Road animism: Reflections on the life of infrastructures

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In recent contributions to the emerging anthropology of infrastructure, the issue of agency often plays the role of the proverbial elephant in the room—an area that most scholars are reluctant to engage with. In this paper we highlight the implicit dichotomization between human and non-human that characterizes this body of literature. In so doing we approach the question of agency not as a subjective property emanating from a conscious self—what would be very much the way traditional anthropology has come to imagine animism. Rather, by turning such an understanding of agency on its head, we take the animacy of the in-between as the starting point from which life unfolds. According to Tim Ingold's work on the subject, this view is consistent with the cosmologies of people traditionally described as "animists." Yet unlike conventional understandings of the term, Ingold describes this ontology as an openness to a world in becoming. Here what brings things into existence is not an animating principle inscribed within them, but rather the potential of the field of relations in which they are embedded. We suggest that this analytical reversal can provide us with a novel framework for the analysis of infrastructures. Accordingly, we argue that roads' doings cannot be understood as active subjectivity or a function of their material resilience. Instead of connecting, roads should be understood as growing out of connections—as an "in-between" in which their doing is also their undergoing. We will make this argument through ethnographic cases from Pakistan, Nepal, China, Myanmar, and Austria.

Key words: roads, infrastructure, animism, agency of things, Ingold

Trying to explain the impact of the Karakoram Highway on Gilgit-Baltistan (Pakistan), Sherbaz Ali Bercha used the following metaphor: "When you open the window to air your room," he told Alessandro during a hot summer day in his office in the Gilgit Library, "fresh air will come in; but with it," he added, "mosquitos, pollution, and dust will also make their way into the house." His opinion was shared by most in the region. Virtually no one seemed to underestimate the positive impact of the road on the local economy, providing access to goods that were previously unavailable such as rice and sugar. On the other hand, few failed to highlight the negative impacts of the road on the local culture, often implicitly blaming it for the now widespread sectarian violence and the shrinking autonomy of the northern areas.

Yet while all those conversations highlighted important issues for the people of Gilgit-Baltistan, what fascinated us was the way in which people talked about the road. In their words, it was the Karakoram Highway that brought these changes and improved the local economy while also making it more dependent on the national economy. It was the Karakoram Highway that destroyed traditional cultures and ended centuries of de facto self-governance. Further questions, then, rather than focusing on the road's impacts on local communities, moved to the issue of the very status of the road for the people of Gilgit-Baltistan. Does the road, we could ask, have some kind of agency? Can the road produce all these changes? Why would people treat the road as if it were a subject? Importantly, these are questions that do not only matter for the people of Gilgit-Baltistan and for the case of the Karakoram Highway. Infrastructures such as roads have a great impact on the lives of people in all corners of the world. They are often charged with expectations, fears, anxieties, and met with either fierce opposition or vocal support—and, not rarely, with both.

In 2014, during a workshop in Berlin, as Alessandro was trying to convey this range of emotions through the case of the Karakoram Highway, he was accused—rather benevolently —of "road animism:" of treating the road as an agent, a subject capable of actually doing things. With time and through discussions with colleagues and friends, we began to wonder what could be gained from following this lead, in trying to think about infrastructures through the prism of what anthropologists have defined as animism. This paper is the result of this effort. In it, we start from Tim Ingold's (2011) discussion of animism. Accordingly, we do not argue that life is in roads. Roads, however, are in life, enmeshing social worlds, environmental configurations, imaginaries, and temporalities. On the one hand, roads are the outcome of human planning, construction, maintenance, dis-engagement, as well as the site of contention, anxieties, and expectations. On the other hand, however, roads, even before their material appearance, co-participate in the production of the social, political, environmental, and spiritual worlds that they inhabit. What follows, then, is an exploration of these dispersed dynamics and their role in the production of new configurations of the world. In so doing this article does not only contribute to the

growing literature on roads in anthropology, but also to the ongoing debate on the agency of things (e.g. Bennett 2010a; Ingold 2012; Povinelli 2016), as well as offering a new take on one of anthropology's oldest obsessions: animism.

To go back to Sherbaz Ali Bercha's reflection on the Karakoram Highway, we do not argue that his perspective is animist in the sense described by Steward Guthrie (1993): it neither "animates" the road nor "anthropomorphizes" it. Sherbaz Ali Bercha understands the road from "within" a specific environment of which it has become a fundamental part. The road is not detached from the social, economic, and environmental relations that characterize the region, but it contributes to its specific configuration. The Karakoram Highway, then, does not exist outside of these relations. Its impact on the cultural, social, political, and environmental life of Gilgit-Baltistan goes well beyond its material presence and its connective role. The highway actively participates in shaping the ways in which people of Gilgit-Baltistan conceptualize their position within Pakistan, understand their past, and imagine their future. Following Ingold (2011: 70), this paper questions the distinction between those processes of reconfiguration ("relations"), and the materiality of the road ("things"). Instead, the road is understood as becoming those very relations. Or to put it a different way, the road's doing is also its undergoing (Ingold 2015: 125)—a perspective that challenges classic opposition between the active and the passive.

In recent contributions to the emerging anthropology of infrastructure, the issue of agency often seems to play the role of the proverbial elephant in the room: an area that most scholars are reluctant to engage with. One of the few authors to address the issue head-on is Caspar Brun Jensen. In his discussion of hydropower development along the Mekong, he takes a cue from Jane Bennett's notion of thing-power while at the same time alleging that "how to deal with the forces of things remains elusive" (Jensen 2019: 122). Certainly, for Jensen, as in much of this recent literature, we sense an agreement that infrastructures are not just material assemblages of iron and concrete, but entangled with environments, politics, ambitions, social asymmetries, and so on. Building upon this discussion, road animism represents a novel way to understand how these entanglements actually unfold—often in ways that are clearly beyond the

scope of human agency and its intended material and socio-political outcome. This is where our approach offers a novel frame to make sense of the doings of infrastructures. To allow for a road to conceptually become an integral part of a living environment rather than a however complicated technopolitical intervention makes it possible to see and describe these processes of unfolding in a more comprehensive way. You can bring a road to life (through dreaming, planning, construction), you can neglect it and strip it of its original purpose, you can bypass it, tame it through checkpoints, "sleeping policemen" (Latour 1994) and traffic rules—but you cannot kill it. Not because it has a soul, but because its entanglements with its similarly "leaking" surroundings quickly grow so manifold that you can no longer get rid of it.

Furthermore, by taking seriously the question of the agency of roads, we critique the implicit dichotomization between human and non-human that characterizes the literature on infrastructure as well as much of the recent work in "new materialism." In so doing we approach the question of agency not as a subjective quality emanating from a conscious self—what would be very much the way traditional anthropology has come to imagine animism. Rather, by turning such an understanding of agency on its head we can appreciate how this body of literature is still trapped within what Ingold calls the "logic of inversion." This logic reduces life to an "internal property" of things. Things are thus first separated from the field of relations through which they emerge, and understood as objects that occupy the world. In a second step, they are infused with life—as a property, agency, or as a spirit. By way of inversion, modern thought replaces an understanding of entities as nodes within a nexus of relations and instead closes them in upon themselves (Ingold 2011: 68). It assumes boundaries between beings, objects, and materials, which are then—in some cases—infused with life through the concept of agency.

Take, for example, the work of Jane Bennett. While frequently evoking her intention to "develop a theory of distributive agency" (Bennett 2010a: 21), her concept of "thing-power" remains trapped in the logic of inversion when she proclaims: "I will try, impossibly, to name the moment of independence (from subjectivity) possessed by things, a moment that must be there, since things do in fact affect other bodies, enhancing or weakening their power" (ibid.: 3). In order to "give voice to a vitality intrinsic to materiality"

(ibid.), she focuses on the "out-side" and loses track of the in-between. In order to acknowledge this "vitality," then, she introduces a quasi-spiritual quality that functions as a form of "ether"-transmitting vitality: entelechy. She borrows the term from Hans Driesch (in Bennett 2010b: 51) who calls it "the non-mechanical agent responsible for the phenomena of life." Once again, in order to account for life, the solution is to find an animating principle—rather than locate life in the entanglements through which materials come into being. In their critique of Bennett's discussion of omega-3 fatty acids, Sebastian Abrahamson et al. (2015) develop a similar argument. They show how, in referring to a paper on a trial conducted with prisoners who were given nutritional supplements, Bennett isolates omega-3 as the sole cause for a reduction of violence without considering the complex mix of vitamins and minerals that came along with the omega-3: "Things, so we seek to stress, neither 'cause' effects nor 'act' all by themselves. Materialities work in concert; they are relational" (ibid.: 14).

Thinking along those lines we propose to address things in life through "the generative fluxes of the world of materials in which they came into being and continue to subsist" (Ingold 2011: 29). Here the animacy of the in-between is taken as the starting point—the (non) place, if you will, where life unfolds. According to Ingold, this view is consistent with the cosmologies of people traditionally described as "animists." Yet unlike conventional understandings of the term, referring to a system of belief that imputes life to inert objects, Ingold describes this "animic ontology" (2011: 63) as an openness to a world in becoming. Here what brings things into existence is not an animating principle inscribed within them, but rather the potential of the field of relations that he calls the meshwork. We suggest that this analytical reversal should be a starting point for the analysis of infrastructures. The main concern here is not to show what roles a road plays within a specific cosmology, but rather to address a much more fundamental question about infrastructure. What does it mean, for roads, to be in life? What are the doings of roads? How are roads enforcing/establishing/disrupting relations across different scales and realms?

This is not, strictly speaking, an *ethnographic* paper. While we have both been working on issues of infrastructure development in different contexts for the better part of a decade, this paper does not

move from one single case study to make a broader argument about roads. Rather, we follow the life of roads—their construction, decay, stubborn resilience, and death—through a number of vignettes from our respective field sites, moving rather freely across continents, from Austria to Nepal, Pakistan and Myanmar, telling stories of roads that speak to each other more than what their different contexts might suggest. These are stories of roads that refuse to arrive or that are decades late, of roads that drown and of roads that survive their own death. There are roads that lead nowhere, and yet attract a lot of traffic. The purpose of this approach is to undo that "unfortunate wall," as Anna Tsing puts it (2015: 158–9), that "we have built between concepts and stories," and build an argument based on the words of the people we have met, talked to, travelled with, and followed.

In particular, in the different sections of this paper we address specific aspects of how roads have been understood and analyzed by the emergent literature on the subject in anthropology: as indexes of modernity, as technologies of distantiation, as material interventions which are subjected to decay and death, and as connective of more than faraway places. For each of these aspects we show how our approach can help to overcome a particular bias that lies at the core of this body of literature. Thus the first two sections show how roads—and their absence—can shape social spaces in rather unpredictable ways. They both discuss how people in Nepal's Upper Arun valley have been waiting for a suspended road project for over twenty years and how they engage with the road's absent presence. The following section addresses the issue of the material decay of roads, and of their resilience in both material and imaginative forms. To understand this, we argue, roads cannot be addressed as "active" agents or as merely "passive" material infrastructure. The last section takes on a different kind of roads: roads that lead nowhere. Through examples from logging roads in Austria and Southeast Asia, we argue that even when roads do not carry modernist projections of development, they are still generative of competing imaginaries and communal identities, and can be at the same time devices of destruction and exclusion. Once again, roads seem to act inconsistently, capriciously, unpredictably—they never fail to astonish us. This doing, we conclude, is not a property of roads or of the materials they are made of, but rather emerges from and

through their entanglements with the world. Building upon these cases, throughout the various sections we go back to the theoretical questions that lie at the core of this paper and elaborate on our distinct contribution to this body of literature by showing how an animist perspective provides a critique of the dichotomization that is implicit to much literature on infrastructure and new materialism.

Arriving for a funeral: the road that is almost …

In her contribution to *Writing culture*, Mary Louise Pratt (1986: 27–8) focused on "the vexed but important relationship between narrative and impersonal description in ethnographic writing." For this purpose, she engages at length with anthropologists' accounts of their arrival in the field. The arrival trope in classical ethnographies, she argues, displays a clear continuity with travel writing: "Evans-Pritchard joins a century-long line of African travellers who lose their supplies and cannot control their bearers" (ibid.: 39). Often, these accounts include the idyllic depiction of a native village at dawn as seen from a ship or a viewpoint followed by the formal welcome of the anthropologist and the ritual exchange of presents.

Different from Pratt's classic examples, today the majority of anthropologists use roads to approach their field sites, or at least to cover part of the way. Take Matthäus's example: in November 2008, he for the first time travelled from Kathmandu to Hedangna in Nepal's Upper Arun valley, a trip that took roughly 30 hours on buses and jeeps and 8 hours of hiking. It was already dark when Matthäus and his friend Chun Bahadur Rai arrived, and it had just started to rain. Chun Bahadur's mother shooed them inside the house and started to serve dinner immediately. Soon they heard the bad news: a boy had fallen off a cliff. He was alive, but severely injured. As one of the two trained paramedics in the village, Chun Bahadur's brother had been called to the emergency, but could do nothing except disinfect and staunch the bleeding. When Matthäus got up the next morning, he learned that the boy had died. Coming from a similarly mountainous landscape in the Austrian Alps where a ride to the nearest hospital is a matter of minutes, Matthäus could not stop thinking that the boy might have survived had the road

been there, as the next hospital was only some 20 km to the south. Yet over the next few days, rather surprisingly, nobody in the village was connecting the tragedy to the lack of a road. Instead, people were mourning the casualty as a fatal accident not uncommon in such a hazardous landscape. At the same time, however, the absence of the road was a constant subject of complaint for the inhabitants of the valley. It was not just that there was no road, it had been promised twenty years before and had so far failed to arrive and deliver what many people in the region expected: greater mobility, job opportunities, easier market access and enhanced services in general. Even in its absence then, the road seemed to contribute unevenly to specific imaginaries. Its ubiquitousness in people's aspirations was in stark contrast to its absence in the way they tried to make sense of the accident.

In Nepal, as elsewhere, the construction of roads is at the heart of the idea of development (Campbell 2010). On the example of post-revolutionary France, James Scott (1998: 73) argued that roads were one of the essential modern technologies that made provinces "far more accessible, far more legible, to central authorities than even the absolutist kings had imagined." Despite all the changes that the postcolonial development paradigm has gone through, building roads continues to occupy one of the top ranks on the development agenda for Western donors, governments in the global South as well as many of their citizens (e.g. Andrés et al. 2013). But, as Penny Harvey (2012) claims, such "topographical" understandings of roads as stabilizing modern state-making projects run the risk of reducing them to a simplistic "idea of roads systems as imposed grids which integrate state-space through the connective force of a network" (Harvey 2012: 79). Against attempts to reduce roads in this sense, Harvey points to the complex plurality of infrastructural spaces and therefore suggests an approach that might offer "a language for articulating the instability and fluctuation of state territory" (2012: 77). Furthermore, as Brian Larkin (2013: 333) argues, following Walter Benjamin, "roads and railways are not just technical objects [...] but also operate on the level of fantasy and desire. They encode dreams of individuals and societies and are the vehicles whereby those fantasies are transmitted and made emotionally real." What the example of the Arun valley road shows is that neither this process of "encoding," nor modern state-

making attempts through road construction, are unidirectional ones. Rather, they are the outcome of contingent relations between different entities wherein roads directly contribute to the production of specific configurations of desire and disappointment. It is in these engagements, we argue, that roads show their "liveliness." Engagements that, as the case of the boy's tragic accident clearly shows, are unpredictable and contextual, and directly point to roads' roles in shaping social spaces, imaginaries, and uneven landscapes of inclusion and exclusion.

To be sure, the literature on infrastructure has pointed towards this contingency, and to how the relations between roads and their (socio-economic) environment is bi-directional and contextual. Roads, for instance, have often been analysed as the site of expectations and promises (Campbell 2010; Dalakoglou 2010; Harvey and Knox 2012), and as holding a central place in the ways the state enacts its territorial integrity and is imagined by its citizens (Gluckman 1958; Blaikie et al. 1977; Scott 1998; Haines 2004, 2012; Wilson 2004; Harvey 2005; Campbell 2012; Joniak-Lüthi 2015). As Adeline Masquelier (2002: 829) reminds us with the example of Niger, in many parts of the global South "roads are the embodiment of colonial experience." Thus, while roads serve as the central tool of increasing control over territories and the rule over population in modern projects of state-making, these same roads give people enhanced opportunities for movement as well as access to new markets and commodities (Harvey 2012). By allowing new forms of mobility, roads reshape social and cultural worlds (Mostowlansky 2011, 2017), and impact the landscape (Aporta 2004) through which they are planned and constructed, but also abandoned and forgotten. In much development rhetoric this particular doing of roads is quite evident: they are supposed to bring services, open up markets, create job opportunities, and so on. More generally, as Harvey et al. (2017: 12) remind us, many "have pointed to what we can call the recursive relation between the making of infrastructure and the shaping of society [...] in which forms of infrastructure generate effects that loop back upon society, organizations and people, re-shaping them in turn."

While such observations about roads are certainly true, our argument poses the question of the embeddedness of infrastructures in a more fundamental way. Here the "recursive movement" to which Harvey et al. refer, is understood as central to the life of roads themselves. To put it with Ingold (2011: 63–4), it might be a form of astonishment, but not of surprise: it is not unexpected, different from what was previously thought. Rather, this recursive relation is exactly what is to be expected if we understand roads as being in life, and not just as distinct, bounded entities. Roads, here, are neither passive nor active in the conventional sense of such terms. As unbounded entanglements, roads *are* this recursive relation as much as its by-products. Agency here is not in the road per se—as the recursive relation approach implies—and neither is it dispersed in the relations between roads and their environments, as in actor-network theory. By looking at roads from Ingold's discussion of animism, the question of agency, or of the active/passive role of roads, becomes irrelevant. If roads are such entanglements, and their doing is their becoming, then the issue to address is not the agency of roads, but rather the ways in which such processes of becoming unfold through, across, and around roads. With the arrival of the Arun valley road, this is what we move on to analyze in the following section.

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A couple of months after the tragic death of the teenager, Matthäus was on his way back up the valley and decided to walk along the stretch of the road that had recently been completed. Now that the road had arrived, the main question was what changes it was bringing. In Pangma three women aged twenty to fifty told him that the road was very beneficial for the people in the village. Now it was much easier for them to sell vegetables and many families had intensified their cultivation of mandarins due to the increased connectivity. When asked about the downsides of the road, they could name only one: the dust. But further up the ridge Matthäus heard different opinions. In Botebas, a peasant couple said that the road brought "No benefit. The cars go up to the village and it's difficult for us to catch them. [...] They hardly stop at our place and the road has taken away our land." Here, as Pedersen and Bunkenborg (2012)

have argued in the case of the Sino–Mongolian border, the road acted as a "technology of distantiation," keeping the villages disconnected from the travelers speeding up the valley road. Furthermore, this negative characterization of the road was made even more clear by the couple's allusion to the lack of appropriate compensation for the land lost. Later that day, after passing the road head (Figure 1) and continuing on the foot trail, another man seemed completely disillusioned about the prospect of the road. "Sometimes it feels like the road will be made," he said, "sometimes it feels like it will not. It has just been a topic of constant arguments. I heard it will arrive by [the month of] Poush [mid-December to mid-January], where is it?" When Matthäus pressed on asking: "If the road comes, will it bring advantages or disadvantages for you?" he replied with a shrug of his shoulders: "Nothing will happen to me. What can happen?"

Figure 1: A boy guarding rice and beer near the road head at Kuwapani, Nepal (Rest, 2012).

In 2014, after more than twenty years of delay, the road reached the dam site of the planned Arun-3 hydropower project (Rest 2012). In the meantime, the government had decided to extend the road all the way up to the Chinese border. Compared to other "frontier towns," Num, the village above the dam site on the left bank of the Arun, had adapted well to the road. Whereas back in 2011 some informants had threatened to halt road construction due to contradictory rumors about the width of the road, after its arrival they were happy about it. It even seemed that people had come to terms with the main problem connected to a road that was twenty years late: the fact that landowners were compensated for their land in 1992, but in 1996 were able to obtain titles for the very land they had sold to the government and could therefore sell it on to others. Thereby, some received compensation for a road that was not built while others bought land in good faith to realize years later that the government claimed to own it, too.

What was striking in these conversations was the plurality of reactions and opinions toward the arrival of the road, even more so considering the fairly homogeneous social and economic status of the people Matthäus spoke to. It thus became clear that roads are not the straightforward devices to accelerate the flow of people, commodities, and information through space that we find in the reports of governments around the globe and organizations like the World Bank. In many ways such organizations embed roads within a cosmology of development that echoes an imagination of animism prevalent in early anthropology: roads, according to such logic, seem to be animated by their ability to bring development and prosperity.

Such views of animism go back to Edward Tylor's (1871) work, in which it is understood and defined as a (primitive) religious belief where life is attributed to tangible objects and natural phenomena. Against this view, recent attempts to "take animism seriously" (as Willerslev 2013 put it) have proposed different interpretations. A particularly fruitful approach for our purpose here is that of Nurit Bird-David (1999) who conceptualized animism as a relational epistemology that "is about knowing the world by focusing primarily on relatedness" (S69). Animistic personhood, then, emerges from a specific

relationship between humans and others, thereby rendering modernist dichotomizations between the two non-sensical. In this understanding of the world, it is pragmatics which constitutes cosmology and not the other way around.[1,2]

Tim Ingold further developed Bird-David's argument by inverting the understanding of animism in classical anthropology. Animism, then, is not the belief that inert things are alive, but the pragmatic observation that things are in life:

> Things are alive and active not because they are possessed of spirit—whether in or of matter—but because the substances of which they are comprised continue to be swept up in circulations of the surrounding media that alternately portend their dissolution or—characteristically with animate beings—ensure their regeneration. (Ingold 2011: 29)

Ingold's approach is particularly useful as it forces us to engage directly with the material life of a road—something that the growing anthropological literature on the subject has only recently begun to do (Harvey 2010; Argounova-Low 2012a, 2012b; Vergunst and Árnason 2012; Harvey and Knox 2015). Yet bringing Ingold's point to its logical consequences, we argue that these contributions are still trapped in what he calls the "logic of inversion." Those subscribing to this logic, Ingold contends, are the real animists—in terms of the classical anthropological definition of animism, that is. Against this, he argues that "the animacy of the lifeworld [...] is not the result of an infusion of spirit into substance, or of agency into materiality, but is rather ontologically prior to their differentiation" (Ingold 2011: 68). Following Ingold, this paper aims to "put the logic of inversion into reverse" and to "recover that original openness

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[1] We thank one of the reviewers for bringing our attention to this central point in Bird-David's argument.

[2] Not surprisingly, making sense of animism in such a way is very different from its understanding by proponents of the so-called "ontological turn," as highlighted by Eduardo Viveiros de Castro's comment to Bird-David's (1999: S79–S80) article. Importantly, we are not arguing that animism is an ontology in the understanding of the ontological turn (what David Graeber 2015 refers to as "Ontology2"). In particular, to us the question of whether "we" inhabit only one or multiple worlds remains ultimately un-answerable. We threfore follow Christopher Gad et al. (2015: 67) when they argue "for the importance of (ethnographically and anthropologically) living with its undecideability." Moving from this understanding we are interested in what they call "practical ontologies." Through a focus on practice and materiality, they argue that ontologies emerge due to action and practice, and are thus transformative of both *things* and *people*. Similarly, this paper argues for the generative power of roads in and through their engagement with people, materials, and other non-humans.

to the world in which the people whom we (that is, western-trained ethnologists) call animist find the meaning of life" (ibid.).

This openness is particularly striking if we go back to the responses to road development that Matthäus gathered in the Arun valley. Here roads are clearly different things for different people: sites of contention that produce contingent outcomes, simultaneously defying optimistic aspiration and stubborn opposition. This complexity is generally absent in the developmentalist discourse on roads. To the contrary, roads are often embedded within a simplistic cosmology that dictates their functionality for a specific developmentalist agenda. In the analysis of the doing of roads that this paper proposes, neither this cosmology, nor the actual material effects of roads, can be isolated. They are both, to the contrary, fundamental components of such doing. Drawing on Ingold what an animistic perspective unveils is not only—as Harvey and Knox (2012) have argued with their notion of enchantment—that the positive discourse surrounding roads regularly survive their recurrent (material) failures. It also implies that by looking at roads through their entanglements, the doing of roads emerges as ontologically relational. This doing, in other words, can only unfold through roads' relation with a particular environment, local cosmologies, and indeed visions of development that might—or might not—be shared by villagers in Num, NGO workers in Kathmandu, and World Bank officials in Washington, DC.

Recent takes on so-called "new materialism" also seem implicitly trapped by the very same logic. Diana Coole and Samantha Frost (2010: 7), for instance, stress the need to conceive "of matter itself as lively or as exhibiting agency." While setting new materialism as an alternative to the modern Cartesian-Newtonian understanding of matter, they clearly point toward the "generative powers"—or "agentic capacities"—of matter. As they argue: "for materiality is always something more than 'mere' matter: an excess, force, vitality, relationality, or difference that renders matter active, self-creative, productive, unpredictable" (ibid.: 9). To make this argument, they take a detour into the world of physics, showing that unlike early understanding of mass as a fundamental property of objects, recent theories agree that most of the universe is, in fact, composed by something that is not reducible to "ordinary matter" (ibid.:

12). They suggest it is in the particles, forces, and waves that modern physics engages with, that the liveliness of matters can be found. Once again, the quest for agency seems to bring us outside of matter itself: as if matter could only be animated by something—energy, waves, atoms—residing in it. This is, after all, a very classic definition of animism—just substitute "energy" with "soul", or "particles" with "spirits."

Against this view, this paper applies to roads what Ingold (2011: 64) says of an organism: "[it] should be understood not as a bounded entity surrounded by an environment but as an unbounded entanglement of lines in fluid space." Here, the question of agency loses its fundamental meaning. It can neither be fully ascribed to a single subject/object—there cannot be such a thing—nor can it be distributed around a network as claimed by proponents of actor-network theory (e.g. Latour 2005: 60). Action, here, can only emerge "from the interplay of forces conducted along the lines of the meshwork. It is because organisms are immersed in such force fields that they are alive" (Ingold 2011: 64).

In the upper Arun valley this logic is particularly evident in that both infrastructural visibility and invisibility—presence and absence—are "equally productive in different ways" (Amin 2014: 140), thus contributing to specific configurations of place and community, but also marginality and neglect. Here, the doing of roads materializes particularly in their absence. What this shows is not only the extent to which roads operate on different levels. It also points to the fundamental unbounded-ness of roads: not ready-made infrastructures to be used, but entangled becomings through a world-in-formation. Importantly, these changes are never concluded: while some roads take decades to arrive, once they are built, they change route, form, and sometimes even phase of matter. The next section deals precisely with how roads' material configurations engage with and produce specific social and political environments.

Figure 2: The road becomes liquid in Attabad, Pakistan (Rippa, 2013).

Life, death and rebirth of a road

Roads are made of materials with different life cycles. Roads grow, decay, and quite often disappear.

Maintaining a road in a proper state requires a lot of effort and financial support (Harvey and Knox 2015;

Green 2017). Its functionality as a road is only the result of these activities. As all things in life, roads are

always changing. Those changes are dictated by the materials of which roads are made, by the terrain

through which they exist, the environmental conditions that surround them, and the traffic they sustain.

It is through those various entanglements that a road's life is shaped. Sometimes, however, roads change

their phase of matter completely.

All this was quite clear to Ali, Alessandro's driver on a summer day in the Hunza valley, northern Pakistan, as they made their way up the Karakoram Highway. Alessandro had come by the same way the previous evening, and he noticed that in several sections rocks had fallen on the road. As Alessandro pointed this out to Ali, the driver shrugged and said: "you know, landslides are part of the business here." In fact, not far from where they were, a few years before, in January 2010 a massive landslide had destroyed a section of the Karakoram Highway causing the damming of the Hunza river and a lake that submerged over 30 km of road (Sökefeld 2012). With the landslide the road became liquid (see Figure 2). At the two extremes of the newly formed lake traders soon launched large wooden boats for the transport of goods and people, thus re-establishing a link between the two sides. The road became liquid also in the words of the traders Alessandro was working with (Rippa 2018, 2019). The lake was a major source of complaint and frustration: costs of transportation were too high to make a profit. Yet many persisted in their business, and seamlessly kept talking about "the Karakoram Highway." There was not a road and a lake, in their tales; just the road. The lake became just another section of the road, or what Anna Tsing (2015: 152) calls a disturbance: something that "realigns possibilities for transformative encounter." Almost a year after the landslide, Pakistani authorities eventually signed an agreement with the China Road and Bridge Corporation for the reconstruction of the Karakoram Highway. The bypass, comprising of five tunnels, was inaugurated only in September 2015: a new underground life for the Highway.

Roads, however, do not always have a second life. Over 300 km north of Attabad, along the Chinese section of the Karakoram Highway, the road met a different fate. As the result of a hydroelectric project, the old Highway was submerged (see Figure 3) and replaced by a new road flanking the reservoir. The old road now does not serve any purpose, but in the dry landscape of south-west Xinjiang it will probably remain visible for decades, triggering drivers' tales about the "old days," when a trip to Kashgar would take two days or more. The old road, in its fragile and useless presence, seems to evoke an absence, a memory, just as fragile and perhaps just as useless in the eyes of China's developmentalist rhetoric.

Figure 3: Death of a road in Xinjiang, China (Rippa, 2013).

This enmeshing of materiality and imagination produces, at times, particular forms of resilience, that allows roads to survive their own death. Take, for instance, the following case. The Stilwell road (also known as Ledo road) was built by the allies during World War II between Ledo, in India's Assam state, and China's Yunnan province, in order to supply Chinese troops fighting the Japanese. Following the end of the war and the political turmoil in both China and Burma (now Myanmar), the road was abandoned. Unlike the dry highland landscapes through which the Karakoram Highway runs, the luxurious jungle of Northern Burma soon took over most sections of the road, which became little more than a footpath. Tales of the Stilwell road, of its fundamental role in the war and of the heroic soldiers who sacrificed their lives building it, have not been forgotten. In both China and India, exhibitions and monuments

commemorate this history, and today trigger dreams of renewed connectivity. The Stilwell road thus appears in several large-scale plans for a new "Economic Corridor" attempting to bring China and India closer (Rippa 2017). Under the umbrella of the Belt and Road Initiative, a section of the old Stilwell road has already been re-built within China, and a Chinese company is in charge of expanding the road into Myanmar. The long dead Stilwell road, then, is all but gone. It not only survives in museums, books, and exhibitions, but it also triggers dreams, expectations, and concrete plans of economic development and transnational connectivity (Zhou 2013). In a small museum near Ledo, for instance, a panel reads as follow: "Today, time and history have reduced the importance of this once vital road, pushing it into oblivion. But, if reopened, the Stilwell Road still has the potential to positively impact the economy of the north-east" (Digboi Centenary Museum: n.d.).

The Stilwell road was, essentially, a road in the service of an idea. Once that idea—a WW2 alliance—died, the road quickly disappeared. Yet traces of the road have remained in museums, oral narratives, and nationalistic celebrations. These traces became a seed for a new idea: that of a corridor bringing neighboring countries together through trade and exchange. In this way, although being stripped of its original purpose, the road survived, becoming yet a new beginning, the seed for a new idea. This generative ontology is something that an animistic perspective brings to light. This is, indeed, the doing of roads that this paper addresses. The life of roads is made explicit through this example: a life that always exceeds a particular materiality, yet constantly returns to it. Similar to the Arun valley road, even in its absence, the Stilwell road lives on.

Going back, more specifically, to the material instability of roads highlighted by the example of the Karakoram Highway, the decay of infrastructures and the "invisible" labor that goes into their maintenance have been increasingly analyzed by social scientists (cf. Graham and Thrift 2007; Carse 2014; Jackson 2014, 2017). To be sure, the intrinsic "fragility" (Edwards 2010) of infrastructure has been an object of debate for much longer. Star and Ruhleder's (1996) focus on the "when" rather than on the "what" of infrastructure was a first attempt to highlight how seamless flows are little more than temporary

achievements. To the contrary, several authors have pointed to frequent breakdowns and collapses as equally implicit qualities of infrastructural projects (Simone 2004; Harvey 2005; Campbell 2012; Appel et al. 2015). In most of the regions mentioned in this paper, as the comment made by Alessandro's driver in Hunza stressed, this fragility is a dramatic presence in people's lives. Something to be dealt with on a daily basis, "part of the business." Yet as argued in this section, in all of these cases the material disintegration of roads, or their de facto disappearance, does not necessarily imply their disengagement from processes of space production. As things in life, they reconfigure reality in both presence and absence, working at the level of the imaginative as well as of the material. The argument, however, can be pushed one step further. Harvey et al. (2017: 13) paraphrase Deleuze and Guattari in saying that "infrastructures work only by breaking down." Failure not only is to be expected, but it also seems to be an integral part of how infrastructures work. The point is an ontological one. Roads' instability, their repeated failures and intrinsic fragility, is all but part of their being in life. Failure emerges as an integral part of roads' existence. The fact that roads often seem to represent both promised changes for the better and their consequential failures (Khan 2006), as in many cases mentioned throughout this paper, is thus not paradoxical (Howe et al. 2015). Rather, not only should it be expected, but it can hardly be otherwise.

The metaphor of the river can be particularly illuminating here to understand what we mean. A river does not go from A to B, it does not cross from one bank to another, but flows along in between, on its way to nowhere. The "becoming liquid" of the Karakoram Highway described in this section is instructive, in this regard. The landslide, and the lake that resulted from it, while blocking the road, did not stop the flows (of goods, people, but also ideas and expectations) that the road carry. This is not, we argue, the result of a mere switch in the material components of a road (boats instead of trucks, water instead of asphalt), but rather reflects the ontological in-betweenness of roads. As Ingold points out, "*there is a difference between between and in-between*" (Ingold 2015: 147, emphasis in original). Unlike "between," Ingold's conceptualization of the "in-between" does not presuppose two terminals or any kind of liminality. Rather, it points to the intermediate, to the middle as a condition of being. We call for a

similar switch of perspective in thinking about roads, as always flowing *in between* the points that they allegedly join up. This is neither active nor passive: it rather presupposes an ontological understanding in which the question of doing can be addressed without having to place an agent in the picture.

To clarify this, in the next section we explicitly show how roads can be connective of more than just faraway places and people. We argue that the connective abilities of roads need to be taken seriously, yet they cannot be understood as active subjectivity or a function of material resilience. Instead of connecting, roads should be understood as growing out of connections.

Roads that lead nowhere

Sometimes roads simply rot, disappear, and are forgotten. Think, for instance, of roads that are built in forests and used for clearcutting. As soon as they are abandoned, the forest takes them back, and soon nobody will remember them. As Anna Tsing (2005: 29) puts it, "an abandoned logging road has got to be one of the most desolate places on earth." In the Kalimantan region of Indonesia they are indexes of violent resource extraction, of "frontier capitalism." Despite their short life, their impact on the forests is dramatic. Such is the case of similar roads and forests in Myanmar (Figure 4) and other parts of Southeast Asia (Lang and Chan 2006; Woods 2011). Through such roads, nature is reduced to a set of resources that generally enrich elites, while "emptying" the landscape for anyone to use and claim it. Local communities are left out: roads, at the frontier, become technologies of exclusion and disengagement. This process seems endemic to frontier spaces which are generally imagined as the site of untapped wealth and wilderness: a presence (of natural resources) as well as an absence (of order, competitors, and laws). Thus, logging roads at the frontier act differently for different groups:

> For bosses and managers, the roads shrink and simplify the territory, making it quicker to get from here to there. For most everyone else, the logging roads expand landscape emptiness, separating off- and on-road sites and creating obstacles between once-connected forest places even as they speed the trip to town. (Tsing 2005: 38)

Figure 4: Logging roads that lead nowhere in Myanmar's Kachin state (Google Maps, 2016).

Other forest roads, in non-frontier spaces, tell a different story. In May 2016, Matthäus was planting larch saplings with his father and a friend in his family's forest in the Austrian Alps. In the car on the way down, the friend commented on the high quality of the logging road to which Matthäus's father replied: "Well, it cost me a lot of money. But anyway, without Uschi, this road would have never happened." Uschi was a major *föhn* storm that in 2002 destroyed two million solid cubic meters of timber in the state of Salzburg alone. The storm hit briefly after Matthäus's father had lost hope to convince his neighbors to invest in a logging road as the only economical option to harvest the mountain forest. Uschi changed that. Now, the mountainside is covered with a network of logging roads (Figure 5) that lead nowhere. Still, they are well maintained and will remain so for the foreseeable future. Unlike Anna Tsing's example, the forest in question is not situated at a frontier of capitalism, but has been a substantial resource in farming economies for centuries. Therefore, it is far from uniform. While the areas that the storm destroyed were overmature stands that should have been harvested decades earlier, most of the newly connected forest was too young to be cut down. Until the 1960s, these areas were used as mountain

pastures and meadows, but they started to overgrow when the mechanization of agriculture and the end of subsistence farming made it unprofitable to keep them free.

Figure 5: Logging roads that lead nowhere in Austria (Google Maps, 2016).

Now that the storm had brought the road, usage of the forest has increased manifold. A whole new set of relations arose from its existence as different, often conflicting appropriations conflate on it. Apart from the forest owners, it is used by hunters, hikers, mushroom pickers, and mountain bikers. Although the road has recently been blocked with a barrier, cyclists still use it frequently and unapologetically. The relation between hunters and forest owners is similarly tense. Forest owners accuse hunters of not shooting enough game, causing major losses due to the destruction of saplings. The road is seen as part of the problem as it has made it easier to bring up silage to feed the game during winter,

further increasing the population. Not surprisingly, the hunters see things differently. They argue for winter fodder from an animal welfare perspective and blame low kills on government regulations, the competition among different hunting grounds for kills, and the particularly difficult topography of the mountainside in question.

In the case of the forest road built in the aftermath of Uschi, those spaces become sites of contention at the local level. Logging roads, by facilitating access to certain resources (timber, game, mushrooms, and so on) have exacerbated competition among local actors. The competition does not simply involve the harvesting of these resources, but is also about different imaginaries of what the forest's purpose should be. While Matthäus's father sees it as a site for future extraction of timber, bikers and hikers treasure its recreational value. Hunters read the forest through ecological (and moral) lenses of preservation and management (Fischer et al. 2013). The construction of logging roads thus led to the reinforcement of different temporal regimes: the long-term vision of resource extraction, the seasonal circles of non-timber forest products, and the conservation of a particular habitat. Furthermore, together with the emergence of these conflicting visions and usages, roads have contributed to the re-configuration of a particular sense of communal identity. Logging roads, thus, are a classic example of what Latour (2005: 23) calls a thing: "the issue that brings people together *because* it divides them." In other words, roads here become technologies if not of inclusions, then at least of active engagement. To be sure, in both stories described in this section, roads are not carriers of modernist projects of development; unlike our discussion of road projects in Nepal and Pakistan before. In Austria, logging roads are sites of conflicting use and contentious negotiations that nevertheless lead to a stronger sense of locality. These roads, although leading nowhere, are generative of competing imaginaries of communal identity. At the frontier, on the other hand, roads are devices of destruction and enclosure and instead of ordering space, they produce situations of lawlessness and exclusion. Although establishing connections, they produce extremely uneven flows of resources, people, and vulnerability.

Conclusion

What to make, then, of all these connections? If one sits on top of Mt. Schuhflicker overlooking the logging road in Austria, or searches for the same spot on Google Maps, the purpose of roads seems clear. Roads connect places, facilitate movement, reduce friction through the production and constant maintenance of seemingly smooth surfaces. A well-designed system of roads might resemble the network par excellence. However, each case analyzed in this paper points toward a different understanding of roads. They are ordering devices, the cause of animosities and exclusions, generative seeds for new development projects, and more. A road thus described and understood does much more than "only connect" (Forster 1910). Rather, it needs to be seen as the unfolding of such connections. Both a material presence, an imaginative device, a site of affection—all of which in constant becoming. Unlike what a bird's-eye view might reveal, there is no stillness in roads.

For our understanding of roads this is a fundamental shift. While roads, as emerged from the examples described above, clearly do something, such actions do not spill out of some form of life that people ascribe to them. It is neither a function of their material resilience nor is it simply their connective role that allows for such agency to emerge, through the movement of goods, people, vehicles, and stories that constantly take place along them. They are not intermediate, neither geographically nor in terms of stages of development, but always coming up through the middle. That is why there is a fundamental openness about them. Their doing, in other words, is their being—and vice versa.

In this paper, we have recounted stories from a number of roads. Some of them arrive with decades of delay, others lead nowhere yet severely re-configure relations between centers and peripheries, others survive their own material destruction or even change phase of matter. On the one hand, this paper showed the liveliness of roads' materiality. On the other hand, it also showed that this instability, or fragility, is only partly the result of material entanglements. There is another side to roads' liveliness that has been explored in this essay: the ability of roads to trigger expectations and fears, to draw investments, generate conflicts, or contribute to the re-construction of certain forms of locality. Roads are very material

things that constantly exceed their own materiality. They engage with people as well as their cosmologies through complex affective relationships. Rather than being simply "quasi agents" (Bennett 2010a: viii) as the logic of inversion that underpins much literature on infrastructure and new materialism implies, through the above examples we have shown that roads' immanent vitality is the result of their being in life. That is, roads act not by being in relation with material and discursive environments, but by being these very relations. What our examples show is thus how roads are actively enmeshed in the social spaces they inhabit. Rather than passive objects, merely planned, maintained, and often destroyed by natural disasters, roads are participating in the creation and recreation of such spaces and of their own coming-into-being. Just like in a kids' game, roads come to life through practices, materialities, and imaginaries that are as unpredictable, unruly, and stubborn, as those who first envisioned them (Figure 6). By being in life, they have a life of their own.

Figure 6: Children playing "road construction" in Hedangna, Nepal (Rest, 2015).

Acknowledgements

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