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Disautomated Realities in South Africa: Loadshedding, Poultry Death, and the Promises of Failure

ZIYAAD BHORAT
University of Southern California, USA
Berggruen Institute, USA
Harvard University, USA

In an increasingly automated world, what does it looks like when sociotechnical change occurs as infrastructural failure? Since 2007, South Africa's ability to provide energy for its people has dramatically deteriorated. Scheduled power cuts, or "loadshedding," has become a norm in daily life. Because of loadshedding, systemic failures of automated systems used in the poultry industry have resulted in moral and socioeconomic disaster as producers lose millions of livestock and prices rise above affordable levels. Recent reactions to these mass chicken deaths and the resultant political activism provide an illustrative case study of how longer term *infrastructural failure* in a critical sector like energy can suddenly heighten popular awareness of the unspoken life and death *funerary economy* that governs people's lives and thus foment the potential to *revitalize the democratic space*. The South African experience is therefore not a purely negative one—rather it shows how failure as a species of sociotechnical change can generate technopolitical promise.

Keywords: sociotechnical change, failure, South Africa, infrastructure, disautomation

Depowered Democracy

With one of the most progressive constitutional frameworks in the world, South Africa's transition away from White-minority political rule at the end of the 20th century marked a highpoint for "dreams of a truly democratic and more prosperous future" (Lieberman, 2022, p. vii) and Nelson Mandela's founding promise "to liberate all our people from the continuing bondage of poverty, deprivation, suffering, gender and other discrimination" (Mandela, 1994, para. 18). Few, if any, expected these dreams to be realized overnight, or for there to be a decisive end to the struggles that marginalized communities continue to face in the new republic. The socioeconomic reality remains that "wealth still is distributed extremely unequally and economic inequality is still expressed racially" (MacDonald, 2006, p. 4).

But since 2007, this dynamic has been compounded by the state's growing inability to provide energy for its people. South Africa's energy crisis is perhaps the greatest sociotechnical change that the young democracy has ever experienced. But when sociotechnical change means infrastructural failure on this scale, the result is not necessarily always or only negative—especially when we consider how people react to timescales of change in the short to longer run. Seen as a way to renew and realize Mandela's founding promise, infrastructural failure becomes a call to action for people to rebuild their political

community. From (i) the *infrastructural failure* of "loadshedding" on the energy grid, to (ii) the exposure of the *funerary economy*, realized as the heightened moral and socioeconomic salience of resultant, highly publicized (poultry) deaths in South African agricultural production, we can see how (iii) failure opens up new forms of community and activism to *revitalize the democratic space*. South Africa's energy crisis is therefore a case study in how failure at the level of infrastructure, "socio-technical assemblages of materiality, discursive, fiscal, and organizational forms and relations" (Von Schnitzler, 2016, p. 21), is intertwined with broader technopolitics and the (re)making/breaking of democracy. In short, a depowered democracy can renew promise for an empowered one.

Loadshedding and Infrastructural Failure

Infrastructural failures and energy crises are nothing new. Various states, particularly in the Global South, suffer from rolling blackouts and low access to electricity. Poor infrastructural capacity means that around 770 million people across the world still do not have electricity access (International Energy Agency, 2022), affecting states as varied as Venezuela, Lebanon, and Nepal. In the case of democratic South Africa, a deepening infrastructural crisis since 2007 means that the state has actually retrogressed from being able to meet the energy demands of its people to rolling blackouts as a feature of everyday public and private life. Of course, this comes with the caveat that South Africa has always faced problems with *affordable* access to electricity (Vermaak, Kohler, & Rhodes, 2009).

Eskom, South Africa's parastatal energy utility, provides over 95% of the state's electricity and relies on degraded coal-fired power stations for over 80% of its energy production (International Trade Administration, 2021). In order to prevent the national grid from collapsing, Eskom has had to introduce rotating local blackouts, or "loadshedding." These scheduled blackouts are assigned severity levels. Stage 8 loadshedding, for example, means that blackouts last for up to 12 hours and significantly disrupt daily life.

While loadshedding shows how Eskom's aging and coal-reliant plants fail to meet people's energy needs, this failure is by no means a purely technological one. Whether sudden or protracted, disasters tend to reveal "multiple layers of technical and social unpreparedness" (Jasanoff, 1994, p. 11). South Africa's energy retrogression was and is the result of a complex interweaving of sociotechnical systems failure. Sylvy Jaglin and Alain Dubresson's (2016) work draws on the longer history of Eskom and energy provision in South Africa to show how Eskom lost both autonomy vis-à-vis government influence, and technopolitical competence. This meant that it was unable to change its technical reliance on coal and its organizational structure as a state monopoly. As a result, "the [inherited but transformed] neopatrimonial regime has considerably reduced the strategic capacity and technopolitical influence of engineers, but the state has not demonstrated its own capacity to promote efficient technopolitics in the electric sector" (Jaglin & Dubresson, 2016, pp. 31–32). Eskom's failure to change itself to meet the demands of post-Apartheid South Africa resulted in change manifesting suddenly as failure in the lives of those it serves.

Indeed, politically motivated decisions, such as postponing building or procuring new energy projects until after critical elections in 2004, dovetail with a profoundly poorly mismanaged, opaque, and unaccountable state utility whose "vulnerability to corruption or 'state capture'" illustrates "South Africa's

[own] vulnerability to Eskom's fortunes" (Crompton & Matsika, 2021, p. 293). Loadshedding exists in the vernacular of people living in South Africa as a sign of the economic, social, and political turbulence created by infrastructural failure. And with climate change and increased geopolitical tensions, problems with both global and local energy infrastructures and supply chains are likely to become even more acute in the future. South Africa's energy crisis is therefore also a bellwether for what we might increasingly see elsewhere.

Disautomation and the Funerary Economy of (Poultry) Death

Knowing what level of loadshedding will occur, when, and for how long, has become an important part of navigating *life* in South Africa. But infrastructural failure also illustrates *death*—the necropolitics of what Achille Mbembe (2019/2016) calls the funerary economy of "killing and getting killed," including "men, women, children, livestock, poultry, plants, animals, mountains, hills and valleys, streams and rivers . . . placed in the situation laden with the atmosphere of their having seen death" (p. 152). Loadshedding interrupts and frustrates mechanized, automated systems of production in the economy, and this is perhaps no more acutely felt than in the agricultural production infrastructures that regulate human-animal life and death.

At the start of 2023, local and international news outlets reported that loadshedding had become so severe in South Africa that it had killed millions of chickens. *News24*, one of South Africa's most recognizable English-language news outlets, ran the headline, "Ten Million Chicks Culled due to Load Shedding—Animal Protection Society Warns," encapsulating the gist of local coverage and including statements about how "the animals' unnatural and automated environment is dependent on a constant supply of electricity" (Majavu, 2023, para. 7). *Food For Mzansi* ran a story, "Eskom Horror: 50 000 Dead Chickens," which included a viral video of suffocated broiler chickens alongside various South African tweets about the video and statements by farmers on how loadshedding caused "automatic computer systems [to] shut down" in ventilation systems (Mncwango, 2023, para. 4). International outlets like CNN followed suit, highlighting the severity of the loadshedding crisis with headlines like "Dead Chickens and Decomposing Bodies: Inside South Africa's Power Blackout 'Pandemic'" (Trenner, 2023).

What local and international attention to these sudden, unanticipated poultry deaths does not change is that these chickens were always destined to die in the longer run– whether for meat or as a general fact of their impoverished status as productive objects with limited "useful lives." Culling poultry because of loadshedding-induced supply chain disruptions brings to public consciousness the destiny for death already inherent in agricultural production. But by doing so, South African socioeconomic conditions are also laid bare because poultry products, "the most important protein source for South Africans" (Roberts, 2009, p. 10) become less affordable for the millions who depend on them for their own lives. Another prominent South African English-language local news outlet put this situation in its most visceral terms with the following headline: "Eggs, Chicken Prices Soar: 'Load Shedding Is Killing Us'" (Stoltz, 2023). Suddenly South Africans, confronted with loadshedding's disautomated path of death in poultry production, began to realize the possibility of suffering a similar fate in their human lives. Whereas people might have more easily made longer run adaptations in their lives to a rhythm of failure that was slow and creeping, death creates a kind of temporal rupture that forces people to reckon with change.

Empowering Democracy: Revitalizing the Democratic Space

Failure at some of the most basic levels of human life—energy and food—can acutely show people their precarious position. While stories broke about chicken deaths in South Africa and loadshedding increased throughout the state, South Africans actually used platforms like Twitter *more* over the same period (Kemp, 2023, paras. 130–148). Online users tweeted about how the crisis was affecting them:

> 16hrs now without electricity in our farming area due to @eskom dysfunctional system and loadshedding, chickens are dying, livestock is suffering, what is the future of farming in SA mama @ThokoDidiza, is there hope for food security in SA, Mr. @CyrilRamaphosa we are loosing [sic] it. (Maseko, 2022)

They showed broad empathy:

> I feel the pain of the poultry farmer that lost 50k chickens due to loadshedding. Chicken prices will increase due to the shortage 😭 people are also losing jobs 😢 This farmer has lost A LOT 💔 I can't stop saying YOH. (Dipilo, 2023)

And eagerness to surface the political consequences of loadshedding:

> I'm selling chicken dust in Alex[andria] and I lost 14 chickens that are rotten as a result of loadshedding. Now how many more chickens must I loose [sic]? I *rather go and join that protest* [my emphasis] since we will be in stage 5. (Hiroko, 2023)

These comments highlight how communities that had once used social media to communicate and coordinate about loadshedding information schedules found common cause in feelings and experiences around infrastructural failure and the precarity of life and death that failure generated. In recognizing that loadshedding created the conditions for mass death (of poultry), South Africans could move from their individual experiences with loadshedding to community practices of resistance and protest against poor governance in general.

This congregation of online users coming to terms publicly with infrastructural failure as well as the moral and socioeconomic losses of associated poultry deaths, illustrates the emergence of what Neilson (2017) calls a "technological consciousness" (p. 85) of poorer South Africans seeking a means to have agency over their electrical [and technological] futures. Neilson's traces how the severity and history of prior blackouts in Soweto, one of Johannesburg's historically poorer areas, continues to mobilize resistance groups such as the Soweto Electricity Crisis Committee, which has planned community-wide shutdowns of all economic activity to protest Eskom and the South African government's loadshedding policies.

As communities found common cause in their experiences of infrastructural failure and death, proactivity turned into political action. Political opposition parties to the ruling center-left/left African National Congress (ANC), like the center-right/right Democratic Alliance (DA) and radical left Economic Freedom Fighters (EFF), began to mobilize South Africans in various protest actions. The DA marched on ANC leadership headquarters in its January 25th "Power to the People March," claiming thousands present (Democratic Alliance, 2023). Two months later, the EFF attempted to organize a national shutdown that

drew mixed results given its nationally ambitious scope, although it still estimated around 150,000 participants (SANDF Deployment, 2023). As a result of this pressure, South African President Cyril Ramaphosa declared a (now-revoked) national state of disaster in February 2023 (Gumbi, 2023) and installed the state's first ever minister dedicated solely to electricity (Cotterill, 2023). While the ruling ANC continues to enjoy historically broad electoral support, the reinvigoration of community and participatory democratic *praxis* shows how infrastructural failure is a particularly potent species of sociotechnical change when it meets with sudden consequences for human life. Failure is especially powerful for driving political change beyond the ballot box because infrastructures entail inextricably shared consequences that are public consequences and thus sit squarely in the realm of political action.

Promises of Failure

All is not all gloom in the case of South Africa's loadshedding crisis. Though the post-Apartheid era ushered in formal democracy, its substantive promises have yet to be fully realized. With one-party dominance in electoral politics and an energy utility that "clearly demonstrates that public ownership does not necessarily imply democratic participation or equality of access" (Baker & Phillips, 2019, p. 181) it sometimes takes failure to generate democratic renewal. In this context, South Africa's experience of sociotechnical change as longer-term *infrastructural failure* shows how the consequences of mass (chicken) deaths create a sudden, heightened popular consciousness of the life and death *funerary economy*. In turn this experience and consciousness can and does create the conditions to *revitalize the democratic space* around a people's basic needs.

South Africa's energy crisis is therefore a story of sociotechnical change precisely because it shows how infrastructural failure, as a species of change in general, can create democratic potential. When infrastructures fail because they cannot adapt fast enough, this creates sudden, shared consequences for others who are forced to reckon with this failure as a matter of life and death. People are thus able to move from individual experiences to find common cause in political action. In the case of South Africa, sociotechnical change weaves together a multitemporal fabric of infrastructural failure, shared consequence, and political reform that emerges when the lights go out and the coops go quiet.

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