*Please note: This is the Accepted Manuscript version of the paper. Page numbers do not correspond to those of the published version. To cite this paper:*

Rumé, S. 2024. Liminality as Anti-Infrastructure? Boundary Making and Breaking in Infrastructure Construction. In B. Tanulku and S. Pekelsma (eds.), *Liminality, Transgression and Space Across the World: Being, Living and Becoming(s) Against, Across and with Borders and Boundaries*. Abingdon & New York: Routledge, pp. 122-136.

# Liminality as anti-infrastructure? Boundary making and breaking in infrastructure construction

Sam Rumé
University of Manchester

## Introduction: *Calles abiertas*

> Well, when they opened the streets, we fell ill from all the dust, all the noise, it was madness how they opened in one place, opened in another place, and things didn't finalise. (Ernesto, shopkeeper)

The notion of "open streets," *calles abiertas*, constitutes a fitting starting point for my argument, given the profound ambiguity of "openness." Projects of sustainable mobility, which have become central in the policy discourse in cities around the globe, tend to involve ideals of city streets as open, inclusive, and accessible spaces. Cuenca, a city of half a million inhabitants in the Ecuadorian Andes, has seen the proliferation of urban interventions towards these ideals in recent years. Pedestrianisations, "complete streets," and bike lanes are being introduced as part of a broader effort to make the city more sustainable, "friendly," and equitable. Undoubtedly the largest component of this endeavour, in relation to its costs and effects on the city, has been the construction of a tramway that started in 2013. According to local authorities, the tram would support environmentally and socially friendly mobility in the city by being electrical and more accessible and comfortable than Cuenca's old buses. It would also be more efficient, constituting the central axis of a future intermodal transport system, connecting up different spaces and mobilities.

In Cuenca, just like in many other places today, sustainable mobility projects are presented as a means to order chaotic streetscapes in ways that would make public space more inclusive, participatory, and green. In that sense, ideas of sustainable urbanism appear as the response to both modernist city building and neoliberal developments. Modernism first reorganised cities through rigid functionalist patterns (see Holston, 1989) and neoliberalism entailed the splintering of this organisation through privatisations, urban sprawl, and segregation (Graham & Marvin, 2001). In Latin America, there are striking examples of how these tendencies have created cities characterised by social, symbolic, and physical boundaries (Caldeira, 2000). Current ideals of the sustainable city are the proposed remedy to these issues, aimed at overcoming these boundaries, opening up spaces and bundling the city together again. Concretely, for instance, the Cuenca tram is presented by authorities as an instrument for the inclusion of groups (such as the elderly, the disabled, and those not owning a car) disadvantaged by the current transport regime and its discriminatory designs. Also, the street redesign accompanying the tram included so-called "shared space" (locally referred to as *plataforma única*) which, in theory, loosened the divisions between car lane, tram lane, bike and pedestrian space. As a local architect argued in a presentation on the *plataforma única*, this would break down the modernist segregation of traffic and allow for a postmodern space of

encounter and heterogeneity.

Yet, when I undertook my first ethnographic fieldwork on the tram project in 2017, the notion of *calles abiertas*, open streets, came up in a very different, in fact opposed sense, as Ernesto's opening quote suggests. At that time, the tram was still under construction – or more precisely its construction was still halted, exposing inhabitants to the uncertainties of the project. The construction had initially been scheduled to take two years, but various technical and political problems kept prolonging it since its beginning in 2013, causing a year-long suspension in 2017 and the tram's late inauguration in 2020. Part of my research focused on the shopkeepers of the area, who lamented the *calles abiertas* that the suspended construction had left. By that, they referred to the unpaving and the large holes throughout the streets, dug up by construction works. The long construction years constituted a crisis for the city, in political, social, and economic terms. Authorities came under fire for their handling of the project and inhabitants had to deal with the troubles of a construction that had invaded their everyday spaces. The tram route was drawn straight through the city centre and some of the most vital arteries of the city. Its construction became an obstacle for mobility and all kinds of everyday practices in the surrounding areas. Especially for the small businesspeople and shopkeepers of the area, the construction represented a threat to their livelihoods.

The polysemy of "openness" intrinsic in these observations – as, on the one hand, relating to ideals of an inclusive city and, on the other hand, used to articulate the harmful excavation of streets – helps us to capture wildly different experiences of the city. When shopkeepers lamented the "open streets," they implied a forceful opening, an unbundling of the material environment that had constituted the taken-for-granted support of their practices and their dwelling – in other words, what had constituted their infrastructures. Along with this material disassembly, the "opening" of streets disrupted embodied practices, bounded identities, and affective attachments. It produced an atmosphere of confusion, of in-betweenness that I started to grasp in terms of liminality. I will thus first describe in more detail these experiences of in-betweenness. Then, I will explore the usefulness of theories of liminality to make sense of these experiences, before examining liminality from the perspective of infrastructure debates. Liminality and infrastructure prove to be mutually informative concepts, as both constitute crucial experiential and relational parts of people's lives. Can liminality actually be seen as anti-infrastructure, instead of the classic understanding of anti-structure (Turner, 1969)? I will assess the implications of such a conceptual shift which, while stimulating, also challenges the very logic of opposition framing these notions.

## Experiences of in-betweenness

Akhil Gupta (2018) addresses the temporalities of infrastructures through the figure of the suspended construction. The suspension of infrastructure construction exposes people to the *ruination* of their environment and offers a glimpse of a temporality that is very different from the "well-worn script of modernity" (2018, p. 62). This kind of ruin is not linked to the afterlife of a historic construction, but is part of a project to enact the future. The unanticipated suspension of construction hints at the uncertainty of the project and contradicts linear imaginaries of progress. Not only does it challenge the teleology of planning and the power of planners, it also suggests that ruination is an intrinsic aspect of infrastructures, instead of simply their failure. I will later come back to Gupta's general conclusions on infrastructures, including the permanent potential of in-betweenness through ruination. But first let us dwell on the figure of the suspended construction. "Ruination," Gupta argues here, is "this property of in-between-ness, between the hopes of modernity and progress embodied in the start of construction, and the suspension of those hopes in the half-built structure" (2018, p. 70). I would like to expand on this description, for although it is appealing, Gupta does not focus on people's actual day-to-day encounters with this kind of

ruination. How is ruination *experienced* as situated, corporeal event? An ethnographic exploration of this question leads us beyond general notions of “hopes of modernity” and into the complex dealings with uncertainty. The grammar of liminality and its companion concepts will prove useful to describe these developments.

Ernesto is a shopkeeper in one of the narrow and busy streets of the old town, right on the tram route. When I met him in 2017, public works on his section of the street had finished, displaying the new “shared space” design (see picture 1). But down the road, the construction was still obstructing the street, which led to scarce thoroughfare in front of Ernesto's shop. I asked him how he was experiencing the tram construction. Let me quote his answer extensively:

> Well, when they opened [dug up] the streets, we fell ill from all the dust, all the noise, it was madness how they opened in one place, opened in another place, and things didn't finalise. You need to be patient, because otherwise you get even sicker, when you get angry and things like that. The kind of stress you feel when your business is going bust, because people don't want to visit an open street. They risk falling, there are holes in the street, and very limited space for people to walk... [The construction workers] left a space of about one and a half metres between house fronts and the fences they erected. So it was very complicated; when people came past, we had to give way or enter doorways to let them pass. And there were people passing with merchandise or other things, so you had to step back. And people are thoughtless sometimes, streets are like this and they come on their motorbike or bicycle, so it's chaos.

As several blocks further the construction was still on hold, I could observe this “chaos” myself. There, the street completely lacked paving and had been transformed into an irregular stony ground filled with holes, rubble, and fences, right at people's doorsteps (see picture 2). This unsettled space created an atmosphere of opacity and confusion.

**[insert picture 1 here. Caption: A finished section of the tram route in 2017]**

**[insert picture 2 here. Caption: Paralysed construction further down the tram route in 2017]**

Ernesto's description involves the experience of ruination in affective, corporeal, practical, and organisational terms. All these aspects are linked to the configuration of the material environment. Ruination thus comes with uncomfortable questions about transience and permanence in the city (see Henneberry, 2017). It unbundles the material components which made up the street as infrastructure, and thereby also the disruption of everything the street was infrastructural to: From mobilities and ways of inhabiting the street to work practices and people's physical and mental states. Ernesto mentions the stress the construction was provoking, first in the way it inconvenienced everyday life, and then in the way it threatened his business and his livelihood. He and his inner circle felt physically and psychologically ill from the dust, the noise, the stress, and the uncertainty concerning the future of the project, the city, and their place within it. Other interlocutors from the tram route also commented on the smells emanating from excavated tubes and the vibrations caused by heavy machinery threatening their houses. These experiences illustrate the sensuous affectation of suddenly unbundled components of the city, like dust and sewage, which had previously been contained and black-boxed by infrastructure. A violent infrastructural inversion (Harvey, Jensen, & Morita, 2017) plunged inhabitants into an uncertain terrain of vibrant materiality (Bennett, 2010), prolonged by the suspension of construction.

In sharp contrast to the project of connectivity through a new transport infrastructure, the tram construction disrupted the connections that had made up everyday life in the affected areas – connections underlying people's sense of place, their practices, and interactions. Not only was the

street as their basic infrastructure interrupted, other infrastructures such as their water supply and telephone lines were prone to sudden disruption, too, due to the construction. The tram, which had been imagined as the great articulator of the modernised, sustainable Cuenca of the future, became in its half-built form a new set of boundaries in the city. Some commentators, in a rhetorical escalation, came to refer to the fenced-off tram route across the city as Cuenca's Berlin Wall, dividing the city in two. Instead of resolving traffic congestion, the unfinished tram increased congestion, thereby spreading feelings of being spatially and temporally stuck.

On the one hand, many of these issues developed on a scale that was not possible for people to act on. This led inhabitants like Ernesto to argue for patience, for a stoic endurance of the uncertain situation, which was much more nuanced than a suspended "hope of modernity:"

> I live today, I don't know what can happen tomorrow. We can hope [the tram] will work, or we can be suspicious, sad, embittered that it's not yet there, that it won't work, for example. […] We have to live in reality. We have to wait; the only hope we have is that the gentlemen who represent us in the government do things right.

His polite reference to the "gentlemen who represent us" was sarcastic. It implied a strong resentment towards a local government which he considered to have failed the people by blatantly mishandling the construction project and abandoning inhabitants to their fate. But despite this element of impotence expressed by Ernesto, people affected by the construction, including himself, also developed coping mechanisms. For instance, Ernesto increasingly left his shop to sell his products at fairs. Others joined civic action groups, as I will detail below. At the very immediate level of bodily encounter with ruination, people explored ways to engage this new environment more productively. They adapted their mobility practices, bypassing congested areas or learning to navigate irregular grounds. The fences were repurposed by some street vendors as racks for their products, and by children as football goals.

**(Under)estimating liminality**

While much social science stops at the diagnosis of uncertainty, seemingly implying that uncertainty is inscrutable, those focused on liminality instead start from such a diagnosis. Hence, the recently expanded literature on liminality (Thomassen, 2014; Horvath, Thomassen, & Wydra, 2015) provides useful tools to conceptualise the above experiences of in-betweenness. As Thomassen (2014, p. 2) argues, "[w]henever previously existing borders or limits are lifted away or dissolve into fundamental doubt, the liminal presents itself with a challenge: how to cope with this uncertainty?" Based on the pioneering works of Van Gennep (1981 [1909]) and Turner (1969), liminality is taken as the unstructured, the loss or the in-betweenness of structure, where change occurs. Turner (1969) famously developed liminality as "anti-structure" in opposition to the determinism and schematism of the structuralist anthropology of his time. He thereby wanted to shift the discussion towards a focus on process and related notions of social change, individual experience, and performance. The concept of liminality was first used in relation to rites of passage (Van Gennep, 1981 [1909]) and how rituals provided guidance from one state of structured relations to another. Turner (1974) later explored the liminoid (liminal-like) dynamics of leisure and play. Liminality scholars following in Turner's footsteps have continued this expansion of the concept, applying it to wars, natural disasters, consumption (see Thomassen, 2014), or even to modernity in general as an era of constant boundary-breaking (Szakolczai, 2017). I will comment on this expansion of liminality later, but before, let us test its usefulness for the situation at hand, that is, the construction process of the Cuenca tram.

The ideas of loosening structures, shifting boundaries and loss of solid ground, usually linked to

liminality, apply in very literal ways to the experiences of the tram construction in Cuenca. The construction dug up vital spaces for inhabitants' everyday lives and left them amidst a ruination that caused disorientation and distress. The loosening of structures in this case refers to the physical infrastructures of the city and the organised practices related to them, as we have already discussed. But it also involves the destabilisation of the identities of 1) the place, 2) the inhabitants, and 3) their political leaders. First, place-making processes in Cuenca generally include, in some way or another, the city's historic architectural heritage. City dwellers often show a deep affective attachment to and identification with their heritage. Its beauty and historical richness constitute an important source of pride and sense of belonging. The tram project was therefore perceived by many not only as an aesthetic disturbance, but also as a very physical threat to this heritage (Rumé, 2022b).

Second, the threat of the construction also spilled over to inhabitants' belonging to this place. This was especially visible in the case of shopkeepers like Ernesto whose businesses suffered from the persistent ruination of the construction. Another shopkeeper that I met in the area, Sandra, made clear how this pressure on businesses and residents could lead to their displacement:

> If your property was evaluated in 300,000 in the historic centre [before the construction], you had to sell it for 100,000. Because nobody wants it anymore. So it is totally devalued. They say that after the construction, it's going to be revalued again, but I mean, is it still going to be in our hands? Are we still going to be the owners? Or will we have lost everything? Because they make us wait so much, it's like the only way you drown more is through a longer waiting time. As the waiting time becomes longer, you have to sell, because you can't bear it anymore. And those who buy it are real estate agencies.

What Sandra described here could very well involve a process of gentrification, with small businesses not standing the pressure of the construction and wealthier actors benefiting from the eventual revaluation of the area once the tram is operational. Thus, the unsettling of the place by the construction also unsettled people's belonging to it and a place identity linked not merely to the heritage architecture but also to old-established residents and businesses. Indeed, the construction years saw the closure of many nearby shops.

Third, the construction also unsettled political identities, as inhabitants attributed the construction problems to the authorities, withdrawing their support from them and becoming increasingly suspicious of the local state in general. The initially popular mayor who started the tram project soon fell out of favour and was not re-elected. His two successors equally struggled with the flawed project and arguably made it worse. The uncertain development of the tram translated into the precarious approval of political leaders (see also Rumé, 2022b). But the consideration of politics in the context of loosening structures and identities leads us further. Inasmuch as "structures" are tied up with social hierarchies, liminality presupposes the more general destabilisation of power relations. This sets the stage for the inclusion of two complementary concepts of liminality, namely *communitas* and tricksters.

The idea behind *communitas*, as developed by Turner (1969, 1974), is that by stripping people off their previous identities and social status, leaving them in a state of indefiniteness, liminality allows people to encounter each other as individuals, equal and free from categorisation. Although heightening their vulnerability, this state would also bear the potential of intense solidarity and creativity within the liminal community. A comment by Sandra hints at the equalising effect of the tram's ruination: "We are *frentistas*, in the end we all suffer from the same evil." The term *frentista* is deeply significant here. It is a vernacular Spanish word which came up during the tram construction to designate people living or working "in front" or "at the front" (*al frente*) of the construction site, thus being the most immediately affected by it. For our discussion, this proves

very suggestive as it quite literally denotes a threshold experience. This term, which I had not heard before, suddenly became prominent in daily conversations and in the media, attracting an increasing number of people who came to self-identify as *frentistas*, or who cared about the *frentistas*. A new group identity thus emerged, of people sharing their affectedness by the ruination.

And many *frentistas*, including Sandra, engaged in mobilising their peers and con-*front* the issues of the construction in creative ways. Various civic groups formed from that mobilisation, the most notable being the tram *veeduría.* A *veeduría* in Ecuador is a civic group which acquires legal recognition as a supervisor of a specific public sector project. The tram *veeduría* was an open group for citizens to critically assess the tram project. Its members were mostly businesspeople affected by the construction, but they ranged from the humble market vendor to the big restaurant owner. Again, as Sandra said, "in the end we all suffer from the same evil." I perceived their weekly meetings as a space in which social hierarchies were flattened due to their shared suffering. Meetings were not clearly structured or guided, and anybody could voice their concerns and ideas about how to collectively cope with the situation. People got to know each other better and empathise with each other's problems. Some told me the *veeduría* felt therapeutic to them. It gave them support and the feeling that they were not powerless. They did run up against a municipality that was unwilling to share information or even concede them legitimacy. Yet, the *veeduría* fought on many levels to win allies for their cause and put pressure on authorities. They came up with different initiatives to help struggling shopkeepers, for instance by organising fairs and raffles, and they drew attention to their problems and the inconsistencies of the construction through protest marches and press conferences. On the basis of the disconnections caused by the tram construction, *frentistas* thus tied new connections. These were first spontaneous and then became increasingly institutionalised in groups such as the *veeduría.* In that sense, the liminal disruption of infrastructured networks encouraged new networks to develop, reassembling social relations and identities (see also Rumé, 2022a). The *veeduría* shares characteristics with the concept of *communitas* in the way it regrouped people from different backgrounds whose social positions had been undermined. It offered them a space for solidarity and agency. This leads us to the other complementary concept of liminality: The trickster.

Because of its zealous activism, the *veeduría* also faced accusations about some of its members being politically motivated or distorting the aims of the group for personal benefit. Those expressing such criticism were not only authorities who felt threatened, but also sceptical inhabitants like Ernesto. The trickster figure can be of use to frame these accusations. In a liminal moment in which structures, hierarchies, and identities are rendered uncertain, scholars have argued that tricksters are likely to intervene and try to benefit from the confusion, winning over those who look for guidance and charismatic leadership (Szakolczai, 2015). Tricksters are described as ambiguous outsiders who aim to deceive people, pretending to put an end to uncertainty while actually thriving on liminality. I do not wish to accuse any participant in the conflict at hand of being a trickster. Rather, what we can observe is how the participants themselves accuse each other of trickery. Among *frentistas*, a recurring suspicion was that the tram construction was being purposefully sabotaged by the same authorities who were claiming to be the saviours of the people. Among authorities (and some inhabitants), in turn, the *veeduría* was commonly perceived as driven by the personal interests of its members, be it for commercial gain, be it for future careers in politics. Both kinds of accusation hinge on a disbelief of the other's stated intention to work for the common good. The discrediting of the other simultaneously involves one's own legitimation.

A final point on the tram construction inspired by liminality thinking involves the question of ritual. Classic theorisation of liminality, as mentioned, focused on rites of passage, from one state of structured relations to another – rituals of birth, death, marriage, initiation, etc. These studies argued that through rites of passage, societies provided the necessary guidance for liminality to be controlled and for people to find back into society, to be transformed as necessary. Although

Turner's focus on liminality as anti-structural process deviated from then dominant structuralist ideas (Thomassen, 2014), early conceptualisations of rites of passage still remained rather structural-functionalist. Recent revivals of liminality only partly shift away from this, as I will argue below. However, the classic perspective may actually help us to understand the local state's approach to infrastructure construction in Cuenca. Because the authorities' discourse on the tram project involved two clearly demarcated states: The city as it had been until then and the city that was to come with the tram. At the beginning of the project, the mayor solemnly spoke of the before and after. The present city was represented as disorderly and unsustainable, the future city as orderly, sustainable, modern, and efficient. Things that were considered status quo, such as the dominance of car mobility, privately operated public transport, and generally aggressive, competitive mobilities, were contrasted with an ideal future of rationalised, inclusive transport and pacified streets. The tram was the catalyst supposed to lead the city from the present into the future.

However, the in-between of these two states, the transition, remained underspecified in the official discourse. The construction was presented in reassuringly technical terms at the beginning, ignoring the unpredictability that comes with a destabilisation of the sort. In other words, liminality was underestimated. If, in a loose interpretation, we take as liminal rituals any organised effort to counter feelings of uncertainty, the *veeduría* meetings would certainly qualify. But what did the municipality, as the initiator of the project, do to handle liminality and guide people through it? The municipality organised town meetings, for instance, in which inhabitants were informed about the state of the construction. It also offered workshops for shopkeepers to become more successful and adapt to the situation. These workshops included advice on digital marketing, window dressing, and English language training. An authority in charge of these workshops told me that people needed to look forward and be proactive, instead of lamenting their losses. With the tram, a "radical change" was awaiting them, he said, and people needed to be prepared for it. Considering the topics of these workshops, the future was thus imagined by authorities as marked by a globalised, modernised economy thanks to the tram. The workshops conveyed the sense that in this period of change, citizens needed to change as well, redefine their identity, and be guided therein by this kind of "rituals." Nevertheless, these official efforts to reduce uncertainty were *ad hoc* attempts which in fact showed the municipality's lack of preparation for and insufficient response to the liminal in-between. They did little to calm people's anger and anxieties.

## Infrastructural complication

Liminality has thus given us a useful conceptual toolbox to frame the uncertainties of infrastructure construction signalled by Gupta (2018), in relation to matters of place, affect, everyday life, identity formation, sociality, and political engagement. It allows us to deepen Gupta's understanding of ruination, taking it beyond physical ruins. Ruination becomes the process of undoing the taken-for-granted, including the built environment and everything that it supports, from inhabitants' practices and livelihoods to a variety of identities. Particularly shopkeepers have been found to confront not only the material ruins at their doorsteps, but also the (potential) ruin of their businesses. For many inhabitants, the affected spaces have lost their traditional identity, as forms of sociality are reconfigured and old-established shops and residents abandon the area. Gupta argues that the ruination of infrastructure construction challenges the linear progress temporality of modernity and suggests that ruination is intrinsic to infrastructure. What is commonly understood as the "completion" of construction would be a fragile containment of ruination – a containment henceforth dependent on maintenance and repair. However, in the case of the Cuenca tramway, and adopting the broader understanding of ruination proposed here, the shopkeepers' ruination was not contained by the "completion" of construction. Their struggle continued to contradict ideas of progress. In my second fieldwork in 2020, when the tram was finally launched, many shopkeepers around the tram route hardly felt relief. Their financial ruin had been bound up with the material

ruins. But the former was not in a causal relationship with the latter, in that financial ruin outlived the material ruins. These businesses did not experience the working tram as the promised cause of their economic recovery. They were still struggling and they blamed the tram project for it. To make sense of this ongoing struggle, I will now focus more closely on the concept of infrastructure and what that in turn can bring to theories of liminality.

The tram had been imagined by its proponents as a crucial infrastructure for the future city, the central axis of a sustainable intermodal transport system. It would transport thousands of passengers daily, offering accessibility to people who had been disadvantaged by the design of the existing transport system. The tram, with its inclusive design, would allow people to comfortably and safely move through the city. It would connect people with some of the most visited places (the city centre and market halls), as well as with other mobilities (buses, public bikes, pedestrian zones, the coach station, and airport) within the intermodal system. The tram project's goals aligned with infrastructural ideals as described by Star (1999), of infrastructures seamlessly intermeshing to produce the functional backdrop for everyday life. Seamless collaborative work would allow these systems to become truly “infra,” to recede from people's consciousness while coordinating their actions. Following Star's insights, infrastructure scholars have discussed the constant tension between infrastructure as an object and infrastructure as a relation (Larkin, 2013; Harvey, 2018). The material object that is commonly called infrastructure – a tram system, for instance – does not always become “infra” in the above sense for everyone, and certainly not in the same way. Infrastructure thus becomes relational, partial, and multiple.

Since its launch, the Cuenca tram's plans to become infrastructure have only partially been fulfilled. On the one hand, the municipality did not manage to create seamless connections between different mobilities. Especially the private bus companies resisted being integrated into an intermodal system that would undermine their autonomy. On the other hand, the tram, once operational, appeared not to be as user-friendly and inclusive to passengers as it had been imagined, with many user experiences involving confusion and technical glitches. These issues contributed to the tram carrying far fewer passengers than expected. And this, in turn, gave shopkeepers an explanation for why their businesses were not recovering. With the construction officially “completed,” the tram was supposed to enhance Cuenca's modernity, sustainability, order, beauty, efficiency, and economic success. Its infrastructural seams and glitches contradicted ideas of completion and were blamed for impeding the fulfilment of the project's goals. While aimed at bundling the city back together, overcoming boundaries, and enhancing accessibility and inclusion, the tram entailed new kinds of boundaries. After the more flagrant barrier of the construction site, the operating tram started to reveal design flaws and shifting infrastructural limits. The effect, at least as perceived by the residents and shopkeepers along the tram route, was that of prolonged isolation, ruination, and looming gentrification.

What does this tell us about the supposed “before and after” of the tram construction? What has changed? At first sight, we may observe that rather than undoing urban boundaries, the tram project has merely redrawn them. Perhaps the tram is more inclusive of certain people, but others feel more excluded than before. What is important to note here is that infrastructural inclusion and exclusion are relative, that is, relational, attesting to the shifting multiplicity of infrastructure. Therefore, rather than speaking of in- or exclusion, it may be more useful to return to Gupta's (2018) description of infrastructural in-betweenness. We find people being torn between different mobilities and, accordingly, objects fluctuating between constituting boundaries and infrastructures. These in-betweens are not solely practical but linked to people's livelihoods, places, and identities. If an infrastructure is always also a set of boundaries, the archetypal moments of infrastructure construction and breakdown need to be relativised. Unlike the model of structure and anti-structure which underpinned the development of the liminality concept, considerations of infrastructure are not as binary or dialectical. Although we can ask *when* something is an infrastructure and when it is

not, this question becomes complicated by further asking *to what extent* it is an infrastructure, *to whom*, and *what for*. As infrastructure thereby multiplies and oscillates, clear-cut binaries become increasingly untenable. In Cuenca, this infrastructural complication (Harvey, Jensen, & Morita, 2017) cannot simply be taken as the result of the tram construction, this sudden liminalisation. *To what extent* had Cuenca streets really been infrastructural before the tram construction? *To whom* and *what for*? Fights over street use, as well as the small everyday ruinations of streets through erosion and tinkering had already made the street a multiple, partial, and contested infrastructure before. This is not to deny the significance of the tram construction. The latter's impact was far greater than the impact of such everyday tensions. Experiences of liminality went much deeper. Yet, the complications introduced by the infrastructure concept seem to make its linking to binary ideas of liminality more problematic.

Liminality has been defined in relation to social order, the taken-for-granted, the fixed, classically understood as "structure." Liminality only makes sense in opposition to these notions, as the unstructured, "anti-structure," destabilising social order and simultaneously constituting the source of its restructuring. Similar to Douglas' (2002 [1966]) idea of dirt, liminality becomes that which escapes and challenges classification, that which engenders social change. Although introducing process as counterweight to structure, liminality thereby also becomes functional to the (re)structuring of society – the escape valve, if you like, of an otherwise too rigid structuralism. It is true that recent discussions on liminality have shifted the balance towards a more open-ended, non-functional liminality, identifying liminality in more diverse, often uncontained situations which do not necessarily entail restructuring. It has even been suggested that modernity as a whole is a liminal era, given its core characteristic of constant boundary breaking in the name of progress, art, and capitalism (see Szakolczai, 2017; Thomassen, 2014). This kind of argument is often accompanied by a sense that modern society misses structures to contain liminality and offer people certainty, meaning and order. So although the balance has indeed shifted from structure to process, liminality and structure are still understood as the two necessary and contradictory parts in a dialectical relationship.

The construction of the tram in Cuenca offers a situation which can be productively explored through the lens of liminality, as taken-for-granted orders are shaken and large-scale change is initiated. But not only does this liminality exceed the "completion" of the construction, we should also doubt that things were completely orderly in the first place. The liminal might thus come in degrees, as suggested by Thomassen (2015). It may be more controlled and distributed in everyday conflicts, and suddenly heightened and more collective with the shared issue of the tram construction. But not only that. We could argue that conceptualisations of infrastructure bring a novel analytical richness to those of structure (see Röhl, 2020) and, consequently, to those of liminality. Since structuralism, "structure" has tended to suggest idealist constructs operating on society from above to create lasting social order. Structuralism conceives of society within an abstract space of closure (Massey, 2005). Instead, infrastructure as a concept implies a sociotechnical assemblage (Harvey, Jensen, & Morita, 2017) that is immanent to society. It always comes in plural, is understood as *partial, material, changing,* and *political*. To think of liminality in relation to infrastructure instead of structure, I argue, thus liberates it from a dualist logic. Liminality and infrastructure can still contradict and inform each other but, in their multiple, shifting forms, they also coexist in relationships that are non-linear (Suboticki & Sørensen, 2021), non-contradictory, non-teleological, non-dialectical (Cheah, 2010). Infrastructure is always simultaneously order and disorder, connection and boundary, thereby offering liminality a new dynamic.

## Conclusion

> In the Indian megacity of Mumbai [...], residents of informal settlements actually use the water pipes which distribute drinkable water to affluent gated condominium complexes as perilous footways for transportation. But they have no access whatever to the water supplies within the pipe. (Graham & Marvin, 2001, p. 2)

In this chapter, I have tried to bring together ideas of liminality and infrastructure in productive ways, focusing on the in-betweens of infrastructure. The tram construction in Cuenca proved a fertile ground for conceptualisations of liminality, given the experiences of uncertainty that it entailed, unsettling not only the built environment, but also the practices, orders, meanings, and identities linked to it. Liminality and related concepts turned out to be helpful to understand experiences and effects of, as well as reactions to, uncertainty. Like Gupta's (2018) description of ruination, the liminal in-between offers valuable insights into the relations and politics of infrastructure. Beyond the focus on material ruin, we have taken ruination deeper into the lives of city dwellers, dissolving the separation between the material and the social. Yet, conceptualisations of infrastructure as ever partial, multiple, and relational urge us to nuance clear-cut distinctions between order and disorder, infrastructure and its inversion. The before and after of the tram construction cannot be seen, following planning logic, as clearly structured states, with the transition constituting a contained liminal phase. After the construction, problems of connection and inclusion demonstrate the tram's partiality as an infrastructure. And the street as this basic infrastructure suddenly interrupted by the construction has, in fact, never been an absolute infrastructure either.

In relation to liminality, these observations push us beyond dualist and mutually exclusive categories. Infrastructures always come with their in-betweens and their boundaries, when they are suspended or faulty, as well as when they work as expected. Star's much-cited phrase "[o]ne person's infrastructure is another's topic" (1999, p. 380) also implies that any infrastructure both connects and limits, both in relation to its users and its non-users. Thus, in the epigraph, Graham and Marvin (2001, p. 2) show how an infrastructure designed for water supply excludes informal settlers from this network. But the infrastructure's physical limits – the metal pipes enclosing the water – simultaneously become a different infrastructure for these settlers, namely footways for their own mobility. The pipe's inner surface constitutes one infrastructure, designed and exclusionary; its outer surface becomes a different, unplanned one, without ceasing to be a boundary. It simultaneously connects and limits, directs and demarcates different movements. I would argue that the liminal, in this case, involves the experience, transgression, and modification of infrastructural boundaries. It is intrinsic to the process that simultaneously makes and unmakes infrastructure. It can be a fleeting moment of confusion when faced with a tram ticket machine that does not work as expected, or a more collective and durable uncertainty in the case of the stalled construction. It involves creative responses, as when children started using the construction fences as football goals – a boundary made infrastructure, for a limited time, a limited purpose, and a limited group of people. The fence remains a boundary, as much for the playing children as for other people, but it partly shifts in meaning and function, it becomes infrastructural to the football game. The liminal lies within this partial shift: A practical, creative, open-ended exploration of the boundary. It does not result in an absolute stabilisation, as the practice continues to shift, materials respond in unexpected ways, and other people interfere with their own boundary explorations. In this way, the liminal and the infrastructural coexist, in degrees, in multiplicity, in the infinitely complex interplay of what is and what may be.

## References


Bennett, J. (2010). *Vibrant Matter. A Political Ecology of Things.* Durham & London: Duke University Press.

Caldeira, T. (2000). *City of Walls. Crime, Segregation, and Citizenship in São Paulo.* California: University of California Press.

Cheah, P. (2010). Non-Dialectical Materialism. In D. Coole & S. Frost (Eds.), *New Materialisms: Ontology, Agency, and Politics* (pp. 70-91). Durham & London: Duke University Press.

Douglas, M. (2002 [1966]). *Purity and Danger: An Analysis of Concept of Pollution and Taboo.* London & New York: Routledge.

Graham, S., & Marvin, S. (2001). *Splintering urbanism. Networked infrastructures, technological mobilities and the urban condition.* London & New York: Routledge.

Gupta, A. (2018). The Future in Ruins: Thoughts on the Temporality of Infrastructure. In N. Anand, A. Gupta, & H. Appel (Eds.), *The Promise of Infrastructure* (pp. 62-79). Durham & London: Duke University Press.

Harvey, P., Jensen, C. B., & Morita, A. (2017). Introduction: Infrastructural Complications. In P. Harvey, C. B. Jensen, & A. Morita (Eds.), *Infrastructures and Social Complexity. A Companion* (pp. 1-22). Abingdon & New York: Routledge.

Harvey, P. (2018). Infrastructures in and out of Time: The Promise of Roads in Contemporary Peru. In N. Anand, A. Gupta, & H. Appel (Eds.), *The Promise of Infrastructure* (pp. 80-101). Durham & London: Duke University Press.

Henneberry, J. (Ed.). (2017). *Transience and Permanence in Urban Development*. Hoboken: John Wiley & Sons.

Holston, J. (1989). *The Modernist City. An Anthropological Critique of Brasília.* Chicago: The University of Chicago Press.

Horvath, A., Thomassen, B., & Wydra, H. (Eds.). (2015). *Breaking Boundaries. Varieties of Liminality*. New York & Oxford: Berghahn.

Larkin, B. (2013). The Politics and Poetics of Infrastructure. *Annual Review of Anthropology,* 42, 327–343.

Massey, D. (2005). *For Space*. London & Thousand Oaks: SAGE.

Röhl, T. (2020). From structure to infrastructuring. On transport infrastructures and socio-material ordering. In O. B. Jensen, C. Lassen, & I. S. Gøtzsche Lange (Eds.), *Material mobilities* (pp. 16-30). Abingdon & New York: Routledge.

Rumé, S. (2022a). The contradictions of sustainability: Discourse, planning and the tramway in Cuenca, Ecuador. In J. Alderman & G. Goodwin (Eds.), *The Social and Political Life of Latin American Infrastructures* (pp. 199-222). London: University of London Press.

Rumé, S. (2022b). The Legitimacy of Urban Things: Cuenca Between Heritage and Modernisation. *Urbanities*, 12(1), 49-64.

Star, S. L. (1999). The Ethnography of Infrastructure. *American Behavioral Scientist,* 34(3), 377-391.

Suboticki, I. & Sørensen, K. H. (2021). Liminal technologies: Exploring the temporalities and struggles in efforts to develop a Belgrade metro. *The Sociological Review*, 69(1), 156-173.

Szakolczai, A. (2015). Liminality and Experience: Structuring Transitory Situations and Transformative Events. In A. Horvath, B. Thomassen, & H. Wydra (Eds.), *Breaking Boundaries. Varieties of Liminality* (pp. 11-38). New York & Oxford: Berghahn.

Szakolczai, A. (2017). *Permanent Liminality and Modernity. Analysing the Sacrificial Carnival through Novels.* London & New York: Routledge.

Thomassen, B. (2014). *Liminality and the modern: Living through the in-between*. London & New

York: Routledge.

Thomassen, B. (2015). Thinking with Liminality. To the Boundaries of an Anthropological Concept. In A. Horvath, B. Thomassen, & H. Wydra (Eds.), *Breaking Boundaries. Varieties of Liminality* (pp. 39-58). New York & Oxford: Berghahn.

Turner, V. (1969). *The ritual process: Structure and anti-structure.* London: Routledge and Kegan Paul.

Turner, V. (1974). Liminal to liminoid, in play, flow and ritual: An essay in comparative symbology. *Rice University Studies,* 60(3), 53–92.

Van Gennep, A. (1981 [1909]). *Les Rites de Passage*. Paris: Éditions A. et J. Picard.