Article

Of Cosmological Visions and Creativity: Shaping Animism, Indigenous Science, and Forestry in Southwest China

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Abstract: How do cosmological visions unsettle animistic and scientific ways of approaching the world? Whereas 'cosmovisions' have the narrow meaning of 'worldviews', people unleash new 'cosmological visions' through the creative act of relating to—and simultaneously dismantling—their constructs of the world at large. Drawing on my ethnography of the Nuosu, a Tibeto-Burman group of Southwest China, I show how an ethnohistorian and a priest set out, at the request of a local official, to address deforestation with a cosmological vision built upon animistic, indigenous scientific, social scientific, and natural scientific sensibilities. Holding sacrifices to land spirits across the Liangshan mountains of Yunnan province in the mid-2000s, they urged Nuosu to refrain from cutting down trees. Many Nuosu in the lumber trade responded with a counter vision that showed respect for land spirits but an unprecedented detachment from the world in animistic-cum-scientific terms. Cosmological visions like these proliferate among Nuosu, encouraging them to experiment with everything from testing the patience of land spirits to undercutting the science behind China's forest protection policies. Here, creativity opens up new ways of envisioning indigenous autonomy and what it means to be alive to the world as an animist, a scientist, or both.

Keywords: animism; cosmological vision; creativity; detachment; forestry; indigenous autonomy; indigenous science; natural science; relations; Southwest China

1. Introduction

Probably every cosmology is shaped by acts of creativity. Cosmologies take many different forms, from the study of the universe to popular ways of envisioning, knowing, and being in the world. Some cosmologies are both actual lived-in spaces and abstract concepts in people's minds, such as the universe after the Big Bang. But there is also what the mathematician, philosopher, and physicist Alfred North Whitehead calls a 'complete cosmology [. . . that] brings the aesthetic, moral, and religious interests into relation with those concepts of the world which have their origin in natural science' (Whitehead [1929] 1978, p. xii). Complete cosmologies are creative spaces in which people assemble 'many actual entities' into 'an act of experience' that produces a 'feeling' and, as I suggest, sometimes also a new cosmological vision (Whitehead [1929] 1978, p. 40, see also 41 and 31–32). While Whitehead's thought is no doubt deeply rooted in a European epistemology and ontology, complete cosmologies are not unique to any particular social group. Many indigenous people weave a variety of indigenous and scientific constructs into their own complete cosmologies (Purcell 1998; Cruikshank 1998; Cajete 2000; Aikenhead and Ogawa 2007; Kimmerer 2013). The Nuosu, a Tibeto-Burman group also known by their Chinese ethnonym of Yi, are a case in point. Located across the Liangshan 'Cool Mountains' of Southwest China, many Nuosu creatively draw upon their animistic, indigenous scientific, social scientific, and natural scientific constructs to produce cosmological visions that address deforestation.

If cosmologies of any sort—from the 'animistic' to the 'scientific'—are shaped by acts of creativity, this is because they hold in common the penchant for proliferation (Wang

2017; Swancutt 2021b). Like 'cultures', cosmologies cannot help but change, although some do so more quickly, visibly, and perhaps holistically than others. Natural science, which is arguably a cosmology unto itself, has proliferated over centuries into numerous *sciences*. Indigenous sciences, of which there are as many varieties as there are indigenous groups of people, have proliferated on their own terms and in dialogue with the natural sciences, social sciences, arts, humanities, and other fields (Rigney 2001; Lévesque et al. 2016; Kermoal 2016; Nelson and Shilling 2018; Bodenhorn and Ulturgasheva 2017, 2018; Ulturgasheva and Bodenhorn 2022). Both the indigenous and the natural sciences often combine the old with the new, undergoing a mode of 'proliferation [that] not only recommends invention of *new* alternatives, it also prevents the elimination of *older* theories which have been refuted' (Feyeraband [1975] 1993, p. 34). The contested elements of any cosmology, such as the animistic constructs that tend to underpin Nuosu cosmological visions, therefore shape how cosmologies unfold.

Animism, though, is more than a cosmology. It is also a particular sensibility and a way of relating to humans, animals, plants, things, forces of nature, spirits, and sometimes 'different household gods, ancestors, and other family dead', such as the spirit helpers of shamans (Kendall 2021, p. 5). Typically, animistic beings have agency, vitality, a life force, and a sense of personhood, which people relate to in ways that make animism 'a condition of being alive to the world, characterised by a heightened sensitivity and responsiveness, in perception and action, to an environment that is always in flux, never the same from one moment to the next' (Ingold 2006, p. 10). Yet the many different *animisms* in the world cannot be shoehorned into a single typology (Pedersen 2001; Viveiros de Castro 2004; Fausto 2007; Turner 2009; Willerslev and Ulturgasheva 2012; Descola 2013; Swancutt and Mazard 2016). Important contrasts can, for example, be drawn between the 'hierarchical animism' that features a cosmology of immanent beings headed by a transcendent subject (Århem 2016)—which is the kind of cosmology found among Nuosu (Swancutt 2021b, p. 26)—and the 'technological animism' of uncannily lifelike robots that people may relate to in certain moments but feel 'detached' from in others (Richardson 2016, p. 123). By the same token, the many natural sciences in the world, from the medieaval to the modern, share their own distinct sensibility (Ingold 2013). Traceable to a European tradition dating to Copernicus in the 15th century, or by some estimates as far back as the High Middle Ages of the late 13th century, the natural sciences require approaching the objects (or subjects) of study in an especially 'detached' way (Candea et al. 2015), which, however, tends to shapeshift into a way of relating to someone or something else (Haraway 1988, 2008; Latour 1993). The upshot is that many animistic and scientific sensibilities unfold in highly creative ways that only appear to be exceptions to the rule.

Given that animism is largely (but not exclusively) built on relations while the natural sciences are largely (but not exclusively) built on detachment, it may seem that the two would not easily be brought together. But anthropologists of the nineteenth century turned animism from a natural sciences concept into a classic anthropological theme. The early anthropologist Edward B. Tylor borrowed the word 'animism' from the eighteenth-century chemist and physician, George Ernst Stahl, who proposed that the physical and bodily processes of any living being are controlled by that being's spirit or soul (Swancutt 2019, p. 5). This way of conceptualising animism may well hark back to the seventeenth-century automatons of Europe, which were works of science and art that made inert things appear to be animate, mobile, and lifelike. Many anthropologists have since perpetuated 'a long established convention, [in which] animism is [understood, following Tylor ([1871] 1977), to be] a system of beliefs that imputes life or spirit to things that are truly inert' (Ingold 2006, p. 10). Yet animism is no more reducible to a cosmology that animates inert things than science is reducible to a mode of study that tests propositions mechanically through the scientific method. Studies that fall under the 'new animism' in anthropology highlight the ways in which animists build relations with other people, animals, plants, spirits, things, and sometimes even the natural sciences (Harvey 2006, p. xi, see also 203). Here, spirits,

souls, and bodies are integral not only to what makes anyone alive, but to what makes anyone relate to others in the ways they do (Pedersen and Willerslev 2012).

It is, however, worth delving deeper into the cosmological reasons for why animistic people may relate to and simultaneously distance (or detach) themselves from others. More often than not, the common features of everyday life, including 'relations, desire, society, engagement, situatedness, involvement, worldliness and so on', evoke at least the prospect of detachment (Strathern 2015, p. 256; see also Wagner 1981; Strathern 1988). Many animistic (and other) people, then, set out to uncover their own preferred ways of relating to and detaching themselves from other beings and even the world (Kohn 2013, p. 205). Bringing this into focus ethnographically often involves showing how 'our subjects dismantle their own constructs' (Strathern 1992, p. 76). Some Nuosu anthropologists, for example, may joke about 'animism' to create a distance between their everyday lives, the anthropological study of animism, and the 'ideology' of animism as expressed in China's environmentalist discourse (Swancutt 2016, pp. 85–89). Nuosu ethnohistorians may also parody the 'scientific' as a way of harnessing its power while holding it—and the world— at a distance (Swancutt 2021a, pp. 568–75). But a creativity of cosmological proportions is needed to produce cosmological visions that unleash unprecedented ways of engaging with other beings, concepts, things, and the world itself (Kuhn [1962] 2012; Strevens 2020).

My use of the term 'cosmological vision' here is meant to evoke something altogether different from a 'cosmovision', which has the narrower meaning of a 'worldview' or a 'particular way of understanding the universe'. A cosmovision implies that social life is somehow confined to what goes on in the mind. By contrast, cosmological visions are designed to dismantle constructs of the 'world' at large (Abramson and Holbraad 2014, p. 9, see also 15). Cosmological visions, then, tend to unsettle everyday life and everyday ways of envisioning it. Like Galileo's work with early telescopes, cosmological visions are creative, experimental, and often based on a 'trial and error' approach that tests out new ways of being alive to the world (Feyeraband [1975] 1993, p. 83). Some of these visions may be religious, while others may take the form of abstract theories or hypotheses, such as the Big Bang. If cosmological visions become influential enough, they may even become cosmologies unto themselves, as happened when the Big Bang theory shaped not only the cosmology of astronomers but also the popular (mis)conceptions of the world that now hold sway in the context of spacetime. Visions of this sort may lead people 'to summon a larger vision of themselves' (Strathern 2004, p. 7). Crucially for my argument, though, these visions commonly give rise to further cosmological visions, such as the theories about dark matter and dark energy. Nearly every cosmological vision is therefore both a product of cosmological proliferation and a crucible for further cosmological proliferation. Certain cosmological visions are built upon the 'braiding' together, or interweaving, of animistic, indigenous scientific, social scientific, and natural scientific elements from one or more cosmologies (Kimmerer 2013; Snively and Williams 2016; Raygorodetsky 2017; Hopkins et al. 2019; Cranston and Jean-Paul 2022). As I show in this article, cosmological visions like these may enable indigenous people to assert the power and value of their animistic constructs and of their autonomy in highly unexpected ways.

2. Envisioning What It Means to Be Alive to the World

Many cosmological visions are woven into the anthropological fieldwork that I have carried out among Nuosu since 2007 in the Ninglang Yi Autonomous County of Yunnan province, which I refer to here in Nuosu as Niplat (ꆀꆆ).[1] Situated at the far western corner of the Liangshan mountains and bordering the southwestern tip of Sichuan province, Niplat is home to twelve of China's fifty-six 'nationalities' (Ch. *minzu* 民族), including the Han ethnic majority. Traditionally, Nuosu have made a living from swidden agriculture, pastoralism, forestry, and hunting in their temperate highlands and uplands (Figure 1). Their mountains were once thickly covered with Yunnan pine trees (Pinus yunnanensis) and a fair few oaks, firs, spruces, alders, willows, azaleas, rhododendrons, cypresses, and other flora (Harrell et al. 2022). Many Nuosu herd sheep, goats, pigs, cattle, horses, mules,

and sometimes water buffalo or yaks, while they raise chickens and occasionally caged wild pheasants kept captive for their eggs. Nuosu also tend to grow their staple of bitter buckwheat (Fagopyrum tataricum) together with maize, potatoes, oats, some wheat and highland rice, green vegetables, beans, turnips, chilis, melons, squash, Nuosu tobacco or 'black pipeweed' (*yixnuo* 㑇扚), apples, walnuts, other root crops, and Chinese medicinal plants, the surpluses of which may be sold with livestock and wild mushrooms in village or county town markets. Nearby forests provide opportunities for collecting wild honey and for hunting pheasants and other birds, rabbits, bears, wild boars, wild goats, muntjac deer, musk deer, and Chinese water deer (Hydropotes inermis) that are valued for their meat and medicinal properties.

Figure 1. An upland mountainside cleared for swidden agriculture in Niplat, 2011. Photograph by the author.

The Nuosu landscape changed dramatically during the mid to late 1950s when the 'Democratic Reforms' (Ch. *minzhu gaige* 民主改革) incorporated 'minority nationalities' (Ch. *shaoshu minzu* 少数民族) across the southwest into the People's Republic of China. As early as 1956, China also grew apart from Russia when Chinese leaders expressed their displeasure with Khrushchev's denunciation of Stalin, the Soviet leadership that displaced him, and its practice of treating the Chinese Communist Party as a lesser extension of the USSR. China soon made plans for its military and industrial independence from Russia, which included building its own steel industry, weapons factories, and a space programme amid Liangshan's high-altitude forests that were rich in the waterways needed to transport logs to factories as the fuel for smelting steel. These plans matured in the wake of the Sino-Soviet split of 1960 and led to several decades of intense deforestation across Liangshan, initially by state-employed loggers who were tasked not to deplete the forests and later by many Nuosu and other minority nationalities who petitioned for the right to profit from the wood trade.

According to the Nuosu anthropologist I call Tuosat, deforestation once lay outside the imaginations of many people in Liangshan, who harvested wood chiefly to fuel their household hearths, make tools, ritual implements or decorative items, and build the log cabin homes that are ubiquitous across Niplat. One key reason why many Nuosu in Niplat

had managed their wood use carefully before the 1960s was out of respect for their 'land spirits' or 'earth spirits' (*musi* 卝皂), which are sometimes conflated with local 'mountain spirits' (*bbosi* 垚皂) because Liangshan is a land composed of mountains. Some Nuosu even envision their 'sacrifices to the land spirit' (*musi hlo* 卝皂毕), which they tend to make on annual basis, as being akin to sacrifices to the mountain spirit of their area (Swancutt 2022b, pp. 68–70). As territorial deities that look after wild flora and fauna, land spirits take on—and change between—a variety of wild animal forms such as deer, pigeons, boars, or large snakes. It is not uncommon, then, for Nuosu to find that what they first perceived to be a wild animal was in fact a land spirit. There is a real danger of failing to recognise a land spirit in animal form when out hunting because accidentally harming the land spirit often causes it to retaliate. Anyone who takes natural resources may also incur a debt to the land spirit, which should be 'repaid' (*zie* 毕) at some point with sacrificial offerings. In the past, Nuosu showed proper decorum to their land spirits by covering the stumps of freshly cut trees with soil so that they would not be flagrantly exposed to view. While this practice has largely disappeared, many Nuosu allow the stumps of felled trees to rot away in the ground, rather than uprooting and removing them, to avoid defacing the land spirit's terrain any more than is necessary. Yet even when the appropriate decorum is shown and suitable offerings are made, a land spirit may still cause illnesses and other troubles if its resources are taken too quickly or in too large of numbers.

Despite the risks of angering land spirits, many Nuosu across Niplat have become emboldened by years of watching or hearing about Chinese forestry workers who had profited from timber harvesting since the late 1950s, seemingly without repercussions. Keen to also make money from the wood cutting trade, many Nuosu chose to enter it at a time when vast swathes of Liangshan were becoming largely, if not entirely, barren of trees. Deforestation continued in Liangshan throughout the 1980s and well into the 1990s, when natural scientists and international non-profit organisations, such as the World Wildlife Fund, commonly blamed indigenous people for their swidden (also known as 'slash-and-burn') agriculture (Hathaway 2013, pp. 33–36). A reputation for destroying natural resources and biodiversity has since stuck to the minority nationalities across China's highlands and uplands, even though their swidden agriculture has 'generated significant agrobiodiversity and showed evidence of long-term sustainability' (Gros 2014, p. 85). Far more destructive was the extensive logging, which likely reduced the lands available for swidden agriculture to many people across China's southwest (Gros 2014, p. 86; Schmitt 2014, p. 100).

Policies to tackle rampant deforestation only emerged after the major flooding of China's main river basins in 1998, when the Natural Forest Protection Program (NFPP) (Ch. *tianran lin baohu gongcheng* 天然林保护工程) banned both swidden agriculture and logging (Urgenson et al. 2010; Trac et al. 2013; Robbins and Harrell 2014; Zinda et al. 2017; Blumenfield 2014). From this time onward, people across China's southwest have been largely restricted to cutting only the lower branches of trees for use as firewood. Many of their mountains have since become covered with lollipop-shaped trees that are full on the top but bare around the base. China set out to further protect against flooding with the 1999 Sloping Land Conversion Program (SLCP), also called 'Grain for Green' (Ch. *tuigeng huanlin (huancao) gongcheng* 退耕还林(还草) 工程), which promotes tree planting as a way of mitigating the effects of soil erosion (Trac et al. 2007). The SLCP also popularised a so-called 'scientific agriculture based on intense monocropping, heavy fertilization and field rotation' that was meant to be an 'encouragement for those on the "ecological frontier" to identify more closely with a Han ethno-agricultural system' (Schmitt 2014, p. 100). But since the Han ethno-agricultural system is chiefly informed by lowland farming, what the SLCP brought to China's highlands and uplands was a self-proclaimed '"scientific" logic that qualifies certain types of landscape as degraded and contributes to defining certain people as poor and their livelihoods as destructive' (Gros 2014, p. 82). Shortcomings in the NFPP and SLCP were to some extent addressed in the early 2000s by the 'Collective Forest Tenure Reforms' (CFTR) (Ch. *jiti lin quan zhidugaige* 集体林权制度改革), which enabled those living in forested areas to vote on the allocation of forest use rights. Yet in Liangshan,

the benefits of the CFTR are tied to the elevations of forests because only Nuosu with access to both sunny and shady slopes can optimise their wood cutting to facilitate healthy regrowth (Harrell et al. 2022).

Seen in this light, China's forestry policies have unfolded over the past twenty-five years as cosmological visions in their own right, which graft Han ethno-agriculture and transnational environmental science onto indigenous forestry, swidden agriculture, and herding. Folded into these visions are 'civilizing projects' designed to address concerns about development, poverty, and the so-called 'human quality' (Ch. *suzhi* 素质) of the minority nationalities (Harrell 1995, p. 4; see also Heberer 2014, p. 737; Schmitt 2014, p. 98; Gros 2014, p. 85). It is all but impossible to challenge these visions with the transnational concept of 'indigeneity' because China officially considers both the Han majority and the minority nationalities to be 'equally indigenous' (Hathaway 2013, p. 14; see also Hathaway 2010, p. 302). Nevertheless, some Nuosu set out to harness the 'counter-discourse' of their indigenous scholars and officials, who for years have been 'arguing that Yi have a long tradition of preserving ecology and nature, that the government disregards local knowledge, and that the state has been the real originator of environmental degradation' (Heberer 2014, p. 738). Nuosu scholars, officials, and ordinary people may point to their popular myth-histories about the dangers that climate change brings to biodiversity and the 'eco-genealogical connections' between people, animals, and plants (Bender 2008, p. 28; Bender 2021, p. 443, see also 438; Bender et al. 2019, p. lxxviii, see also lxxx–lxxxi). Many Nuosu may, alternatively, invoke their 'priest's law' (*bimox jievi* ꀘꌠꐈꋍ) when introducing new visions for managing deforestation.

Propounding a cosmological vision in today's Liangshan, then, is a creative act that involves shaping animistic, indigenous scientific, social scientific, and natural scientific elements of the Nuosu world. I show how this works ethnographically through several related vignettes that reveal the changing forestry practices in Niplat. My first vignette follows a Nuosu ethnohistorian and a 'priest' (*bimox* ꀘꌠ) who set out in 2010 to implement an ecological initiative at the request of the Chairman of the Chinese People's Political Consultative Conference (CPPCC) for Lijiang, which is the prefecture-level city that has administrative authority over Niplat. This initiative involved holding sacrifices to land spirits that would oblige Nuosu not to cut down any more trees in heavily deforested areas. Built on a new vision of forest protection, these sacrifices championed old Nuosu animistic constructs, the wood harvesting practices they had followed before the late 1950s, and the environmental science behind China's forest protection policies. Against all expectations, though, many Nuosu responded with a counter cosmological vision that lampooned the new sacrifices to the land spirit. Their counter vision threw light not only on the cosmopolitics of identifying a land spirit in Niplat—which are entangled with the destruction of forests—but also on the approach that many Nuosu priests, shamans, and even certain religious specialists from neighbouring groups take to mental illness. The counter vision further resonated with the ways in which some Nuosu responded to a cash cropping scheme launched in Niplat around 2008, in which Yunnan pine saplings were sold to villagers at the government-subsidised rate. A growing number of villagers chose to grow the saplings into stronger trees on their spare agricultural plots until they were ready to be transplanted to mountains across Niplat that had been largely stripped of tree cover. However, the ironies of this second initiative were not lost on the villagers, many of whom knew that logging practices would likely continue to spur the need for the cash cropping of trees—at least if China's forest protection policy targets were to be met. Taken together, my vignettes show that a proliferation of cosmological visions may lead to new animistic ways of being alive to the world and of asserting indigenous autonomy.

3. Only One Tree Was Allowed to Remain Standing

Probably several key influences underpinned the new cosmological vision of the Chairman of the Lijiang CPPCC, who had formerly been the Communist Party Secretary for Niplat and had grown up in one of its countryside villages. The Chairman envisaged

investing CNY 50,000 (worth then around GBP 5000) of official funds into an ecological initiative run by a scholarly team with a priest, who would perform 'traditional' sacrifices to land spirits across Niplat. The sacrifices were meant to dissuade Nuosu from logging, refresh their animistic and indigenous scientific sensibilities, and convince them to follow the natural science behind China's forest protection policies. Like all Chinese officials, the Chairman of the Lijiang CPPCC received mandatory training from the Party schools, which around 2010 included lessons on promoting 'environmental and civilizing knowledge' (Heberer 2014, p. 741). These lessons were echoed in an official programme launched between 2010 and 2012 in the Liangshan Yi Autonomous Prefecture of neighbouring Sichuan province, which was designed 'to transform traditional Yi habits and customs, including those which encompassed environmental issues, and to establish a spiritual civilization among Yi peasants' (Heberer 2014, p. 742). But the Chairman also would have been well-aware of the 'counter-discourse' among many Nuosu scholars and officials who have long argued that, as members of China's Yi nationality, Nuosu have a strong tradition of protecting their own ecology (Heberer 2014, pp. 752–54). His vision appeared to have creatively combined elements from all three of these influences.

However, the Chairman knew his vision would face significant challenges, including the fact that China's logging ban had made lumber into a lucrative commodity. Since Niplat had no large industry of its own, many Nuosu cut down whole truckloads of trees and transported them south along roads where they could usually evade detection (Figure 2). They sold quite a few of these trees in neighbouring Huaping county, which had a booming coal mining industry but needed a steady source of lumber to create the supports for mine shafts and the handles for tools such as picks, chisels, and hammers. Felled trees were also in high demand by the Han who lived locally, in nearby counties, and in Lijiang city. As Tuosat explained, Han routinely bury their dead in coffins made from planks of timber that require whole trees to be cut down. By contrast, Nuosu typically cremate their dead outdoors atop of pyres of freshly cut 'firewood', which can be obtained from the lower branches of trees, although they need to be seven tiers high for a woman and nine tiers high for a man (Bamo 2001, p. 109).

To persuade Nuosu to follow his ecological initiative, the Chairman of the Lijiang CPPCC approached the state-funded ethnological institution in Niplat. He presented his initiative and budget to the leader of the research team for '*bimo* culture' (Ch. *bimo wenhua* 毕摩文化), which is a scholarly field in China devoted to the study of Nuosu religion, priests, and scriptures (cf. Kraef 2014). Agreeing to his initiative, the team leader assigned the work for it to the ethnohistorian I call Mitsu, who, like many of his colleagues at the ethnological institute, is a member of the 'Yi Culture School' which is the 'scholarly or intellectual arm of the Yi ethnic identity movement' in China (Harrell and Li 2003, p. 366; see also Qiu 2021). Having found himself in charge of this initiative, Mitsu invited his then-colleague and good friend, the Nuosu priest I call Fijy, to be the person who would hold sacrifices to the land spirits. Mitsu and Fijy had both grown up in country villages of Niplat and approached the initiative as one of the many civic duties that they, and other members of the institute, were paid to undertake alongside of their research. Fijy had no formal education beyond his lifelong learning of the Nuosu scriptures and ancient glyphs, but Mitsu had studied Marxism and Chinese language at university before completing another specialist university course on how to read and write modern Nuosu script. Their skills were complementary and led to a strong working relationship that dated back to the early 2000s when they became members of the same research team. Many of their long days were spent together co-translating ancient Nuosu scriptures into modern Chinese for publications that showcase Nuosu animistic, indigenous scientific, and social scientific perspectives (Figure 3). But the task of making sacrifices to the land spirits offered them the chance to promote *bimo* culture beyond the walls of their own institution. So, when Mitsu invited Fijy to join the new initiative, he agreed on the spot, and they soon travelled to roughly five locations across Niplat where timber harvesting was the most problematic.

Figure 2. A large trailer truck in Niplat filled with trees ready to be transported for sale, 2015. The fate of this lumber haul, shown here in front of the county courthouse, is unknown. Photograph by the author.

Figure 3. Scholars discussing Nuosu scriptures at an ethnological institution in Liangshan, 2019. Photograph by the author.

Notably, Fijy's sacrifices to the land spirits went against the grain of Nuosu etiquette. A Nuosu ritual is traditionally held when the potential clients of a priest, 'male shaman' (*sunyit* ♯⅋), or 'female shaman' (*mopnyit* ⊋⅋) invite one or more religious specialists to their homes or villages. Many Nuosu consider that a man or a boy, rather than a woman or a girl, should be the one to invite a priest for a ritual and that the invitation ideally

should be made as an in-person request. It is only when a priest or shaman arrives for the ritual that clients tend to provide the full story behind the illnesses or other problems they seek to resolve. Most rituals are exorcisms that drive away troublesome ghosts, expel the spirits of diseases, sooth angry ancestors, assuage a disgruntled land spirit, call back lost human souls, or perform a combination of the above. Certain rituals also involve making a sacrifice to the sky god, Ngetit Guxnzy (ꑌꄲꈨꌊ), who is the spirit at the apex of the Nuosu cosmos. Yet despite these ritual conventions, Mitsu and Fijy showed up unannounced.

Upon arriving at a heavily deforested mountain in need of protection, Fijy set about the work of making a sacrificial contract with the land spirit. Since this sacrifice must be directed at some feature of the landscape, which is typically a tree or a stone chosen to represent the land spirit, Fijy settled upon a specific tree. Summoning the local land spirit to this tree, Fijy made an oath that its forest would be protected if it would, in turn, protect the many people who relied upon the forest. To seal the contract, Fijy sacrificed a cockerel to the land spirit, which was cooked and eaten by the Nuosu loggers who were in the area and had attended the ritual. Mitsu and Fijy explained that anyone who cut down trees where a sacrifice had been made to the land spirit risked breaking the new contract with it. Their exhortations called to mind the many Nuosu stories circulating about the 'sacred groves, where rituals are performed [. . . and which] cannot be fouled. This prohibition is observed to this day: people report that those who were forced to cut trees in such groves during the Cultural Revolution have met untimely deaths' (Harrell et al. 2022, p. 167). Both Mitsu and Fijy then urged the loggers to adopt an indigenous scientific responsibility that would do justice to their sacrificial contract with the land spirit and traditional Nuosu forestry practices. Harnessing their social scientific skills, they reminded everyone at the rituals to respect China's forestry policies and the environmental science behind them. But despite their best efforts, many loggers remained largely unmoved. Responding to the sacrificial contracts in a way that no one had predicted, the loggers chose to cut down all but the one tree at which Fijy had directed his ritual on the mountain.

Some months later, Mitsu and Fijy learned of this ironic denouement when making their usual research trips across the county. Riding in cars that, by necessity, often snake their way at a leisurely pace along steep highland and upland roads, they repeatedly caught sight of something strange through their car windows: a single tree standing on an otherwise bare mountain. Gradually they realised that these lone trees had been central to Fijy's work. Although Nuosu across Niplat had not taken Fijy's rituals fully to heart, they had decided it would be too risky to cut down the one tree chosen to represent the land spirit in each sacrifice. Their idea was that the land spirit might return to this tree, potentially take on its form, or angrily retaliate against the decision to destroy its ritual representative that, given Fijy's sacrificial contract, should have been allowed to live and thrive. Many Nuosu therefore came to envisage the tree that represented the local land spirit and, by extension, its forested territory as a 'symbol that stands for itself' (Wagner 1986).

In typical Nuosu style, Mitsu and Fijy managed to find humour in this. Mitsu took to sharing the story about these sacrifices as a joke with his friends, even adding his own wry punchline to it that 'only one tree was allowed to remain standing' (*syrbbo cyp bbo axdi goxzzur* ꌷꀻꁏꀒꄷꈎ). This punchline became a favourite of Tuosat, who shared it with me many times through fits of laughter. It turned out that while Fijy's ritual was meant to promote a new vision of animistic, indigenous scientific, social scientific, natural scientific, and policy-driven responsibility across Niplat, many Nuosu had rebuffed it. Like Mitsu, Fijy, and the Chairman of the Lijiang CPPCC, these Nuosu had unleashed the kinds of 'counter-discourses and counter-narratives in which the Yi people attempt locally to steer state discourses in an opposite direction' (Heberer 2014, p. 752). However, their counter vision had made a mockery of the scholarly and official view across Liangshan that forest preservation 'is part and parcel of nature worship and the traditional concept of harmony among the Yi [. . . which] includes the protection of local flora and fauna as part of animist perceptions and the worship of nature' (Heberer 2014, p. 753).

　　　　Tuosat told me during my summer 2015 fieldwork in Niplat that the unprecedented response to Fijy's ritual can be understood in terms of the logic of 'parts and wholes' (Strathern 1992). He explained that many Nuosu associated the trees that were central to Fijy's sacrifices with what they felt were probably dubious land spirits. Going further, they had allowed these same trees to stand in for the entire forests of which they had originally been a part. Just as Mitsu and Fijy had selected a single tree to represent the land spirit and its territory, so many loggers had allowed this same tree to represent the entire forest that they had practically cut down. According to Tuosat, Nuosu often draw the kinds of metonymic relations that facilitated the loggers' dramatic fait accompli. For example, the foreboding sentiments that frequently prevent Nuosu from cutting down even a single tree in 'sacred groves (with names like 'dragon tree forests' [Ch. *long shulin* (龙树林)])' that are 'kept near villages' tend to also make them uneasy with cutting down 'ancient, solitary trees' that have sacred qualities (Bender et al. 2019, p. lxxxvi). Felling any of these trees may be interpreted as an attack on not just one tree, but on a whole sacred grove or the land spirit's entire territory. So, what the loggers who allowed only one tree to remain standing did was to invert—and even lampoon—the typical way of interpreting the Nuosu animistic logic of parts and wholes in Niplat. But the loggers had to take care when dismantling their constructs in this fashion. Cutting down the tree that represented the land spirit would have been going a step too far, or rather a step too close, to 'cutting the network' of relationships to it (Strathern 1996). Many loggers across Niplat therefore communicated their counter cosmological vision in an indirect, oblique, and subversive way to Mitsu, Fijy, the Chairman of the Lijiang CPPCC, and any land spirits that may have resided on the mountains where Fijy's sacrifices were held.

　　　　Revealingly, Tuosat observed that many loggers had even experimented with how many trees the local land spirit would let them get away with cutting at a time. They started off by cutting down the trees furthest away from the one that Fijy had chosen to represent the land spirit. If no harm, illnesses, or other troubles came their way, they pressed on with their wood cutting, pausing as and when needed to check that the land spirit was still content, until they had cleared all but one tree from a mountain. This trial and error approach to tree cutting reassured many Nuosu that they had pursued the right cosmological vision, which was based on their own select assemblage of animistic and indigenous scientific constructs. Like nearly every influential vision, the loggers' counter vision led to cosmological proliferation. Many Nuosu across Niplat have since labelled certain mountains as safe for wood cutting and classed others as entirely off limits for human use, based on what (if any) land spirits were found to inhabit them (Figure 4). Having unsettled their traditional construct of avoiding the land spirit's wrath in every possible circumstance, these Nuosu now envision the land spirit's tolerance for logging, removing tree branches for firewood, and other forms of wood harvesting as something that is location-specific, amenable to cautious experimentation, and often worth testing to its limits.

Figure 4. A mountain where a land spirit resides, which is off limits for human use, stands behind smaller mountains used for swidden agriculture and wood harvesting, Niplat, 2015. Photograph by the author.

4. Summoning a Larger Vision of Oneself

An even fuller explanation for this counter vision can be traced to the ways in which many Nuosu come to recognise a mountain, or any other forested terrain, as being sacred in the first place. Recounting the now well-known story behind the discovery of the land spirit in his home village, Tuosat told me about the man I call Syrkie, who had cut down a great, big, and probably ancient, solitary tree many years ago. Not content to just fell the tree, Syrkie had pulled its stump right out of the ground, exposing its roots in the process, and leaving behind a large scar on the mountain. Worse yet, he had burned the entire tree, including its stump and roots, as firewood. At the time, no land spirit had been identified as the local territorial deity. But when Syrkie started to show symptoms of mental illness, it became clear that he had inadvertently offended a land spirit.

Madness is manifest in numerous ways among Nuosu, who tend to divine its cause by consulting priestly scriptures, reading a sheep's scapula, or cracking an egg into a bowl half-filled with water to read the bubbles that form in it—all of which may reveal that a particular case of mental illness would be best treated by a medical doctor (Jiarimuji and Yang 2022, p. 95). Usually, though, mental illness is attributed to a variety of ghosts or spirits, including land spirits, that may make a person confused, disoriented, forgetful, irritable, alcoholic, or prone to exhibiting strange behaviour, speaking nonsense, making sexual advances or obscene remarks in public, or even moving between manic and calm dispositions (Jiarimuji and Yang 2022, pp. 97–98 and 100). Some Nuosu in Niplat have also found that when people pollute the land spirit's territory, it afflicts them with the compulsion to frequently wash their hands, bodies, or clothing (Jiarimuji and Yang 2022, p. 95).

Originally, the Nuosu word for 'mental illnesses' (*vu* ꃴ) meant either 'trembling' or 'dancing' and evoked the movements that shamans often make when learning to control their spirit helpers (Jiarimuji and Yang 2022, p. 95).[2] Novice shamans are renowned for exhibiting strange movements and behaviours when the 'spirit helpers of male shamans' (*sunyit wasa* ꌐꑴꊂꌦ) or, alternatively, the 'spirit helpers of female shamans' (*mopnyit wasa*

ꀕꊖꑌꁨ) suddenly descend upon them from the wilderness (Swancutt 2022a, p. 124). These strange behaviours, which resemble symptoms of madness, include speaking to oneself or to dead ancestors, chanting as though one were a priest or a shaman, and having visions (Jiarimuji and Yang 2022, p. 98). Many shamans exhibit the wild and even crazy qualities of their spirit helpers, particularly during the first two to three years of their vocation, after which their powers often gradually diminish (Figure 5). Similarly, many priests draw upon their 'priestly spirit helpers' (*bimox wasa* ꀘꂽꑌꁨ) to see ghosts, spirits, and visions, although their powers are often sourced to their lifelong learning of the Nuosu scriptures (Figure 6). Priests harness their visionary powers when conducting the 'ritual for spirit helpers' (*wasa hlo* ꑌꁨꆿ), which is an initiation that enables novice shamans to master their spirit helpers (Swancutt 2022a, p. 129). Both priests and shamans therefore work with their spirit helpers to creatively hit upon new ways of resolving problems, such as madness, that may penetrate their client's body, household, the spaces in which rituals are held, and even the client's total living environment, or 'position in the world', which includes the roads around the home, any nearby mountains, and the ghosts or spirits residing there (Swancutt 2021b, p. 20).

Figure 5. A Nuosu shaman holds a brass bell with a bundle of knotted ribbons attached to it while standing behind his clients, some of whom are seated by the household threshold beneath a large winnowing basket that is held over them to protect them from ghosts. The shaman chants and expels ghosts during an exorcism in Niplat, 2011. Photograph by the author.

When Tuosat told me about the madness that the land spirit had inflicted upon Syrkie, I already knew that priests, shamans, and even religious specialists from other minority nationalities of China may introduce new cosmological visions that shape the Nuosu world. I later learned from Tuosat that mentally ill Nuosu tend to avoid religious specialists whose spirit helpers are stronger than the spirits that had caused their own afflictions. Tuosat recounted to me the story of how Syrkie hid under his bed one day, which prompted Syrkie's brother, who I call Ggie, to find out the reason for this strange behaviour. Looking outside, Ggie caught sight of a father and son, who were priests of the Premi nationality that practice both animism and Tibetan (Gelug) Buddhism. This made Ggie suddenly con-

nect the madness of his sibling to the history of the area. Ggie recalled that Nuosu had only migrated to Niplat in the past 150–200 years, pushing many people from other ethnic backgrounds into adjacent areas as they did. Before that, his village had been Premi land and, Ggie reasoned, it was likely still home to the animistic beings that Premi had formerly cared for there. Guessing that the Premi priests had powerful spirit helpers that could treat Syrkie, who appeared to be hiding from them, Ggie summoned the priests over to hold a ritual on the spot. Remarkably, the Premi priests managed to cure Syrkie of his madness—at least for a while—by identifying the exact area on the mountain where he had cut down the ancient and solitary tree. The Premi priests' solution suggested to Nuosu living on the same mountain as Syrkie that they should uphold the old sacrificial contracts that the Premi inhabitants had formerly made to the local land spirit. From this time onward, Syrkie's wife worked hard to ensure that no one would cut down any more trees on the mountain. But when she died, many Nuosu started felling trees on the mountain again until they also showed symptoms of madness. At that point, everyone in the village made a collective decision to acknowledge their local land spirit and to prohibit anyone from cutting down trees, removing tree branches, or even gathering fallen wood from the mountain on which it resides. They also started treating their land spirit with the respect that Nuosu across Niplat typically show to land spirits that have been collectively acknowledged. Their vision complemented not only the old Nuosu science of forestry that prohibits heavy wood harvesting and the uprooting of tree stumps, but also China's forest protection policies and transnational environmental science.

Figure 6. A Nuosu priest chants scriptures in front of an effigy of the roads that ghosts should take when leaving the home during a ritual exorcism in Niplat, 2011. Photograph by the author.

Wrapping up his explanation, Tuosat mused that many Nuosu only collectively adopt a new cosmological vision when pushed to do so by the land spirits, ghosts, gods, ancestors, or other spirit beings that might harm their health and living environments. He added that there are two main reasons why the land spirit's territory has continued to remain densely forested in his home village. One is the fear and respect that his fellow villagers have for their land spirit. Another is that the villagers can easily obtain wood from other nearby mountains. The strategy of Tuosat's fellow villagers, then, suggests that Nuosu

who pursue a cosmological vision—or a counter cosmological vision—set out to summon a larger vision of themselves in Strathernian terms. Visions like these proliferate over time as Nuosu seek not only to be alive to the world, but to thrive within it.

5. A Proliferation of Visions

Around a year after Mitsu and Fijy had come to grips with the results of their failed sacrifices to the land spirits, I was learning about another ecological initiative that had been spearheaded by the Niplat county government—the cash cropping of Yunnan pine trees. It was summer 2011 and I was carrying out fieldwork in Tuosat's home village where some Nuosu were just starting to invest in the Yunnan pine saplings being sold at the government-subsidised rate. Since around 2008, the county had been facilitating the sale of these trees to meet its reforestation targets. Several village households had filled their spare agricultural plots with young trees, which they were growing into the more mature and hardy specimens that would be transplanted to deforested mountains across the county (Figure 7). I was curious about how the Yunnan pine initiative might have fit with the other cosmological visions of my Nuosu research partners. Cash cropping was already a familiar enterprise across Niplat, where many Nuosu grew apples, potatoes, and certain fashionable Chinese medicinal plants that often brought in a good profit. These ventures were reminiscent of the cash cropping experiments among Nuosu living further to the east in Liangshan, who grew hybrid corn and Sichuan chili peppers for sale (Ho 2004; Warren 2005; Kyllo 2007). Growing Yunnan pine, though, was an especially savvy move—and not just because Fijy's sacrifices suggested that these trees would be lucrative for those who could wait out the growing time needed before cashing in on their investments. China has also set out to raise its total forest coverage to 200 million hectares by 2035 (Yang 2019). More households in Tuosat's home village have therefore taken to cash cropping Yunnan pine, with some even investing in irrigation equipment (Figure 8).

I asked Tuosat whether the Yunnan pine initiative might somehow be related to the logging across Niplat, even if the same people who cash crop young trees are not the same people who cut down mature trees. As Tuosat and I had often observed that deforestation and reforestation are closely linked in Southwest China, it seemed to me that the Yunnan pine venture might have provided some Nuosu with a new way of repaying old debts to the land spirits. However, when I asked Tuosat if anyone in his home village might have envisioned soothing their disgruntled land spirit by planting young trees on the nearby mountains, he highly doubted this would be the case. He reminded me that many Nuosu in Niplat consider the Yunnan pine initiative to be just a good business opportunity.

Yet my question was not entirely beside the point, as it prompted to Tuosat tell me about a new cosmological vision for treating madness that had been popularised by the Nuosu priest who, by all appearances, had finally cured Syrkie. Madness according to this vision is caused not only by disgruntled land spirits but by cases of 'over-ritual' (Ch. *yishi guodu* 仪式过度), which bloat patients with the words chanted by the priests and shamans who have held many error-filled or failed rituals for them (Jiarimuji 2022, p. 195, see also 204–5). These words fill the bodies of the mentally ill, their households, the spaces in which rituals are held for them, and their wider living environments until they are ritually released—literally by having the patient spit them out, potentially together with the pills prescribed by biomedical doctors for madness (Jiarimuji 2022, pp. 194–95). Here, the idea is that patients may be overwhelmed by the proliferation of incorrect visions used to treat them, including those that are built on a variety of animistic and scientific constructs. The priests who ritually release these incorrect visions, then, tackle them at multiple levels of the Nuosu complete cosmology, although they tend to stress the primary importance of their animistic treatments within it. Having been made aware of the dangers of incorrect visions, some Nuosu in Niplat now take extra care in how they approach, and ultimately experiment with, any new cosmological vision. But since no one can singlehandedly stop the proliferation of visions, the priest who cured Syrkie recommended that Nuosu find

ways of countering, ritually releasing, and detaching themselves from any visions that may prevent them from thriving.

Figure 7. The cash cropping of Yunnan pine trees in Niplat which, when more mature, would be transplanted to deforested mountains such as those in the background, 2011. Photograph by the author.

Figure 8. Yunnan pine trees being cash cropped with irrigation in Niplat, 2019. Photograph by the author.

6. Conclusions

Throughout this article, I have shown that Nuosu unleash creativity of cosmological proportions by introducing cosmological visions or counter visions that are built upon their animistic, indigenous scientific, social scientific, and natural scientific constructs. Each of the cosmological visions that I have described underscores this point, from China's forest protection policies of the late 1990s and early 2000s that propounded Han ethno-agriculture and transnational environmental science to the vision of the Chairman of the Lijiang CPPCC who funded sacrifices to land spirits across Niplat. Mitsu and Fijy drew upon both these visions when explaining to Nuosu loggers why they should honour their sacrificial contracts to land spirits and refrain from tree cutting. But the loggers put forth their counter vision of allowing only one tree to remain standing. Another vision emerged in Tuosat's home village, where the land spirit was collectively acknowledged to protect against madness. However, many Nuosu in this same village approached the government's vision of cash cropping Yunnan pine as just a good business opportunity. Finally, the priest who cured Syrkie warned that the many visions proliferating across Liangshan should be approached with care because they may lead to cases of 'over-ritual'.

Behind this proliferation of visions lies the creative work of many Nuosu who relate to and simultaneously dismantle their constructs of the world. There should be no doubt that practical considerations underpin these visions, as was the case for the loggers who chose to protect their livelihoods by cutting down all but one lone tree on a mountain. Nevertheless, these visions cannot be exclusively explained away as 'a short-term pattern of behaviour arising from a specific local situation, in this case extreme poverty' (Heberer 2014, p. 754). Beyond the lack of local industry in Niplat are the creative visions that many Nuosu experiment with, often through trial and error, in hopes of thriving within their own complete cosmology. Visions like these may go further than testing the patience of land spirits; they may unleash an unprecedented 'forest of symbols' that underscores the full power and value of indigenous autonomy (Turner 1967). So, while the counter vision pursued by many loggers across Niplat contributed to the destruction of nearly entire forests, it had the virtue of asserting that the Nuosu animistic logic of parts and wholes—and Nuosu autonomy over local resources—had been kept firmly in indigenous hands. Since cosmological visions proliferate among Nuosu, there is every likelihood that their forested resources would recover more readily under the watch of the villagers who plant them up with Yunnan pine, or who practice a form of swidden agriculture that encourages agrobiodiversity, than they would if their creative approaches to animism, indigenous science, and forestry were not a part of the picture.

Cosmological visions, then, may shape more than cosmologies. They may shape how people navigate the many competing interests in their lives. Creative visions like these are not unique to any form of animism, science, or, for that matter, the Nuosu. Born out of necessity and invention, cosmological visions are the offspring of sensibilities that thrive on being creatively shaken up. As visions, they suggest there is a middle ground not only between the many animisms and sciences in the world, but also between the many varied ways of relating to or detaching oneself from them. This middle ground may take the form of a government initiative that combines elements of official policy, animistic practice, indigenous science, social science, natural science, and the wider planetary concerns of climate change, or it may unfold as a brave animistic refusal of all but the best that any science has to offer. In either case, cosmological visions have the power to shape our sense of what it means to be alive to the world.

Notes

[1] Nuosu terms are transliterated with tonal markers except in the cases of certain authors' names that are conventionally spelled without them. Tonal markers in Nuosu are written as consonants that always appear at the end of a syllable ('t' denotes a high tone, 'x' denotes a high-mid tone, 'p' denotes a low falling tone, and the mid tone has no marker). These consonants are not pronounced when used as tonal markers. The county of Niplat (ꆀꆧ), for example, is a compound word composed of a syllable with a low falling tone followed by a syllable with a high tone, which should be pronounced like 'Nila'. All Nuosu terms are also rendered in Nuosu script. Chinese terms are preceded by 'Ch.', transliterated into pinyin, and rendered in Chinese characters.

[2] Jiarimuji and Yang draw upon Asudaling (2008) in their discussion of the origins of the Nuosu term for 'mental illnesses' (*vu* ꃴ). Asudaling, though, uses a different Nuosu glyph—*vy* (ꃺ)—to evoke the 'deliberate' or 'controlled' qualities of shamanic feats like using the shaman's drum to divine (Asudaling 2008, p. 67). The Nuosu words *vu* and *vy* have a fairly similar pronunciation, and both sound close to the Chinese terms for 'dance' (Ch. *wu* 舞) and 'shaman' (Ch. *wu* 巫). Nevertheless, *vu* and *vy* carry a range of different and not necessarily related meanings.

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