

ESSAY REVIEW

Technopolitics, development and the residues of the South African state

Faeza Ballim, *Apartheid's Leviathan: Electricity and the Power of Technological Ambivalence*

Athens: Ohio University Press, 2023. Pp. 176. ISBN 978-0-8214-2518-3. \$32.95 (paperback)

Gabrielle Hecht, *Residual Governance: How South Africa Foretells Planetary Futures*

Durham, NC: Duke University Press, 2023. Pp. 288. ISBN 978-1-4780-2494-1. \$27.95 (paperback)

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It has been thirty years since the end of political apartheid in South Africa in 1994. Those decades have been marked by single-party dominance under the African National Congress (ANC), and the expansion of democratic rights and public goods like education, as well as neoliberal economic policies, growing inequality and, in recent years, corruption and maladministration scandals. On the heels of a historic election in May 2024, one which marked the end of the ANC's electoral dominance and was shaped, in part, by government mismanagement of the energy sector and extensive infrastructural decline, it is a timely moment to consider the history of South Africa's state and its relation to industries of extraction and energy production. Two new books do just that. *Residual Governance: How South Africa Foretells Planetary Futures*, by Gabrielle Hecht, takes a long view of the impact of extractive industries, arguing that contemporary South Africa may offer a cautionary tale of the devastating impacts of the Anthropocene, one that 'foretells planetary futures' in the way that the state has failed to reckon with the enduring communal and environmental impacts of the mining industry. *Apartheid's Leviathan: Electricity and the Power of Technological Ambivalence*, by Faeza Ballim, historicizes the development of South Africa's electricity sector under the apartheid state and traces the roots of the current energy crisis back to the pursuit of authoritarian high modernism in the mid-twentieth century.

Residual Governance is focused on the mining and post-mining communities of Gauteng, South Africa's most urban province and home to Johannesburg, Soweto and Pretoria, as

well as the historic centre of gold-mining in the country. Hecht uses this rich, yet comparatively narrow, case study to make a big argument about the nature of governing places of extraction. She offers the analytical frame of ‘residual governance’ to make sense of the various ways the Anthropocene creates and manages (or fails to manage) waste. This includes management of waste residue itself – in the case of South Africa, Hecht focuses on the toxic mine dumps that line the edge of the Witwatersrand in southern Gauteng and create environmental hazards for the communities that live in proximity to them. It also suggests that governance itself is ‘a residual activity’ (p. 29), often subordinated to powerful market forces that regard waste products and their effects as externalities, and one that can prompt state actors to oversimplify the challenges they face. Lastly, Hecht argues, residual governance ‘treats people and places as waste’ (p. 31). Here Hecht offers a searing indictment of the postapartheid, apartheid and colonial states in South Africa; as she writes, ‘the profitability of South Africa’s vast mining system has depended on treating bodies as waste dumps for well over a century’ (p. 31). This is an inescapably racialized story, and Hecht’s framing of residual governance sits within a broader school of thought about the confluence of racism and capitalism in South Africa, and how systems of racial oppression and economic extraction have reinforced one another. The devastating impacts of the migrant labour system that have supported the mining industry for a century and a half have been well documented by labour historians, anthropologists, sociologists, artists and documentarians.¹ But Hecht’s frame of residual governance offers something new, in the way it ties the literal waste produced by the system to the way that it treats both workers and communities as expendable, and potential waste products. The framing of waste residues as an analytical category that encompasses individuals, communities and the physical landscape offers a way to bring together the extraordinary environmental, human and social costs of this system.

In linking this to failures of governance that cut across the apartheid and post-apartheid periods, Hecht’s framework also allows us to think beyond conventional boundaries in South African history; she argues persuasively that both of these states have struggled with and been shaped by residual governance. This offers scholars a tool that may be applied to other contexts of extraction or environmental exploitation. To think about how these processes are historically inscribed in South Africa, Hecht borrows a concept from political scientist Sizwe Mpfu-Walsh. In *The New Apartheid*, Mpfu-Walsh argues that despite the dismantling of much of political apartheid in the 1990s, the structural and physical imprint of the system on South Africa’s spatial environment and social relations continues to act as a sort of algorithm, informing pathways and outcomes even as actors within and outside the state attempt to change these.² Hecht uses this concept of ‘apartheid’s algorithm’ to help explain the shallowness of residual governance, and the failures of government to successfully implement change, from the ineffectiveness of new regulatory regimes to the failure-to-launch of housing ‘megaprojects’ meant to redress more than a century of structural inequality in Gauteng.

Residual Governance is available as both an electronic and a physical book, but readers may want to prioritize getting the hard copy of this text; with the collaboration of artists

¹ See, for instance, T. Dunbar Moodie and Vivienne Ndatshe, *Going for Gold: Men, Mines and Migration*, Berkeley: University of California Press, 1994; Gavin Capps and Sonwabile Mswana, ‘Claims from below: platinum and the politics of land in the Bakgatla-ba-Kgafela traditional authority area’, *Review of African Political Economy* (2015) 42(146), pp. 606–24; Catherine Myburgh and Richard Pakleppa, eds., *Dying for Gold*, Johannesburg: Breathe Films, 2018.

² Sizwe Mpfu-Walsh, *The New Apartheid*, Cape Town: Tafelberg, 2021.

and activists, Hecht has produced a visually beautiful and challenging book. Images are a central part of *Residual Governance*, acting as primary sources and sometimes as part of the argument itself. As Hecht contends, ‘As an instrument of power, residual governance fosters invisibility’ (p. 8). She aims to combat this by making the violence of life on the mine dumps visible. Each chapter begins with a collage created by graphic designer Chaz Maviyane-Davies. These speak to the themes of each chapter, in one mapping different forms of waste produced by mining onto the bare body of a *zama zama*, an informal miner who makes a dangerous living on the mine dumps, for example. Another overlays the face of a worker with the earth-moving equipment used to displace billions of metric tonnes of land in South Africa as part of the mining industry since the 1870s. These images are arresting, and each is designed specifically to illustrate the entanglement of humans, technology and waste that is at the heart of Hecht’s framing of residues and residual governance. In addition, Hecht includes images produced by South African activists and artists, including Sally Gaule, James Oatway and Potšišo Phasha. At times these images give aspects of the text the feel of a photographic essay, and the way Hecht has assembled them here – to deliberately make visible the violence that residual mine waste does to people, communities and environments – makes her overall case for residual governance all the more compelling.

Apartheid’s Leviathan: Electricity and the Power of Technological Ambivalence by Faeza Ballim considers the way in which extraction and waste have shaped one of South Africa’s most important utilities: its electricity grid. Ballim explores how two parastatal technological corporations, Eskom (the Electricity Supply Commission of South Africa) and Iscor (the national steel producer), shaped the implementation of racial segregation during and beyond the height of apartheid. Ballim tells the story of Iscor’s exploitation of local coalfields, situated in the Waterberg, a rural region north of Gauteng in what is today Limpopo Province, and Eskom’s subsequent establishment of two new coal power plants. This process began in the 1960s, during the height of apartheid, and Ballim posits that many of the decisions that were taken were part of what James Scott has described as authoritarian high modernism³ – the application of science and technology to political challenges by an authoritarian state. Eskom and Iscor were ‘part of the project of government planning within which science and technology loomed large on the path to modernization’ (p. 124). But Ballim cautions against an overly instrumental understanding of the relationship between the state and its technological corporations. Instead, she posits a relationship of intense ambivalence, and describes both Eskom and Iscor as ‘writhing leviathans, made up of disparate elements that are both human and nonhuman’ (p. 3). This framing helps to highlight the contestations within these industries and those charged with administering them, as well as with local government in the Waterberg itself. The framing of the writhing leviathan will resonate with those familiar with South Africa’s electricity crisis today, and Ballim’s deeply historicized explanation of how Eskom came to develop as it has will doubtless be of interest to many readers trying to make sense of the present crisis.

Ballim’s is the first in-depth history of Eskom, Iscor and South Africa’s energy sector, though she follows earlier work by Hecht on South Africa’s nuclear power programme,⁴ and by Stephen Sparks on Sasol, the state-owned petrochemical company.⁵ *Apartheid’s Leviathan* begins in the 1960s and tracks the development (and decline) of these

³ James Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, New Haven, CT: Yale University Press, 1998, pp. 87–102.

⁴ Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade*, Cambridge, MA: MIT Press, 2012.

⁵ Stephen Sparks, ‘Between “artificial economics” and the “discipline of the market”’: Sasol from parastatal to privatisation’, *Journal of Southern African Studies* (2016) 42(4), pp. 711–24.

corporations to the present. Ballim draws on new oral-history interviews with former technicians, engineers and managers at Iscor's Grootgeluk coal mine and Eskom's Medupi and Matimba power plants. She also makes extensive use of Eskom's own archive, bringing to light internal debates that support her argument about these organizations as leviathans that defy neat categorization. The Eskom that emerges in this text is a space of contestation, sometimes pulled in service of the developmental and segregationist aims of the apartheid state, and sometimes pushed by countervailing social and economic forces.

The case study approach in this text allows Ballim to successfully demonstrate how the technologically driven development pursued by the apartheid state brought a rural periphery, the Waterberg, into the ambit of government control. She frames this in the broader literature of technopolitics, drawing on earlier work by Hecht and Antina von Schnitzler. Technopolitics, the open-ended and fluid relationship between technology and political relationships (including governance), offers a fruitful way to make sense of the conflict and compromise at work in the relationships between Iscor, Eskom and the apartheid state. Here, Ballim contributes to a growing literature on the entanglement of state policies and technology, including von Schnitzler's work on electricity meters in the democratic era,⁶ and Hecht's on the nuclear policies of the late apartheid state during the Cold War.

Both *Apartheid's Leviathan* and *Residual Governance* mark important new contributions to the growing body of literature on histories (and political sociologies) of science and technology in African studies. Bringing South Africa firmly into this literature is helpful for understanding its historical specificity while also challenging aspects of 'South African exceptionalism'. Ballim describes an authoritarian regime that tried but sometimes struggled to control the leviathans of its steel and energy producers. In contrast, Hecht theorizes a weak state, fundamentally limited in its ability to respond to more than a century of environmental degradation. Together they reflect the ways in which past South African governments have struggled and often failed to control technologies of extraction and their aftermath. By centring the limitations of both the apartheid and post-apartheid states in the face of technological and environmental change, these texts offer readers new ways to think about the capacity and limitations of South African governments in the past and present.

As described above, both are centrally concerned with the state and its projection of power through development projects, as well as with the constraints on and failures of that power. In this they speak to a deep literature on histories of development projects in Africa and their aftermaths, including infrastructural projects like dams and roads. Such studies have often focused on the end of colonialism and the early independence years of African states in the mid-twentieth century.⁷ Because of its different political trajectory, South African development has often been treated differently, but in *Apartheid's Leviathan* Ballim demonstrates that the apartheid state grappled with similar developmental and modernist impulses and challenges to some of its regional neighbours. In *Residual Governance* Hecht shows that the peculiarities of South Africa's economic development, grounded in the slow violence of racial capitalism, have accelerated its challenges in addressing the environmental degradation and waste residues that result from such a system. It offers, she argues, a cautionary tale for other places that embody aspects of

⁶ Antina von Schnitzler, *Democracy's Infrastructure: Techno-politics and Protest after Apartheid*, Princeton, NJ: Princeton University Press, 2016.

⁷ See, for instance, Allen F. Isaacman and Barbara S. Isaacman, *Dams, Displacement and the Delusion of Development: Cahora Bassa and Its Legacies in Mozambique, 1965-2007*, Athens: Ohio University Press, 2013; Julia Tischler, *Light and Power for a Multiracial Nation: The Kariba Dam Scheme in the Central African Federation*, New York: Macmillan, 2013.

residual governance. Both of these texts bring illustrative South African case studies into important conversation with the wider literature on science and technology in Africa and beyond. There is much here for both area specialists and more generalist audiences. These books promise to be of interest to readers with an interest in South African histories of science and technology, as well as in new ways of understanding state power and its limits through the lens of technopolitics.

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