

Capturing Visitor Experiences Using Egocentric POV Video

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Abstract

People come to know about the world in new, more complex ways [Crouch, 2000] during their experience of recreational visiting. However, capturing experience data that is grounded in the frames of reference salient to individual visitors is challenging. A method that uses egocentric point of view (egoPOV) video to record situated, bodily experiences of visits to natural places during the moment of the visit is described. Examples of themes emerging from this egoPOV data are discussed.

Keywords: Recreational visits, natural places, qualitative inquiry, proprioceptivity, indexicality.

Introduction

Memorable, pleasant or serendipitous experiences in natural places, even if brief, are often "*highly valued* (by the percipient) *relative to other meaningful life experiences*," [Chenoweth and Gobster, 1990]. This has particular resonance in north Queensland, Australia, where the authors reside, as many tourism activities are centred around natural sites, and reef and rainforest in particular. Research into the experience of being a visitor to a natural attraction is part of a recent growing interest in tourists' and visitors' subjective experiences (e.g. [Bigné et al., 2005], [Curtin, 2005], [Farber and Hall, 2007], [Hayllar and Griffin, 2005], [Schmidt and Little, 2007], [Steiner and Reisinger, 2006], [Trauer and Ryan, 2005], [Uriely, 2005]). This can perhaps be seen as part of the 'critical turn', by some in tourism scholarship, beyond what Ateljevic ([Ateljevic et al., 2007]) refers to as "a way of *knowing*" and towards "a way of *being*". This is expressed in a more hermeneutic style of research, underpinned by qualitative methods.

However, this approach is relatively new to tourism and leisure research, albeit with some exceptions. The considerable body of existent published research that relates to the leisure experience is dominated by quantitative visitor surveys. Mainstream research is often from the perspective of tourism and leisure as a commodity and tourist or visitor as a consumer, in which case it is usually directed towards the improvement of marketing, management, planning and impact. Without doubt, such research has greatly enhanced understanding in these areas. Yet, as Suvantola ([Suvantola, 2002] p11) notes, the tendency to understand the visitor experience in terms of production and consumption, presuming that the essence of tourism is merely “some premeditated play with symbolic structures”, effectively devalues the individual and very personal experience. Even the occasional forays into qualitative interpretation of material relating to experience of places tends to be done on behalf of visitors rather than attempting to get directly at the embodied experience and to understand what it means to experience tourism. More often than not, *in situ* data on tourist experiences, aesthetic preferences, and landscape and environment assessment is commonly gathered by evaluating subjective responses as discrete events. Such data has little to do with depicting the ephemeral phenomena of “being in the world” during a visitor experience. Indeed, such research tends to constrain understandings of the immediate multi-sensory experience of places as attractions, and how meaning emerges from these.

For example, a number of studies relating to the experience of tourism in natural places, many of them Australian, have been conducted. These include visitor use, behaviour, perceptions, attitudes, expectations and satisfaction in the Wet Tropics World Heritage Area (WTWHA), [Bentrupperbäumer and Reser, 2002]; the benefits received and in the way that specific conditions influenced snorkelers’ enjoyment of the Great Barrier Reef World Heritage Area (GNRWHA) [Shafer and Inglis, 2000]; tourists’ experience of wildlife encounters [Moscardo and Saltzer, 2002] and role of involvement and place attachment [Gross and Brown, 2006]). Additionally, theories of perception of natural environments are frequently dependent on laboratory-derived questionnaires, rating scales and physiological indicators, sometimes reliant upon images (eg photographs) of natural environments (for example, see [Fairweather and Swaffield, 2003], [Walmsley and Young, 1998] and a useful discussion in [Crang,

1997]. Such studies set questions framed from the point of view of the researcher, reflecting their priorities rather than those of the tourists or visitors.

Set against this approach, however, is the understanding that visitor experiences, from the standpoint of the consumer, are essentially individualistic. As Ryan [Ryan, 2000] puts it, tourists, and, by implication, visitors are “actor (s) in a complex of contrasting, self-selected sets of action involving gaze and corporeal realities.” Leisure is an interaction in which very personal meaning is made, and the intellectual and emotional qualia experienced by individuals is the material in which that subjective meaning is grounded. For Ryan, positivist research methods are insufficient to examine such experiences. In similar vein, Selby [Selby, 2003] argues that tourism researchers need to capture the lived realities and everyday representations of tourist destinations.

Yet, even when some qualitative methods are used, data is often gathered post-activity, using questionnaires and interviews (e.g. [Stewart et al., 1998]). Traditional instruments such as post-activity questionnaires, interviews and surveys, reflect a reciprocal interaction between recollections of the experience and interaction around the instrument itself, reflecting dependencies on the needs and desires of the tourists themselves [Walmsley and Jenkins, 1993]. This results in “answers (that) owe more to some unknown mixture of politeness, boredom, desire to be seen in a good light” [Robson, 1993]. Post-activity instruments that are inadequately cross-checked, often because insufficient time is spent in observation, and are noted for numbers of discrepancies between what people report having done or experienced, and what they actually do. Quantitative data drawn from such instruments is sometimes given undue credence, particularly in relation to feelings, beliefs and behaviour ([Robson, 1993] p125). In addition, the varied physical and social contexts accompanying movement thwart conventional methods to situate the researcher within a participant’s experience at different geographic locations.

So, as the context of tourism, travel and visiting is increasingly seen as becoming more diffuse, ambiguous and multi-vocal, it becomes worthy of research in a more interpretive and dialogous style [Jamal and Hollinshead, 2001]. The corollary of carrying out research into momentary experiences is that it requires rethinking data capture methods. In proposing new data capture methods, it is necessary to bear in



mind the couplings that typically occur in natural place recreational sites. The relationship between the body, imagination, reflection and interaction in a location is particularly salient for representing natural places. It is this relationship that affords the evolution of meaning during the visitor's experience of a natural place.

Capturing visitor knowledge and actions *in situ* is difficult, however. The fragile dialogic between land, body and movement can be interrupted when the powerful infrastructures and representational spaces, created by the production of the visitor experience, hinder visitors' much sought-after interactionary moments. For example, even before arrival at a tourist or recreational destination, exposure to images, maps and text in printed material distributed in the region influences visitors' choice of, activities at, expectations of and experiences (e.g. satisfaction, orientation) [Bentrup-perbäumer and Reser, 2002]. A visitor's *in situ* understanding of a site and its representation develops reciprocally; each absorbing meanings generated by the other. In experiencing a natural place, such as the WTWHA rainforest, "our sense of the situation and our sense of the map co-evolve" [McCarthy J and Wright, 2006]. Imagination is closely tied to a person's incarnate body [Merleau-Ponty, 2002] as they anticipate the terrain through the map. Subsequently, people couple their interactions with the map and their lived corporeal experience (e.g. exertion in adapting to the rainforest's uneven terrain or humidity). They feel the difference between their anticipation and the lived event [McCarthy and Wright, 2005], and every moment *in situ* shapes their expectations and the trajectory of their interactions with the rainforest and with the map. To get at the visitor experience a range of methods might need to be considered.

So, how might a qualitative approach be adapted to render people's situated and embodied experience of tourism or recreation during visits more accessible? Drawing on methods developed in the discipline of Human Computer Interaction research has proved useful in gaining traction. These methods, based on phenomenology and inspired by ethnography, provide insights into personal, contextual and cultural meanings grounded in the body from a user-centred perspective of place over spaces and time. Wearable video camera systems are useful for depicting encounters close to the moment of the experience in a natural place from an egocentric Point Of View (egoPOV) (e.g. [Bidwell and Browning, 2006], [Mausner, 2006]). Findings can be expected to characterize the meaning of natural places. For example, they depict affordances

of locations at particular times (e.g., in the case of one of the sites in this study, a swimming hole to cool down during the hotter months, rafting down the creek during times following rain). They also show the affordances of natural places for felt-experiences (e.g. a sense of mystery, a sense of serene calm or a sense of teenage daring-do).

This paper starts with a brief characterisation of natural places. This is followed by some details of methods using digital technologies developed during a recently conducted study to capture return visitors' immediate experience of a place and its transformation as meaning emerges through the experience. Finally the discussion suggests how such methods might yield useful observations in relation to the visitor experience and how this relates to their expectations and memories.

Method

The method described is predominantly concerned with allowing the collection of data during the visitor experience without enforcing pauses to record aspects of that experience or waiting until after the experience to use a post-activity instrument. Secondly, it permits researchers to determine what it was that the participant might have seen and to interpret the participant's commentary in the light of that.

Participants separately captured egoPOV video and audio data *in situ* while traversing one of two local natural sites and conversing with an accompanying researcher. Participants were asked to imagine that the researcher was a non-local companion to whom they were showing what made the site personally significant to them. It was explained that, while the researcher would contribute to the conversation, he would focus on being a recipient of the information rather than actively interrogating. A post-activity interview was conducted at a later date, using a cued recall technique ([Omodei et al., 1998]) based on a panoramic version of the participant's egoPOV video. The data was then coded and verified.

Participants

Fourteen self-selected adult participants, ranging between the ages of 25 to 75, took part in the study. Of these, 9 were females and 4 were males; 9 participated as individuals and four as two couples. Recruitment was via advertisement and was res-

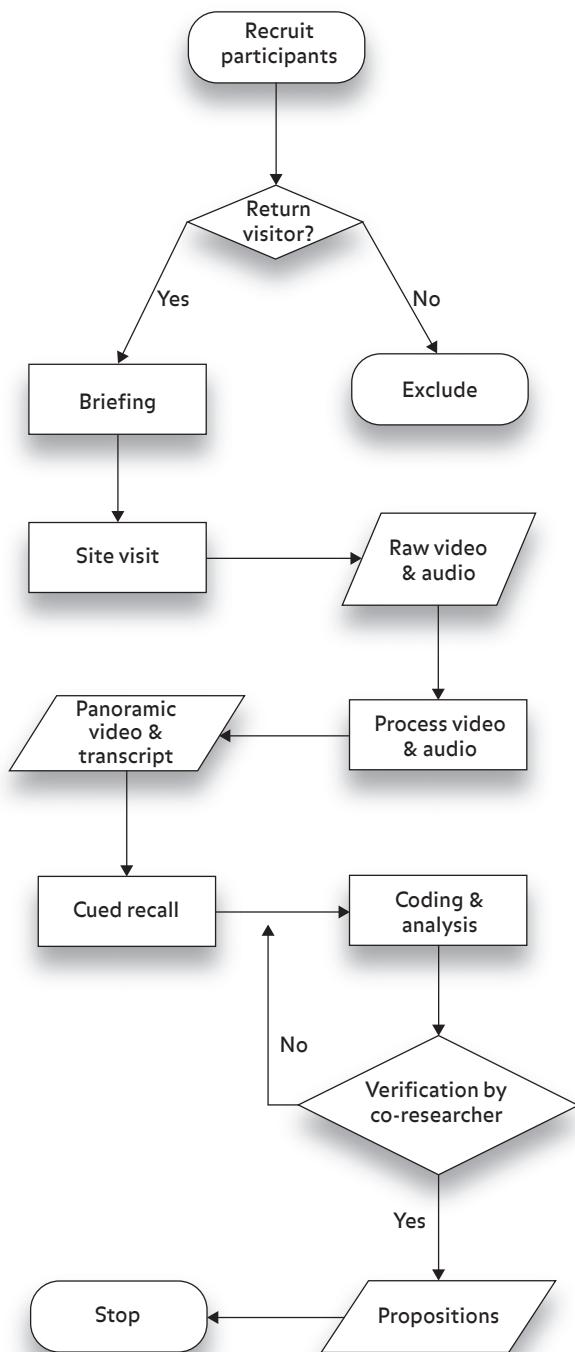


Diagram 1: Flow chart showing key processes

tricted to James Cook University staff and their family members in order to minimise ethics requirements. All participants were long-term residents of the City of Townsville (located in North Eastern Australia) and were familiar with at least one of the study sites, having visited it a minimum of three times in the past. All participants were from a Caucasian Australian background and were either Australian nationals or long-term permanent residents.

Participants wore an array of three flexible optic fibre video cameras and a lapel microphone. Each camera consisted of an 3.2 mm/F2.5 lens system (dimensions: 45 mm x 7.7 mm; resolution: >480 TV lines; lens fov: 55° horizontally, 44° vertically) attached by a 1.5 m fibre optic cable to 0.33 inch CCD colour image sensors, powered by 12V dc batteries. Audio was recorded using an Apple Video iPod™ to get suitable fidelity.

Three video cameras were used in a pseudo-panoramic array, as it proved impossible to get a single lens with a wide enough field of view for this particular type of very small, unobtrusive, light-weight, high-resolution camera. The camera bodies and associated batteries and transmitters were carried in a lightweight backpack, the whole assembly weighing approximately 2.7 kg. A GPS and the iPod were also mounted



Figuur 1: Akubra-style camhat

ted on the backpack frame. The camera array was mounted on an Akubra-style² hat that provided a comfortable, adjustable and stable platform. The wearing of hats during outdoor activities is *de rigueur* in north Queensland.

Participants were shown the hat and backpack before going on site. The hat was easily adjusted *in situ* using Velcro patches to set attitude (pitch, yaw and roll angles). The central camera's CCD was located approximately 10 cm above eye level. The hat was adjusted to align the video image vertically and centrally with the participant's binocular field of view with gaze ahead. The video array subtended approximately 140° in total horizontally, the approximate extent of the binocular visual field [Dorr, 2004] and was tilted slightly downwards so its view corresponded as closely as possible to the participant's relaxed forward gaze.

The video signal was recorded over a 2.4 GHz wireless link to a portable 4-channel digital video recorder carried by the observer. Video and audio were later synced in post-production, and the three video streams were combined side-by-side to give a pseudo-panoramic perspective. Apart from the lack of suitable lenses, the horizontal joining was done to try to increase the overall resolution of the image and to mitigate some of the effects of portraying three-dimensional scenery in two dimensions. Results of that particular work are not presented here. This process took some weeks to complete.

Post-Situ Retrospectives

At a later date, participants viewed their video and verbalized any additional information that came to mind. The egocentric video was displayed on an array of three LCD screens in an office at the university and both participant and researcher were recorded using a tripod-mounted video camera. Participants were asked to first view the video without audio to facilitate their extension of accounts rather than just 're-experiencing' [Omodei et al., 1998] the visit. They then reviewed the material with the audio. In order to de-emphasise the linearising effects of video on recall, participants were encouraged to pause the video at any time and, if necessary, supplement verbal explanations using quick diagrams.

² An iconic Australian fur-felt slouch hat, usually worn in the outback.

Study Sites

The term *natural place* is oxymoronic, given that the concept of ‘a place’ is not some objective geographic milieu but a unique “*locus of selected meanings*” [Ryan et al., 2000] formed by people. The term is useful insofar as it distinguishes a particular type of symbolic locale that emerges from people’s activities, language and topological, cultural and historical ‘spatial infrastructures’ ([Dourish, 2006], [Gard et al., 1977]). There are very few, if any, places on Earth that are untouched by human activity (eg [Teuten et al., 2007], [Spracklen et al., 2006]), so use of the term clearly does not imply ‘completely untouched’. To avoid futile semantic meanderings along the urban/wilderness continuum, or absolutist typologies, “natural places” are defined as places with sparse resident human populations and limited tangible, built infrastructure. This includes places where nature is cultivated and controlled (e.g. rural) or preserved and ‘uncultivated’ (e.g. wilderness) [van Koppen, 2000] and/or positioned as scenery (e.g. landscape).

The two study sites used in this study were located close to the city of Townsville in North Eastern Australia (see Fig. 2). Participants visited the site they were most familiar with.

Alligator Creek, in rural north Queensland, Australia, is 28 km south of Townsville Central Business District (CBD), and is part of the large Bowling Green National Park. The area traversed is approximately 2,500 m², and includes a camping, and picnic



Figuur 2: Alligator Creek and Townsville Town Common, Townsville, Queensland, Australia

area, swimming hole, sections of the creek and adjoining Cockatoo Creek and a path to a waterfall. It is popular with local families who swim and picnic at weekends, but is otherwise quiet and suited to walking and watching wildlife.

The campsite is popular with tourists passing through the Townsville environs. The National Parks authority manages the area and facilities (e.g. car park, information booth, barbecues and tables).

The Townsville Town Common, 6 km north of the CBD, is a 23 km² nature reserve, bounded by a regional airport, the Many Peaks Range and the Rowes Bay shoreline. The site was accessed near Bald Rock via a new dirt causeway across a salt-pan, which, aside from being used by bird-watchers, is a starting-point for walks skirting the Range to Shelley Beach. In contrast with Alligator Creek, the only building was a bird watching hide some 500 m from a gravelled car park.

Data Analysis and Theme Extraction

All video, audio and transcribed dialogue was open coded for verbal content, visual content (e.g. spatial resources, semiotic resources and interactions such as gestures) and qualities (e.g. forward or lateral translatory movement, elevation of gaze), and ambient sounds. HyperRESEARCH (ResearchWare) software was used to assist in recording axially extracted themes from the initial coding and to index and retrieve examples. Although there are relatively few participants involved in this study, each individual dataset, in common with most video datasets, contains vast amounts of material. Video affords thick description [Goldman-Segall, 1989] as it is sufficiently layered and textured to permit interpretations of recorded interactions in the rich context in which they occurred. In recording data from the participant's egocentric point of view, it is believed that the participant's situated experience can be subjected to detailed thematic analysis and interpretation [Bidwell and Browning, 2006].

Findings

Each participant recorded, on average, 36 minutes of egoPOV video (V Len). Of that, an average of approximately 62% of movement (F Mov) in the video was forward translations, from walking, the remainder being lateral translations only, from head move-

ments while the participant was standing. Few people other than the researcher were captured in the video, reflecting the absence of other people *in situ* in the chosen site. Focussed vision is relatively narrow [Clark, 1997] and eye and head movements are often closely tied (e.g. [Land, 1992]) suggesting that the video approximated to participants' view. Timelines of video and the semantics of their verbal dialogue suggest that participants' verbal themes are partly determined by what they see.

Table 1: Summary of gross quantitative data

Site	Alligator Creek	Town Common
Participant #	11	3
Average video length (mins)	36	
Gender	Male	Female
	5	9
Movement	Lateral	Stationary
Average time	62%	38%
Gaze	Ground	Elsewhere
Average time	25%	75%

During walking, an average of approximately 25% of the time the video showed the ground (Ground). This depended on the relative unevenness of the terrain traversed. For example, the video captured by an older participant walking along a stony unpaved road and a muddy track showed the ground approximately 36% of the time as he looked down to ensure safe footing. Another participant's video, taken whilst walking mainly on smooth tarred paths and wooden walkways, showed the ground only 10% of the time.

All video, audio and transcribed dialogue was first open-coded using grounded theory informed techniques [Strauss and Corbin, 1990]. Axially coded themes related to familiarity with the place, family activities and concerns, social relationships, affects, aesthetics, motives for visiting and the rhythm of a visit. These themes are described by relationships that show how they draw, and are drawn by, the physical structure into the dialogue. Objects participate in embodying meaning at a personal level by uniting space and self into place. For example, feelings of palpable excitement at seeing the high

rocks from which a participant used to jump into the creek as a child and recollections of adventurousness relate personal family history and current family relations to activities around a specific landmark. Such themes relate to insights into *in situ* dialogue between participant, researcher and spatial resources. These are illustrated with a few examples, a small fraction of the hundreds of representative examples that could be used.

Emerging Themes

During the later stages of coding a number of common themes emerged. Four of the thirteen uncovered so far are presented here, as they have a particular resonance for tourism research.

Sense of Bodily Awareness

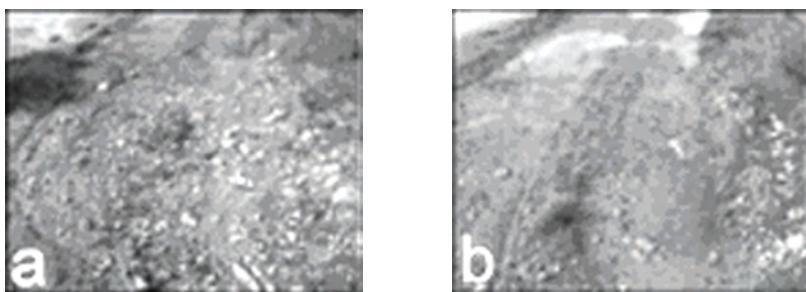
Proprioception is the awareness that a person's body has, as a dynamic sensory system, of interacting with the world. For example, people need to be constantly aware of the nature of the terrain simply to maintain their preferred posture in relation to it. They tend to look at where they need to place their feet whilst walking and, as noted above, the amount of attention given to this task bears some relation to the type of terrain. Bodily sensations include kinaesthetic, visceral and vestibular awareness. Proprioception works in tandem with people's external senses and provides the sensory information upon which human embodied experience relies during interactions in the world of which they are an integral part. Experience of direct contact with the environment might be as mundane as the way a person's body passes over it but it can also be a rich source of information.

For example, a participant at Bald Rock starts to walk on the new dirt road, paying careful attention to the surface to avoid protruding stones. He recollects coming to Bald Rock on a different, older road. He then turns on to the remnants of the old road, now quite wet due to recent rain. Whilst picking his way along not much more than a dirt track (Fig 3a), he steps into a very muddy area (Fig 3b).

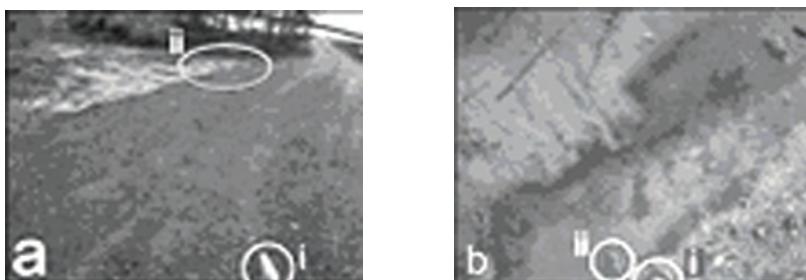
Researcher: *Maybe that's the old road?*

Participant: *Yeah, it sure looks like it, it's roughly where... We'll have a bit of a walk along, surely. Ooooo! Jesus! Oooph! Yeah!*

And a little while later:



Figuur 3: EgoPOV³ of (a) rocky road with (b) muddy area



Figuur 4: EgoPOV of road with puddle (ii)

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Participant: *Oooh! Jesus Christ! Let's get up on the dry... Shit! Ugh! Yukkity-doo-dah!*

Researcher: *Remove the kilos of mud from each foot!*

Participant: *Ugh! Gonna have to find a little puddle down here and wash my feet! Or find someone to do a Jesus impersonation...*

Still later, the egoPOV video shows the participant spotting and pointing (Fig. 4a(i)) to a puddle (Fig. 4a(ii)) in which he may wash his feet and, then, removing his foot from the puddle (Fig. 4b(i)), leaving a lump of mud behind (Fig. 4b(ii)). During a subsequent conversation with this participant particularly recalls the muddiness and that the incidents took place along the remnants of the old road, and, by contrast, that the new access road was much drier, albeit stony. This recounting leads to further nostalgic memories of the numbers of waterfowl in the lagoon area nearby, and the decline in recent years.

³ NB Unfortunately pictures derived from egoPOV video footage tend to be relatively low resolution and thus less than optimally clear for printing purposes.

Another participant expressed a degree of nervousness at not having a bottle of water with them during their traversal of the Bald Rock site. This was despite the fact that during the briefing they had been explicitly instructed that there was an ample supply of cool water in the vehicle and that during the traversal it was unlikely that they would ever venture more than approximately 500 metres from the vehicle. During the post activity interview they suggested that this was brought on by memories of having walked across the saltpans and of it being very hot and glary. The video also shows the participant looking at a sign that warns people who are venturing out on to the saltpan to carry water with them.

A participant at Alligator Creek, in common with a number of others, talks about how the Local Authority has built walkways where previously one had to scramble over the rocks, along the edge of the water. For him this detracts from the experience, "Walkways don't really do it for me, I mean, it's nice to have a little walkway, but what I really like is off the beaten track." Several of the Alligator Creek participants talk about childhood experiences of jumping off high rocks (Fig. 5) into the water and swimming over small waterfalls and rapids. This activity and the associated affects, e.g. fear, excitement and rebelliousness are very much part of what Alligator Creek means for them.

For example, one participant is visibly and audibly excited, and perhaps even nervous, when explaining part of the allure of Alligator Creek for teenagers.



Figuur 5: EgoPOV of the jump from Alligator Creek lookout (NB This shows two of the three pseudo-panoramic panes.)

Participant: *From the rocks! I'm talking from where the railing is, they would take a run-up. That was before they put all this railing in. They didn't even have the railings in there, they've taken a run up, jump out over the top of those rocks, see where the water...*

Researcher: Yes, that's dangerous.

Participant: *Yeah, I mean I was happy to be jumping from here, but that's only a really small jump. I didn't, I was having, you see I would have jumped from halfway up, but getting there would have been my problem...*

Richer Interpretation & Disambiguation

Capturing the setting on which the participant gazes is useful in the interpretation of their interaction and often also aids in revealing affects. A participant at Alligator Creek gestures during his complex explanation of how he used to get to a particular spot in amongst some rocks out in the creek:

Participant: *So, yeah, but we used to go, because you go up around the corner and there's this hole and the water would come in one side and then go out down the bottom and you'd sort of jump in and there was a couple of waterfalls come in the top and so what you'd do is you could sit behind the waterfalls and you can sit up the top watching people jump or, you know, especially if there's a fair bit of water in there, a line of white water flowing down underneath, and so you're sitting there and you, you'd get under and you'd have to take a deep breath before you'd get into the water because then you'd get pushed down under with the waterfall and then you'd finally come up towards where it exits the, exits the hole.*

The comments above take on a far more dramatic quality when accompanied by the video. The images also provide a basis for an estimation of the degree of difficulty and, perhaps, the danger in getting to the position, and deixis gives an indication of which rocks are being referred to. During the post activity interview the participant was able to clarify these particular points.

Another participant at Alligator Creek talks particularly about the atmosphere near a small pebble-covered beach:

Participant: *But this is, I mean this is just lovely here, and it's lovely at the moment because there are not many people here, but it can, it's pretty busy at times... Well this is the nicest time, because you can hear the cicadas and the birds in the background. You wouldn't*

hear it if there were lots of people, I suppose, would you? Now, it's gorgeous. Never see much in the way of birds. I would, I would...

Simply reading the transcript hints at experience of the place, but hearing the words spoken and seeing what the participant was looking at as she spoke adds considerably to the interpretive potential of the data. As one researcher commented during the post-activity review of the video, "You can almost sense the serenity..."

EgoPOV video assists disambiguation when interpreting relations between the physical site and the mutual, ongoing shaping of the references by participant and researcher. For example, an Alligator Creek participant talked about the water level in the creek and associated wildlife before mentioning that the site had been made more "tourist-friendly". She had, approximately 30 seconds previously, particularly noticed the wooden walkway that had replaced the rough path along the water's edge, and the improved picnicking facilities. As she walked, the video showed her gaze turning from the creek to a first bench amongst the trees, back to the creek, the walkway, a second bench, and, briefly, to a sign next to the creek. In the context of approximately one minute of video her remarks on "tourist-friendly..." seem to refer to the site more generally, rather than wildlife (e.g. "turtles") or the immediate vicinity specifically.

Noticing Change

During a visit to a place, some contemplative interaction occurs simultaneously with the immediate sensory and affective embodied experience of interacting with the environment. This takes the form of reflection and is an important component of meaning making during the on going transforming of space into place [Casey, 1993]. People in the physical world notice change and use their reflective recounting of prior situated interaction as a basis for comparison. Such *in situ* reflection often takes the form of relating details of changes to the site.

For example, at Alligator Creek a participant says, "*The road was very tricky to negotiate as well, the potholes were very tricky to negotiate. Plus there... There wasn't, a lot of this stuff wasn't here, the parking places were not well defined at all, the Visitor's Center at the back there was not there. There was nothing at all there, really. Camping, little, um, barbeques have appeared; these picnic tables have appeared since we first came,*

and the last time we came the number of visitors had increased significantly. There was a lot more visitors here". At Bald Rock another participant starts the conversation by talking about how he used to get to the site, "This road wasn't even here, when I was a nipper on a bike, and used to come out... ...other kids, come out, via what's now the road to the airport. ...the road was cut off when they extended the airport, so the only access, as far as I know, now, is from Pallarenda. The road used to run round the base of these hills, not across the middle..."

Participants often spoke about accumulated changes very early in the conversation and repeatedly returned to the theme of how the site used to be, compared to how the site was during recent visits. This theme was woven into the conversation about the immediate sensory and affective embodied experience of interacting with the environment in a location.

Participation of Landmarks in Recall

Often a feature appears in the video followed by verbal thematic change and overt, reference to the feature. The egoPOV video data shows many instances of temporal relations between video images and conversation that suggest that information in the landscape prompted participants' recollections. For example, as the creek comes into view, an Alligator Creek participant shifts from talking about the walkway, on which she is walking, to recalling the creek's water levels on previous visits. "*I mean there was nothing like this here, there was no raised platform; you just had to walk on the creek bed and go down. And, of course, we've been at times when the creek's been full and when the creek's been empty.*" Another participant, when looking at the Many Peaks Range in the Townsville Town Common, described how he used to cycle along the foothills on the old access road. This triggered a recollection of a particular incident that involved disposing of a "pretty objectionable cat" belonging to a friend's girlfriend, with a .303 rifle. He related how, whilst making the "*terrible trip*" to the site along the old road, the cat ran around the inside of the vehicle, as if it knew, "...*it was on its ninth life.*"

Video data also shows exemplars of spatial cues being appropriated to retain information. It appears that participants associated a memory with a particular feature and that feature, reciprocally, became a cue for recall. For example, when describing activities during past visits, an Alligator Creek participant refers '*out there*' to some

prominent rocks on the far side of the creek. She draws on the reference 20 seconds later, when she has a clearer view of the same rocks. She points at the rock with her hand and weaves them into describing previously themes (i.e. walking across the creek and, the children's activities).

Spatial resources are effective in cueing recall of non-verbal components, such as affects. An Alligator Creek participant, whilst describing how peaceful it was by the edge of the creek, hears some splashing in the water. She cannot see exactly where the noise is coming from and she moves to get a better view:

Participant: ...*Oh, there's a bit of fish thing happening over there...*

You do have to watch out for snakes. People sometimes get very complacent. Here in Australia of course we have Browns, King Browns, Taipans, in particular. They're the ones to sort of, from my point of view, they're the ones I've come across several times over many years, so I still watch out for them, although I've never been menaced in this river ever.

In later discussion of the incident she mentioned that it was because she was in a natural place that her thoughts turned very quickly to danger, even though any fear she might have had dissipated very quickly. The incident also triggered recollections of a more mysterious and far less comfortable place:

Umm, even though it's called Alligator Creek as such, I've always felt fairly safe here. Other places, sometimes you go, and you just feel a little unwelcome. Umm, Paluma's the same, I always felt very uneasy at Paluma with the kids. I always felt that there was something there that was watching, and almost ready to pounce on the kids, when we, when we went up there when they were younger.

And I've spoken to lots of friends over the years and they've actually felt very uneasy at Paluma as well. So it just seems to have a very different energy feel to it. This one you just feel so much more, umm, welcomed at and the, the fact that you're, you can come here without any real problems, so... Yeah, well, Paluma's just got a different, yeah, the energy there is not nice.

Researcher: *When you say Paluma, you mean the dam or the Crystal Creek?*

Participant: *No, before the dam, not Crystal Creek, actually further up where the walks are. And there's a bit of a creek that comes through there, so, Crystal Creek, it's up, higher part (sic). Yeah, if you go up there, and we've been there a few times and I've always*

been really uneasy on those walks, 'cos, yet I love rainforest but there's something really amiss with that area. And I can't put my finger on, I know they've sort of got rumours that people have sort of disappeared over the years and everything else, but there's definitely a strange feeling to it, and I'm not the only one.

Indexicality

Indexical properties of representation are dependent on shared contexts and often only make sense within that specific context. Egocentric POV video shows that it is very common for visitors to demonstrate context-specific interactions with the site and with other visitors. The context might include a shared location (i.e. the interacting participants are in close proximity to each other, perhaps visiting the site together); a shared knowledge, culture, history and sociality; a shared temporal context; or a shared intentionality. A simple example can be drawn from a couple's visit to Alligator Creek. Close to the edge of the water, the wife asks her husband about the colour of some streaks in a boulder she is walking towards, without either pointing to the rock or naming the object. The egoPOV video shows that she is looking at a specific boulder:

Participant 1: *Now what would the red be in there? What mineral would cause this?*

Participant 2: *Iron.*

Participant 1: *Iron?*

Participant 2: *Yeah.*

Participant 1: *See it's running through here, now wouldn't that look wonderful in our garden?*

Researcher: *If it disappears we'll know where it's gone!*

Participant 1: *Oh but this is, we would get into deep trouble for that wouldn't we?*

Participant 2: *How much ... Nice for... It might be a bit large – I mean there might be as much underneath.*

Participant 1: *Oh yes. More than a ton?*

Participant 2: *Oh yes. The thing is I think you're looking at quite a few tons there.*

In this brief exchange, the first participant relies on the collocation of the interactants to identify which of the many boulders she is referring to. Without looking to see where he is, she assumes that the streaks of colour she is asking about are visible to her husband. She also seems to draw attention to her husband's geological knowledge – he is a mine-owner and amateur geologist – in the tone and words she uses to put the question. She expects an answer rather than simply wondering what causes the red markings. Lastly, she is in fact continuing a conversation about suitable boulders for her garden she had started some minutes earlier, and which she refers to again on two subsequent occasions.

Discussion

Natural place recreational visiting is dependent on the quality of the interaction with the site and its ability to allow visitors to encounter and experience nature. Encounters start before arrival at the site with the building of expectations, and continue after leaving the site by way of recollections, cherished memories and recommendations to others. The quality of the experience depends on a wide range of interaction from the intense, dramatic or spectacular, through to naturalness, openness, space, peace, serenity, quiet, and natural sounds and smells. The two sites under study offered opportunities to walk, swim, and scramble over and jump from rocks, view wildlife, engage in bird watching or enjoy the trees and other plants. People used these natural places to share a barbecue with friends and family, introduce children to nature and wildlife or simply get away from it all. Above all, the attraction seemed to be affective rather than cognitive, multi-vocal rather than monotonic and dynamic rather than static.

Research involving human interaction and meaning is inevitably messy, often involving one-off contextual and idiosyncratic events, and can be obtrusive. However, as Jamal puts it [Jamal and Hollinshead, 2001], when interpretive research is conducted from the standpoint of the researcher's own engaged interestedness, it brings with it advantages of reflexivity and historicity, interwoven with local knowledge of place and experience of situated interaction. It is this approach that allows multi-vocal perspectives of the expectations, experience and reflections of visitors to be revealed.

Implications & Contributions

Proprioceptivity and Site Characterisation

Bodily awareness plays a considerable role in the characterisation of a tourist attraction. More than half the participants made references to issues of proprioceptivity. Many of the references are enriched by the egoPOV video, with detailed data revealing of the affective aspects of the interaction. At Alligator Creek these references were made in a number of different contexts, including the excitement of jumping off the rocks into the creek, the serenity and peacefulness of the site, and thrill and danger of riding down over small rapids in the creek using inflated inner tubes and changes to the site with the walkway replacing the need to scramble over the rocks. Whilst appreciative of the efforts made by the local authority to provide a raised wooden walkway that extended access, offered some environmental protection and made the site more 'tourist-friendly', a number of participants wistfully recollected scrambling over the rocks and how the small pebbly beach from which they swum seemed much further away in the pre-walkway days.

At Bald Rock reference was made to mud and wetness of the site, and to the hostile environment of the associated saltpans. Whilst the experience of stepping into mud and later having to wash it off in a small puddle was not pleasant, it served as an *aide memoire*, triggering recollections of past visits. The palpable nervousness associated with not strictly following the 'rules' in relation to carrying drinking water, even though it did not apply to this visit, suggests a bodily response to some knowledge of how severe the environment could be.

It is striking how, at both sites, participants tied the movement of their bodies and the sensations they felt during their visits to the character of the site. At Bald Rock it was the incident of stepping into the mud that reminded a participant that during his childhood the site used to be much wetter and supported more waterfowl, and, yet for another participant, the site is characterised as somewhat hostile and dangerous, sufficient to evoke a bodily response. For one Alligator Creek participant, the site had been tamed, perhaps even sanitized, simply because he felt obliged to use the walkway rather than clamber over the rocks.

Affording Interpretation and Disambiguation

In qualitative research, it is common to transcribe and analyse tape-recorded interviews (eg [Bentrupperbäumer and Reser, 2002], [Brooks et al., 2006], [Schmidt and Little, 2007]). Interpreting various expressions in transcripts, however, is notoriously difficult as interpretation is reliant on context [Barwise and Perry, 1981], particularly when the fragments contain vague references to topological elements [Manor, 2001]. EgoPOV video provides a reasonable indication of the participant's gaze temporally consistent with the participant's remarks. So when a participant refers to 'rocks' in a creek that shows many exposed rocks it is useful to know which rocks he is referring to. Or when a participant says, "it's lovely here", knowing where the 'here' is and experiencing some degree of the loveliness would aid interpretation.

Dynamic Sites Afford Re-Evaluation

Every site is undergoing continual change to some extent, yet repeat visitors recognise sites that have even changed dramatically. People tend to construct a "finalisation fantasy" [McCarthy and Wright, 2005] during the meaning making associated with a place. The finalisation fantasy is a working assumption that a place is a closed world about which everything that can be known is known. Yet, reflecting on the experiences that give place meaning is likely to change future experience of the place. Thus, it is suggested that when confronted by actual changes to the environmental objects in a place, during an *in situ* visit, people re-establish that fantasy by referencing the obvious changes to recollected experience. This supposition is further supported by the fact that obvious topological changes are often referenced very early on during the visit. At both sites people noticed changes to the man-made infrastructure (i.e. roads, paths, buildings, etc) in particular, but also mentioned seasonal changes (e.g. water level in the creek) and changes in atmosphere (e.g. comparisons between the quietness of a particular visit compared to visiting during school vacation times, when there were lots of noisy children present). Many participants also evaluated the changes, noting both positive and negative outcomes, often related to how they characterised the site. So, for example, whilst the addition of wooden walkways might increase access, have some environmental protection benefits and make the site more 'tourist friendly', it

was also seen to detract from the wildness of the site and sanitise it, reducing the sense of adventure experienced in having to scramble over rocks alongside the creek.

Knowing that dynamic sites provoke re-evaluation has important considerations for attracting return visitors. Repeated referrals to changes are suggestive of continued re-evaluation of the site as a place and the reflection on how the site had changed played a role in the affective quality of the experience. Understanding how change may potentially affect the visitor experience might have numerous practical consequences for the management of change at sites. Understanding and highlighting natural changes (e.g. seasonal changes) might enhance the attractiveness of a site in relation to further repeat visits.

Place as Identity

Places come to have identities both in personal and public senses. People experience interaction in locales that results in emotional attachment to the location related to the interaction [Suvantola, 2002]. Those interactions include immediate events, relationships with others, associated feelings and emotions and recollections of past interaction. Analysis of the egoPOV video material shows that landmarks participate in holding characteristic information about places. The video shows numerous correlations between peoples' recollections of past interactions and their gaze being directed at particular topographical features. The recollections often take the form of evocative recounts of incidents and frequently reveal details of remembered emotional responses that lend characteristic identity to the place.

It is the interaction with a locale that transforms a location into a place with meaning both for individuals and for communities. That meaning making occurs within a particular cultural framework, referenced to the identity of individuals and, in turn their identity within the communities to which they belong.

The experience people have in places and the associated emotions and affects, reflectively give rise to dynamic, socio-cultural, as well as very personal, attachments to places. Understanding the visitor experience as 'felt-life" ([Dewey, 1958], [Bakhtin, 1993]), be it fun, educational, the seeking out of the exotic, or adventurous is an important contribution to understanding the tourist experience.

Indexicality Affords Smooth Interaction

Visitors' world-views are bound by, amongst other properties, location, temporal proximity, knowledge, culture, history and sociality. Egocentric POV video assists in interpreting the relations between the physical site and the mutual, ongoing shaping of references between visitors. Flynn, in an examination of spatial design in video games, [Flynn, 2003], suggests that the act of passing through a topological space "can be understood as a constellation between bodies, imagination and pace – a history of thinking made concrete." Insights can be gained from analysing how a person uses gaze in the physical world to indexically indicate, to a companion for example, the spatiality of their conversation. Both the participants in the dialogue become aware of the volume of the space being used in their discussion and the objects in that particular volume.

By better understanding how visitors constantly use indexicality in their interactions with the environment and each other, it is possible to gain traction on how people use such resources to understand unfamiliar places, and thus to guide their meaning making as they traverse a site.

Limitations

A key limitation of this method is its intrusiveness. This was offset to some extent by the fact that the participant could not see the video cameras they were wearing and carrying a small backpack was not unusual in the particular circumstances. So, whilst most participants seemed to be relatively unaware of the backpack they were carrying and soon forgot that they were wearing video cameras, some were occasionally aware and made efforts to 'film' particular scenes or took care not to damage the equipment. As technology becomes increasingly miniaturised, lightweight and concealable, many of these problems will be ameliorated.

Interpretative studies are limited in representativeness, in a statistical sense, but it is not feasible to apply this method to large numbers of participants. Video data sets are very large and time-consuming to interpret, often requiring some considerable degree of expertise (some of these issues are discussed in [Buur and Soendergaard, 2000], albeit in the context of user-centred design). However, generalisation is not

the aim here. Interpretive research seeks to add to our understanding by illuminating the meanings of the lived experiences and recognising that such interpretation is of necessity subjective.

EgoPOV video is an important tool in the qualitative researcher's toolbox, and generates rich data. Interpretation of that data affords consideration being given to many aspects of individual tourist or visitor experience in the moment of the occurrence of those experiences. As with all data, devising methods for distinguishing the important from the unimportant is a significant challenge.

Further Research

Leaving aside questions of when a visit might start or end, egoPOV video and its subsequent analysis might begin to inform researchers on which parts of the experience contributed most significantly to later recollections and more accurately illuminate those aspects of the experience that were most valued. As this method attempts to access participants' own verbalised thoughts and feelings during the moment of the experience, it might also be a useful way of providing insights into cross-cultural and cross-national participants' experiences. Although the research reported in this paper is concerned with natural places, there is no reason not to extend this method to other types of visitor attractions.

Specific contributions that might arise from further research include:

Impact of Place on Proprioceptivity and the Impact of Proprioceptivity on Site Characterisation

Aspects such as the impact the terrain has on visitor experiences are not well understood. How people traverse a tourist site, not just in terms of their movement across the site, but also in terms of the way in which they experience the site, should be important considerations in site management and no doubt warrant further study.

Change

Further work needs to be done to compare dynamic sites with static sites and to determine the effects of various degrees of change and the quality of those changes. How much change is required to keep sites 'fresh'? What degree of change would result in

the site losing its character? Part of the character of a site is due to the natural changes that occur. How might these be highlighted to increase people's understanding and appreciation? EgoPOV video can possibly provide snapshots of sites at any given time that include the extent to which people re-evaluate an attraction.

Identity and Indexicality

Tourism is no longer seen as simply a quest for the trivial, but also as a formative activity. People's immediate experience of visiting and the transformation of meaning that occurs during that immediacy is intertwined with their sense of self and a communal sense of habitus. The egoPOV video method provides some access to the immediate multi-sensory experiences of natural places and further development of such techniques would provide more detailed knowledge of the dynamics of engagement and subjective construction of natural places.

Conclusion

How might researchers understand aspects of human experience during the context of a visit in the place in which those experiences are occurring? A qualitative research approach seems useful in getting closer to the meanings of the experiences that go into place-making, given the polysemic nature of the data. So for the researcher, it becomes a question of how to access other people's *in situ* experiences and their reciprocal reflections during the moment of their embodied interaction. EgoPOV video provides a means of collecting more immediate data that allows visitors to speak with a multitude of voices and themes, and, although it has only been used in natural places, its application is undoubtedly much wider.

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