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Topographies of security and the multiple spatialities of (conservation) power: Verticality, surveillance, and space-time compression in the bush

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ABSTRACT

This article advances the analytic of topography to account for vertical and horizontal dimensions of space, power, and the ways in which they articulate with biophysical and political-ecological dynamics to (re)-shape socio-spatial and socio-natural relations. While commonly used to refer to the horizontal, vertical, and environmental features of a particular landscape, social scientists use the language of topography to understand the connections between spaces, processes, and power dynamics. I combine these literal and metaphorical understandings of topography to examine how multiple dimensions of space and power coalesce to protect certain bodies, police others, and secure the space within each move. In response to increases in commercial poaching, for example, conservation-security actors are increasingly going aerial to mobilise the vertical as a dimension of space and power to protect wildlife, neutralise those who threaten them, and ultimately secure conservation areas below. Verticality thus becomes important as both an empirical and analytical phenomenon that matters for understanding shifting power dynamics in contexts where actors seek to secure space and resources from perceived threats. But, the vertical does not exist on its own. It is in the interaction of the horizontal, vertical, and political-ecological dynamics of protected areas that conservation-related power-geometries are altered. A topographical analysis results in a nuanced understanding of how power and related security practices and technologies work to (re-)shape human environment and territorial relations.

1. Introduction

What I noticed sitting in the main camp of South Africa's Kruger National Park was how the whirring of helicopters flying overhead increasingly punctuated the silence and sounds of the bush I had become accustomed to. Conservation practitioners have long used aerial technologies like helicopters and planes for biological and ecological management purposes including monitoring, darting, and culling wildlife. And while their use intensified during my five years of researching conservation security in South Africa and Mozambique, the increase in going aerial, or using vertical space above the terrain of conservation landscapes, has not been for the biological and ecological management purposes mentioned above. Motivating the increasing use of helicopters and planes in conservation areas is the need to surveil people, space, and deploy rangers in response to the rise in commercial poaching of rhinos and elephants.

For most of my research I focused my senses and analytical lens across the horizontal plane of expansive spaces of conservation across which wildlife, rangers, and those looking to hunt rhino and elephant move. But as my time progressed in the Mozambican borderlands adjacent to Kruger where I spent approximately six months with an anti-poaching unit, I found myself increasingly looking upwards at planes and helicopters, or down from them, to understand anti-poaching and conservation security efforts. Altitude and aerial technologies have long provided opportunities and challenges for the governance of space, resources, and people (Moore, 2005; Scott, 2009), including in conservation (Lunstrum, 2014). In response to the escalation of commercial poaching of species like rhino and elephant, many protected areas, especially in Sub-Saharan Africa, are subject to intensified anti-poaching, policing, and security efforts (Büscher & Fletcher, 2018; Duffy, 2014; Lunstrum, 2014; Massé, Lunstrum, & Holterman, 2018). I examine how conservation-security actors increasingly mobilise the vertical as a dimension of space and power as part of these efforts. Their aim in doing so is to shift already uneven political-ecological and geographic dynamics in their favour to better secure conservation space and nonhuman life by pacifying threatening humans.

Beyond the empirical observation of anti-poaching personnel's increasing use of vertical technologies, how might the vertical offer a novel lens of analytical inquiry into understanding the nuanced, multiple, and changing spatialities of conservation practice and related processes of territorialisation? How does one make sense of the various and overlapping horizontal and vertical spatialities of protected areas

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and how might doing so help understand shifting notions, realities and power dynamics of conservation practice and space? How do they arise from and shape human-environment interactions?

The concept of topography helps answer these questions by explicitly tackling verticality as an empirical and analytical phenomenon that matters for the operation and understanding of power dynamics in conservation and other contexts where actors seek to secure space and resources from perceived threats. The language of topography commonly refers to the horizontal, vertical, and environmental features of a particular landscape. The familiar lines on a topographical map, referred to as contour lines, illustrate and describe intersections between the horizontal and vertical dimensions of an area. In human geography, topography similarly refers to the physical, environmental, and socio-political features of a place or landscape and the connections between them (Gregory, Johnston, Pratt, Watts, & Whatmore, 2011, p. 396). Geographers and social scientists more broadly also use the language of topography as a spatial metaphor to highlight the connections between spaces, processes, and power dynamics (Ferguson, 2014; Gupta & Ferguson, 1997; Mountz, 2013; Murdoch & Pratt, 1997, pp. 51–69). Topography, as explained by Katz, is a way of uncovering the interplay and "theorizing the connectedness" between them (2001, pp. 1229–1230).

I draw on these insights to develop a topographical approach to analysing the multi-dimensionality of space and power in conservation. I argue that topography helps locate and understand the coalescing of multiple dimensions and spaces of power to protect certain bodies, police others, and secure the space within which each moves. It does so by accounting for the integration of vertical and horizontal technologies, spaces, practices and their interaction with political-ecological dynamics. While I draw special attention to vertical space and aerial technologies, always accompanying the helicopters, planes, and even satellites are 4 × 4 trucks meandering through protected areas or racing along dirt tracks at a moment's notice. Rangers also patrol expansive spaces of conservation on foot while horizontally-focused technologies like camera traps monitor the landscape and movement of people and animals. Shaping the landscape of conservation security is thus a deep connection between and even blurring of the vertical and horizontal. What I demonstrate is that practices, efforts, and technologies to secure protected areas seek to mobilise and integrate the vertical and horizontal as dimensions of space and power to overcome nature's obstacles, but also to protect it and pacify those who threaten it. This can alter conservation power-geometries (Massey, 1993) in favour of anti-poaching and exacerbate already uneven power dynamics and territorial processes shaping human-environment relations. Thinking topographically promises to provide deeper insight into the uneven power dynamics that shape and are shaped by geographies characterised by contestations over space, resources, and mobility, and how such geographies are changing, stabilised, and resisted.

In the next section I turn to critical social science literature that uses topography and related spatial metaphors to describe the variegated and interconnected dimensions of space, power, and socio-political and political-ecological processes. While my empirical case is conservation, I situate my analysis within the broader body of literature concerned with multiple dimensions of territory and ultimately power over bodies, circulations, and space. I then use observational data from participant observation with an anti-poaching unit (APU) to examine how APUs mobilise the vertical as a dimension of space and power to secure protected areas and natures under threat. In the third section, I move beyond the vertical to analyse the topography of conservation security as constituted by the interconnections between the vertical and horizontal dimensions of space and power and their articulation with political-ecological dynamics in protected areas. I conclude by reflecting on what a topographical approach might offer for a broader understanding of power dynamics and their re-shaping of territorial and human-environment relations.

2. Thinking topographically (and through other spatial metaphors)

Examining a series of paintings known as *Dogs*, Foucault reflected on the horizontal and vertical dimensions of space and power. He wrote: "In the world of prisons, as in the world of dogs ('lying down' and 'upright'), the vertical is not one of the dimensions of space, it is the dimension of power" (Foucault, 2007 [1973], p. 170). Foucault then highlighted three elements in the paintings: the window, the bars, and the baton as metaphors for the integrated and interconnected embodiments of vertical and horizontal technologies of power. Foucault's attention to the multiple and integrated dimensions of power resonates strongly today. Even if not explicitly building on him, we find similar analyses in scholarship that uses the language of topography, among other spatial metaphors, to understand not only dimensions of power, but also the multiple dimensions of space, the relationship between the two, and how they are mobilised to control populations and resources.

Literally, a topographic map illustrates the connections, intersections, and relationships between the horizontal, vertical, physical, and socio-political features of a particular landscape (Gregory et al., 2011). Figuratively, and as used to understand socio-political and political-geographical processes, the contour lines of topography represent not elevation, but the connections or relations between processes and space (Katz, 2001). It is in these connections that scholars locate the workings of power across space and scale. The language and concept of topography has indeed been used by social scientists to examine the multiplicity of power's spatialities, dimensions, and the articulations between them to conceptualise politics, culture, territory, security and how they operate (Ferguson, 2014; Gupta & Ferguson, 1997; Katz, 2001; Mountz, 2013; Murdoch & Pratt, 1997). What binds these analyses together is a focus on the productive interplay between different social, political, economic, geographical and environmental processes. "Topographies," writes Katz (2001, p. 1231), "are a means to elucidate the intersection of these processes." She perhaps best summarises thinking topographically, or doing topography as a critical social science approach, with the following:

> To do topography is to carry out a detailed examination of some part of the natural world, defined at any scale from the body to the global, in order to understand its salient features and their mutual and broader relationships. Because they routinely incorporate both "natural" and social features of a landscape, topographies embed a notion of process, of places made and natures produced (Katz, 2001, p. 1228).

Protected areas such as national parks and wildlife reserves are socio-natural productions whose "natural" and "social" features cannot be taken for granted (Adams, 1992; Neumann, 1998). From their physical infrastructure to the wildlife within them, and the animals and people not present, protected areas are human-envisioned and human-made, artificially separating and including certain species and activities. In Kruger National Park and the protected areas of the Mozambican borderlands where the empirical material for this article comes from, people and livestock were removed and fenced out while wildlife was moved in and confined alongside that which was already there (Carruthers, 1995; Massé, 2016). Protected areas are thus a process of territorialisation that concentrates biodiversity within a bounded space making it easier to appropriate, control, and secure while simultaneously making transgressions easier to surveil (Bluwstein & Lund, 2018; Brockington, 2002; Fairhead, Leach, & Scoones, 2012; Neumann, 2001; Spierenburg & Wels, 2006).

Indeed, political ecologists and political geographers understand protected areas as enclosures and a process of "internal territorialisation" that is fundamentally about controlling human-environment relations (Vandergeest & Peluso, 1995). Territorialisation, here, refers to the process of "excluding or including people within particular geographic boundaries, and about controlling what people do and their