Through the incorporation of a feedback component (a group discussion where participants were able to describe and comment on their experience), it was projected that the visits would generate useful reflections on how sound and sonic conditions mediate, or have the potential to mediate, relations between zoo visitors and zoo animals. They would enable exploration of some of the ways in which human and animal lives are entwined in the zoo, a key zone of 'interspecies contact' in many contemporary societies (Buller 2014: 314).

Literature from within anthropology on sound and sonic relations has been growing in recent years (e.g. Cox 2017; Samuels *et al.* 2010; Schulze 2018; Rice 2013). Some of this work has focused on sonic connections between humans and other-than-human organisms (e.g. Feld 1990, 1996; Helmreich 2007; Menezes Bastos 2013; Whitehouse 2015). The current research sought to develop this area of anthropological interest by opening up sound as an important aspect of human-animal relations in the zoo context. The listening visits in particular represented a

way to engage with the 'acoustemology', or acoustic 'ways of knowing' exercised and applied by zoo visitors (Feld 1996: 96–98; Rice 2018); for insights into zoo keeper acoustemology see Rice *et al*. Forthcoming. At the same time, the visits drew attention to the agency that some animals possess, not only in their co-creation of the sonic environment, but in their responses to heard presences of other human and nonhuman actors within it. By inviting reflection on the ways in which bodies of all kinds, human and other-than-human, are responsive to sound and resonate with it, they allowed exploration of the potentialities of sound as a medium within which species mingle.

Like looking, movement, and particularly walking is an important aspect of zoo visiting (Malamud 2012: 115). Montgomery describes zoos as places for 'strolling and gazing' (1995: 574), while Braverman writes that 'most zoos require a lot of walking' (2013: 32). A soundwalk, therefore, suggested itself as an appropriate strategy through which to bring visitors to reflect on the sound environment of the zoo. Westerkamp describes a soundwalk as: 'any excursion whose main purpose is listening to the environment' (2007: 49). Gallagher and Prior draw a distinction between technologically mediated soundwalks, which use personal stereos, MP3 players and similar technologies to direct listeners' attention to the soundscape or to layer audio onto the experience of walking, and 'listening walks' which simply aim to focus attention on the sound environment (2017: 163). The listening visits conducted at the zoos were of the latter type. Such walks often involve participants being guided along a route, listening without being directed or given instructions as to how to listen or what to listen for. The listening visits that are the subject of this article, however, involved scripted listening exercises at nine specific sites on pre-planned circuits of Bristol and Paignton zoos. The script for each visit was site specific; but as both zoos had exhibits of certain species such as western lowland gorilla, Asiatic lions (*Panthera leo persica*) and ring-tailed lemurs (*Lemur catta*), there were several points of planned overlap.

One listening visit was conducted at each of the two zoos during May 2019. Separate groups of 10 volunteers for each of the visits were recruited through adverts on the zoo websites (though ultimately only 9 people attended the Bristol Zoo visit). It was specified that participants should be over 18 years of age, as it was felt that families with children might find it hard to focus on the listening tasks.[1] Small incentives were offered, including free entry to the zoo and a small financial contribution towards travel. The visits were scheduled to last approximately 90 mins and participants were requested to attend a discussion directly afterwards where they would be asked questions about their experience by the research team. All the participants were present at these discussions, which lasted approximately an hour.

In general, the Bristol group was more diverse in terms of age and gender than the Paignton one. In the Bristol group, there were two retired heterosexual couples, a much younger heterosexual couple (the woman was nineteen and the man in his early twenties), as well as three women in their late teens, early twenties and late thirties respectively who attended on their own. The Paignton group consisted of nine women and one man (the man was accompanying his wife). Of those who gave their ages in that group, four were in their fifities and one in her sixties and these seemed to be

the dominant age categories. Many of the volunteers were already familiar with the zoos at which the listening visits took place and some were members, lived nearby and visited frequently.

The visits were planned in such a way as to optimise the chances of an interesting listening experience, where there would be low levels of sound from other visitors at the zoos but also relatively high levels of nonhuman animal sound. They were scheduled for spring in the UK, when local birds, as well as some zoo animals, tend to be at their most vocal. Paignton Zoo encompasses an area of woodland which makes the site rich in bird song, and Bristol Zoo is adjacent to a large area of public parkland which means various species of wild bird visit the site. The weather for both visits was warm, sunny and still, which no doubt enhanced participants' enjoyment of them. The listening visit at Bristol began at the normal zoo opening time of 9 am. It was felt that the zoos would be unlikely to be busy early on, producing a more satisfactory listening experience than might be the case later in the day. No effort was made, however, to request that other visitors be quiet. Paignton Zoo gave approval for the listening visit there to begin an hour before normal opening time. It was thought that the absence of other visitors would mean the zoo was quiet in anthropogenic terms, though as it turned out, keeper and maintenance work meant this was not the case in some areas of the zoo. The opportunity to access the zoo outside normal opening hours no doubt acted as an incentive to participation for some volunteers and added an element of exclusivity to the activity.

Zoos often experiment with new ways to attract visitors. Some offer opportunities to visit at unusual times of day, especially in the evening or night, and (sometimes controversially) include entertainment such as music or film showings. It is possible to stay overnight or even longer in some zoos and wildlife parks. Many zoos also create opportunities for visitors to have closer contact with animals than might be possible during an ordinary zoo visit, for instance through 'keeper for the day' offers, or 'close encounters' where one can help, for example, feed some of the animals. Rather than being a novelty in this tradition, our hope was that the listening zoo visits would bring participants to reflect on the ways in which they engaged with the zoo and its captive animals.

In addition to the role they play as places of entertainment, many modern zoos claim to educate visitors about biodiversity, for instance by exposing them to species they would not otherwise have the chance to encounter directly and by providing information about those species. They often present opportunities for visitors to learn about conservation issues and environmental protection efforts. It is important to note that the claim of zoos to be education led and motivated by conservation is contentious (see Jensen 2014: 1005). It is also hard to determine how effective or otherwise zoos are at delivering education messages in ways that translate into conservation-related behaviours (Godinez & Fernandez 2019: 3–5). On one level, the listening visits might be understood partly as a 'participatory pedagogy', seeking to develop the volunteers' knowledge and understanding of the significance of sounds in the zoo and in the lives of zoo animals (Gallagher & Prior 2017: 175). At another level, though, the visits used listening as a strategy through which to bring participants to reflect on the ocularcentric attitudes to and assumptions about animals that underpin

visitor behaviour in zoos (both their own and that of other people). The listening visits also led volunteers to recognise the sound environment as being of immediate relevance to animal lives and welfare.

The guide scripts included factual information about the sounds (such as vocalisations) and auditory sensitivities of particular species. They also drew attention to non-captive animal sounds in the zoo, such as the songs of native birds. Conservation discourse often describes animals as being in danger of 'disappearance', yet when a species dies out it also falls silent, so sound was considered to represent an alternative medium through which to draw attention to the value and fragility of biodiversity. An example can be seen in this section of the script for the listening visit at Bristol Zoo, which was used inside an exhibit that included African penguins (*Spheniscus demersus*):

> *Penguin Coasts*
>
> *African penguins make a range of vocalisations, some of which you might be able to hear. They are most famous for having a donkey-like bray, and in America the species is known as the 'jackass penguin'.*
>
> *In 1900 there were an estimated 2 million African penguins. Now there are thought to be just 18,000 breeding pairs left in the wild. This is a 98% drop in population over the last 100 years.*
>
> *Over here is an information board showing the seemingly total loss of African penguins from Halifax Island, Namibia, between the 1930's and 2004* (see Figure 1).

Figure 1. Information board in the Penguin Coasts exhibit, Bristol Zoo.

Close your eyes and imagine the breadth and volume of the sound that could be made by a full colony as we see in the first image. Then imagine that chorus very gradually fading to near silence; an 80-year fade. This is perhaps a good way to sonically describe the depletion of the population.

The scripts directed participants' attention and imagination in such a way as to move beyond an anthropocentric auditory perspective, drawing on insights from zoology, ethology and bioacoustics to stimulate thought on the ways in which human and other-than-human acoustemologies might overlap and intersect, as well as differ. They acted both as 'a form of intensified human sensory perception and a way of connecting to the more-than-human world' (Gallagher & Prior 2017: 165). It is important to recognise, though, that points of connection between visitors and zoo animals are seldom likely to be mutual, and that of course, the zoo animals, by virtue of their captivity, had limited agency in relation to their participation or otherwise in the listening visits, as indeed is the case with zoo visits in general. Part of the scripts for the listening exercise beside the enclosures for western lowland gorillas read as follows:

Perhaps you can see one of the gorillas. Perhaps not. It doesn't matter. We just need to be conscious that the gorillas are nearby.

A gorilla's outer ear looks very similar to a human's, and the workings of the inner ear are similar too. These gorillas hear very much as we do: at frequencies between approximately 20 Hz and 20,000KHz.

What do you think these gorillas can hear now? Try to imagine.

What sounds do you think they hear when they wake up in the morning? In the middle of the day? Before they go to sleep at night?

You might think that a gorilla's natural or preferred sound environment would be like that of the African forests where gorillas are found in the wild. But these gorillas do not live in those forests. Their 'natural' sound environment is the one they are hearing now.

Moving away from a human auditory perspective, and raising consciousness of the particular auditory ranges and sensitivities of some animals, was thought to offer a potential route to encouraging empathetic encounters between participants and some zoo animals, promoting an acoustic mindfulness of non-human life in zoos (and, by implication, beyond).

As well as being visually orientated, zoo visiting, because it is often a social activity, can be loud. It is easy to imagine zoo visitors exclaiming, commenting, appreciating, discussing, reading aloud from signage and so on. From children in particular there might be shrieks of excitement, calls to other children, to adults and to animals.[2] While intended to challenge and augment ocularcentric approaches to the zoo, the listening visits also drew attention to the current normalisation of anthropogenic sound in the zoo context and raised questions as to what might constitute 'noise' from the perspective of different species. Work from within visitor-animal interaction studies and bioacoustics suggest that while visitor presence, including noise, can be stimulating or enriching in certain contexts for some species and individuals, noise is generally

stressful for zoo animals (e.g. Fernandez *et al.* 2009; Sherwen & Hemsworth 2019; Bonde de Queiroz 2018; Orban *et al.* 2016; Owen *et al.* 2004; Quadros *et al.* 2014). The visits invited participants to consider the appropriateness of loud human sound in a space shared with captive animals.

The listening visits, then, set out to raise awareness of sound as a form of multispecies entanglement. Importantly, sonic entanglements are often not entanglements visually, opening up a means for participants to engage with captive species at a distance or where a visual relationship was not possible. At Paignton Zoo the roar of an Asiatic lion, the screech of a blue peafowl (*Pavo cristatus*) or noise of baboons (*Papio hamadryas*), for instance, could be heard some distance away with the animals well out of eyesight. The visits also emphasised that loud sounds like these could create entanglements between species within the zoo. How might Paignton's gorillas, for example, respond to or interpret the sounds of lions roaring nearby, or the vocalisations of the lar gibbons (*Hylobates lar*) across the lake? How might Bristol's ring-tailed lemurs react to a sudden outburst of noise from the lion-tailed macaques (*Macaca silenus*) in the neighbouring enclosure? How might such diverse communications, that cut across 'natural' or conservation-defined sonic habitat boundaries, punctuate captive animals' days?

In recent decades a strengthening of critiques from within both the animal rights and animal welfare movements has meant that zoos have come under increasing scrutiny. Justifying their activities and defending the grounds on which they hold animals captive, zoos might point, for instance, to their environmental education and conservation work, to the need for captive breeding programmes and gene reserves for species threatened in the wild, and to efforts to ensure that their animals are well-fed, healthy, stimulated and so on. The listening visits were designed in part to establish a framework within which participants could reflect on the captive dimension of the lives of zoo animals in a way that need not necessarily dismiss zoos entirely or alienate those who work in them; even if some of the participants, like some members of the research team, remained sceptical of various aspects of the zoos' institutional missions. While recent decades may have seen zoos move from presenting themselves as places of entertainment and spectacle to centres for conservation and environmental education (e.g. Carr & Cohen 2011), the listening zoos visits indicated that they might declare a further move, a shift to being spaces for deliberate reflection and meditation on relations, especially sonic relations, between humans and animals. If this role was partly implicit in the work of zoos, formats such as the listening visits offer a way to make it overt as well as more deeply reflective.

Aspects of Listening

For some participants, the listening visits appeared to produce distinctive types or qualities of experience. For instance, they could generate a sense of 'immersion' in the zoo environment. This term is often used in descriptions of sonic experience and refers to the way that sound can sometimes be perceived to surround and envelop the listener. Gloria[3], a science teacher in her mid-fifties who took part in the Paignton listening visit said:

> I just feel you are part of this. It is much more immersive. And I feel, at the end of it, I got much more out of being here, even though we didn't see most of the animals. You just feel you are there with them.

In the discussion at Bristol Zoo, Ben, a manager of a co-working space in his early twenties, also related a sense of having felt immersed:

> You are more immersive as opposed to just being a loud family looking at animals. You are actually feeling more like you are immersed in it.

Others in the discussions also suggested that the listening visits involved them in a close, participatory type of engagement with the animals, one which they perceived to be more authentic than that generated by only looking at or reading about them. For instance, Anna, a 19-year-old barista who took part in the Bristol listening visit said:

> I felt it was more authentic than just seeing a zoo, because the way that things are presented to you in the zoo … There are loads of signs everywhere, really bright colours, and you don't actually see a lot of the animals. But when you are forced just to listen to it, you are actually getting the real experience of the animals in that way. It is not necessarily entertainment, more that you are a part of it.

Shifting from giving an account of participants' experiences to producing an anthropological reading of their reports, these comments can be understood to be reproducing a set of culturally engrained assumptions about the nature of hearing as opposed to vision. Sterne, for instance, identifies what he calls an 'audiovisual litany', a set of assertions which are repeatedly made about the difference between hearing and vision (2003: 15). The following are among the contrasts he lists, although his litany is more extensive:

> Hearing immerses its subject, vision offers a perspective.
> Hearing places us inside an event, seeing gives us a perspective on the event.
> Hearing tends towards subjectivity, vision towards objectivity.
> Hearing is about affect, vision is about intellect. (Sterne 2003)

Sterne writes that these differences 'are often considered as biological, psychological, and physical facts', when they are actually culturally shaped understandings of the nature of hearing and vision (Sterne 2003). The notion that any sense has inherent qualities, for Sterne, is unsafe, but participants are apparently drawing on a version of these ideas of what hearing 'is like' relative to vision in their descriptions of the visits.

Several participants reported that they found the listening visits relaxing, calming or therapeutic, with two likening it to the practice (now normative in much of the UK) of mindfulness.[4] Janet, a part time psychotherapist in her early fifties who participated in the Paignton listening visit, said:

> I come to the zoo probably once a week, as I am a season ticket holder, and I bring my little niece. I have never experienced the zoo like I have this morning. It has been, for me, a very relaxing, lovely, chilling [as in calming] experience, because usually I am running after her, she is making peacock sounds and she wants to see all the noisy animals … I thought it was quite a mindful experience of actually being in the moment.

Patricia, another participant in the same visit, agreed:

> There is sort of therapy in respect of sitting and listening and picking up on all the other things that are going on around in relation to the sound … it does give you that calming effect.

Hanson writes that, having their origins partly in the nineteenth century and the romanticist thought of that period, modern zoos are framed as spaces which offer visitors a journey into the natural world, with associated opportunities for 'recreation, self-improvement and spiritual renewal' (2002: 5). The relaxation which the listening visits appear to afford is perhaps a product of this heritage (or alternatively an echo of popular connections made between active listening and the therapeutic). But the visits were also unusual in that they allowed groups of adults to engage with the zoo without having to look after children or respond to the needs and interests of friends or relatives. At the same time, because the visits placed restrictions on speaking to other people, participants had an opportunity not usually afforded them to be both attentive and receptive to their environment. It could have been the case, too, that being directed to listen, especially with eyes closed (as was the case at two points in the Paignton visit and one in the Bristol visit) actually prompted participants to begin a kind of meditative activity that they have come to associate with calm, relaxation, and a sense of connection with and attunement to one's surroundings. The visit was also led and curated rather than self-initiated, potentially setting up a situation where the role of the guide had similarities to that of the mindfulness practitioner.

Returning to Sterne's audiovisual litany, the listening zoo visits arguably tapped into a cultural belief that the sense of hearing promotes emotional and intuitive engagement as opposed to the objectification and intellectualisation associated with the sense of sight (and less frequently linked to relaxation). It is interesting nonetheless that auditory engagement with the zoo was felt by several participants to have benefits in terms of wellbeing. Ben, the manager of a co-working space quoted above, described the listening visit as being like a 'mind exercise' and said he had got more from it than he would have from a conventional zoo tour. In his experience, these tended to overload him with more information than he could absorb. Instead of trying to inform him about where the conspecifics of the animals on display might live in the distant wild, he suggested that the listening visit had provided 'another whole angle', bringing him to use sound to reflect on the relationship of these particular animals to the surrounding city (what could they hear?) and city's relationship to them (how were they heard?).

Despite the tendency to compare and contrast visual and auditory engagement, several people who participated in the visits felt that paying closer auditory attention actually produced a heightened multisensory engagement with the zoo and its animals. In particular, closer listening was felt to provoke more attentive looking. Gloria, the science teacher quoted above, for instance, said: 'I felt the more I listened, the more I looked. So, I think the listening improved the looking.' Chiara, a 19-year-old legal apprentice who participated in the Bristol visit, described a similar interaction of hearing and vision, the former augmenting the latter. At one point in this visit, participants were asked to listen carefully to the sound environment while standing on a

walkway inside the South American Fur Seal (*Arctocephalus australis*) enclosure. The seals are often very visually engaging, for instance as they move through the water, or haul out to bask on what appears to be a rocky island in the cente of their pool:

> I found that, by paying more attention to the sounds, I also started paying more attention visually. So particularly when we were in the seals enclosure and we were listening, I heard them take a breath or something, and then I looked down at it, and it was upside down, and it had just gone [sharp intake of breath] and breathed. I had not noticed that before. I have just seen them go about their thing. So that was definitely something that I noticed more.

Listening was not perceived to direct and augment only visual engagement, though. It also sometimes led to claims of other forms of sensory heightening, including a sharpened sense of smell, underscoring the close interplay of the senses and highlighting how an intensification and expansion of awareness in one sense can seem to have a similar effect on others.

For several participants the exercises in eyes closed listening in particular helped to develop their appreciation of sound and allowed them to notice things at the zoo that they might otherwise have not. Deborah, a woman accompanying her mother on the Paignton Listening Visit said:

> I remember when we were in the Reptile House [in fact the Desert Zone exhibit] and we had our eyes closed, two birds flew over me. It wasn't so much hearing their calls, but you could hear the flight, the feathers in flight. I think the second bird was smaller than the first one because it sounded different. Then I noticed … a kerfuffle noise. And they were kind of starting to interact with each other and scare each other off, and the sparrows were doing the same. It wasn't just calling. It was the rustling of the feathers.

Later in the discussion Nancy, a social worker in her fifties, added:

> It was the first time I knew there were budgies [in the Desert Zone exhibit].
>
> Honestly. Because I have got my eyes shut and I am there thinking 'That's budgies. It can't be budgies!' And, of course, when we opened our eyes, we were looking for the noises, and [I] thought, 'Blimey!' The amount of times I have been here, I have never, ever, ever noticed the budgies.

Nancy evidently already had a clear sense of what budgies sound like, probably because they are common household pets. Their familiarity might make it surprising to find them in a zoo, which is perhaps associated with what she considers more exotic birds. Being small, the budgerigars were possibly also less visually obvious than other birds in this enclosure and without the direction to listen it seems she might well have not noticed them once again. In various ways, then, participants seemed to develop forms of awareness of their co-presence with or 'alongside' (Latimer 2013) zoo animals that a conventional visiting style might not have afforded.

Empathising with Animals

A key aim of the listening visits was to encourage participants to consider certain species of zoo animal as sonically sensitive, and as inhabiting a sound world of their

own. This was framed as a potential route to fostering empathetic forms of engagement between the participants and those animals. At the discussion after the Bristol Zoo visit the following exchange took place which referred back to the listening exercise at the western lowland gorilla exhibit:

Brian (a retired Further Education lecturer):	I kept thinking to myself, hang on, at night time it must be quite loud in there for them because you have got the contraction of steel, the glass, and you hear all these different creaking sounds that must go on for them … if you think of all the glass and the wood, so, as the temperature rises, when it contracts, it is going to creak.
Anna:	It must be quite a loud part of the zoo because it is right next to a school. It must pick up lots of traffic and the school bell and stuff. I never really considered that aspect of the sounds of the zoo.
Jennifer (a retired University of Bristol employee):	And the effect on the animals.
Chiara:	Yes.
Brian:	Although we are aware with our own animals, perhaps at home, it is not something that you maybe think about when you just visit a zoo with a child, the effect of all these noises on the animals.

At one stage this visit had passed a playground and the guide had asked participants to listen to the sonic juxtaposition of children playing loudly and the noisy flock of Black-cheeked lovebirds (*Agapornis nigrigenis*) in their enclosure beside it. Reflecting later on the high levels of sound in this area, Barbara, a retired psychotherapist, remarked:

> I am assuming, and it is an assumption, that the noise doesn't bother the birds. It is a similar pitch to children's voices.

She later added: 'It was slightly unpleasant, and it also occurs to me that I can walk away from it, but the animals can't.' Barbara acknowledges her assumption that because the bird noise seems to be of a similar pitch to the childrens' (to a human like her), that the two might also have similarity for the lovebirds, and that therefore humans and lovebirds have similar auditory ranges and experience these sounds in the same way. Of course, this assumption is by no means a safe one, though clearly there is some overlap at least in terms of the auditory sensitivities of the two species. Lovebirds can hear and be trained to imitate human speech. Indeed, this sonic ability is one of the things that has made them popular as pets. Trapping for the pet trade has subsequently led to their serious decline in the wild. Through a curious sonic logic, their scarcity in the wild and manageablility in captivity (learned through a tradition of pet keeping)

can both be cited in efforts to justify and explain their (to human ears conspicuously audible) presence in the zoo.

To be clear, the listening visits did not encourage simplistic, one-dimensional (noise = bad) thinking about the sound environment of the zoos. Neither did they make assertions as to how animals experience particular sounds. Instead, the visits aimed to provoke thought among participants as to what the animals' sonic experience might be. It was interesting that in the Bristol discussion, for instance, participants touched upon the question of whether the auditory culture of animals in a zoo would be similar to or different from that of their wild counterparts. An exchange took place (presumably inspired by the listening exercise in the gorilla viewing area) between Alice, a BSc Zoology graduate in her early twenties, and Tamsin, a woman in her thirties who worked as a documentary filmmaker. The discussion concerned the existence or otherwise of a 'natural' sound environment for zoo animals:

Alice: We are not a natural sound for them.
Tamsin: Well, we are now.
Alice: We are now, that is the thing.
Tamsin: I mean, this idea of some amazing natural environment that they are used to, it is like us saying we are used to listening to woolly mammoths. We are not.

There was also a conversation over the extent to which zoo animals that participants thought might ultimately be destined for re-release into the wild would be equipped to interpret the sounds of their new habitat having previously lived in captivity. Although it is not clear quite what gave her the impression that any of the zoo's primates were to be released into the wild (no zoo signage, for instance, had suggested this, and of course, the vast majority of zoo animals are not destined for release), Chiara said:

> If monkeys are getting used to lions roaring and aren't scared of the roar and don't have a fear response anymore, when they go back into the wild, are they just all going to get killed?

Participants also considered whether or not animals had become used to certain sounds and sound levels in the zoo (such as the noise made by groups of children). If they had, one participant argued, changing the sound environment could deprive animals of important sensory stimulation. This view is arguably reinforced by recent news reports suggesting that some animals have missed human visits during the recent zoo closures due to Covid lockdowns (e.g. Williams 2020). In this discussion, it was also evident that some participants had recognised that different kinds of animal might have different auditory needs and interests.

Tamsin: They won't miss the children.
Ben: I don't know. They might be used to it. They might be used to-
Alice: Like the interactions-
Ben: -the interactions.
Alice: -they might, yes.
Tamsin: Yes. Some might.

Again, the suggestion that zoo animals have become habituated to visitors (and their noise) is notable here. In other parts of our study, we certainly heard keepers express

the belief that their animals were 'used to' these stimuli. However, while a small number of studies indicate that animals may habituate to zoo visitors and even be enriched by them, most suggest that visitors (especially noisy ones) produce stress for zoo animals (Fernandez *et al.* 2009: 4, see also Sherwen & Hemsworth 2019: 366). Summarising her own feelings in relation to this topic, Alice commented:

> I think it is really interesting. You have definitely sparked some thought. The noises that the animals in the zoo hear, the custom[ary] noise that they are used to, like our sounds, how do we know that is what they really want to hear or are they used to it? It has made me really reflective.

Quiet and Its Implications

Several participants indicated that the visits had given them the impetus to visit the zoo again, but with a modified approach. Ben, a participant in the Bristol discussion commented: '[i]t was my favourite time I have ever been here. I have been here quite a few times'. He later added that he thought he had finished with zoo visiting because he no longer found it engaging, but that this visit had made him think differently: 'I actually want to bring my niece now, first thing in the morning, when it is a lot quieter, and experience it a different way'. The following exchange took place among other participants in the same discussion:

Brian:	I think I would be quieter on the next visit.
Jennifer:	Yes, I would be quieter.
Barbara:	And encourage the children to listen. (Several yesses) In particular, my older grandchildren would be really interested in it as a concept, and I think would share it with their friends and encourage it.
Jennfier:	You tend to encourage children to watch and look and explain things, but you don't always say 'listen'.

Many others also suggested that they would include elements of quiet, active listening in future visits with family and friends. There was a sense that distributing attention away from intense interactions with kin and companions might create opportunities for the development of potentially enriching ways of relating to the zoo and its animals.

At the Paignton discussion, Linda, a retiree in her sixties, had the following exchange with Simon, a representative of the zoo:

Linda:	I felt, not only was it beneficial to us, to be able to hear and see the animals, but I actually felt the animals responded, and that was amazing to me because the macaque came along the side of the fence. I couldn't hear if it was making a sound, but it was moving its mouth as if it was communicating.
Simon:	That is a communication. They smack their lips as a kind of wary greeting. So, it was checking you out.
Linda:	Yes, but I have been a few times and I have never seen them respond to people. It is almost like all those animals were excited because they saw us. I thought that was fabulous.

Interestingly, this animal is referred to by both participants as 'it', arguably the language of othering and distancing, despite Linda's sensation of having had direct

contact with a non-human other. There is also a reversal here of what might be considered the usual basis of zoo interaction, with the animal 'checking out' the visitor, while quiet listening on the part of the visitors appears to ellict a visual (rather than auditory) inspection from this Sulawesi crested macaque (*Macaca nigra*). The macaque's behaviour could be attributed to the fact that this visit took place before opening hours when the animal might have been more relaxed, energetic, inquisitive or confident than is usually the case when visitors begin to arrive. There was a general feeling among participants, though, that the quietness associated with careful listening meant various animals seemed less timid and more self-assured than was usually the case. Quietness appears to dovetail neatly with the ocularcentric conventions of zoo visiting here. It is perceived to result in some animals showing themselves more readily and producing a more satisfying viewing experience for the visitor, perhaps even indicating a set of circumstances where zoo animal welfare and visitor satisfaction are mutually reinforced rather than being in tension with one another.

Hanson writes that American zoos built in the nineteenth century (often modelled on European zoos) were designed to give residents of urban areas opportunities to experience 'the pleasures of a park, to escape the pressures of the city and admire the natural scenery' (2002: 13). They were intended to be 'restorative retreats' which would allow people to seek 'healthful recreation in nature' (Hanson 2002: 17). Noise is one of the urban pressures identified by Hanson, and during the Listening to the Zoo project we spoke to several visitors who said that they sometimes went to the zoo when it was not busy to enjoy periods of quiet reflection. There was a good deal of conversation among the listening visit participants, however, about how the presence of large numbers of other visitors usually meant the zoo was noisy, which affected their enjoyment as well as potentially impacting the welfare of the animals. The Bristol group was asked whether they would consider coming to the zoo again if it opened at times when there was an expectation of quietness; they unanimously agreed that they would.

At the Paignton discussion the following exchange occurred:

Janet:	I don't know if the zoo could market this somehow, like out-of-hours.
Linda:	Yes, I was going to say that.
Janet:	I would pay to come and just have this kind of experience.
Linda:	Supermarkets nowadays … they have a quiet hour at certain times, so that there is no music[5] … You could do that, couldn't you? Have a once-a-month hour where you …
Patricia:	Adults only or something.
Linda:	Adults only, yes. (Several yesses) Even if it is only an hour, people would benefit. Perhaps you would have a certain number of people that you would allow in, and they had got to buy tickets in advance.

Making listening visits an exclusive activity requiring booking and/or the purchase of tickets as suggested above would arguably extend a well-documented middle-class tradition of performing refined aural sensibilities through attempts to exclude what

are perceived to be noisier (and by implication less educated and refined) lower-class others (e.g. Bijsterveld 2003; Chandola 2012; Picker 2003). The expressed appeitite for quiet zoo visiting, though, certainly confirms that participants perceived current zoo visiting noise to be problematic for themselves, if not for the animals.

The following exchange also took place at the Paignton Zoo discussion:

Simon: Does that (quietness) create a more respectful relationship?
Patricia: I think it does, yes.
Simon: If you are quiet in the presence of a rhino or anything else, you are not just stood there talking about what Ethel said in the supermarket, you are engaging.
Gloria: That is right. You are more focused on the animal.

In many Western societies, quietness and silence are used to convey respect. Silences are performed, for instance, at events of collective remembrance and in some religious ceremonies. The perception that the quiet and silence of the listening visits produced a respectful mode of engagement with the zoo animals was likely influenced to some extent by these cultural associations. Of course, it might be argued that the animals' captive situation undermines any prospect of establishing or expressing meaningful 'respect' from the outset, but it was interesting that some participants felt quiet and silence to be appropriate and proper in the zoo context (as well as beneficial in terms of their own visiting experience). Although many zoos emphasise their educational mission, they do not have quite the same sonic heritage as settings such as schools or museums, or spaces of spiritual activity and reflection such as churches. Zoos have an ongoing association with entertainment, and this is often marked in their acoustic character. Many offer facilities that are noisy or conducive to noise such as fairground rides, playgrounds, outdoor cafes and even outdoor music events. Gloria, quoted above, however, clearly sees one purpose of zoo visiting as being to focus on and engage with the animals on display, and thinks of quiet as a fitting acoustic demeanour. In the Bristol discussion, Chiara pointed to the possibility for a cultural change, aligning zoos with libraries in terms of their sonic etiquette:

> As a culture, we understand that when we go to a library, we are quiet. So, you could, if enough people were interested in making it happen, start to consider it as more of a quiet place.

Again, this library-like quiet would reflect an attitude of study and contemplation that she considers appropriate to the zoo.

Many suggestions were made for strategies that the zoos might use to create quieter conditions, for instance, requesting quiet in small parts of their sites and then gradually expanding these or asking for quiet in designated hours or periods of the day. It was proposed that zoos could provide maps showing areas that are typically quiet or provide information on when they are least busy (we have produced one such map as part of the Listening to the Zoo project). Here the adjective 'quiet' is used to refer to an absence of crowds or large numbers of people, to an absence of loud sounds, and to a corresponding calm. In the context of the listening visits, participants seemed to feel that quiet in all these senses was interconnected, and might be mutually beneficial for human visitors as well as for many non-human residents of zoos.

Reflecting on the sonic culture of zoos, then, participants seemed to suggest that it could be made more inclusive of a diversity of human and non-human auditory needs, desires and perspectives.

Conclusion

One concern around the design of the listening visits had been that they might exclude those who were hard of hearing and so would be considered 'audist' (Sterne 2003: 28). It was therefore surprising that Jack, the only man participating in the Paignton visit, said he was hard of hearing but had got much more from this visit than he would have from a conventional one because the zoo and the people around him had been comparatively quiet and so less intrusive background noise had been picked up by his hearing aids. Of course, the visits might exclude more profoundly deaf people or those identifying as Deaf, though they arguably also create a more inclusive experience for those who have other sensory disabilities but are able to hear: the visually impaired, for instance. The research team were conscious, too, that the listening visits might require people to listen closely to sounds that were repetitive or unpleasantly loud (or even potentially physically painful for aurally diverse participants with hyperacusis, for instance). Some participants did say that they had disliked certain sounds; the screeching of black-cheeked lovebirds and the ticking of an electric fence were two that were mentioned. It would have been contrary to the purpose of the listening visits, however, to avoid drawing participants' attention to such sounds, as it was important to show their presence in the sound environment of the zoo.

The listening visits allowed participants to consider aspects of the zoo environment and of zoo animal lives that might not have occurred to them had they followed habitual ocularcentic visiting patterns. While it is not the purpose of this article to make assertions or recommendations as to what the optimum sonic conditions for particular zoo animals might be, the visits did prompt participants to reflect on what good 'interspecies etiquette' in terms of sonic behaviour in the zoo visiting context might look (or sound) like (Warkentin 2010). They raised important questions as to how visitors *should* behave in zoos. Tamsin also seemed to suggest that her involvement had led her to recognise that zoo visiting conventions are just that, conventions, and as such subject to or available for change. She remarked:

> I was going round very tempted to say, 'Ooh, look at that', or you are very tempted to try to communicate with the team, but I was trying to obviously not to … it was actually quite liberating to think that your patterns of attention are habitual, but you actually do have some control over saying, 'I'm going to actually direct my attention, not to the humans, but to this', and you could make that choice. I found that really interesting.

Since the lockdowns imposed in response to the Covid-19 epidemic, many zoos have come under serious financial pressure. The zoos participating in the Listening to the Zoo project have both been affected. The Wild Planet Trust, which operates Paignton Zoo, was obliged to permanently close its Living Coasts attraction in Torquay in June 2020. In November 2021, Bristol Zoological Society announced the permanent closure

of its Clifton site, at which the listening visits were conducted and which has been operational as a zoo since 1836 (though there are plans to expand its other site, the Wild Place Project, on the outskirts of the city). Zoo visiting was stopped altogether during periods of lockdown, and ran at reduced capacity in the interim. These changes have, for course, been reflected in the sound environment. Zoos, and zoo visiting (where permitted), have been remarkably quiet. This extended quietness has signified a crisis for zoos and (whether they are aware of it or not), many of their animals. The Covid-19 epidemic, then, has produced a broader context for reflections on zoo sound. We might ask whether any changes to interspecies sonic relations inside the zoo have been reported by those who have continued to work in them during the lockdowns. Where we imagine a post-Covid situation, we might also ask whether any of the changes to sonic conditions that have occurred during the epidemic might be worth consciously sustaining in the interests of those who visit and inhabit zoos. The participants' experiences reported here should certainly be considered as part of any discussion of how zoos should sound in the future.

Ethics Statement

The research on which this paper was based was approved by the College of Social Sciences and International Studies Research Ethics Committee at the University of Exeter.

Notes

1. Apart from this minimum age, there was no attempt to recruit volunteers by reference to other specific demographic criteria. Participants were self-selecting.
2. This characteristic of zoo visiting is well illustrated by the film *Nenette* (2010), a documentary about the daily life of a 40-year-old female orangutan (*Pongo pygmaeus*) at the Jardin des Plantes menagerie in Paris; the soundtrack of the film consists of conversation and other sounds made by visitors in the viewing area as they gaze at her.
3. All the participants have been allocated pseudonyms.
4. Listening is an aspect of the Buddhist meditation techniques from which mindfulness has been derived and is also important in other meditation styles, for instance some music-based meditation practices associated with the New Age movement and the 'deep listening' propounded by Pauline Oliveros (2005).
5. Morrisons, for instance, has introduced a 'Quieter Hour' from 9 am to 10 am on Saturdays across its UK stores.

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