

The Literacy of Tracking

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ABSTRACT

The study examines tracking as literacy, analysed through conventions of storytelling, involving participant observation in the field, and through a discussion of cyber-tracking. The conclusion is that the social experience in the post-hunting era is re-created for teaching, memory and nostalgia purposes on the one hand, and is commoditized for tourists on the other.

KEYWORDS: ‡Khomani Bushmen, !Xoo Bushmen, literacy, tracking, hunting, Kalahari, indigenous knowledge, science

INTRODUCTION

Hunter-gatherer societies and transitional hunter-gatherers continue to be in evidence in many parts of the world. Such groups rely on hunting to a greater or lesser degree determined by their history, environment and desires. Hunters have to be inventive, possess problem-solving skills and be intuitive. Historically (and within some communities today), the penalty of not having such attributes at one's disposal, either personally or through association, meant starvation. Children in such societies were educated in animal behaviour and survival skills at a young age. Hunting consists of discrete activities starting with the pre-hunt scanning and the collection of information to determine a hunt's viability. Stalking and pursuit of the animal follows, then the immobilisation and killing, and lastly the retrieval of the proceeds of the hunt for consumption and use (Laughlin 1968).

Tracking is an imperative component of the hunting process. During the scanning and collecting stage, individuals observe the environmental conditions and determine what animals are present in

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the area. This is done through studying *the signs*, comprising of tracks, faeces and foliage damage, smelling the air for scents and odours, and listening for sounds, all of which can direct the hunter along the path of the intended prey. Once conditions are appropriate, then the stalk and pursuit commences. Often a hunter will commit to an animal that they have not yet seen, initially following the signs intuition until it is in view. Good trackers can determine the sex, age, size, speed and distance of the animal. Once in sight the tracker will use his knowledge of animal behaviour to predict the movements of the prey to inform the later stages of the hunt. The hunter's aim is to get as close to the animal as possible before taking the shot (Laughlin 1968). While other terrestrial animals hunt using scent trails and airborne odours, tracking is a uniquely human activity that involves a natural sign system to search for, and find, animals that may be unseen and even unheard (Shaw-Williams 2014).

Transitional Bushmen societies in southern Africa no longer hunt for survival; however, many individuals continue to track animals and people, for various reasons, including to make sense of their environment, and for income generation. We explore the reasons that some activities persevere through an examination of tracking within two Kalahari communities; one located in Ngwatle, Botswana and the other near Askam in the Northern Cape of South Africa. Our argument is that tracking is akin to reading and played an imperative role in the intellectual development of humans, and in the formation of modern day science. In other words, we acknowledge the historical contribution of the indigenous knowledge system of tracking, highlighting the specialised nature of the skill and the role that it continues to serve in particular Kalahari communities.

THE RESEARCH COMMUNITIES

The †Khomani

In 1991, after years of dislocation, dispossession and degradation exerted by the apartheid regime, “the core surviving †Hanseb Bushmen led by !Gam!gaub Regopstaan Kruiper settled at the Kagga Kamma game park near Ceres in the Western Cape” (Dyll 2009,10). After several years of negotiation with the post-apartheid government a land claim agreement was reached in 1999. The claim allocated 36 000 hectares (6 farms) and 25 000 hectares of land within the Kgalagadi Transfrontier Park (KTP) to people now known as the †Khomani (!Ae! Hai Kalahari

Heritage Agreement 2002: 166). Initially the number of people involved amounted to approximately 250, however, there are now over 800 people with a claim to the land.

Wildlife on the farms was decimated through over-hunting by the ꞛKhomani and local white hunters who were illegally sold hunting rights; or the lands were converted into agricultural pastures for domestic livestock. Two farms were allocated for traditional living, Erin and Witdraai, but they do not fit into the romanticised image of the ‘pre-modern Bushman village’. Erin is stocked with game, and operates as a community-run biltong farm - cashing in on the myth-believing hunters who desire to experience a hunt with a “naturally” gifted Bushman tracker. The farm is not self-sustaining, and is reliant on donor funding. The ꞛKhomani wear western clothes, except when they sell crafts to tourists on the roadside or act in movies. They carry mobile phones, drink wine, wear shoes and want sunglasses. They speak Afrikaans and Nama, a Khoisan dialect, and tell stories passed on through generations. The ꞛKhomani are keenly aware of the stereotypes and representations of Bushmen and frequently leverage these to support the expectations of unsuspecting tourists or academics in return for donor-ship.

The !Xoo

The previously unresearched !Xoo community live at Ngwatle Pan, Botswana. The fluid village of about 180 inhabitants faced political pressure to assimilate modernity and to relocate to government designated settlements within the Kgalagadi District 1 (KD1) area. Botswana classifies its population on the basis of a “socio-economic criteria”, as opposed to “ethnicity” (Saugestad 2001, 31), and has thus devised development strategies not linked to the discourse of minority rights (see Mikalsen 2008).

Previously the !Xoo had resided close to Masetleng Pan, 30 kilometres from Ngwatle, a plentiful hunting ground where they had been briefly employed by PetroCanada. They lived in peaceful co-existence with the company’s employees, sharing the water resource. According to Kort-Jan Baba Nai (October 2005), this was the area and time of their fondest memories. However, when the company departed, it removed the pump and welded a metal cap over the pipe of the borehole. The Baba Nai clan then relocated to Ngwatle in the early 1990s, where trucked in

water and food was supplied monthly by the Hukuntsi municipality 90 kms distant. Hunting expeditions now took many days as hunters had to return to Masetleng to engage in this activity. Up until 1999 the !Xoo were issued with individual hunting permits by the state.

In the early 2000s, the Botswana government granted a concession for KD1 to a safari company. The area encompasses Ngwatle and two other settlements, Ukhwi and Ncaang. The !Xoo sold their hunting quotas to the safari operator, meaning that they could no longer hunt. Carcasses shot by safari hunters were supposed to be delivered by the safari company to each of the three villages.

The !Xoo did not represent themselves similarly as do the †Khomani, largely because they were less aware of stereotypes associated with Bushmen (see Simões 2001). The !Xoo lived in traditional grass and branch huts and zinc houses (tin shacks). The majority of the †Khomani favour zinc houses but some continued to live in grass houses. The respective groups share some commonalities: they wear hand-me-downs and keep livestock, including goats or sheep, donkeys, horses and chickens. The !Xoo received food rations from the Botswanan state, while many †Khomani are recipients of state welfare grants. Horses and donkeys are used as transport and pack animals to deliver water and wood. The !Xoo also used donkeys for hunting. Few possibilities of employment exist within the inhabited †Khomani areas, less so for the !Xoo. Both groups survive(d) on donations, livestock farming and small tourism ventures. Farming is impossible due to lack of water and low soil quality (Njagi 2005; Grant 2011), although some individuals do cultivate wild plants such as melons in patches or vegetables such as spinach. Some †Khomani earn from their community-owned hunting farm and various small scale tourism ventures; however, the income is insufficient to enable self- improvement.

During the research period, the !Xoo and †Khomani still engaged in tracking: i) as hunting guides; ii) for tourists, including researchers (Tomaselli 2005; Grant 2011), iii) and, for film-and video making purposes (see Durnington 2009; Grant 2011). In addition, the †Khomani partake in *veldskool*³ outings when funding permits.

³ *Veld* is the Afrikaans word for “field”. *Veldskool* takes place in the *veld*/field with a focus on learning about nature.

Fieldwork was conducted between 1995 and 2007 at Ngwatle, and between 2000 and 2018 on the ꞤKhomani farms, focusing on Witdraai where the majority of the ꞤKhomani trackers live. Interactions with the trackers and hunters were in English, where participants spoke the language, and in Afrikaans, the *lingua franca* of the two communities separated by 390 kilometres of desert, deep sand cut-lines functioning as tracks for vehicles, two border posts and the Kgalagadi Transfrontier Park (KTP) that spans both South Africa and Botswana. Over the 11 visits with the !Xoo, with Chris Logie (2010), 10 trackers from Ngwatle were interviewed, and informal and very animated interactions with other trackers occurred. We formally interviewed four ꞤKhomani trackers from Witdraai and a SA San Institute officer, although much of the ꞤKhomani data was collected informally, especially between 2014 and 2017, when Grant lived and worked alongside the community.

On one of our visits to the ꞤKhomani farms (2013) we interacted with Louis Liebenberg, the father of *tracking as science* who developed a computerized device and software used by, amongst others, the ꞤKhomani Bushmen when doing game counts on their hunting farm Erin (see Tomaselli 2001).

THE MYTH: BUSHMEN ARE “NATURAL” TRACKERS

The shroud of mythology is not surprising given that conspecific trackways are estimated to date back 3.6 million years (Shaw-Williams 2014) and have been linked to perceptions of the Bushmen as the descendants of the world’s original peoples and southern Africa’s ‘first people’. Tracking and hunting have been the pre-eminent emphasis of films on the Bushmen, starting with John Marshall's *The Hunters* (1958) through to Craig and Damon Foster's *The Great Dance: a Hunter's Story* (2000). The Marshall film accentuated the mystical nature of tracking and hunting for his audience, while *The Great Dance* promotes tracking as an in-born skill with a primal drive, existentially linked with religion, culture and ontology (see Clelland-Stokes 2007). "Tracking is like dancing, because your body is happy and you are talking to God", says !Nqate Xqamxebe, whose words narrate the film.

The South African Defence Force (SADF) also mobilised the myth, employing Bushmen as trackers and counterintelligence operatives during the Border War of the 1980s. The SADF subscribed to the sociobiological notion that Bushmen were naturally gifted trackers (Gordon 1992), a belief still widely held today. This means that ‘Bushman’, in the post-apartheid era continue to be sought out and employed in security and conservation agencies as game guards and mappers, in tracking predators escaped from game reserves, in tracking stock thieves and poachers, in teaching army personnel bush survival skills, and in tourism.

TRACKING AS LITERACY

Reading and writing are assumed to be fundamental skills of civilized society, implying that people who are not adept in these skills, or cultures that do not prize them (mainly indigenous peoples), are less advanced and uncivilized - more childlike and primitive (Chamberlin 2002, 67-68). Illiteracy pejoratively signifies that a culture is underdeveloped (Chamberlin 2004; see also Van Zyl 1980). Recently, however, indigenous understandings of the natural environment and the practice of tracking has gained appreciation. Unfortunately, such skills are often romanticized, the myth endures, and the skilled practices are trivialized. All these attitudes highlight a lack of understanding and appreciation for such cultures and their practices, some of which are comparable to reading.

Metaphorically, tracking can be compared to literacy. The first phase of literacy is writing, which allows for signs to be encoded. Although literacy and tracking are comparable, differences do exist. Writing is an intentional form of communication with a particular message attached to it (even though the reader/decoder may misinterpret the message). Contrastingly, leaving tracks, is an unintentional side effect of movement by animals - although humans may intentionally create tracks. While it can be beneficial for humans to communicate via writing, allowing them to impart abstract ideas, it is rarely beneficial for animals to leave tracks, and abstract intentional messages cannot be imparted to a reader/decoder through them. Nevertheless, there are similarities between writing text and track-leaving, and reading text and tracking that merit discussion - the focus of our study.

The second phase is reading or decoding, which enables what has been written to be interpreted. This semiotic process follows a series of steps based on the understanding of small signs (letters) that allows one to decipher the larger 'text' or code, followed by the string of signs that generates the meaning in the mind of the interpreter. Tracking can be therefore viewed as reading. It is a semiotic system involving "Learning about representation, learning about the contradiction of signification, which is also what we do when we learn to read" (Chamberlin 2004:2). This contradiction refers to the semiotic process whereby we learn that a word is just the representation of the object and not the object itself. In a similar manner, trackers learn the representational relationship between the track signs and the animal. A mark in the sand is just a mark in the sand – an inactive sign - if one does not have the knowledge to identify or interpret it. "The one thing hunters know when they see the track of an animal is that the animal isn't there. That's all they know. And they know that's all they know" (Chamberlin 2004: 132).

As with writing, an author leaves a trail of words or signs to be interpreted or read. Written words on a page are separated by spaces, as are tracks discontinuous in nature; both however, register a continuous movement. Writers must lift their pens between words and letters as do humans or animals when walking, "the writer does not cease to write on lifting the pen, nor does the walker cease to walk between steps" (Ingold and Vergunst 2008, 8). This semiotic system, regardless of whether it involves text or tracks, requires that the interpreter read 'between the lines'. Consideration must be given to the spaces between tracks as is given to the spaces between words when reading text. The tracking process involves a reading of the environment in general, not only the signs in the sand. Tracks and droppings must be assessed in conjunction with the birds in the sky. The process is further complicated by the seasons, the elements, wind and rain, and a myriad other environmental factors. Liebenberg (1992:114) concurs that in reading animal disturbances in the environment that "intermittent attention" requires a constant refocusing between minute detail of the track and the whole pattern of the environment".

Our own experience in transporting ex-hunters across vast tracts of the Kalahari intimately known to them, is that they can even find 4x4 tracks that have been completely grown over by grass and thorn bushes, even if these flora reach bonnet height. The 4x4 wheels compact the sand, slightly stunting new grass growth, resulting in grass growing inside the tracks less densely than grass

growing outside the tracks. This creates a barely perceptible “trail” in the newly grown grass which can be seen from quite a distance - even years after the vehicle was last driven on the 4x4 tracks (pers. comm., Liebenberg, 17 April 2016). When vehicle wheels compact sand or soil, the season can affect the growth, for when the rains come in southern Canada, for example, the soil is reorganized and often compacted once again, and growth of grains and grasses equalized beyond the track lines. There would be less of this in the deserts of the world, with their long stretches without rain (Ted Chamberlin, pers. comm, 17 November 2019).

The Ngwatle trackers with whom we worked could ‘see’ between the lines (the vehicle tracks as absent signifiers) and ‘through’ the tall grass. They simultaneously mentally mapped tracks made invisible by the thick grass in relation to other cues in the immediate environment (trees, branches, small rocks, the appearance of the grass, holes made by burrowing animals, the feel of the *middle mannetjie* (the ridge between the tracks made by the wheels). These cues were assessed within the relationship of our position against the horizon, direction, the height of the vehicle and so on). This involves extraordinary spatial memory, itself stratified by the seasons, wind, animal paths and use of the 4x4 tracks by other vehicles, and trucks with wider wheel bases. When one exits the vehicle, indeed, the tracks are there, visible to close up scrutiny. In contrast, for us researchers, we simply experienced the opaque vista, even if we had travelled these roads previously.

While driving with the †Khomani at Witdraai, on many occasions we found ourselves being directed to take particular ‘roads’ by our guides - roads that we could not see ourselves-despite these them being obvious to our hosts. On one occasion, during a journey that comprised of too many of these ‘roads’ the steering wheel was relinquished to an accompanying tracker to take us the rest of the way.

In contrast to the ‘popular misconception that nature is “like an open book” an expert tracker needs only enough skill to ‘read everything that is written in the sand’ (Liebenberg 1992: 3). Where details are absent the expert trackers are able to “think” their way to where the animal has gone through examining the environment of individual signs left by the departed animal (tracks, scratches, broken twigs, urine and droppings, and so on.). Rather than this being a mystical ability tracking is in fact a form of science.

TRACKING AS SCIENCE

Marshall's narration in *The Hunters* (1958), observed that the hunter had to "think his way to the giraffe". A Smithsonian zoologist who accompanied the 1952 Marshall expedition, concluded that the hunters he worked with indeed "could actually think like the animal enough so that they soon knew what its strategy was, where it was going. And they did not follow track-to-track-to-track. They would take shortcuts and intersect the trail again where they figured it was going to come. They literally charted when they were tracking; they were not just plodding along looking at tracks" (Charles Handley, interview, Feb. 26th, 1997, with Tomaselli and John P Homiak 1999, Smithsonian Institution). Trackers visualize animals moving through the landscape, asking themselves what they would do and where they would have gone were they the animals. As Handley observed when working with the Ju/'hoansi in Eastern Bushmanland, South West Africa, now in Liebenberg's later modelling terminology, "the track creates an internal simulation of different possibilities, thereby simulating and predicting the future" (2013b, 22). This skill is not a genetic trait; nor is it mystical; it is learned and improves with practice. Tracking is a skill taught in childhood and then nurtured until it becomes a 'natural' practice of living (Liebenberg 1992, 69). For example, more hunting experience results in greater tracker reliability among Inuit hunter-gatherers (Wong et al. 2011).

Liebenberg's theory of tracking draws on i) inductive-deductive reasoning, ii) hypothesis-deductive reasoning, iii) and systematic and speculative tracking that incorporates the first two forms of reasoning. Systematic tracking is inductive-deductive, characterized by interpreting signs that indicate behaviour and its bearing. That is, interpreters do not conjecture possibilities not previously experienced. In speculative tracking a working hypothesis is formed from an initial semiotic interpretation of visible cues, linked to the trackers' knowledge of the animal's behaviour and of the terrain. Trackers look for signs where they expect to find them – they connect the dots beyond the available evidence - *reading between the lines*. They 'think' their way to where the animal is predicted by their mental modelling to have gone. By identifying with the animal they follow an imaginary route, searching only for signs where expected to be found. It is during this process of anticipating how and where the animal travelled that the tracker will move like the animal, to better

perceive the world as would the animal, thereby reconstructing the animal's movements (Ingold and Vergunst 2008, 11). The trackers "conjecture possibilities that are either confirmed or refuted" (Liebenberg 2013b, 22). From this Liebenberg (2013b, 18) deduces that tracking is the "oldest science" – one that requires experimentation, testing and interpretation, and that it "... is a science that fundamentally requires the same intellectual abilities as does physics". Among our ancestors, plant gathering for subsistence existed prior to the hunting of animals. It could therefore be assumed that this was the *origin of science*. According to Liebenberg (2013: 139), however, "...edible plants may be gained by means of a trial-and-error accumulation of knowledge based on inductive-deductive reasoning". He argues that there is no need for speculation for this activity as "imaginative theories to explain plant life or to predict novel facts based on hypothetico-deductive reasoning" are not required, therefore, the activity cannot be considered the origin of science.⁴ If hunting was the domain of males, however, and if Liebenberg is correct regarding the origins of science, then there is an implicit suggestion that males played a more a pivotal role in the origin of science than did females. A closer, more detailed study is needed regarding the role of gathering in the origins of science, and the role of females in early hunting.

Liebenberg (2013b) makes a strong argument that Einstein's thought processes may have originated from, or be similar to, the way that trackers think. An anthropology of hunting might draw on physics, paleoanthropology, ethnology and archaeology. The paradox addressed by Liebenberg (2013a: 15) is: "How did the human mind evolve the ability to do scientific reasoning if it was assumed that scientific reasoning was not required for hunter-gather subsistence?"

Cybertracking- the new science

The "oldest science" of tracking is linked with computer technology by Liebenberg into a "new science". Cybertracker software technology, used via a smart phone integrates "traditional knowledge" derived from expertise built over generations, "with state-of-the-art computer science". This device is used by alliterate trackers working with an icon-based user interface. Complex information is collected by selecting icons and following a path through a sequence of screens. The

⁴ For more on why/how tracking is the origins of science, as opposed to gathering or cooking etc., see Liebenberg (2013).

coordinates captured by the integrated Global Positioning System are attached to the data captured by the tracker and together stored in the smartphone. Map data is incorporated into the software, and the data can be displayed in tables structured chronologically, alphabetically or numerically for a chosen field (see www.cybertracker.co.za/index).

Cyber-tracking prompts the question of whether new technologies could be part of a global cognitive, as well as cultural, revolution which began with photography and the telephone back in the 19th century, followed by visual and sound recording and now the Internet in the 20th and 21st Centuries. In this regard, as Ted Chamberlin (pers. comm, email Feb 2, 2011) observes, the old language of seafaring is still used, where everything is moving and nothing is fixed, to 'navigate' the web. Tracking may represent a fascinating link between the old and the new, for (like printing and books) it allows us to 'see' and 'hear' things that are not there.

SCIENCE MEETS MYTH

Media reports on the Cybertracker include "Ancient tracking takes a modern twist", which plays into the myth of the two kinds of science discussed in Tomaselli (1999). First, the cybertracker is described as an example of an electronic invention where 'science' meets 'priest-craft', which is pithily encapsulated by CNN's stereotypical positioning of Bushmen as living in the 'past' but being observable by scientists from the present: "The environmental inventor (Liebenberg) thinks the cybertracker can ensure the preservation of prehistorical Kalahari tracking techniques by giving them a vital role to play in the modern scientific age" (CNN.com, March 12, 1999). *Wired* magazine pressed the myth further: "Liebenberg has produced something akin to a Stone Age computer by hacking into a bygone world" (Talbot 2004:3).

This populist discourse of conservation is embedded in the mystique of what is assumed to be unknowable indigenous knowledge, so often evoked in policy for developmental and scientific purposes. The mystical animist identification in the film, *The Art of Tracking* (Dalton et al 1996), of the hunter's strategy, "in my imagination, I become the animal I am stalking", is a recurring one in film, video and TV programmes on Kalahari hunters. This cosmology, in effect, separates the pragmatics of the logic of something, in this instance, tracking, from the material reality in which

the hunter and prey share a kind of interspecies world. It assumes a 'spirit' reality that hunter and prey share but from which 'alienated' or 'demystified' Modern Social Man is excluded.

A fine line exists between the scientific imagination (which can produce predictions that are testable) and mythology (which cannot produce testable predictions)⁵. Anthropomorphic projection, and in particular the process where "in my imagination, I become the animal I am stalking" is situated between scientific imagination and mythology, where most films about hunting and tracking locate their interpretation. When tracking, one sometimes experiences a subjective feeling of 'becoming' the animal –one literally *feels* like you are the animal. As Liebenberg (2013a) observes, this is quite a visceral experience. Some physicists have described this same experience in the creative process when doing research. Those who do not understand tracking, or the creative process in modern science, assume that this relates only to a 'spirit' reality and deny the creative scientific process underlying it.

While academics might remain sceptical of the scientific merit of tracking, some have embraced the insights that experienced trackers can offer. In recent years tracking knowledge has been called upon in scientific investigations. Ju/'hoan trackers from Namibia were able to provide additional knowledge regarding particular prehistoric human footprints, challenging previous interpretations. Scientists possess insufficient knowledge in dealing with tracks and morphometric analysis is limited by its inability to speculate (Pastoors et al. 2015; 2016). Such methods access the footprints through a series of measurements and counting; they are unable to speculate and to provide a "narrative about a moment of action by individuals" (Pastoors et al. 2015, 559). Contrastingly, the trackers were able to put themselves in the "minds" of the long-gone footprints' owners to infer their likely movements and purpose. Unless such resources are used, significantly important interpretations are missed (Pastoors et al. 2015; 2016). Using quantitative methods, Ju/'hoan trackers have been documented to be highly accurate in their interpretations and "not necessarily unscientific" in the analyses process (Stander et al. 1997: 339). Wong et al

⁵ Chamberlin has highlighted "that modern physical sciences, especially those attending to the foundations of matter and energy, rely on what is essentially 'hearsay'—nobody has ever 'seen' an atom, or a Higgs boson, but only where they collide with or bounce off something else", reinforcing that there is only a fine line separating science from myth.

(2011) have similarly argued that Inuit trackers inter-rater reliability when tracking is comparable to *scientifically* analysed genetic data, suggesting that they would add meaningfully to the data collection process regarding polar bear populations in Canada, enabling more appropriately informed conservation policies in the region. Given these findings, without the inclusion of such data in *scientific* studies there may be serious implications for the validity of the *scientific* conclusions and policy content being produced.

ECONOMIES OF TRACKING

Tracking forms part of the †Khomani and !Xoo communities lives in different forms and for different reasons/uses, which can be largely attributed to their differing contexts and, similarly, the pressures connected with differing environments. The following section deals with tracking within each of the two communities, addressing the topic in terms of the different economies.

Witdraai, Erin and the KTP

The †Khomani's economies of tracking range from somewhat traditional uses, such as hunting/poaching and making sense of their environment, to more advanced and modern uses connected to tourism and film, and advertising production. What is immediately evident is that their valuation of tracking stems as much from the stereotypes associated with Bushmen and tracking as the actual tangible uses of tracking. Therefore it is possible to separate the economies of tracking within the †Khomani community into 'actual' tracking and something that, for the purpose of this article, we will term as 'virtual' tracking (Logie 2010).

The population of wild animals on †Khomani owned land and the adjacent farms is minimal. The area is fenced, unlike when we worked in Botswana. Only Erin Game Ranch, owned by the †Khomani, is stocked with game. Community members are not permitted to hunt here unless prior consent from community structures is granted. This has only happened once since 2014. A *veldskool* operates when funding permits. The *veldskool* focuses on the intergenerational transfer of cultural knowledge including storytelling, singing and dancing, medicinal plants, veldfood, animal and hunting knowledge, and tracking skills. The elders who still possess this traditional knowledge accompany other community members into the KTP to share the knowledge, at the

same time relishing the opportunity to revisit past memories, events and people, through once again traversing through their historical homeland and hunting grounds. Although the †Khomani own 25 000 hectares of the KTP, strict regulations prevent hunting, therefore, the elders focus on tracking - hoping that learners will be able to transfer this knowledge to the hunting arena. Despite these constraints, two †Khomani informants, Toppies and Adam, explained that the †Khomani still tracked for hunting. Both commented that they had ‘perhaps over-elaborated their descriptions’ and that ‘perhaps they still tracked, but didn’t hunt traditionally’. They do hunt random animals that traverse their own and surrounding farms. Overall, tracking is not as necessary as it once was, or practiced as regularly. The †Khomani hunt for small mammals and birds, using hunting dogs and/or traps with *kieries*⁶ or knives being used for the kill. Consequently, many of the traditional aspects of tracking have been phased out simply because there is less freedom to embark on such activities and also because there is less need for them as people can now purchase goods at the local shop.

Another dynamic relates to making sense of the desert environment. This is more the case in indigenous post-hunter communities who live in desert regions, where the sand makes tracking substantially easier and more useful. Tracking, as a part of everyday life, allows an individual to see what has happened, whether anything has passed through or remains in the immediate vicinity. It is largely assumed that tracking involves following animals. Silikat, explained that he used his skills to keep track of his friends and family, as do many †Khomani. Typically, on arriving home with a Bushmen tracker, they will survey the environment to determine if there have been any visitors in their absence. If so, they study footprints, and in what directions the visitor came from and departed to, to ascertain who the visitor was. Having a good working knowledge of their neighbours’ foot size and shoe-sole pattern they are often successful in their determinations. Silikat also used his skill as a protective device to detect and find ‘enemies’, like venomous snakes, while Honeyboy has been observed to track his footprints to recover a misplaced pair of shoes⁷.

⁶ These are similar short walking sticks with a knob on the end and are usually used for defence.

⁷ Many of the tracking stories in this paper have been collected from, or refer to, male trackers, who outnumber female trackers. Although traditionally males would have been hunters and the females gatherers, the †Khomani’s

Virtual tracking pertains to the worth associated with tracking, in relation to the post-hunter communities who are renowned for possessing a tracking ‘Pedigree’. Therefore, the ꞆKhomani have a worth/value attached to themselves by the public, which stems from their ancestors who possessed renowned tracking ability. Tracking is a valuable commodity, even if the ꞆKhomani are not all the most gifted, because the stereotypes of the Bushmen as trackers are well known and correspondingly marketable.

The ꞆKhomani earn income through various types of tourism. Firstly, some of the ꞆKhomani dress in traditional clothes on the roadside and sell curios and traditional artwork. Secondly, and directly connected to tracking are the pre-arranged nature walks with trackers that take place on Erin Game Ranch, and the hunting trips where hunters pay guides to track for them. Tourists do not want to learn how to track; however, they attach great value to the experience of ‘going tracking or hunting with the Bushmen’. In other words, tourists are looking for socialization rather than a reading experience.

On Erin, when accompanied by a hunting guide, a tourist guide or a tracker⁸, the short experience is usually a ‘reading’ (or basic systematic tracking). An excursion with a tourist guide largely lacks the existential and speculative dimensions, or the nostalgic collective experience of the absolutely absorbed Ngwatle ex-hunters, who delighted in their performative roles while relating stories about real hunts, and the hardships while themselves being hunted (as alleged

veldskool includes both sexes in all activities. Additionally, since the South African College of Tourism’s Tracker Academy opened its new training camp at Tswalu Game Reserve in 2017, it welcomed female students (for more information see <https://www.samara.co.za/blog/an-interview-with-janetta-benadie/>), with South Africa’s first official female tracker being appointed in 2019 (see <https://www.iol.co.za/travel/travel-news/samara-private-game-reserve-appoints-south-africas-first-female-tracker-22701210>). One of the main reasons women do not become qualified trackers is because they are unable to attend residential courses as they are the main care-givers to their children. This is also a challenge when taking full-time employment as a ranger or tracker which often requires the employee to live in a location away from their family and home community.

⁸ Tourist guides are usually state certified and trained in guiding practice and tracking. In contrast, trackers tend to be the least formally educated and trained. They are the most associated with *veldskool*, speak less English and are officially not permitted to work with tourists, as they do not have the qualifications to gain a license.

poachers) by game rangers and police. They regaled us about the threats, the joy, the puzzlement at being targeted by spotter planes and surveillance vehicles, spoiling their spiritual communion with nature and denying them opportunities for hunting.

Ngwatle

For us, tracking at Masetleng Pan, a few hours' drive from Ngwatle, was a nostalgic activity for the 'once were hunters'. For them, taking us on a day's tracking on every trip (11 days between 1995 and 2007) offered opportunities for them to reconnect with a warm memory of the pan (see Tomaselli 2003) in an earlier time when hunting was permitted and hunters experienced the practice in terms of both systematic and speculative tracking. Apart from one actual hunt conducted in 1995 where speculative tracking was applied, like with the †Khomani, our later field experiences were restricted to systematic tracking.

The !Xoo's economies of tracking starkly contrast with those of the †Khomani. They too had actual and virtual uses of tracking, but in a significantly different context. The !Xoo lived in 'harmony' with their Setswana neighbours, many also claiming Bushmanness. They tracked whilst hunting, when they held permits to hunt, although permits were infrequent and limited. They used spears and followed their quarry on donkeyback along with their dogs that cornered their prey.

Animals were plentiful in the !Xoo's immediate vicinity and especially at more distant pans, a day's donkey ride away. Wildebeest, springbok, gemsbok, steenbok, eland etc. are commonly found in the greater KD1 area. Given the opportunity, the community could possibly support themselves from hunting. The Botswana government, however, restricted the hunting of animals through a quota system and the issuing of hunting papers or *pampiere*. Paper is exchanged for meat. Both were in short supply due to the *pampiere* limitations on quotas, species, and seasons (Tomaselli 2003). Correspondingly, the law was such that if an animal strayed into their settlement that they were forbidden to kill it, irrespective of the species. The Botswana government maintains the law vigilantly. The hunters became the tracked.

Although some ꞆKhomani use tracking to make sense of their environment, more individuals within the !Xoo community had the skills to take advantage of animal resources on a daily basis. There were several actual roles that tracking played in everyday life. Like the ꞆKhomani, they used systematic tracking to keep ‘track’ of their friends and family, using their individual footprints, shoe marks and wear and tear patterns on the underside of their soles as identification. In this way they can deduce who has been moving around their immediate vicinity, how many people were there, and which direction they were going.

The !Xoo also engaged in tracking in order to follow and monitor their pastoral animals. There were no fences, paddocks or fields where the herders kept their cattle, donkeys, horses and goats. The animals did not stray far from Ngwatle Pan, since there is no other natural water source within a hundred-kilometre radius. Hence tracking kept ‘sight’ of animals that may have strayed from the main herds. Alternatively, and less frequently, they tracked predators or poachers who were responsible for animal disappearances.

!Xoo interviewees explained that when tracking that they are reminded of what they did in the past, again similar to the ꞆKhomani elders partaking in *veldskool*. Kort Jan revealed that occasionally when he is following tracks of a gemsbok in a particular area that he was in fact reliving his experiences. The !Xoo and ꞆKhomani, therefore, track for the purpose of nostalgia. Nostalgia offers no tangible benefit, but for some, it allows a connection to once deeply engrained aspects of Bushmen culture. Furthermore, through tracking in groups, albeit for a tangible purpose like for food gathering, it facilitates memorialization of an imagined non-tangible past.

At Ngwatle we would track for hours on end, traversing many miles, where our guides would point out old carcasses that they had left - and tell of some of the hunts associated with these kills. They looked for water bowsers that they had stored in trees, transported there by donkeys; they appreciated the aesthetic of just viewing herds of game, would spot animals well before we did or could, and they would talk of the Eland’s tears in reverent terms. In talking about and intensively discussing their interpretations of the tracks that we were following, an intellectual

and imaginative delight was displayed by the trackers. Chamberlin (2004) recognizes this as akin to the fine line that exists between reading for information and reading for fun, a distinction that readers and trackers do not always make. Liebenberg adds: “Direct observations are often embellished with an immense amount of detail. The evident delight with which they describe their observations suggests that hunters find such observations interesting for their own sake. They have a greater interest in animal behaviour than is required for the practicalities of any specific hunt” (2013b:101).

In contrast, before the development of Erin Game Farm, when we tracked at Witdraai, 380 kilometres south, a few hundred metres in the vicinity of the Bushcamp a tracking experience was marketed to tourists. Only the tracks of small creatures are evident here. The riddle and charm of Ngwatle was never evident at Witdraai. Riddling requires that we make sense of what seems like nonsense. ‘Riddling’ stems from ‘reading’ and Chamberlin’s (2004:160) reference to Homer perhaps sums up best what is present in its absence: “A riddle was once put by a bunch of young boys to Homer: “What we’ve caught we’ve left behind. What has escaped we have brought with us. What have we been hunting? (160-1). The boys were hunting for lice, which turns the seeming nonsense of their riddle into sense.

Tracking therefore becomes a skill that has worth in the virtual sense. The Ngwatle trackers when returning with us to the hunting grounds brought their memories, imaginations and skills with them. No longer permitted to hunt after 2002, they could recreate the scenarios and their performances, as if they were real. They were hunting but not hunting, they were taking on their hunting personas and acting out. We did not know whether or not what they were performing was fact or fiction, though the former seemed to be the case when they found and showed us the bones and horns that remained from some of their hunts. For the Ngwatle trackers, our sense of our accompanying the men tracking was that their stories embody myths of “dispossession and dislocation, of wandering and exile, and of home” (Chamberlin 2004:187). Chamberlin discusses this kind of storytelling in terms of ‘charm’, derived from ‘song’, magical and musical, that collapses the distinction between imagination and reality. Charms are stories of resistance, “pushing back the tyrannies of the everyday” - they offer a means of response and invention,

ways of negotiating the contradictions of life without being diminished by them (2004: 176; 192).

While these tracking “outings” are “nostalgic”, for the †Khomani, the main purpose of *veldskool* is to ensure the continuity of cultural knowledge. Stories and experiences recounted to the younger generations need to be validated in order to become the internalized knowledge of these learners (Legat 2008). By tracking in culturally significant places, often following their ancestors pathways, group members are better able to internalize the history and stories of their people. They appreciate and live through experiences and emotions similar to that of their forefathers, thereby sharing a co-presence. Tracking skills are also maintained and learned during these excursions, with the practice of such skills strengthening cultural and group cohesion, as trackers physically tread in the tracks of their immediate and historical predecessors- while building their self-esteem as trackers.

The †Khomani do not axiomatically track for food; however, they do track for survival earnings, tourist payments, albeit in a globalizing world. Through this line of understanding it is possible to conceive that cultural shifts/changes have taken place, since the †Khomani have found an alternative way to use their skills (or more appropriately their ancestors’ skills) in a modern context where income needs to be earned via hunting for tourists.

†Khomani traditionalists argue that their retention of a supposedly original Bushman culture, in a rapidly modernizing world, is to enable them to live a traditional life similar to that of their ancestors, should they so choose (see Finlay and Barnabas 2012). This would have us believe that it is only a coincidence that the community is more marketable in this way.

The issues at hand pertaining to the †Khomani, is cultural commodification. In one sense, the commodification has negative implications, because the Bushmen are subject to pressure to exist as their ancestors once did (or at least appear to do so in order to generate tourism interest). This effect also stems from the ‘political’ need to be recognized as an autonomous culture. However, very few recognize the pressures of modern society on remote cultures, or recognize difficulties

some communities face in adapting to such unfamiliar surroundings. An alternative positive effect of cultural commodification is that through this aforementioned self-representation, the †Khomani are retaining some cultural knowledge that would otherwise be lost in the echoing noise of this rapidly modernizing world.

‘Constructing’ a contemporary Bushmen Identity

The †Khomani live in a far more modern context than did the !Xoo when we visited them, and had far more contact with the media, visitors and academics and hence have also felt a strong influence from globalization. Some †Khomani own cellphones, radios, even ‘TV. They have interacted with both local and international tourists, filmmakers, advertisers and academics. These interactions have shaped an informal education on what the visitor’s expectations of the †Khomani are – as Bushmen/descendants thereof. Furthermore, the †Khomani’s identity, as Bushmen, has been shaped by expectations and norms that are conveyed through the media and their selective reading of anthropological texts. Correspondingly, it is possible to understand how “identities are constituted in (and through) cultural representations (including those produced by television) with which ‘we’ (or more appropriately in this sense ‘they’) identify” (Barker 1999: 33). Hence, the ‘Bushman’ fragment of the †Khomani identity is the sole representation which they in turn choose to represent to the media. The influence of globalization also has implications on an individual’s identity; in the sense that representations of the media often frame a culture, like the †Khomani’s.

Conversely, the !Xoo had, during the study period, 1995-2007, ‘felt’ the effects of globalization to a lesser extent and in a different way. They were much less exposed to different media sources, because they lived in such a remote area where the only media were radios, boom boxes, and occasional visits by the Jesus Film Project and other troupes when religious videos were screened. Our own project’s self-reflexive videos of them and us were screened more often (Reinhardt 2003; Sætre 2003). There is the additional element that “to a very large extent the subject has always been a territorial identity: *in place* as a member of a kinship group; *in place* as part of an ethnic collectivity; and definitely *in place* under the national principle of territoriality” (Schirato and Webb 2006: 148). The !Xoo did have exposure, but they did not have direct

exposure to the producers thereof. The ꞤKhomani's awareness of Bushmen identity, stereotypes and representation stems from their interaction with regularly visiting and employing producers. The !Xoo were not acutely aware of the media's representation of the Bushmen, which can in turn be an indicator of the extent globalization has, or more appropriately 'had not', had on them. The !Xoo, thus, did not represent themselves in the same way as did the ꞤKhomani.

LITERACY AND TRACKING

Conceptually, there is the possibility that sense-making qualities expose a link between reading and tracking. One possibility is that tracking is used in remote, post-hunter communities in a similar way to how reading occurs in modern society. Historically, the ability to read signs and track animals defined survival. Communities that were the most adept at reading the environment were the most successful.

If one takes into account the perspectives of trackers themselves, it is possible to understand how closely the ꞤKhomani link the ability to read to gaining financial wealth. Toppies agreed that tracking was the same as reading for him, because this was how he made sense of his world and what he got paid for. Additionally, there is the strong element of understanding or knowing about the environment, cultural histories and indigenous knowledge systems in both communities. Silikat did not differentiate between signs in the sand or signs on the side of the road, because 'they both help us to understand what is around us'. The !Xoo trackers 'explained that we (foreigners) read 'things' to understand where we are. They on the other hand read signs in the sand and veld so that they understand what is happening in 'their world'', from which they have been distanced. Hence, there is a correlation in both communities in the way they understand reading, but also how they use tracking in similar ways.

Tracking for nostalgic purposes is akin to reading novels or books for enjoyment's sake. Conceptually, tracking for alternative purposes and 'virtual' means, such as enjoyment, nostalgia and tourism, links to Liebenberg's concept of cultures in a constant state of flux. It is also indicative of how certain cultures and cultural practices are adapted to their environments in different ways, depending on their contexts. Tracking for enjoyment – or tracking for the sake of

tracking⁹ – is fundamental to the playful creativity inherent in the scientific imagination, as well as artistic riddling expression in storytelling. It is *because* we enjoy science and art (and therefore tracking) for its own sake that makes it so effective from an evolutionary point of view (see Liebenberg 2013a).

Today there are thousands of amateur trackers in the USA and Europe, many of whom have received CyberTracker certificates (see <http://trackercertification.com/>). Only a few use their tracking skills in a professional context – mainly the few who run tracker schools to teach the thousands of amateurs, and a small number of professional scientists who use tracking in track surveys in conservation biology. Most of the USA trackers do it for enjoyment and attend weekend “tracking clubs” – very much like bird watchers (pers. comm, Liebenberg, 17 April 2016).

CONCLUSION

The stereotypical view evokes the hazard of mistaking invisible capabilities for vanishing communities, which happened a hundred years ago when even the most experienced anthropologists (like Franz Boas) thought that the indigenous peoples of North America were dying out. Stereotypes associated with the Bushmen are both caricatures of their past and catch their present perception of themselves. Like everyone, the Bushmen live comfortably—or sometimes uncomfortably - with multiple identities.

Popular media representations frame the Bushmen as struggling to exist in a rapidly technologically developing world. They are depicted as being lost and unable to cope within modern society, and in many ways this is true. The media’s representation of Bushmen has permeated the †Khomani community’s identity and has become part and parcel of their self-representation - testament to the “entrenched and enduring patterns of worldwide interconnectedness” (Held *et al.* 1999: 235). Fragmented identities that are commonly associated

⁹ Chmberlin has also experienced “tracking for the sake of tracking”, noting that “I recall fondly the rabbinical discussions that would take place around tracks during the times when I drove the †Khomani elders back into the park, and we would stop to examine sites”.

with highly complex modern societies are also evident amongst the ꞛKhomani. This can be observed in their ability to adapt in order to coincide with various visitors' spheres of reference; such as changing their clothes into the traditional wear, conversation topics etc. This indicates an alternate frame of "cultural meaning and the intensification of global consciousness" (Barker 1999: 36).

Literacy and its necessity in modern society is contested in remote communities. The concept of cultural negotiations and shifts also speaks to how particular cultural practices have shifted in order to fill particular roles in society. Instead of reading traditional texts, the ꞛKhomani and !Xoo use tracking to make sense of their respective environments. In cities and modern society, knowledge and one's ability to exist successfully are attributed to what a person knows (or has read) and how successfully they can make sense of their environments. In less developed areas, the ꞛKhomani and !Xoo's ability to make sense of their environment (through tracking) largely defines how successfully they exist in their different contexts. Therefore, there are certain parallels which are drawn between literacy and tracking¹⁰.

Liebenberg suggests that the origin of science can be found in tracking activities, showing that tracking skills apply a variety of implicit scientific forms of reasoning, also questioning its reasoning:

¹⁰ Chambelin provides a wonderful concluding remark, stating, this "made me think of the circle of interpretation and belief beloved of hermeneutics . . . and of trackers. And there is that lovely openness to wonder. Recently, I had the privilege of visiting the European Organization for Nuclear Research (CERN), one of the world's most important international scientific centres of inquiry into the fundamental nature of matter and energy in the physical universe. It is where the Large Hadron Collider is located, a 27 kilometre ring deep underground on the border of France and Switzerland that accelerates infinitesimally small particles of matter to a speed infinitesimally close to that of light, thereby increasing their energy, and then arranges that they collide with other particles to replicate what the current theory assumes is similar to what happened in the seconds after the universe as we know it was created in a so-called Big Bang. Explaining the project, one of the scientists described how they hoped the results would confirm their theory, upon which modern physical science is based. Then he said "of course, we may be wrong" . . . and broke into a wide smile, adding "and wouldn't that be wonderful. We would have to start again." That's the spirit of science . . . and of tracking—at least as I have experienced it with indigenous communities from Australia and the Americas to South Africa.

(W)ithin the extremely one-sided scientific and technological realms today, analysis always seems to trump the recognition of wholes. Data wins out over the qualities of things. So it is that the unity of the organism – for example, the animal whose entire manor of being speaks to the Bushmen through the smallest all-revealing signs – dissolves for the scientist into a (discrete) collection of tissues, or genes, or survival strategies ... (Talbot 2004:4-5).

Liebenberg (2013b) concludes that the scientist may know much more than do trackers, but they do not necessarily understand nature much better than intelligent hunter-gatherers. What expert trackers lack in quantity of knowledge may be compensated for in subtlety and refinement. The intelligent hunter-gatherer may be just as rational in his/her understanding of nature as the intelligent modern scientist. Conversely, the intelligent modern scientist may be just as irrational as the intelligent hunter-gatherer.

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