Title Page

Title

Assemblages of forest conservation in Tanzania: Gradients between chiefs, snakes, spirits and witches

Journal

Third World Thematics: A TWQ Journal

Authors

Dr Thomas Aneurin Smith (Corresponding Author), School of Geography and Planning, Cardiff University, Email: smitht19@cardiff.ac.uk

Mr William Andindilile, Department of Geography, University of Dar es Salaam, Email: andindile@udsm.ac.tz

Abstract

Sacred natural sites are the oldest form of protection for non-human species and landscapes, and remain significant for conservation and development. This paper critically interrogates the role of spiritual worldviews and witchcraft in protected areas. Drawing on research in Mbozi District, Tanzania, we discuss the entanglements between spiritual worldviews, witchcraft, political leadership, religion and non-humans. Adopting assemblage as a conceptual framework offers possibilities to examine the agencies that tangible and intangible forms non-humans and human organisations have in conservation. Employing assemblage concepts including gradients, territorialisation and deterritorialisation, this paper argues for recognition of the complex assemblages between development, conservation and rationality.

Keywords

Spiritual Worldviews

Witchcraft

Conservation

Assemblage

Religion

Rationality

Introduction

The entanglement between development and conservation has been the subject of debate for some time. Whilst there has been an expansion of protected areas, the majority of the world's biodiversity and forests exists outside of these[1]. Forests are consequently often under the care of communities who live proximate to them[2]. Sacred natural sites are recognised as the oldest form of social organisation to protect species and landscapes[3], but these are rarely officially recognised, such that their number and extent are largely undocumented[4]. Across the global South there are protracted histories of outsiders imposing values on pre-existing systems[5], and currently managerial systems of environmental governance are often at odds with, or exist in parallel to traditional worldviews relating to the natural environment.

Drawing on evidence from traditional forest and species conservation in Mbozi District of the Songwe region, southwest Tanzania, amongst largely Nyiha people, this paper interrogates relationships between spiritual worldviews, political leadership, social organisation, witchcraft, religion and non-humans. The Songwe district is relatively productive and has a relatively high population density with 115.5 inhabitants per square kilometre[6]. The landscape is characterised as undulating land and plateau highlands, dissected by the rift valley. The land is fertile for Tanzania, with rainfall between 800-1500mm per year, and native vegetation characterised by miombo woodlands and patches of forests and wetlands common along rivers. After many decades of clearing for coffee plantations, agricultural development and settlement, miombo woodlands currently are restricted to steep slopes with poor soils and riverine areas.

The native inhabitants of the Mbozi District are the Nyiha people who speak Shinyiha language, although many also speak Kiswahili, the national language. The Nyiha tribe is related linguistically and culturally to neighbouring tribes such as Nyamwanga, Wanda, Lambya, Malila, Malawi Nyika, and Ufipa Nyika[7]. Mbozi district became ethnically plural in the 1920s[8] with immigration of Nyakyusa and Ndali tribes in search for employment in coffee estates and land for cultivation. Since, immigration of other tribes in the Nyiha land has promoted social and economic change, putting pressure on land, resources and cultural continuity. The Mbozi District has undergone economic and political transformations over the twentieth and twenty-first centuries. The opening of the TANZAM highway and the TAZARA railway in the 1970s, connecting inland from Zambia to the Tanzanian coast, has transformed the economy from being dominated by agriculture to rapidly developing urban centres in Tunduma, Vwawa and Mowo. Nyiha worldviews include a god (*Mulungu*), spirits and ancestors to whom villagers pray and make sacrifices, with chiefs and diviners playing an important role in rituals[9]. Mbozi, unlike some areas of Tanzania such as Bagamoyo and the Lakes Region, is not well known for witchcraft activity[10], but witchcraft does feature in Nyiha belief systems. This paper specifically explores relationships between Nyiha chieftainship and sacred site protection.

Drawing on this context, we argue that assemblage frameworks offer possibilities for exploring the agencies of intangible and tangible non-humans, and for conceptualising the complex relations that transcend spatial scales yet are implicated in local conservation. Through utilising assemblage concepts such as territorialisation, deterritorialisation, and gradients, we argue that it is possible to conceive not only the current trajectories of local conservation and spiritual worldviews in Mbozi and more broadly, but also of a number of possible lines of development for their future.

Development and Conservation

Across Africa and elsewhere, conservation of landscapes and wildlife have typically followed a top-down centralised system of national parks and protected areas[11]. These have often failed to fulfil conservation goals, due to problems of encroachment and enforcement[12], related to the exclusion of local people from planning and management[13]. Recognition of these problems within the development and conservation establishment has changed the policy context[14], and alternatives to centralised environmental management have consequently gained recognition[15]. These include various guises of local participation, including Community-Based Natural Resource Management (CBNRM), market-based approaches such as Payments for Ecosystem Services, recognition of local knowledges and management, including sacred landscapes[16], arguably more acceptable to local people than externally imposed policies[17]. Conservation is now bound to paradigms of development which advocate localism and devolution of political processes and economic benefits, as well as recognition of the rights of indigenous groups[18]. In Tanzania, CBNRM has existed in policy since the 1990s[19], and environmental management has been partly devolved to Village Natural Resource Committees.

Despite these changes, development scholars have concerns that Western notions of development and conservation remain applied to 'local' forms of environmental relationships[20]. Some argue that ontological assumptions about the separation of society and nature, and human superiority over nature, are embedded in the belief that local people can manage and control natural systems[21]. Local ecological knowledges, including spiritual worldviews, are prescribed normative values[22], assuming that local people's practices and underpinning values are 'good' for conservation. Critical discussions around the links between religion and conservation have largely been lacking in policy[23]. Whilst research has begun to recognise the social contexts which underpin local people's participation[24], there has been much less discussion of the religious and spiritual context.

Spiritual Worldviews for Conservation

All major religions have concepts of sacred species and natural sites, also described as cultural landscapes or intangible heritage[25] with many faiths regarding nature as imbued with sacred value[26]. There are replete examples of worldviews that regard nature as sacred, including Australian Aboriginals, North American First Nations[27], indigenous groups in India[28], the Middle East and North

Africa[29], Liberia[30], Ghana[31], Madagascar[32], Kenya[33], Zimbabwe[34] and Tanzania[35]. Sacred sites are also present in the global North including Sweden, Poland[36], Greece, Japan[37] and Italy[38]. Sacred site conservation is believed to have begun around the same time as settled agriculture[39], with striking similarities across ancient cultures[40]. Sacred sites are heterogeneous in form, including rivers, lakes, trees, forests, mountains and entire landscapes[41]. Sacred forests are highly variable in size, for example in Ghana they may range from 0.5 to 1,300 hectares[42]. Sacredness can be prescribed to old trees in rural and urban environments[43].

Scared forests and groves contain important biodiversity and may be significant for endemic, rare and endangered species and species richness[44], often having higher species diversity than surrounding and government-protected areas[45]. Their extensive global distribution also points to their importance for conservation[46]. Across traditional African religions land and natural resources are viewed as intergenerational common property, the relationship between people and nature being one of spiritual concern[47]. Sacred sites are also tied to cultural continuity, heritage and identity[48]. The role of spiritual worldviews in conservation is recognised by the UNEP[49], UNESCO, the World Bank and other international conservation and development organisations[50]. All are enthusiastic about the possibilities for conservation, although less clear about how they can continue under contemporary conditions. Some nations have officialised sacred natural sites. In Australia Aboriginal people can claim legal protection for sacred sites[51], and in Canada, legal rights are being negotiated with indigenous communities[52].

This enthusiasm for sacred natural sites for conservation has, more recently, been somewhat critically redressed through a focus on social and cultural change[53]. In India, local deities have been transformed over centuries into mainstream Hindu gods[54]. In Italy, many Catholic sacred natural sites are continuous with pre-Christian folk or pagan worship[55]. In some contexts there is dwindling respect amongst locals for sacred sites[56]. Increased pressure for land and resources from external sources and local people has also contributed to encroachment on, and elimination of, sacred sites[57]. Other factors for the reduced efficacy of scared sites include conversion to major religions and increasing immigration by other ethnic and religious groups[58]. Development projects, bureaucratic apathy or interference may also exacerbate resource conflicts, leading to depletion of sacred forests[59]. Urban or Western cultural influences may also be contributing to the decline in respect for local traditions[60]. These studies suggest a need to establish how sacred sites interact with other social and political forces, as their dynamism, fluidity of boundaries and lack of continuity across contexts do not map well onto international frameworks of conservation management.

Much of the conservation literature on sacred natural sites remains rooted to concepts of developmentalist rationality which assumes that local people are ‘rational managers’, sustaining the conceptual separation of people and nature. Spiritual worldviews are conceptualised as consistent with conservation rationality, rather than windows into more profound relations between people and place[61]. Even critical studies ultimately portray spiritual worldviews as 'good' for conservation[62], casting them as benign traditional faiths rather than part of more complex assemblages with multifaceted agencies. Worldviews are often given rationalist explanations, as Ormsby and Bhagwat[63] state: "The motivation behind keeping patches of forest may have been the ecological services that such patches provided [including] soil conservation, maintaining watersheds and provision of forest products." Such discourse casts local people as rational conservationists, giving spiritual worldviews rational intent. Some suggest that tangible and intangible benefits of sacred sites can be unproblematically translated into management concepts, such as ecosystem services[64]. Others have found that conservation is only an indirect result of adherence to spiritual worldviews[65],, as they are primarily concerned with their own internal rationale[66].

What some of this literature has failed to square with is the immaterial nature of spiritual worldviews. Their power lies in their intangible qualities[67], which can often only be fully perceived by those who value them, who prescribe causal relationships which cannot be scientifically 'proven'[68]. The material effects of intangible forces are real to those who hold these worldviews, including rainfall, diseases and harvests[69]. Tangible benefits are equally not easily disassociated from intangible qualities, for example property values may be influenced by the presence of trees and other natural features[70], and sacred forests can become tourists sites, providing income for local people[71].

Whilst there is recognition that the ethical and moral values associated with science and religion are entangled[72] there has been little discussion around how spiritual worldviews are assembled with other aspects of social life, including political organisation. Some acknowledge that supernatural powers are imbued to those who have political authority[73], yet the consequences of this for conservation remain unexplored. Much of the literature on sacred natural sites unproblematically supports these sites and worldviews as 'good' for conservation, through advocating the 'renewal' of local traditions[74], or greater involvement of religious groups[75], without critically interrogating their assemblage with contemporary development. Conservation writing often venerates 'the local' because of imbalances in power between communities and authorities[76], paralleling the participatory agenda in development, without critically exploring what assemblages of social, economic and political power are entangled with spiritual worldviews.

Witchcraft and Development: Redressing the Benign Local Faith

One of the ways in which this gap can be amended between the developmentalist conservation agenda and the realities of the complex assemblage around spiritual worldviews and nature is to explore other literatures on the intangible and sacred. Here, insights from anthropological work on aspects of witchcraft are instructive. Whilst spiritual worldviews and witchcraft are typically regarded as different entities, they both relate to intangible phenomena associated with particular worldviews, and within these categories are others including gods, divinities, ancestral spirits, nature spirits, witchcraft, occult beliefs, magic and sorcery[77]. Across African contexts 'witchcraft' itself has a multiplicity of meanings. Local definitions blur simplistic distinctions between good and evil forces[78], and it can be utilised by the poorest and the elite, both positively and negatively. We choose the term 'witchcraft' here as it captures what our respondents in Mbozi referred to as phenomena distinct from spiritual worldviews, but this should not suggest that similar meanings are applied elsewhere. In many African contexts, witchcraft and occult practices are employed to cause harm to others, unlike worship of spirits and deities [79], and witchcraft can corrode social structures through nurturing fear and mistrust[80]. However, witchcraft accusations can also play a role in mediating social relations, preventing some outstripping others in wealth and power[81].

Work on witchcraft has attended to how occult practices have changed over time in parallel with development[82]. Some scholars have argued that witchcraft is an impediment to development in Africa[83]. Others have demonstrated that with increasing inequality, political tension and exposure to global markets, so incidence of witchcraft has increased across Sub-Saharan Africa[84]. Witchcraft is associated with modern societal problems, diseases, HIV/AIDS and economic and political success or failure[85]. Indeed, witchcraft may produce 'spiritual insecurity', fear of exposure to evil forces which could emanate from anyone within ones social sphere[86]. Eves and Forsyth[87] argue that witchcraft is entangled with 'geographies of fear', associated with local political social control which operates through fear of direct harm.

Work on modern witchcraft has explored how it has become enmeshed in contemporary states. In South Africa[88], Tanzania and Kenya[89], witchcraft is recognised by states in law[90]. Witchcraft is further associated with the workings of global capitalism, offering an explanation for global inequality[91]. Therefore, some have argued, development, which can promote inequality, can exacerbate problems associated with witchcraft[92]. Whilst the development establishment has failed to fully embrace the significance of witchcraft, in contrast to spiritual worldviews and conservation, scholars have for some time been exploring the assemblage between witchcraft and contemporary development[93].

The ontological status of witchcraft and other spiritual entities has also been the subject of anthropological debate, unlike discussions around spiritual worldviews and conservation. Some argue that Africa and the West are discrete categories, but maintain that 'African rationality' (concerning spiritual forces, including witchcraft) is comparable to that of Science in its ability to explain, predict and control events and therefore, is rational[94]. This suggests that statements about spiritual forces are not metaphorical and abstract, they are concrete statements about what people believe is really happening[95]. Others interrogate concepts of 'rationality' and distinctive modes of 'African' thought[96] , questioning the difference between expression of statements and what is literally said[97]. Expressions are intended to create specific results, but because they are made in a particular social context[98], rather than because they are fundamental to an ontological worldview. These debates question the nature of rationality, probing whether spiritual, religious and witchcraft-related worldviews are indeed different ontologically to Western science, or if they are rather cultural representations of a single reality[99]. Such debates promote inquiry into what precisely spirits, witches and intangible phenomena are, what kinds of contingent effects are socially produced by and through them, and therefore question to what degree they disrupt contemporary development rationalities.

Assemblages: Relating the Sacred, Religious, Political and Ecological

We argue in this paper, alongside considering the role of rationality, that assemblage theories offer a framework through which to conceptualise sacredness, religion and conservation, as they promote the exploration of the complex web of linkages encompassing all material and social agencies. Whilst use of such frameworks offers an etic analysis, here we employ them as tools for conceptualisation of relational agencies and tensions, offering explanation for, but also being conceptually challenged by, local realities. Assemblage theories, founded in the work of Deleuze and Guattari[100], have become increasingly important amongst scholars of society-environment relations[101]. Assemblages are the contingent, heterogeneous coming together of all entities which do not form a seamless whole, instead their properties are defined by interactions between their parts. Entities are not bound to assemblages, they may transgress from one to another, and relations between properties are not logically necessary nor contingently obligatory[102]. These processes also operate and recur across scales, emphasising the utility of assemblage analysis for development between the local and the global[103].

Deleuze and Guattari suggest the reality of the social and spiritual in assemblages, as "assemblages have elements (or multiplicities) of several kinds: human, social, and technical machines." [104] If ontological investigations are concerned with what kinds of entities can be legitimately asserted to exist[105] then important questions remain about how approaches to development and conservation can reconcile spiritual worldviews and witchcraft with forms of social organisation which relate to environmental management. Assemblages are therefore a conceptually useful tool for exploring the role of spiritual worldviews, precisely because they assume a "fundamental convergence between science and myth, embryology and mythology, the biological egg and the psychic or cosmic egg: the egg always designates this intensive reality, which is not undifferentiated, but is where things and organs are distinguished solely by gradients, migrations, zones of proximity"[106]. For Legg[107], assemblages consist of material things and places, but also policies, novels, myths and desires. Assemblages have been employed to conceptualise non-human agency, such that they reject nature-society divides[108], illustrating how various matters have agency within assemblages[109]. However, precisely how spiritual entities are characterised is unclear[110]. Gibbs's[111] description of materiality being concerned with what matter *does*, rather than what matter *is*, may be conducive for thinking about the role of spiritual entities.

Assemblages are pertinent to development. Deleuze and Guattari recognise that “intensity of deterritorialisation must not be confused with speed of movement or development. The fastest can even connect its intensity to the slowest, which, as an intensity, does not come after the fastest but is simultaneously at work on a different stratum”[112]. Things do not change necessarily in conjunction with each other. For Anderson et al.[113], assemblage is both a concept concerning relations between stability and transformation in producing human societies, but also an ethos orientated towards instability and relations. Development is fundamentally concerned with these things[114], how relations might change with or without their fundamental terms changing, and how the expressive powers of heterogeneous entities are implicated in these changes. Legg[115] cautions that concern for heterogeneous and more horizontal relations should not occlude examination of power relations, and it is this concern which this paper picks up in exploring how power relations are too bound up in spiritual entities, conservation, and local development.

Methods

This paper draws from fieldwork in 2015 across six villages in Mbozi District: Ilembo, Hasamba, Malonji, Namwangwa, Ipapa and Masoko (Fig. 1). Each village is dominated by the Nyiha with a Nyiha Chief and assistants, although in villages close to the TANZAM highway, there are significant minorities of immigrant tribes. The research explored spiritual protection given to landscapes and forests, interrogating the contemporary role of these worldviews. The methods were ethnographic and qualitative, including 9 field site tours with chiefs or assistants around spiritual sites, 3 key informant interviews with environmental officials, and 28 in-depth interviews with local people from the six villages including elders. In these discussions people were asked about spirits, ancestors and witchcraft, focusing on their role in protecting natural sites. In four of the villages (Ilembo, Hasamba, Malonji and Namwangwa) focus groups with men, women and young people took place, featuring participatory mapping of sacred sites. In total 66 adults took part in focus groups, of which 35 were men and 31 were women, with 16 young people in separate groups. The total number of respondents was 122 people. Andindilile is local to the area and conducted interviews in Shinyiha or Kiswahili, translated into English.

Figure 1: Map of Mbozi District, showing location of 6 village sites.

The Chief and the Snake: Spiritual-Ecological-Political Assemblages of Sacred Site Protection

Across these six villages there are a significant number of sacred natural sites. The number of areas associated with each village ranged from 4 (Ilembo), to 14 sites (Malonji). These could vary in size from a single tree or grove associated with a chief's burial site, to a 70-acre forest, and in one case an entire hill (Fig. 2). None of these forests were protected by the State or District, although some larger forests were converted into Village Forest Reserves. This makes sacred natural sites significant in Mbozi, yet their 'local management' is entangled with political and social organisation, which few studies have explored[116].

Figure 2: Sacred forest, Malonji Village. This was one of the most extensive sacred natural sites across all six villages, with numerous ritual sites within the forest.

These six villages conformed to the typical political situation across rural Mbozi. Each village is dominated by the Nyiha tribe governed by local chiefs (*abamwene*) who are assisted by councillors (*awahombe*), elders (*abhasongo bha munsi*), and kinsmen (*wanamfumu*). During the pre-colonial and colonial period, these chiefs were the local government, with chieftainship passing down through a male lineage. The chieftainship system was abolished in 1961 shortly after Tanzania became independent, replaced by directly elected village councils. The abolition of chieftainship has reduced the official political role of Nyiha chiefs to spiritual leaders and overseers of sacred places. In these villages, chiefs and their assistants were still considered to have important powers over ancestral and nature spirits which inhabited local forests, alongside other roles in arbitrating disputes and providing traditional medicine. The powers of the chief are closely entangled with sacred site protection. Chiefs control access to sacred forests, giving permission to enter through speaking directly to ancestors, and administering fines and sanctions against those who do so without permission. One chief in Ilembo described these roles:

> "I talk to the spirits of ancestors… If I have not talked to them then you might end up meeting something that might harm you, like a snake, or wild animals that can attack you… It is taboo to enter without permission. If anyone is caught entering [the forest] he is fined." *Chief, Ilembo, age 60+*

Sacred natural sites are often tied to the burial grounds of former chiefs, marked by small grass huts or by planting a specific tree species (often a Fig) which designates the site around it as sacred (Fig. 3). The current chief and elders are therefore involved in designating sites and preventing forest cutting around it. Graves of chiefs are sites for worship, where rituals involving animal sacrifice or donating alcohol to past chiefs are forms of communication through which to pray for rainfall or forgiveness. This example from Namwanga illustrates:

> "When the chief designs it, this area is for special purposes like rituals… If the chief says that you are not allowed to cut trees in that area… then if you disobey and go and cut a tree and then the chief finds you… sometimes you might meet with a very big snake there" *Village Chairperson, Namwanga, age 50-59.*

Figure 3: Left – example of a chief's burial site, with a small grass 'hut'; Right – a sacred natural site, including a large old tree plants over a chief's burial site. The 'hut' is directly below the main tree trunk.

As the respondent hints at, the chief's powers are not only linked to administering rituals and access sacred areas, chiefs are also imbued with spiritual powers to control super-natural events. Chiefs make use of a big snake, or multiple snakes, to steer away intruders. Some narratives around these events were historic, whilst others more contemporary.

> "The other village from Ileje district were claiming to own some of the forest in Mobozi district. Those from Namwanga and the other place met at the boundary, to see who owns the forest. When they were discussing, all the elders from the other village found snakes in their pockets… they were frightened and started to run… That's one of the powers [the chiefs] use to… protect their territory." *Village Chairperson, Namwanga, age 50-59.*

> "Some people refused to vacate a sacred area, so [the chief] decided to pray… so that now people were going to the forest and the farms, they started seeing those snakes. Sometimes you can put your bucket there, when you come back you find you have a very big snake on top of your bucket so you run away." *Chief, Masoko, age 60+*

Not only do chiefs perform rituals to speak to ancestral spirits, and call snakes to ward off intruders, they also become snakes, specifically pythons, once they die. Snakes in the forest are old chiefs, ancestral spirits with material form, which could be called upon to protect these sites.

> "Those who are dead, when they accept their prayers, they come in the form of pythons… the pythons are those chiefs who are buried in those places." *Local Man, Ipapa, age 40-49*

> "Our father [previous chief], when he was dying, he turned into a snake and disappeared. When they become very old, we put them out in the sun and cover them with a blanket…there are cases when we found signs of a snake moving and the person is not there… the omens we find there show that a snake moved towards the forest" *Chief, Hasamba, age 60+*

> "[The chief] calls that python and it appears… the python is like the owner of the site, the one protecting it. The python is one of the chiefs. People fear that if they clear the site, the python will migrate to another area, then there is the possibility that the area will face difficulties of rainfall… when it is there, it's like the [ancestral] chief is always around, and when they perform rituals, he's the one who listens and brings rainfall" *Local Healer, Ipapa, age 50-59.*

Here there is an assemblage between the chief, his people, and forests that offer the habitats for snakes, which, as dangerous animals, and as ancestral spirits, act to protect the forests from intruders. The powers of a chief are not only conceptualised as political, having social power over individuals, but are also aligned with the more-than-human material forces of snakes and rainfall, with the habitat of forest necessary to sustain snakes, as well as the intangible spiritual forces which establish links between chief, ancestors, snakes, forests and social/material transgression. Whilst these spiritual connections perhaps cannot be fully reconciled with a true materialist ontology of assemblage, such as those of Bennett[117], if the agencies of spirits are based in what they *do*[118], and in their relations with and between entities, then their 'reality' in such an assemblage is their ability to *do* and to act for the protection of these sacred sites. As such, they might be described as non-human (immaterial) actants with agentic capacities.

In the final quote above, forests are maintained because they support the habitat of snakes, which spiritually embody ancestors. There is an ambiguous relationship with snakes. They are to be feared, but their embodiment of ancestors, who bring blessings including rainfall, means that there is incentive to maintain their habitat enabling them to live close to the village. Whilst others have suggested that sacred sites are not necessarily concerned with nature conservation, instead associated with cultural and societal integrity[119], the reality here is more complex. The relationship between snakes, their habitat, and habitat protection does have ecological notes, a recognition within the social and political assemblage of the contingent relations between non-humans, their habitats, and human society. If the site is cleared, the snake will move elsewhere, with social consequences linked to ecological relationships. Also significant is the ecological recognition of specific non-humans (snakes), such that what is evident is not only the profound relationship between people and place[120], but also the sacred relationship between people and specific non-humans.

Protection here is not founded upon a 'rational' management decision-making process. Whilst there is recognition of ecological relationships, protection is not directly linked to ecosystem services, or to preservation of culture as heritage or for social continuity[121]. Ancestors, snakes and spiritual forces are regarded as a reality, as chiefs are able to speak to ancestors, which is interlinked with the chief's (and the spirit's) powers to control access. Whilst there is a relationship between the spiritual, political, and the ecological, these relationships exist, as Deleuze and Guattari[122] conceptualise them, as 'gradients' rather than absolute distinctions between material and spiritual bodies. Former chiefs become snakes and spirits, describing a gradient between the material bodies of humans, non-humans and spiritual entities. Although some suggest that components of assemblages can be material and expressive, social and intangible[123], this evidence is suggestive of how material elements overlap, in these worldviews, with the expressive, social and intangible.

Gradients and Deterritorialisations: From Political to Spiritual, Spiritual to Witchcraft

Although chieftainship as a mode of political governance has been abolished, chiefs retain their spiritual role. However, as this role is tied to protection of sacred sites, often encroached by villagers for agriculture and grazing, chiefs inevitably retain degrees of political and social involvement in everyday life. Despite the differentiation between village government and the chieftainship being clear legally, for some this was less clear:

> "The forest is owned by the village government, but the chief is their [the villagers] leader, so if the village is protecting the forest then the chief is also there to protect it, he is the person who oversees whatever activities are going on." *Elder, Malonji, age 60+*

This elder in Malonji, and others across the six villages, asserted that the Chief retained his leadership role over forest protection, despite the forest being *'owned by the village government'.* These overlapping jurisdictions were not necessarily conceptualised as straightforward:

> "Our [state] government, they are not understanding about the chief… in Zambia the chiefs are familiar with the government, the government can understand them. But in our country they are not working together" *Primary School Teacher, Namwanga, age 40-49*

The proximity of Mbozi district to Zambia led to respondents making comparisons with Tanzania. Here, the respondent suggests that state government in Tanzania, through abolishing the chieftainship (retained in Zambia), has sought to politically marginalise chiefs. In reality, chiefs retained degrees of political leverage. Several elders spoke of how parallel systems of 'chief's courts' were commonly used to arbitrate disputes, rather than village governments. However, elders also suggested that chiefs would turn to authorities to assist them in cases of forest protection:

> "If people respect the chief then this is enough, but when we find that they are not respecting us, we decide to go to the government to seek help… if there is pressure from people trying to destroy [the forest]" *Elder, Namwanga, age 60+*.

In Namwanga and Malonji, where conflict had occurred around sacred-site encroachment, there were recent incidents where chiefs had approached the Village- and Ward-level government for assistance with forest use disputes. Chiefs and elders in all six villages expressed a desire for greater physical assistance from the government in patrolling and monitoring forests, and for legal assistance in bringing to justice those who encroached. In some villages, Village Environmental Committees had been established to govern local forests, whose authority overlapped with chiefs. Some respondents recognised that the chief's powers were no longer enough to protect sacred sites.

> "Due to high interaction that's increasing… the forest and spiritual beliefs and the chief's powers all seem to be reduced… the power of the chief is losing every year." *Environment Officer, Mbozi District, age 40-49*

> "They [young people] are not following the customs the way the Elders want…among the youth there is a lot of things which they are not supposed to be doing… they look at movies which they are not supposed to be watching. Such issues are causing the degradation of values so the youth can't respect their Elders." *Cheif, Malonji, age 50-59.*

> "The chief is declining in importance so we even think that later they will disappear. So the government now, they are coming up to enforce more… People have been told things which were happening and now they are not happening, just because the powers [of the chief] are declining… but they are still being told these things are occurring… For the chief, there will be a decreasing number of supporters." *Chairperson, Namwanga, age 50-59.*

These discussions highlight overlapping pressures on chieftainship which has reduced their political and spiritual power. In the first quote, it is increased 'interaction', meaning heightened immigration, which has impacted negatively on the chief's powers. For the second, popular culture is undermining traditional values. For the third, the chief's spiritual powers are in decline. The evidence for this decline is that spiritual 'things' which had previously been witnessed are no longer occurring. Observations that individuals were becoming sceptical because they did not see physical evidence of what chiefs' prophesised were expressed across these villages, with cases reported that those encroaching sacred forests had not faced spiritual retribution.

Increasingly spiritual worldviews are challenged not only through their lack of apparent material reality, but also through associations with witchcraft.

> "People are asking: Now what kind of power is he [the Chief] using to protect the people? They start to believe that he is using some sort of witchcraft... There are cases where the chief will tell the people that I have warned you not to do this… or something will happen to you. People use this to say that there is some sort of witchcraft, because if he says those words and they happen, then how did he do that?" *Chairperson, Namwanga, age 50-59.*

> "[The chief] might say that you are not supposed to go there and when you do, something bad will happen to you… then someone does and maybe they becomes mad or something bad happens... people automatically will say there is witchcraft in the actions of the chiefs… there are individual powers behind these things." *Primary School Teacher, Namwanga*, *age 40-49*

> "People say, if it is an actual power it is very difficult to tell because there are cases where at night… usually the hawks fly… they are the chief going around inspecting his territory. So now, they ask, how does the chief do this even though he is in bed? They are trying to connect it with witchcraft." *Elder, Malonji, age 50-59.*

The respondents suggest that chiefs' spiritual powers are becoming increasingly associated with witchcraft. If witchcraft is defined, in some contexts, as an 'individual' power employed to harm others[124], what might previously have been regarded as a spiritual power of ancestral spirits and the chief, may instead be understood, by some, as an 'individual power' much like witchcraft. The chief would traditionally do his spiritual work in secret, and was expected to stay removed from openly socialising with ordinary villagers. This 'secrecy', whilst once respected, is now sometimes associated with 'doing witchcraft', also done in secrecy in Mbozi. Some respondents suggested that the change in conceptualisation to witchcraft was encouraged by Christian churches:

> "In church they preach it… so they will not see any value in certain species just because of medicinal value, because they have been told that it is witchcraft." *Environment Officer, Mbozi District, age 40-49.*

This view, expressed by a number of respondents, and described elsewhere in Tanzania[125], suggests that Christianisation, dating to the colonial period but which remains ongoing, has contributed to the perception of once benign or beneficial spiritual worldviews as 'evil'. In this context, there may be problems with snakes being associated with manifestations of evil in the Abrahamic tradition, illustrated elsewhere in Tanzania[126]. Where elsewhere in Africa there are increases in witchcraft accusations[127] here this phenomena may be linked to the characterisation of previously benign spiritual worldviews as witchcraft. These intersections between the spiritual, witchcraft and religious are also tied to the political.

> "What if the village has been given the part to look after [the forest]? I can find another contradiction that… within the village you have the leader who is a Christian. How is he going to take it [spiritual protection] seriously?" *Elder, Malonji, age 60+.*

Changes in religious attitudes are assembled with the political and ecological. As village governments and environmental committees have supplanted the chief's political and societal roles, so too have changing religious attitudes amongst village leaders displaced respect for the spiritual role of the chief, and therefore the spiritual protection of forests. Such patterns of change are not necessarily straightforward. In Masoko, the chief was involved in the inauguration of a Christian church, whilst in other villages chiefs and elders sit on Village Environmental Committees. Some respondents reported being Christian whilst respecting local beliefs. In other contexts, for example in Ghana, those who are Christian have also been found to still worship local spirits and adhere to sacred sites[128]. In these Tanzanian villages, some chiefs reported similar situations, but others suggested that the number participating in rituals was declining. Whilst the rise in beliefs in malign supernatural agencies in rapidly changing socio-economic contexts, including South Africa and Cameroon[129], suggests that the uncertainty bred by the 'invisible forces' of capitalism may intersect with explanations offered by the invisible forces of witchcraft[130], this does not itself fully explain the rise in occurrence in witchcraft-linked or other supernatural phenomena. In Mbozi, it is equally globalizing religious movements, alongside national political reorganisation, which may be generative of the uncertainties which fuel slippage between spiritual worldviews and witchcraft.

Assemblages, as social, political, spiritual and ecological entities, are always changing, either territorialising (coming together) or deterritorialising (breaking apart), such that "an assemblage is precisely this increase in the dimensions of a multiplicity that necessarily changes in nature as it expands its connections"[131]. Spiritual worldviews, the efficacy of spiritual powers, and their associated practices, are deterritorialising in part because of other deterritorialisations of traditional political and social assemblages, including the move to local democratic government and the expansion of major religions, alongside displacement of values by the influence of cultures beyond the local. The assemblage of worldviews associated with chiefs, ancestral spirits and forest protection deterritorialise whilst other, broader and more expansive assemblages connect to, appropriate, and simultaneously reject, assemblages of the spiritual. Part of this deterritorialisation is the squashing of gradients between the spiritual and witchcraft, such that they become increasingly re-territorialised as only witchcraft, a simultaneously religious and political project, as Christianity and contemporary forms of scientific and managerial rationalism become entangled with contemporary government and local spiritual practice.

Conclusions: Consequences for Assemblages of Conservation, Development, and Rationality.

The spiritual, social, political and ecological assemblage around chiefs, forests, snakes, village governments, and the Christian church raises important questions for the assemblage of development, conservation and rationality. Conservation strategies remain underpinned by scientific and managerial rationalism, and contemporary development is similarly framed along with 'modern' societal goals of democracy and participation. Conservationists have advocated for including local people and their worldviews in management through renewal of local traditions[132], or formalisation of sacred sites[133], as more acceptable to local people[134]. Local forest management has been formalised in Tanzania[135], yet local formal institutions supplant the leadership of the chief. To advocate for sacred natural sites and associated worldviews and spirits to be adopted wholesale for conservation would therefore be problematic, as these worldviews are part of a social and political assemblage based on the (un-democratic) leadership of chiefs, although they are in equal parts an ecological assemblage incorporating the agencies of non-humans (spiritual and animal). This assemblage is not local, it is entangled with wider assemblages: the post-colonial democratic state in Tanzania, the spread of major religions, and changes in cultural values which engender forms of deterritorialisation and re-territorialisation of spiritual worldviews alongside their political (chieftainship), material (snakes and forests) and intangible (spirits of ancestors) properties.

A key component of assemblage theories is the conceptualisation of relations which transcend spatial scales[136]. Processes aligned with development, which leak into conservation doctrine, of democracy, local participation, managerial governance, among others, are related to the deterritorialisation of local spiritual worldviews which have acted to conserve forests, but which are also embedded in patriarchal lineages. There is inherent contradiction within the conservation-development assemblage, promoting localism and indigenous participation, whilst promoting democratic governance which undermines traditional forms of eco-socio-political authority. Within local assemblages are agencies which do not sit well with underpinning rationalities of development, the non-rational agencies of animals and trees, of spirits and witches which, through their capacities to 'call a response' from humans[137], have a legitimate place in an assemblage which has preserved local forests. Yet these agents are defined also by their relations to others, by gradients between material, political, social and immaterial forces[138]. It is these gradients between spiritual and other social and material realms that expose other gradients which make the translation between the spiritual protection of forests and the conservation-development agenda difficult. Gradients between spiritual entities and witchcraft in Mbozi are becoming less distinct, such that to bolster traditional worldviews would likely be resisted by those who understand spiritual worldviews as aligned with witchcraft. Conversely, whilst Eves and Forsyth[139] write of witchcraft as generating 'geographies of fear', there are in these villages gradients between fear and respect. It is something in between respect for spirits and the chief, and fear of spiritual retribution, which prevents local people from destroying forest habitats.

Whether spiritual beliefs and the role of the chief will re-territorialise around notions of cultural heritage and identity is difficult to discern[140]. In contexts such as India cultural revival and ethnic-nationalist projects have reclaimed local worldviews as forms of indigenous environmentalism, as a way of demanding legitimacy from the state[141]. However, there are dangers associated with these re-territorialisations, including the politicisation of ethnic identity and the marginalisation of others. It is ethnic conflict which the Tanzanian system of elected village governments seeks to avoid, as chiefs are aligned with tribal groups, and although respondents claimed that ethnic mixing has diluted the efficacy of local spiritual worldviews, so equally might the democratic system have smoothed over potential ethnic conflicts. In other African contexts, including Zambia, Zimbabwe, Madagascar and Ghana, the chief's political role has been preserved, sometimes in parallel with village governments[142]. Further research might explore how different models of local political governance are aligned with different outcomes for local ecologies. In the global North, some natural sites are co-managed between state institutions and religious communities[143], and indigenous people have adopted forms of eco-tourism around cultural practices[144]. These re-territorialisations of partly spiritual assemblages may offer potentials for the Tanzanian context, but are themselves embedded in their own social, political, religious and ecological contexts.

Assemblage theories expose relations between conservation, spiritual worldviews and developed, re-politicising spiritual worldviews previously characterised as benign faiths isolated from the complexities of local social and political dynamics and the agencies of non-humans. Utilising assemblages also interrogates questions of rationality. They bring to the fore the question of precisely what kind of agents' spirits and witches are through focusing on their relations with others. This paper does not fully answer these questions, nor do others who make use of assemblage theories necessarily concur on the nature of spiritual and immaterial agencies. To begin to ask these questions is to consider the kinds of rationalities, be they distinct ontologies or cultural representations, which form a part of the affective agencies of, and relations between, spirits, political organisations, and material non-humans. These questions are important in terms of the direction that the re-territorialisation of spiritual worldviews will take: towards rational-legal forms of environmental management, towards cultural heritage, or something different. In the gradient between spiritual worldview and cultural heritage, will spiritual entities shift from ontological beings to cultural representations? These kinds of questions seek to disrupt both development and conservationist rationalities, and in doing so open up possibilities for alternative re-territorialisations.

Bibliography

Anderson, B., M. Kearnes, C. McFarlane and D. Swanton. "On assemblages and geography." *Dialogues in Human Geography* 2, no. 2 (2012): 171-189.

Arora, V. "The forest of symbols embodied in the Tholung sacred landscape of North Sikkim, India." *Conservation and Society* 4, no. 1 (2006): 55-83.

Ashforth, A. *Witchcraft, violence, and democracy in South Africa*. University of Chicago Press, 2005.

Barre, Y. R., M. Grant, and D. Draper. "The role of taboos in conservation of sacred groves in Ghana's Tallensi-Nabdam district." *Social and Cultural Geography* 10, no. 1 (2009): 25-39.

Bennett, J. *Vibrant Matter: a Political Ecology of Things.* Duke University Press, London, 2010.

Blicharska, M. and G. Mikusiński. "Incorporating social and cultural significance of large old trees in conservation policy." *Conservation Biology* 28, no. 6 (2014): 1558-1567.

Bjerk, S. "The High God of the Zinza of Northwestern Tanzania." *Numen* 16, no. 3 (1969), 186-210.

Braun, B. "Environmental issues: global natures in the space of assemblage." *Progress in Human Geography* 30, no.5 (2006): 644-654.

Brelsford, W. V. *The Tribes of Northern Rhodesia*, Lusaka: Government Printer, 1956.

Byers, B. A., R. N. Cunliffe, and A. T. Hudak. "Linking the conservation of culture and nature: A case study of sacred forests in Zimbabwe." *Human Ecology* 29, no. 2 (2001):187-218.

Campbell, M. O. "Traditional forest protection and woodlots in the coastal savannah of Ghana." *Environmental Conservation* 31, no. 3 (2004): 225-232.

Campbell, M. O. "Sacred groves for forest conservation in Ghana's coastal savannahs: Assessing ecological and social dimensions." *Singapore Journal of Tropical Geography* 26, no. 2 (2005): 151-169.

Carrithers, M., C. Matei, K. Sykes, M. Holbraad and V. Soumhya. "Ontology is just another word for culture: Motion tabled at the 2008 meeting of the group for debates in anthropological theory, University of Manchester." *Critique of Anthropology* 30 (2010): 152-200.

Ciekawy, D. "Women's "work" and the construction of witchcraft accusations in coastal Kenya." *Women's Studies International Forum* 22, no.2 (1999): 225-235.

Chandran, M. D. S. and J. D. Hughes. “Sacred groves and conservation: the comparative history of traditional reserves in the Mediterranean area and in south India.” *Environment and History* 6, no. 2 (2000): 169-186.

Comaroff, J. “Bodily reform as historical practice: the semantics of resistance in modern South Africa.” *International Journal of Psychology* 20 (1985): 541-567.

Comaroff, J. and J. L. Comaroff , “Occult economies and the violence of abstraction: notes from the South African postcolony.” *American Ethnologist* 26, no. 2 (1999): 279-303.

Deil, U., H. Culmsee, and M. Berriane. “Sacred groves in Morocco: a society’s conservation of nature for spiritual reasons.” *Silva Carelica* 49 (2005): 185-201.

DeLanda, M. *A New Philosophy of Society: Assemblage Theory and Social Complexity.* Bloomsbury, London, 2006.

Deleuze, G. and F. Guattari. *A Thousand Plateaus: Capitalism and Schizophrenia*. University of Minnesota Press, Minneapolis, MN. 1987.

Dudley, N., L. Higgins-Zogib, and S. Mansourian. “The links between protected areas, faiths and sacred natural sites.” *Conservation Biology* 23, no. 3 (2009): 568-577.

Eves, R. and M. Forsyth. “Developing insecurity: sorcery, witchcraft and Melanesian economic development.” *State Society and Governance in Melanesia Discussion Paper*, Australian National University (2015).

Frascaroli, F. “Catholicism and conservation: the potential of sacred natural sites for biodiversity management in central Italy.” *Human Ecology* 41 (2013): 587-601.

Geschiere, P. *The Modernity of Witchcraft: Politics and the Occult in Postcolonial Africa*. University of Virginia Press, Charlottesville. 1997.

Geschiere, P. “Globalisation and the power of indeterminate meaning: Witchcraft and spirit cults in Africa and East Africa” *Development and Change* 29 (1998): 811-837.

Gibbs, L. “Bottles, bores, and boats: agency of water assemblages in post/colonial inland Australia”, *Environment and Planning A* 45(2013): 467-484.

Horton, R. *Patterns of Thought in Africa and the West*. New York: Cambridge University Press, 1993.

Howitt R and S. Suchet-Pearson “Rethinking the building blocks: ontological pluralism and the idea of ‘management’”. *Geografiska Annaler: Series B, Human Geography* 88, no. 3 (2006): 323-335.

Infield, M. and A. Mugisha. “Sacred sites and the conservation of the Rwenzori Mountains in Uganda.” *Oryx* 47, no. 1 (2013): 13-18.

Johnson, J. T. and B. Murton. “Re/placing native science: Indigenous voices in contemporary constructions of nature.” *Geographical Research* 45, no. 2 (2007): 121-129.

Kideghesho, J. R. “Co-existence between the traditional societies and wildlife in western Serengeti, Tanzania: its relevancy in contemporary wildlife conservation efforts.” *Biodiversity Conservation,* 17 (2008): 1861-1881.

Kohnert, D. “Magic and witchcraft: implications for democratisation and poverty-alleviating aid in Africa.” *World Development* 24, no. 8 (1996): 1347-1355.

Kohnert, D. “Witchcraft and transnational social spaces: witchcraft violence, reconciliation and development in South Africa’s transition process.” *The Journal of Modern African Studies* 41, no. 2 (2003): 217-245.

Knight, G. C. *Ecology and Change: Rural Modernization in an African Community*, New York: Academic Press, 1974.

Kerr-Cross, D. “Geographical notes on the country between Lakes Nyassa, Rukwa and Tanganyika.” *Scottish Geographical Magazine* 6 (1890): 281-293.

Laird, S. A. “Forests, culture and conservation.” In *Cultural and Spiritual Values of Biodiversity*, edited by D. A. Posey: 347-396. Nairobi: United Nations Environment Programme (1999).

Leach, M. and J. Fairhead. “Fashioned forest pasts, occluded histories? International environmental analysis in West African locales.” *Development and Change* 31 (2000): 35-59.

Legal and Human Rights Centre (LHRC) *Tanzania Human Rights Report 2015*, Dar es Salaam: Tanzania, 2015.

Legg, S. “Of scales, networks and assemblages: the League of Nations apparatus and the scalar sovereignty of the government of India.” *Transactions of the Institute of British Geographers* NS 34 (2009): 234-253.

Legg, S. “Assemblage/apparatus: using Deleuze and Foucault.” *Area* 42, no. 2 (2011): 128-133.

Leistner, E. "Witchcraft and African development." *African Security Review* 23, no. 1 (2014): 53-77.

Luongo, K. “Polling places and “slow punctured provocation”: occult-driven cases in postcolonial Kenya’s High Court.” *Journal of Eastern African Studies* 4, no. 3 (2010): 577-591.

Masolo, D. A. *African Philosophy in Search of Identity*. Bloomington and Indiana: Indiana University Press, 1994.

Mesaki, S. “Witchcraft and the law in Tanzania”. *International Journal of Sociology and Anthropology* 1, no.8 (2009): 132-138.

Metcalfe, K., F-C. Richard, and I. Gordon. “Sacred sites as hotspots for biodiversity: the Three Sisters Cave complex in coastal Kenya.” *Oryx* 44, no. 1 (2009): 118-123.

Mikusiński, G., H. P. Possingham, and M. Blicharska. “Biodiversity priority areas and religions – a global analysis of spatial overlap.” *Oryx* (2013):1-6. doi: 10.1017/S0030605312000993

Mgumia, F. H. and G. Oba. “Potential role of sacred groves in biodiversity conservation in Tanzania.” *Environmental Conservation* 30, no. 3 (2003): 259-265.

Mombeshora, S. “Witches, witchcraft and the question of order: a view from a Bena village in the Southern Highlands” In *Witchcraft in Contemporary Tanzania,* edited by R. Abrahams: 71-86 Cambridge: Cambridge University Press, (1994).

Nyamnjoh, F.B. "Delusions of development and the enrichment of witchcraft discourses in Cameroon." *Magical interpretations, material realities: modernity, witchcraft and the occult in postcolonial Africa*, edited by Henrietta Moore and Todd Sanders, 28-49. London: Routledge, 2001.

Ormsby, A. A. and S. A. Bhagwat. “Sacred forests of India: a strong tradition of community-based natural resource management.” *Environmental Conservation* 37, no. 3 (2010): 320-326.

Pascual, U., J. Phelps, E. Garmendia, K. Brown, E. Corbera, A. Martin, E. Gomez-Baggethun, and R. Muradian. "Social equity matters in payments for ecosystem services." *Bioscience* (2014).

Posey, D. A. “Introduction: culture and nature – the inextricable link” In *Cultural and Spiritual Values of Biodiversity*, edited by D. A. Posey: 3-16. Nairobi: United Nations Environment Programme (1999).

Sandy, C. “Real and imagined landscapes: land use and conservation in the Menabe.” *Conservation and Society* 4, no. 2 (2006): 304-324.

Schie, R. V. and W. Haider. “Indigenous-based approaches to territorial conservation: a case study of the Algonquin Nation of Wolf Lake.” *Conservation and Society* 13, no. 1 (2015): 72-83.

Schram, R. “Witches’ wealth: witchcraft, confession, and Christianity in Auhelawa, Papua New Guinea.” *Journal of the Royal Anthropological Institute* NS 16(2010): 726-742.

Smith, J. H. “Buying a better witch doctor: witch-finding, neoliberalism, and the development imagination in the Taita Hills, Kenya.” *American Ethnologist* 32, no. 1 (2005): 141-158.

Smith, T.A. “Witchcraft, spiritual worldviews and environmental management: Rationality and assemblage.” *Environment and Planning A* (2016) DOI: 10.1177/0308518X16674723

Stambach, A. “The rationality debate revisited.” *Reviews in Anthropology* 28, no. 4 (2000): 341-351.

Sunseri, T. “Majimaji and the Millenium: Abrahamic sources and the creation of a Tanzanian resistance tradition.” *History in Africa* 26 (1999): 365-378.

Tanzania National Bureau of Statistics, *Basic Demographic and Socio-Economic Profile, Key Findings: 2012, Population Housing Census*, Dar es Salaam, 2014

Verschuuren, B. “An overview of cultural and spiritual values in ecosystem management and conservation strategies.” *Paper contributed to the International Conference on Endogenous Development and Biocultural Diversity*, October 2006.

Virtanen, P. *Traditional Protected Forests and Sacred Forests of Zigua and Gweno Ethnic groups in Tanzania*, University of Helsinki, 2002.

Willis, J. C. *The Fipa and Related Peoples of South-West Tanzania and North-East Zambia*, London: International Africa Institute, 1966.

Ylhäisi, J. *Traditionally protected forests and sacred forests of Zigua and Gweno ethnic groups in Tanzania*, University of Helsinki, 2006.

Notes

1. Laird, “Forests, culture and conservation.”
2. Ormsby and Bhagwat, “Sacred forests of India.”
3. Dudley et al., “Protected areas, faiths and sacred natural sites.”
4. Metcalf et al., “Sacred sites in coastal Kenya.”
5. Sandy, “Real and imagined landscapes.”
6. Tanzania National Bureau of Statistics, *Basic Demographic and Socio-Economic Profile*.
7. Kerr-Cross, “Lake Nyassa, Rukwa and Tanganyika.”; Brelsford, *The Tribes of Northern Rhodesia*; Willis, *The Fipa and Related Peoples*.
8. Knight, *Ecology and Change*
9. Ibid.
10. LHRC, *Tanzania Human Rights Report*
11. Byers et al., “Linking conservation of culture and nature.”; Mikusiński et al., “Biodiversity priority areas and religions.”
12. Virtanen, *Traditional Protected Forests.*
13. Ormsby and Bhagwat “Sacred forests of India.”
14. Pascual et al., “Social equality and payment for ecosystem services.”
15. Virtanen, *Traditional Protected Forests.*
16. Barre et al., “The role of taboos in conservation.”; Verschuuren “Cultural and spiritual values in ecosystem management.”
17. Campbell, “Traditional forest protection Ghana.”; Campbell “Sacred groves in Ghana.”
18. Byers et al., “Linking conservation of culture and nature.”
19. Ylhaisi, *Traditionally Protected Forests in Tanzania.*
20. Ormsby and Bhagwat, “Sacred forests of India.”
21. Howitt and Suchet-Pearson, “Ontological pluralism and the idea of management.”
22. Posey, “Culture and nature.”
23. Mikusiński et al., “Biodiversity priority areas and religions.”
24. Pascual et al., “Social equality and payment for ecosystem services.”
25. Barre et al., “The role of taboos in conservation.”; Verschuuren, “Cultural and spiritual values in ecosystem management.”
26. Dudley et al., “Protected areas, faiths and sacred natural sites.”; Frascaroli, “Catholicism and conservation.”
27. Arora, “Forest symbols in the Tholung sacred landscape.”; Schie and Haider, “Indigenous Conservation of Wolf Lake.”
28. Ormsby and Bhagwat, “Sacred forests of India.”
29. Barre et al., “The role of taboos in conservation.”; Deil et al., “Sacred groves in Morocco.”
30. Infield and Mugisha, “Sacred Sites in Rwenzori Mountains.”
31. Campbell, “Traditional forest protection Ghana.”
32. Sandy, “Real and imagined landscapes.”
33. Metcalfe et al., “Sacred sites in coastal Kenya.”
34. Byers et al., “Linking conservation of culture and nature.”
35. Mgumia and Oba, “Sacred groves in Tanzania.”
36. Blicharska and Mikusiński, “Large old trees in conservation policy.”
37. Chandran and Hughes, “Sacred groves in the Mediterranean and South India.”; Deil et al., “Sacred groves in Morocco.”
38. Frascaroli, “Catholicism and conservation.”
39. Ormsby and Bhagwat, “Sacred forests of India.”
40. Chandran and Hughes, “Sacred groves in the Mediterranean and South India.”
41. Byers et al., “Linking conservation of culture and nature.”
42. Campbell, “Sacred groves in Ghana.”
43. Blicharska and Mikusiński, “Large old trees in conservation policy.”
44. Dudley et al., “Protected areas, faiths and sacred natural sites.”; Mgumia and Oba, “Sacred groves in Tanzania.”

45. Ormsby and Bhagwat, “Sacred forests of India.”
46. Metcalfe et al., “Sacred sites in coastal Kenya.”
47. Byers et al., “Linking conservation of culture and nature.”
48. Blicharska and Mikusiński, “Large old trees in conservation policy.”; Verschuuren “Cultural and spiritual values in ecosystem management.”
49. Posey, “Culture and nature.”
50. Dudley et al., “Protected areas, faiths and sacred natural sites.”
51. Verschuuren, “Cultural and spiritual values in ecosystem management.”
52. Schie and Haider, “Indigenous Conservation of Wolf Lake.”
53. Dudley et al., “Protected areas, faiths and sacred natural sites.”
54. Chandran and Hughes, “Sacred groves in the Mediterranean and South India.”; Ormsby and Bhagwat, “Sacred forests of India.”
55. Frascaroli, “Catholicism and conservation.”
56. Infield and Mugisha, “Sacred Sites in Rwenzori Mountains.”
57. Byers et al., “Linking conservation of culture and nature.”; Metcalfe et al., “Sacred sites in coastal Kenya.”
58. Barre et al., “The role of taboos in conservation.”; Byers et al., “Linking conservation of culture and nature.”
59. Arora, “Forest symbols in the Tholung sacred landscape.”
60. Campbell, “Traditional forest protection Ghana.”
61. Infield and Mugisha, “Sacred Sites in Rwenzori Mountains.”
62. Byers et al., “Linking conservation of culture and nature.”
63. Ormsby and Bhagwat, “Sacred forests of India,” 322.
64. Blicharska and Mikusiński, “Large old trees in conservation policy.”
65. Barre et al., “The role of taboos in conservation.”
66. Campbell, “Sacred groves in Ghana.”
67. Frascaroli, “Catholicism and conservation.”
68. Verschuuren, “Cultural and spiritual values in ecosystem management.”
69. Byers et al., “Linking conservation of culture and nature.”; Sandy “Real and imagined landscapes.”
70. Blicharska and Mikusiński, “Large old trees in conservation policy.”
71. Arora, “Forest symbols in the Tholung sacred landscape.”; Deil et al., “Sacred groves in Morocco.”
72. Mikusiński et al., “Biodiversity priority areas and religions.”
73. Byers et al., “Linking conservation of culture and nature.”; Infield and Mugisha, “Sacred Sites in Rwenzori Mountains.”; Sandy, “Real and imagined landscapes.”
74. Ormsby and Bhagwat, “Sacred forests of India.”
75. Campbell, “Sacred groves in Ghana.”
76. Barre et al., “The role of taboos in conservation.”
77. Ibid.
78. Geschiere, *The Modernity of Witchcraft*
79. Eves and Forsyth, “Developing Insecurity.”; Kohnert, “Magic and Witchcraft.”
80. Eves and Forsyth, “Developing Insecurity.”
81. Ciekaway, “Women’s work and Witchcraft”; Geschiere, “Globalisation, witchcraft and spirit cults”
82. Eves and Forsyth, “Developing Insecurity.”
83. Leistner, “Witchcraft and African development.”
84. Kohnert, “Witchcraft and transnational social space.”; Nyamnjoh, “Development and witchcraft in Cameroon”
85. Mombeshora, “Witches, witchcraft in a Bena village.”; Smith, “Buying a better witch doctor.”
86. Ashforth, *Witchcraft, Violence and Democracy.*
87. Eves and Forsyth, “Developing Insecurity.”
88. Comaroff and Comaroff, “Occult economies, violence of abstraction.”; Kohnert, “Witchcraft and transnational social space.”
89. Mesaki, “Witchcraft and the law in Tanzania.”; Smith, “Buying a better witch doctor.”

90. Luongo, “Occult-driven cases in Kenya.”
91. Comaroff and Comaroff, “Occult economies, violence of abstraction.”; Schram, “Witches’ wealth, Papua New Guinea.”
92. Eves and Forsyth, “Developing Insecurity.”
93. Kohnert, “Witchcraft and transnational social space.”
94. Horton, *Patterns of Thought in Africa and the West.*
95. Stambach, “The rationality debate revisited.”
96. Masolo, *African Philosophy in Search of Identity.*
97. Stambach, “The rationality debate revisited.”
98. Ibid.
99. Carrithers et al. “Ontology is just another word for culture.”
100. Deleuze and Guattari, *A Thousand Plateaus*.
101. Braun, “Environmental Issues, Assemblage.”; Gibbs, “Bottles, bores and boats.”
102. DeLanda, *A New Philosophy of Society*.
103. Braun, “Environmental Issues, Assemblage.”
104. Deleuze and Guattari, *A Thousand Plateaus*, 41.
105. DeLanda, *A New Philosophy of Society*.
106. Deleuze and Guattari, *A Thousand Plateaus*, 190.
107. Legg, “Assemblage/apparatus.”
108. Johnson and Murton, “Re/placing native science.”
109. Gibbs, “Bottles, bores and boats.”
110. Smith, “Witchcraft, spiritual worldviews, environmental management.”
111. Gibbs, “Bottles, bores and boats.”
112. Deleuze and Guattari, *A Thousand Plateaus*, 204.
113. Anderson et al. “On assemblage and geography.”
114. Legg, “Assemblage/apparatus.”
115. Legg, “Of scales, networks and assemblages.”
116. Arora, “Forest symbols in the Tholung sacred landscape.”
117. Bennett, *Vibrant Matter*.
118. Gibbs, “Bottles, bores and boats.”
119. Barre et al., “The role of taboos in conservation.”; Campbell “Sacred groves in Ghana.”
120. Infield and Mugisha, “Sacred Sites in Rwenzori Mountains.”
121. Blicharska and Mikusiński, “Large old trees in conservation policy.”; Verschuuren “Cultural and spiritual values in ecosystem management.”
122. Deleuze and Guattari, *A Thousand Plateaus*.
123. Anderson et al. “On assemblage and geography.”; DeLanda, *A New Philosophy of Society*; Legg, “Assemblage/apparatus.”
124. Eves and Forsyth, “Developing Insecurity.”; Kohnert, “Magic and Witchcraft.”
125. Bjerk, “The High God of the Zinza”; Smith, “Witchcraft, spiritual worldviews, environmental management.”; Sunseri, “Majimaji and the Millenium”
126. Kideghesho, “Traditional societies and wildlife in western Serengeti”; Sunseri, “Majimaji and the Millenium”
127. Kohnert, “Witchcraft and transnational social space.”; Schram, “Witches’ wealth, Papua New Guinea.”
128. Barre et al., “The role of taboos in conservation.”
129. Comaroff, “Bodily reform”; Nyamnjoh, “Development and witchcraft in Cameroon”
130. Nyamnjoh, “Development and witchcraft in Cameroon”
131. Deleuze and Guattari, *A Thousand Plateaus*, 7.
132. Ormsby and Bhagwat, “Sacred forests of India.”
133. Verschuuren “Cultural and spiritual values in ecosystem management.”
134. Barre et al., “The role of taboos in conservation.”; Campbell “Sacred groves in Ghana.”
135. Ylhaisi, *Traditionally Protected Forests in Tanzania.*
136. DeLanda, *A New Philosophy of Society*.
137. Bennett, *Vital Matter*.
138. Deleuze and Guattari, *A Thousand Plateaus*.

139. Eves and Forsyth, “Developing Insecurity.”
140. Blicharska and Mikusiński, “Large old trees in conservation policy.”; Verschuuren, “Cultural and spiritual values in ecosystem management.”
141. Arora, “Forest symbols in the Tholung sacred landscape.”
142. Byers et al., “Linking conservation of culture and nature.”; Campbell “Sacred groves in Ghana.”; Sandy, “Real and imagined landscapes.”
143. Frascaroli, “Catholicism and conservation.”
144. Schie and Haider, “Indigenous Conservation of Wolf Lake.”