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The electricity crisis in Zambia: Blackouts and social stratification in new mining towns



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ABSTRACT

In Zambia, privately-owned copper mines consume more than half of the electrical energy produced. By contrast, only 22% of private households are connected to the national grid. Against this background, the paper analyses energy distribution in Zambia's Northwestern Province, where new copper mines have opened following the hike in copper prices during the 2000's. Unlike rural families, residents in the three new urban centres in theory have access to electricity. Since 2015, however, the country suffers from an electricity crisis partly as a result of poor rainfalls in the 2014/2015 season. In a situation of undersupply, the mine keeps unlimited access to electricity which privileges its operations and the housing areas. Daily blackouts for the rest of the town entrench existing inequalities and produce new ones.

Based on long-term ethnographic research, the paper examines how electrical infrastructure and the possibility for forms of sociality relate both in the everyday and in the political discourse. I show how unequal electrical infrastructure contributes to the structuring of people into new social classes, and how, consequently, infrastructure is *political* from the start. By reflecting on the political and social consequences of unequal electricity supply, I provide preliminary thoughts on an energy distribution ethic.

1. Introduction

In the Republic of Zambia, 78% of households are champions in using “green” substitutes to nuclear, coal or diesel generated power such as solar panels, wood and charcoal ([1], 25). And unlike many of its neighbouring countries and countries in the global North, Zambia relies on hydropower for 94% of its electrical energy. However, this still raises critical questions about the ethics of energy systems. The problem is not so much environmental sustainability of production as justice of distribution: Mining companies use half of the country's electrical energy for their operations, while only 22% of households have access to electrical power.

Zambia usually has sufficient rainfall to fill its dams and sell surplus power to neighbouring countries. Until recently, electricity supply has never been considered as a problem in official discourse. This changed in 2015 when for the first time there was insufficient electricity to supply all customers. Cuts started to be inflicted onto domestic customers, so that today, in Gupta's words for India, “being connected to the grid and having electricity are two different issues” ([10], 559). As a result of poor rainfall in the 2014/2015 rainy season, electricity shortages, so-called “load shedding”, now happen across the country and affect all actors – albeit unequally. Households which are not

connected to the national grid are also indirectly affected by the power crisis, which, among other things let's prices for staple foods (such as maize and oil) rise and makes public services even less reliable. In addition to that, the commodity price boom which started in the early 2000s turned into a bust in 2015 again. Currently, the prices are down to about half of what they were at their peak in 2011. In combination with low global copper prices, energy shortages have affected Zambia's exports and the Kwacha's exchange rates. It has become clear that although hydro-electric power is a *renewable* source of energy, it is not necessarily a *reliable* source of energy (for a similar situation in Accra, Ghana, see Silver [2]). This situation does not affect all people equally; when electricity became scarcer, it also became even more unevenly distributed.

Although Zambia has a century-long history of extraction, the cases I consider in this article are *new* sites of mineral extraction. The empirical field of enquiry is the Solwezi region in the Northwestern Province of Zambia. In the region, three large-scale mines have been opened since 2003 in reaction to the recovery of global copper prices. Three new urban centres have developed around the three mines; the rest of the region consists of some peri-urban and mainly rural localities. Power lines and electrical power have only recently been introduced as an infrastructure to a large part of the area. Studying

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electrical power in this region is particularly interesting because we can witness the parallel development of rural electrification, an ordinary albeit slow process across the country, and massive electro-infrastructure development, that is “selectively territorialized investment” [3] through private mining companies trying to secure unhindered extraction in selected onshore “enclaves” [4].

I conducted ethnographic research in the region for 14 months between 2013 and 2016, which included interviews and conversations with local state officials and mine employees, but most of all participant observation in the daily life of ordinary town dwellers in a rapidly urbanizing region. This research enables me to show how uneven access to electricity contributes to social stratification. I examine processes that result in the ordering of people into differentiated, hierarchically layered groups (*social differentiation*) whose members are aware of the discrepancy between them and members of another group (*social stratification*). While social differentiation is not necessarily a problem for the actors and groups involved, for it to be called social stratification, it requires their judgment. Infrastructure, as I will show, has constitutive power. Studying the ways in which lack of electric power affects social relations gives us clues about what might happen in the global North when ethical dilemmas of distribution rise in times of crisis, natural disaster, shortage or extreme increase of prices. To be sure, my aim here is not to reduce the global South to a testing ground for possible future scenarios in the global North. Rather, the focus on electricity as the key factor for a productive privatized extractive industry points to the reliance of the global North on the natural resources from the South (such as copper, cobalt and gold from Zambia), and the need to address questions of (re)distribution and sustainability with a global outlook. In other words, the politics of energy distribution on this extractive frontier of the global economy are affected not only by local and national forces, but by global forces as well. In this article, I thus propose to expand the focus of what we should be talking about when we think about the ethical implications of growing human reliance on electricity. I will propose some preliminary thoughts on an *energy distribution ethics*.

After a brief overview of studies on electricity in the social sciences (1), I look at the energy and mining sector in Zambia (2) and in a new mining region (the Solwezi region) more specifically (3). I explore how planning processes of a new “company town”, Kalumbila, and the expansion of the national grid contribute to social stratification (4). I then present ethnographic data on how urban residents deal with daily power outages in Solwezi town, an old administrative and since recently booming mine town (5). Unequal energy distribution and the power crisis provide everyday experiences of in- and exclusion. As such, it is a political and increasingly politicised topic, which turns into a source for ordinary town residents to criticize the local elite (6). In the conclusion (7), I provide some preliminary thoughts on a global energy distribution ethics.

2. Electricity and sociality

Electrical infrastructure has been studied from a variety of scholarly perspectives, be it Deleuzeian, Foucauldian or with an ontological approach [5,6].¹ While a large part of the literature on energy is based on the experience of the omnipresence of electrical energy in Western countries ([7], 22), many scholars have also criticized the underlying assumption that electricity is all pervasive, connects all spheres of everyday life, and that “we conveniently ignore whole electrospheres until something goes wrong” [6]. By studying electricity in “imperfect” contexts, scholars point out the uneven geographies of urban energy networks (e.g. [8]) and show parallels between uneven energy distribution and inequality in the global South (e.g. [9–11]). Some

¹ For an overview of the ethnographic, anthropological and sociological literature on energy, see the introduction to this special issue ([32] High and Smith, this issue), and for some challenges facing social scientific research on energy, see Stirling [33].

researchers focus on the ways the idea of electricity as a public good triggers protest actions among those who do not have access to it [12–15]; others focus on the relation between electricity and urban politics [8]. My contribution draws on this critical corpus of studies of electricity networks that centres on inequality and power in relation to energy infrastructure.

Unsurprisingly, there is a number of studies examining a key characteristic of “imperfect” electrical power head-on: blackouts (cf. [2]). In her article *Circuits and Currents: Dynamics of disruption in New York City Blackouts*, Rupp [16] examines what happened during four blackouts in New York City between 1965 and 2012. She shows that blackouts produce some kind of liminality where people start relating to one another differently. From this insight, she derives electricity’s three main characteristics: it is invisible, indispensable and omnipresent. She then projects this emergent liminality during blackouts to bygone times. Before we were completely defined by the power of electricity, she argues, people lived as *Mitmenschen* (people living with one another). Today, we live as *Nebenmenschen*, that is alongside one another [17].²

I take the distinction between *Mitmenschen* and *Nebenmenschen* sociality as an analytical tool for lived relatedness, and examine how groups of people shift between *Mitmenschen* and *Nebenmenschen* relationships in light of the governing effects of electrical infrastructure. In Zambia, and in the broader Southern African region for that matter, where electricity is an *emerging* infrastructure (cf. [18]), electric energy is *visible*, *dispensable* and *faulty*. In the contemporary Zambian context of faulty energy supply, human relations are most likely not as unproblematic as suggested for bygone times before complete electrification (cf. [19]). In this article, I thus seek to track the role of electricity to help create forms of *Mitmenschen* and *Nebenmenschen* sociality.

Infrastructure is a manifestation of inequalities, domination and control, but it also helps to *create* forms of governance and social differentiation. Electricity play a crucial role in this process. I agree with Boyer’s suggestion to expand Foucault’s biopower with “energopower” [20]. To explore the effects of a faulty, unreliable and visible infrastructure and its relationship to governing attempts, I hence also draw on Latour [21]. With Latour, I understand energy as a socio-political and economic field “where *any thing* that does modify a state of affairs by making a difference” (2007, 71) must be considered. Electrical infrastructure plays a role in human interaction. Agency, as Latour suggests, springs from our interaction with human and non-human entities; a notion Barad confirmed as “intra-action” [22]. I take this insight into material efficacy as a starting point to focus on the creation of social groups through infrastructural governance processes, on the one hand, and the possibilities of relating to one another across these groups, on the other.

3. Zambia’s energy and mining sector

Ever since copper was first mined commercially in the late 1920s under the British South Africa Company, the mining sector has constituted the backbone of the economy in what today is Zambia. In the course of ninety years of industrialization and urbanization, poor and rural communities have often been removed from their homes to make space for large infrastructure projects. The most prominent example in Zambian history is the resettlement of approximately 57.000 people for the construction of Kariba Dam in the 1950s, the then biggest man-made dam built to serve the mines in the Copperbelt [23–25].

Today, the private large-scale copper mines are still the biggest consumers of electricity. Zambia has two main sources of electricity: the hydroelectric power plants at the Kafue Gorge and the Kariba Dam (Kariba North and Kariba North Bank Extension). Together, they

² Gupta [10] makes a similar argument for North Indian villages before electrification in the mid-1980s.

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