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*Whites and Water: How Euro-Africans Made Nature at Kariba Dam**

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At Lake Kariba, conservation policies protect cultural heritage. In 1958, engineers created the lake by damming the Zambezi River. Over the next five years, the reservoir flooded 5,580 square km, displacing 57,000 Tonga farmers and destroying more habitat than any single human action ever had before. In response to this devastation, whites – particularly conservation-minded writers and photographers – expressed their shock and alarm. Gradually, however, they grew to accept the artificial lake, for the lake answered a deep European longing for water in inland, semi-arid Africa. Kariba Dam did the work of glaciers, carving intricate 'fjords' and 'lochs' in a country that previously lacked any shoreline at all. With Kariba, whites imported their hydrological heritage, and they found the lake to be beautiful. Writers soon called it 'nature' and advocated for its protection. Kariba thus exemplifies what has been until recently a hidden tension in ecological conservation: the tolerance – indeed, celebration – of history and cultural heritage. Until now, Euro-Zimbabwean heritage has benefited disproportionately from that tolerance.

Introduction

Lake Kariba is an industrial wasteland. Lake Kariba is a wilderness area and one of the most scenic in southern Africa. Both of these views represent aspects of the same truth.

Kariba is a reservoir. Between 1955 and 1958, 10,000 workers built a hydroelectric dam across the Zambezi, Africa's fourth-longest river, draining the Continent's fourth-largest basin.[1] In the next five years, water flooded 5,580 square kilometres, creating what was then the largest reservoir in the world (Figure 1).[2] The inundation displaced 57,000 Tonga-speaking inhabitants of the Zambezi Valley, killed all but a fraction of the animals and drowned all plant life. Following this unprecedented destruction, the Central African Power Corporation managed the reservoir.[3] For the past four decades a formula known as the 'rule curve' has maintained electricity generation by regulating the flow of water through the turbines and over the spillway (Figure 2). Ultimately, the rule curve determines the water level and – as topography varies – the shape and length of the shoreline and its habitats for

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1 Ranked behind the Nile, Congo and Niger, the Zambezi is 2,660 km long and drains 1,330,000 km^2.

2 In surface area, Kariba was the largest reservoir until Egypt's Aswan High Dam. In capacity, Kariba has always been the third-largest reservoir in the world.

3 The Corporation is now known as the Zambezi River Authority.

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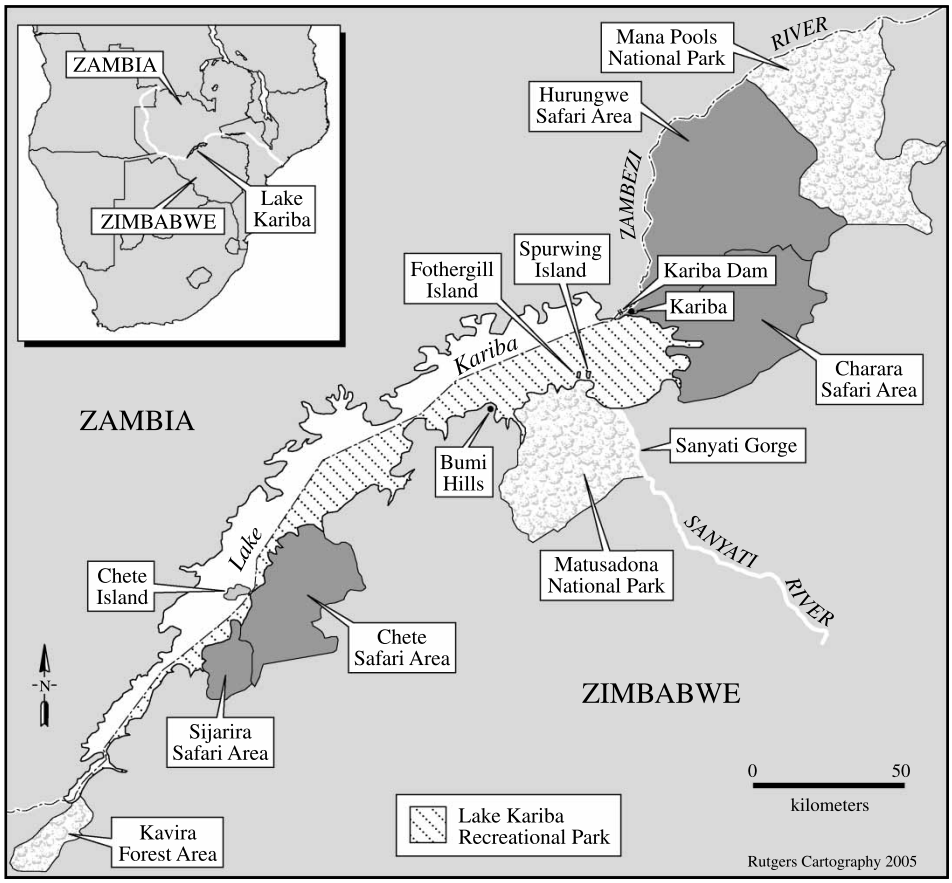

Figure 1. Location of Kariba Dam.

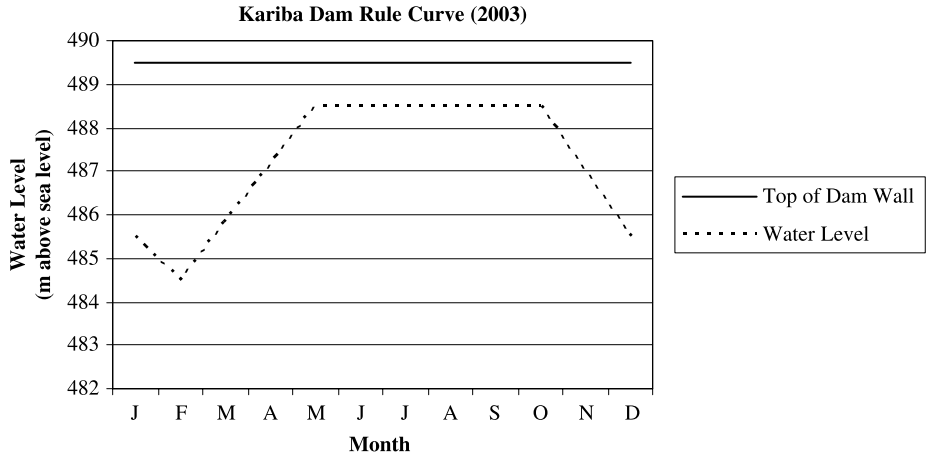

Figure 2. Kariba Dam rule curve (2003).

flora and fauna. If Kariba is, in Richard White's terms, an 'organic machine', then the rule curve drives its gears.[4]

This industrial redesign of a wild river once filled onlookers with sadness. In 1959, Reay Smithers, Director of the National Museums of Southern Rhodesia, decried Kariba as 'the greatest environmental upset ever to befall a population of animals and birds within the African continent, in the memory of man'.[5] Writers – all of them white –documented the destruction and the zoological rescue known as 'Operation Noah'. Regret was a recurrent theme that ran through the Kariba literature of the 1960s; however, in the ensuing decades, another generation of authors – still all white and almost all male – gradually re-imagined the lake. By the time of Zimbabwe's independence in 1980, they wrote with feeling of the 'unspoilt Africa' found at Kariba.[6] To the extent that these works acknowledged the dam at all, they painted a picture of nature restored and enjoyed. Aesthetics and recreation had redeemed humanity's industrial sin against the Zambezi River.[7]

This process centred on white Africans' notions of land and water. For Europe, the Ice Ages had created a distinctive northern temperate landscape and enabled a particular mode of appreciating all landscapes. North of the 50th parallel in Eurasia and the 40th in North America, frozen water had gouged cavities that now hold liquid water. Lakes and wetlands girdle the planet from Finland to Siberia to Minnesota. At one time, Europeans could hardly imagine a landscape without water. British explorers found the Australian bush to be a featureless expanse, disorienting and incomprehensible. There were no rivers to name and no uplands between rivers to be invented as spaces and regions.[8] Africa presented the same difficulties. 'Water and trees make an irresistible combination', reflects a 1950s travel guide. 'However,' it continues wistfully, 'much of the Federation [of the Rhodesias and Nyasaland] consists of open plains and valleys without large expanses of water...'.[9] Some visitors left Africa unimpressed. 'The chief characteristic of this landscape', wrote the Italian novelist Alberto Moravia, passing through Nigeria in 1963, 'is not diversity, as in Europe, but rather its terrifying monotony'.[10] The inexpressibly sublime overwhelmed the conventionally picturesque. For J.M. Coetzee,

> The dominating questions [of South African white writing] ... become: How are we to read the African landscape? Is it readable at all? Is it readable only through African eyes, writable only in an African language? ... Behind these questions, in turn, lies a historical insecurity regarding the place of the artist of European heritage in the African landscape...[11]

The hydrological legacy of whites threatened to disqualify them from representing the landscape – unless, as Coetzee speculates, 'it [is] ... possible for a European to acquire an African eye'.[12]

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4 R. White, *The Organic Machine: The Remaking of the Columbia River* (New York, Hill and Wang, 1995).
5 R. Smithers, 'The Kariba Lake', *Oryx*, 5, 1 (1959), p. 21.
6 The quotation derives from a tourist brochure of the late 1990s. See I. Murphy, *Kariba, Africa's Best Kept Secret* (Kariba, Kariba Publicity Association, No date).
7 A related paper discusses, in greater detail, the rich post-independence writing on Lake Kariba. D. Hughes, 'In Whitest Africa: Environmental Racism on the Zambezi River' (paper presented to the Conference on 'Environmental Justice Abroad', Rutgers University, New Brunswick, NJ, USA, 16 October 2004).
8 P. Carter, *The Road to Botany Bay: An Exploration of Landscape and History* (New York, Alfred A. Knopf, 1988), p. 42.
9 Federal Information Department, *Rhodesia and Nyasaland: A Travel Guide in Pictures* (Salisbury, Federal Information Department, no date).
10 A. Moravia, *Which Tribe do you Belong to?* (New York, Farrar, Straus Giroux, 1974), p. 8; M. Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London, Routledge, 1992), p. 219.
11 J.M. Coetzee, *White Writing: On the Culture of Letters in South Africa* (New Haven, CT, Yale University Press, 1988), p. 62.
12 *Ibid*., p. 38.

This sense of foreignness and the desire to breach it haunted white Rhodesians with particular intensity. First, their numbers put them in a precarious position. Never more than 5 per cent of the total population, whites owned 40 per cent of the land in freehold.[13] It was, as Dane Kennedy writes, a 'demographic conjunction' unique to Rhodesia and Kenya in the twentieth century.[14] Zambia, by contrast, never attracted a white settler society nor experienced the crisis that white settlement induced. Perhaps as a consequence, Zambia has not romanticised the reservoir in literature or state policy. Second, Rhodesia stood out in British-ruled Africa as the only country lacking seashore, lakes and wetlands.[15] In comparison to its neighbours, the country suffered from an aquatic deficit, and Rhodesians felt it. In her *Children of Violence* series – considered the masterwork on colonial Rhodesia – Doris Lessing entitled the fourth, semi-autobiographical novel *Landlocked*. Set in the late 1940s, the protagonist yearns to emigrate to Britain – and away from the savannah – but her mind turns to the terrain of the voyage itself:

> She was becoming obsessed with the sea, which she had not seen, did not remember. ... An enormous longing joy took possession of her. She no longer thought: I'm going to England soon; she thought: I'm going to the sea, I'm going to get off this high, dry place where my skin burns and I can never lose the feeling of tension and I shall sit by a long, grey sea and listen to the waves break...[16]

Landlocked appeared in 1958, as the dam wall closed. Thereupon, concrete did the job of ice sheets and gave Rhodesians their 'do-it-yourself seaside resort'.[17] Of course, engineers blocked the Zambezi for economic rather than aesthetic or recreational reasons. Yet, once the reservoir had filled, white conservationists, writers and other onlookers faced a choice of emotional responses – to reject the water as pollution or to embrace it as scenery. Probably no one appreciated what was really at stake – the cultural appropriation of an African landscape by a settler society. With little guile in this sphere, Euro-Africans yearned for water, glorified the lake and forgave the dam.[18]

Although granted in literature and mostly accomplished by Zimbabwe's independence, this forgiveness has distorted postcolonial environmental conservation. Rhodesia gazetted most of the littoral as protected areas: the Matusadona National Park, two safari areas, two forest areas and an enormous recreational park encompassing more than half of the lake itself (Figure 1).[19] Such zones, according to the Parks and Wildlife Act, should 'preserve and protect the natural landscape', 'natural habitat' and 'natural features'.[20] Yet so little is natural

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13 On land distribution, see M. Rukuni, 'The Evolution of Agricultural Policy, 1890–1990', in M. Rukuni and C. Eicher (eds), *Zimbabawe's Agricultural Revolution* (Harare, University of Zimbabwe Press, 1994), p. 16 ; on population, see A. Davies, 'From Rhodesian to Zimbabwean and Back: White Identity in an African Context' (PhD thesis, University of California, Berkeley, 2001), p. 207; and P. Godwin and I. Hancock, *'Rhodesians Never Die': The Impact of War and Political Change on White Rhodesia, c. 1979–1980* (Oxford, UK, Oxford University Press, 1993), p. 287.

14 D. Kennedy, *Islands of White: Settler Society and Culture in Kenya and Southern Rhodesia, 1890–1939* (Durham, NC, Duke University Press, 1987), pp. 2–3.

15 C. Magadza, 'The Distribution, Ecology, and Economic Importance of Lakes in Southern Africa', in M. Tumbare (ed.), *Management of River Basins and Dams: The Zambezi River Basin* (Rotterdam, Balkema, 2000), pp. 283–95.

16 D. Lessing, *Landlocked* (New York, Simon and Schuster, 1958), p. 199. Regarding the dam itself, Lessing condemned both the exploitation of African labourers in the construction and the forced relocation of Tonga people. See D. Lessing, 'The Kariba Project', *New Statesman*, 51 (9 June 1956), p. 647.

17 The quotation derives from a tourist magazine. Anonymous, 'Africa's Do-it-yourself Seaside Resort', *Africa Calls from Zimbabwe*, 168 (1998), pp. 20–21.

18 I use the phrase 'Euro-Africans' for whites resident in Africa. Rhodesian officials sometimes employed the same term to denote 'coloured' or mixed-race individuals. I thank Brian Raftopoulos for alerting me to this possible confusion.

19 Matusadona is sometimes spelled 'Matusadonha'.

20 Zimbabwe Parks and Wildlife Act (1975), sections 12(1)(a), 26(1) and 31(1). The citations refer to national parks, safari areas and recreational parks, respectively.

at Kariba. Surely, a conservation policy focused on wilderness would disregard the reservoir (except, perhaps, for the habitats of endangered species). The Kariba literature and the images published with it helped avert this outcome by treating the beautiful as natural and as worthy of protection. Produced entirely by whites – and largely consumed by them as well – this photo-literary archive dignified the loveliness associated with the lake as an *ecological* good.[21] Indeed, representations of Kariba contributed to an ambiguity in the entire enterprise of conservation: between an ideal of the wild and the merely pretty. In the arid American West, too, settler societies have 'naturalised' artificial, anthropogenic waterscapes – from Oregon's Malheur National Wildlife Refuge to Utah's Lake Powell.[22] Among these examples of 'second nature',[23] Kariba occupies an extreme position. Resulting from such total devastation on such a large scale, Kariba shows the full power of the aesthetic to override judgements based on natural history. To a surprising degree, therefore, contemporary support for conservation in Zimbabwe rests on the sentiments of earlier whites towards water.

Nature, Geology, History

Writers on Kariba faced the perennial problem of historians: how to set the lake and the dam on timelines of change and continuity. Does Kariba Dam and its upstream hydrology represent a geological process, or do they constitute events? By and large, geology, climate and biology evolve ever so slowly, literally at a glacial pace. Such systems seem natural precisely because they move so out-of-step with human activities. They inhabit what American writer John McPhee calls 'deep time': the Pleistocene, Jurassic, Triassic and all periods before humanity.[24] Human societies, by contrast, change frenetically, accreting events, stories and history. This rapid pace – and dependence on personal choices – makes human time shallow and seemingly *un*natural. At Kariba, however, history changed geology. Built in only three years, the dam stopped the flow of a river roughly two million years old.[25] The reservoir bent the crust of the earth and – according to some – turned water-logged trees to stone. The first generation of Kariba writers grappled with the implications of this merged timeline. Some used metaphors of domestication, depicting engineers and workers as taming the savage Zambezi River in particular and Africa in general. Authors also used metaphors of degradation, appalled that, in so short a time, people could destroy what nature had taken so long to create. But this sense of regret did not last. Within ten years of the dam's construction, Rhodesian writers were cautiously associating the dam with nature, even situating it on a geological timeline. The Kariba literature of the 1960s moved the dam from geology to history and – in the course of redeeming it – from history back to geology.

The Zambezi had entered anglophone literature in the course of an earlier, unsuccessful project of domestication: the effort to navigate the Zambezi and 'open' Africa for evangelism, trade, resource extraction and colonisation. In 1860, while descending the river,

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21 Because of its interest in the impact of writing on policy via public opinion, this article examines only published, popular works and excludes correspondence, unpublished reports and scientific papers.

22 N. Langston, *Where Land and Water Meet: A Western Landscape Transformed* (Seattle, University of Washington Press, 2003); J. McPhee, *Encounters with the Archdruid* (New York, Farrar, Straus, and Giroux, 1971). For Africa see J. Adams and T. McShane, *The Myth of Wild Africa* (Berkeley, University of California Press, 1992); J. Carruthers, *The Kruger National Park: A Social and Political History* (Pietermaritzburg, University of Natal Press, 1995); T. Ranger, *Voices from the Rocks: Nature, Culture, and History in the Matopos Hills of Zimbabwe* (Bloomington, University of Indiana Press and Oxford, UK, James Curry, 1999).

23 M. Pollan, *Second Nature: A Gardener's Education* (New York, Dell, 1991).

24 J. McPhee, *Basin and Range* (New York, Farrar, Straus and Giroux, 1980), p. 20.

25 M. Main, *Zambezi: Journey of a River* (Halfway House, South Africa, Southern Book Publishers, 1990), p. 5.

David Livingstone encountered a 'country too rough for culture'. Rapids broke the smooth course of the Zambezi. 'Some rocks in the water ... dislocated, bent, and even twisted to remarkable degree, at once attest some tremendous upheaving and convulsive action of nature ... We have probably nothing equal to it in the present quiet operations of nature'.[26] Local residents, Livingstone related, call the place 'Kariba'.[27] Subsequent visitors learned that the term, in fact, referred to a rock beneath the rapids, where the river god Nyaminyami was said to live. Shaped like a snake, Nyaminyami arched his back and otherwise agitated the waters in fits of emotion. Livingstone and later explorers treated this animism as quaint, focusing on its navigational correlates. Kariba became a 'feature' – to use Carter's terms – because it accelerated water beyond the capacity of European haulage.[28] Indeed, the first published photos of the river – taken on a 1903 voyage downstream – depicted cataracts and the gorges that flanked them. Eighteen of 26 images and captions in de Lassoe's report to the Rhodesia Scientific Association showed or referred to Kariba, Gazongo and the Kebrabassa cataracts.[29] At roughly the same time, another explorer, who had surmounted Kariba going upstream, recommended the construction of a lock and dam at Kebrabassa.[30] Thus, both gorges gained recognition as sites of wild, untamed white water.

The second wave of writing on the Zambezi – a good half-century later – also set wilderness against technology, but with much richer meanings. As plans for the dam advanced, these works struggled to place Kariba on a timeline, first geological, then historical. Written in 1954, *Crocodile Fever* relates the 'true story' of the South Africa-born hunter Brian Herbert Dempster, as told to Lawrence Earl in London.[31] In 1947, Dempster and two African assistants ascended the Zambezi to a pool in the Kariba Gorge. Like Livingstone before him, this European associated the landscape with remote antiquity. 'It was as if even nature were standing breathless before this prehistoric scene', writes Earl, 'Dempster, held in a kind of awed homage, felt he was intruding on a past millennium'.[32] The hunter shakes off his awe forthwith and shoots and skins crocodiles for a good six months. As Dempster finishes off the last one, Earl reflects:

> Later – after Dempster had left the district – surveyors for the great electric power project would come, dispelling the loneliness of the gorge still more. Probably never again would the saurian giants make of the shadowy divide a forgotten retreat into a prehistoric age.[33]

The passage places Kariba squarely in the era of dinosaurs but, meanwhile, on the cusp of a violent temporal shift. If time had 'forgotten' the gorge, the dam would soon remind time of it. Earl, thus, anticipates a feeling of pastoral nostalgia.[34] He sketches a pre-industrial – in this case, pre-human – Arcadia and foretells its demise.

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26 D. and C. Livingstone, *Narratives of an Expedition to the Zambesi and its Tributaries* (London, John Murray, 1865), pp. 324–5.

27 The name 'Kariba' probably arose at this point as a corruption of 'Kariwa'. See J. McGregor, '"The Great River": European and African Images of the Zambezi' (paper presented to the 'A View of the Land' conference, Bulawayo, Zimbabwe, 2000) and J. Moore, 'A Dam on Zambezi', *National Archives of Rhodesia Occasional Papers*, 1 (1965), pp. 41–59.

28 Carter, *The Road to Botany Bay*.

29 H. de Lassoe, 'The Zambezi River (Victoria Falls-Chinde): A Boat Journey of Exploration, 1903', *Proceedings of the Rhodesia Scientific Association*, 8, 1 (1908), pp. 19–50.

30 A. St. Hill Gibbons, 'The Nile and Zambezi systems as Waterways', *Proceedings of the Royal Colonial Institute*, 32 (1900–1901), p. 81.

31 L. Earl, *Crocodile Fever: A True Story of Adventure* (London, Collins, 1954). Dempster did apparently exist and was remembered by Ian Nyschens, who hunted in the Zambezi Valley beginning in the 1940s. See I. Nyschens, *Months of the Sun* (Long Beach, CA, Safari Press, 1997). Interview, Harare, 16 July 2003.

32 Earl, *Crocodile Fever*, p. 97.

33 *Ibid*., p. 141.

34 On pastoral nostalgia, see R. Williams, *The Country and the City* (New York, Oxford University Press, 1973).

As that demise unfolded, between 1959 and 1963, four British, one American and one Rhodesian journalist visited Kariba and published monographs in London and New York.[35] Their accounts report actual events, but, through the use of metaphor, manipulate timelines in imaginative ways. The American David Howarth explicitly signals the end of geological, deep time. In the first half of the twentieth century, 'time in the Zambesi Valley was almost standing still'.[36] But 1955 'might almost be said to be the date when history began. It was then that the final decision was taken that was to bring the existence of the valley to an end'.[37] The Zambezi did not die easily. It defied its own geological timescale by flooding to the 1,000-year level in 1957 and to the 10,000-year level in 1958. These surges imperilled men and machinery at the dam site and threw the entire project into doubt. The 1959–1963 published accounts personify the river – or deify it – suggesting that Nyaminyami is fighting for his freedom. Geology is battling against history, deep time against shallow time. Frank Clements, the Rhodesian author, codes these forces as black and white: the French engineers and Italian construction foremen,

> have been matched against a force which, while it seemed blind and barbarous, was also magnificent, and which they discover they have also learnt to admire. Although the river has been blocked and the great bastion at Kariba stands as a monument to the white man's genius, there are few in Africa who would claim that Nyaminyami has been defeated, and there are many who believe he will yet have his revenge. This curious conflict in the souls and minds of men accompanies on another plane the physical struggle to master a continent, a great part of which is still a survival from the world of pre-history.[38]

The 'civilising mission' and 'white man's burden' meet a fluvial Pleistocene.

Such triumphalist narratives of progress render the Tonga people who lived near the river invisible. Their elaborate system of floodplain agriculture – well described by Elizabeth Colson and Thayer Scudder – predated the dam, and the dam destroyed it along with the Gwembe Valley.[39] Elizabeth Balneaves, the only female writer of 1959 to 1963 and the only one based on the northern bank, writes with unusual sympathy for the Tonga. Centred on one of the participants in Operation Noah, her account includes a photograph of water inundating a Tonga village.[40] Howarth, who read Colson and Scudder's manuscripts, still describes the Gwembe Valley as 'perfectly primeval'.[41] With one exception, all the 1959–1963 works mention the most overt act of Tonga resistance: refusing to move from Chief Chipepo's area, on the northern bank. In an armed riot, colonial police killed eight Tonga, a tragedy the authors blame on the agitation of African nationalists from Lusaka. Presumably, the loss of one's home and livelihood could not, in itself, motivate rebellion. Only social scientists shed any light on the Tonga in print at all. According to Colson, forced resettlement disrupted Gwembe society in every sense. In Zambia, these displaced people have recovered to some extent. Many have joined the fishing industry at Kariba's shore, and artisanal fishing camps

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35 In 1959, South African News Agencies compiled a book without author: *Lake Kariba: The Story of the World's Biggest Man-Made Lake* (Bloemfontein, South Africa, the Friend Newspapers, Ltd, and the Central News Agency, Ltd., 1959). This volume, however, sold few copies and was only revived from complete obscurity when Colin Gillies reprinted it in C. Gillies, *Kariba at the Millennium, 1950–2000* (Bulawayo, Zimbabwe, Colin Gillies, 1999).

36 D. Howarth, *The Shadow of the Dam* (New York, Macmillan, 1961), p. 1.

37 *Ibid.*, p. 29.

38 F. Clements, *Kariba: The Struggle with the River God* (London, Methuen, 1959), p. 13. For a similar interpretation of Clements and related authors, see L. Jarosz, 'Constructing the Dark Continent: Metaphor as Geographic Representation of Africa', *Geografiska Annaler*, 74B, 2 (1992), pp. 110–11.

39 E. Colson, *The Social Consequences of Resettlement* (Manchester, Manchester University Press, 1971) and T. Scudder, *The Ecology of the Gwembe Tonga* (Manchester, Manchester University Press, 1962).

40 E. Balneaves, *Elephant Valley: The Adventures of J. McGregor Brooks, Game and Tsetse Officer, Kariba* (New York, Rand McNally, 1963), opposite p. 64.

41 Howarth, *The Shadow of the Dam*, pp. vi–vii, 21.

dot the Zambian bank, as well as roughly 50 per cent of the Zimbabwean shoreline. The other half of the southern littoral falls under protected areas. Indeed, Zimbabwe's Lake Kariba National Recreation Area prohibits cropping and stock-raising along the entire shoreline up to 3 km inland.[42] Tonga, therefore, mostly live inland where they cultivate some of the driest soil in Zimbabwe.[43] Now or then, few would agree with Clements' crass triumphalism. 'Here', he declares, 'in what was a savage wilderness, man has come to stay...'.[44] 'Man' means whites, and whites – to these authors – signify modernity.

Yet, history does not end so quickly. The closure of the dam wall in December 1958 generated a final flood and more complex reflections on time. Watching the river rise, authors made comparisons with the Old Testament. As a metaphor, biblical time mediated between extremes of geology and history. Floating on the growing lake, Charles Lagus finds a tortoise: '...it gave me a sad, reproachful look from its wrinkled antediluvian eyes as though it had escaped the First Flood only to come to this – a deluge created by me and my kind'.[45] Other animals fared less well. It was 'something no naturalist had ever seen before', recalls *Animal Dunkirk*, signalling the rupture with geology. Before the 'hungry maw of the lake', write Eric Robins and Ronald Legge, 'birds hatched eggs, watched the chicks drown and renested on higher branches of drowning trees'.[46] Fortunately, people could and did intervene – in a suitably biblical fashion. In 1959, the Game Departments of Southern and Northern Rhodesia launched Operation Noah and ultimately rescued 7,000 animals.[47] White leaders of the Southern Rhodesian rescue mission feature prominently in the texts and photos of 1959 to 1963. In an iconic image, the operation's leader, Rupert Fothergill, cradles an impala fawn against his bare chest.[48] His transformation into a hero – a Noah – probably contributed to the outpouring of public donations for Operation Noah and to the eventual establishment of the Department of National Parks and Wildlife Management, with Fothergill as its first director.[49] In these institutional ways, Kariba's flood *made* conservation.

Unlike those of the biblical Flood, Kariba's waters did not subside, but they did stabilise. The valley returned to geological time and created conditions for eco-tourism. All of the 1959–1963 monographs, except Balneave's more sceptical work, achieve moral closure.[50]

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42 The 3-km restriction has not been widely enforced. The Department of National Parks has, however, actively prevented smallholders from cultivating or grazing cattle within the soak zone (the band between high- and low-water marks, which can extend to a width of more than 1 km) (Michael Murphree, personal communication, 3 March 2005).

43 Regarding restrictions on agriculture, see I. Malasha, 'Fisheries Co-management: Comparative Analysis of Zambian and Zimbabwean Inshore Fisheries of Lake Kariba' (PhD thesis, University of Zimbabwe, Harare, 2002), pp. 178–9; M. Bourdillon, A.P. Cheater and M. Murphree, *Studies of Fishing on Lake Kariba* (Gweru, Zimbabwe, Mambo Press, 1985), pp. 15–25. References on contemporary economic conditions among Valley Tonga resettled in Zimbabwe include: V. Dzingirai, 'The New Scramble for the African Countryside', *Development and Change*, 34, 2 (2003), pp. 248–9; C. Mavhunga, 'Sold Down the River? Forced Resettlement and Landscape Transformation: Lessons from the Kariba Dam, 1950–63' (unpublished paper, 2001), pp. 16–18; P. Reynolds, *Dance Civet Cat: Child Labor in the Zambezi Valley* (Harare, Baobab and Athens, OH, Ohio University Press, 1991), pp. 19–20, 27–31; World Commission on Dams, 'Kariba Dam, Zambia and Zimbabwe' (Cape Town, World Commission on Dams, 2000), pp. 37ff.

44 Clements, *Kariba*, p. 199.

45 C. Lagus, *Operation Noah* (New York, Coward-McCann, 1960), p. 103.

46 E. Robins and R. Legge, *Animal Dunkirk: The Story of Kariba Dam* (New York, Taplinger, 1959), pp. 153–4.

47 The figure usually given, 5,000 animals, excludes those rescued on the Northern Rhodesian side of the Lake. See D. Kenmuir, *A Wilderness Called Kariba: The Wildlife and Natural History of Lake Kariba, Pungwe, Sabi, Lundi, and Limpopo Rivers* (Bulawayo, Zimbabwe, Stuart Manning, 1978), p. 25.

48 Robins and Legge, *Animal Dunkirk*, opposite p. 48; the cover of Lagus, *Operation Noah*; and a later biography of Fothergill: K. Meadows, *Rupert Fothergill: Bridging a Conservation Era* (Bulawayo, Thorntree Press, 1981).

49 During the rescue, game officers also developed techniques of tranquilising – notably with the drug M99 – and translocating large mammals. In the 1990s, those methods enabled the stocking of private conservancies and protected areas in Zimbabwe, South Africa and elsewhere.

50 E. Balneaves writes, '[N]ot all of man's vast and complex schemes for his own advancement can cancel out the trail of suffering left behind' (Balneaves, *Elephant Valley*, p. 159).

Robins and Legge continue their biblical metaphor, quoting Genesis: 'I do set my bow in the cloud, and it shall be for a token of the covenant between me and the earth'.[51] The waters crafted a lacustrine promised land – 'a patchwork of plenty stretching to the horizon and born of the lake'.[52] Kariba, the authors predict, will power industry throughout the Rhodesias, light every home, irrigate vast acreages and support a rich fishing ground.[53] The dam will also support nature. Robins and Legge describe the future Kariba as 'one of the world's *natural* pleasure grounds for tourists'.[54] In order to accommodate the 7,000 relocated animals, Southern Rhodesia designated the Matusadona National Park and Chete Safari Area along the littoral. Eventually, the Parks Department gazetted the entire shoreline as a recreational park. Recreation and tourism serve as code-words for the geological. '[T]he lake', Robins and Legge write, 'will eclipse the international tourist attractions of Kilimanjaro, Victoria Falls, and the Pyramids. By then, "Operation Noah" will have passed into Africa's history'.[55] Sedimented into deep time, the reservoir will take its rightful place in the rocky pantheon.

Perhaps the lake has always belonged to deep time. Two of the 1959–1963 books suggest such continuity by citing a geological fable. As Clements writes:

> There are some who say that all man has done is to restore the ancient geography of Africa; that tens of thousands of years ago when the Zambesi ran westwards to the Atlantic, there was a lake which covered the valley between the hills of the northern and southern escarpment.[56]

In truth, the Zambezi never emptied into the Atlantic and never before filled a lake.[57] Still, for those who believe it, the tale provides comfort. It allows one to consider the construction of the dam and Operation Noah as brief historico-biblical interludes in an otherwise stately geological procession. The tale also provides some moral justification for the death and destruction upstream of the dam wall. As Robins and Legge relate:

> Scientists now believe that Lake Kariba occupies the site of an earlier lake. Pebbles washed up on the shore are rounded as though washed by waves in past centuries ... There was certainly an earlier exodus of animals, which without man's intervention, undoubtedly suffered a larger proportion of casualties than in the present flood.[58]

Rather than obliterating the past, humanity re-enacted – with greater mercy – what cruel Nature accomplished long ago. Such geological myths persist. In 2003, I met Eddie Daniels who, as the Chief Topographical Officer to the Surveyor General of Zimbabwe in the 1980s, had remapped the entire lake bottom with metric contours. Taking exception to my notion of environmental catastrophe, he corrected me: 'It was once a huge inland lake anyway'.[59] He had investigated the polished pebbles himself. Thus, popular science and popular writing have recast the history of environmental ruin as a morality play of ecological restoration.

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51 Genesis IX: 13–15; quoted in Robins and Legge, *Animal Dunkirk*, p. 175.
52 *Ibid*., p. 182.
53 Some academics embraced these utopian dreams as well. See M. Cole, 'The Kariba Project', *Geography*, 45, 1–2 (1960), pp. 98–105; M. Cole, 'The Rhodesian Economy in Transition and the Role of Kariba', *Geography*, 47, 1 (1962), pp. 15–40; W. Reeve, 'Progress and Geographical Significance of the Kariba Dam', *Geographic Journal*, 126, 2 (1960), pp. 140–6.
54 Robins and Legge, *Animal Dunkirk*, p. 175, emphasis added.
55 *Ibid*., p. 183.
56 Clements, *Kariba*, p. 213.
57 In this sense, the myth is a falsehood that plays the same rhetorical role as the true story of a glacial lake on the Columbia River, roughly where the Grand Coulee Dam now sits. See White, *The Organic Machine*, p. 57. The true geological history of the mid-Zambezi valley goes as follows: the proto-upper Zambezi flowed into the Limpopo valley until roughly 5 million years ago. Uplifting trapped the water in what is now northern Botswana, it formed an enormous lake. Between 3 and 5 million years ago, the lake overflowed into the proto-lower Zambezi valley. See Main, *Zambezi*, pp. 5–8.
58 Robins and Legge, *Animal Dunkirk*, p. 152.
59 Interview, Bristol, UK, 24 February 2003.

Environmental Redemption

With the end of Operation Noah, foreign and local journalists left the lake to those with more time for contemplation. From the late 1960s to roughly 1980, a series of ecologically-minded whites grappled with concepts of progress, ruin and restoration. Unlike the cohort of 1959 to 1963, these writers did not reach tidy resolutions. More was at stake for them. In 1965, Rhodesia unilaterally declared independence from Britain. Thereupon, Britain isolated the country economically. By 1973 two nationalist guerrilla movements had begun to attack targets linked to the state and to commercial agriculture. Meanwhile, the lake changed ecologically. A new, surprisingly dynamic and diverse environment coalesced. 'In what sense was it natural?', nature-loving whites asked themselves. Whites, then, had ecological and political reasons to question their role in Africa. At the same time, Lake Kariba became part of their lives. As predicted, a tourism industry developed in the 1970s.[60] Also in the 1970s, the new town of Kariba served as a rear position in the war. Thus, publications of the late 1960s and 1970s reflect a gradual, ambivalent acceptance of the lake.

More than any other writer, John Gordon Davis brought the lake into Euro-African daily life. Born in Rhodesia in 1936, Davis wrote his first book, *Hold my Hand I'm Dying* (1967), between 1962 and 1966.[61] In that period, the lake reached full capacity, and Rhodesia declared independence. If in 1959 to 1963 the reservoir linked geological and historical time, in 1967 it conjoined the everyday and the historical. The formula worked. *Hold my Hand* became an international best-seller. Davis published a sequel in 1984 and 11 additional paperbacks.[62] In 1972 he released *Operation Rhino*, his only work of non-fiction, concerning the translocation of an endangered population of black rhinoceros.[63] Although this book made him Rhodesia's first conservation writer, he is best known for *Hold my Hand* and its genre of masculine adventure novels, rooted in white Africa but appealing to Europeans and American readers. 'This is the best novel coming out of Africa that I have read for a number of years', commented the prolific South African novelist Stuart Cloete, 'It is Africa today. The characters develop in the skies and spaces of the continent. Love, battle, boredom, drink, all woven into the tapestry of Rhodesia.'[64] In short, the doings of whites – especially when at the lakeshore – acquired a new drama and importance.

Opening in the Zambezi Valley, the novel first describes Kariba with pastoral nostalgia. Mahoney, serving as native commissioner and magistrate, has warned the Tonga of 'a flood that would stay forever and drown the whole valley'.[65] He loves 'the bush' and his primitive subjects. He does not want them civilised and distrusts the contemporary political notion of 'partnership' between the races.[66]

> Africa, my Africa, is dying, like that Zambezi Valley down there, that mighty, magnificent violent valley ... It's going to be drowned by Progress. By Partnership ... There's going to be no more sunset silhouettes as the animals come down to the mighty river to drink ... There's only going to be the screams of the animals dying. There's going to be no more river god for them [the Tonga], no more Nyaminyami ... There will be no more Batonka. They will just become

60 Kariba became doubly important for vacationers when Mozambique closed the border in 1976, cutting off Rhodesians' access to the popular seaside resort of Beira.
61 J. Davis, *Hold my Hand I'm Dying* (London, Michael Joseph, 1967).
62 Davis's 1984 novel is *Seize the Reckless Wind* (Glasgow, Collins, 1984).
63 J. Davis, *Operation Rhino* (London, Michael Joseph, 1972).
64 Cloete's remark appears on the frontispiece of Davis, *Hold my Hand.*
65 *Ibid.*, p. 1.
66 This concept – an alternative to African nationalism – underlay the 1953–1963 Federation of the Rhodesias and Nyasaland.

> bewildered Rhodesians. That's why it's sad, why Progress is sad. That's why Africa is dying, because the same sort of thing is going to happen everywhere.[67]

In subsequent chapters, the narrator sketches the construction of the dam, the floods of Nyaminyami and the resettlement of the Tonga. Mahoney joins Operation Noah, and Davis presents a more gruesome view of the destruction than anything written in 1959 to 1963. Mahoney and his trusted African sidekick come to a half-submerged tree, on whose branches hundreds of starving monkeys are clinging, water rotting the flesh of the lowest ones. Mahoney cannot rescue them as they instinctively attempt to bite him. Therefore, he puts them out their misery with a .22 rifle:

> The carnage. ... Monkeys were blown to bits out of the trees, blood and fur and bodies flying, monkeys screamed and jumped and fell wounded into the water ... Monkeys clung wounded to the naked branches and ripped open their wounds with their fingers and pulled out their insides ... Again and again Mahoney fired through the trees, no longer sickened, only frantic to destroy and end the fear and the carnage.[68]

Mahoney practises a violent euthanasia upon the Africa he loves.

From this despair, Davis's tone soon brightens, and he ends his novel with a diametrically opposite sentiment towards the lake. Suzie, the chief female protagonist, flies to Kariba as one of its first holiday-makers. Descending to the lakeshore, she immediately appreciates its aesthetic qualities, all the more striking in the tawny, dry bush: 'Blue, the water of the great lake was blue, like the sea and it seemed as big as the sea'.[69] During her stay, she meets Mahoney and talks with him about the lake. 'It's beautiful', she says. 'Yes, and sad,' responds Mahoney.[70] Suzie does not appear to affect Mahoney's views that night (she never did), but the passage indicates Davis's own ambivalence. When I interviewed Davis, he recalled the evolution of his thought in the mid-1960s: 'There was sort of an invasion of natural Africa, which I found sad, but I got used to that idea. ... When the original dam was being constructed ... you felt it was a rape and an intrusion. Years later ... I felt it was a *fait accompli*, and [except from the Tonga perspective] a lovely *fait accompli*'.[71] At the end of *Hold my Hand*, nationalist guerrillas threaten to undo that fact of engineering. The setting unites all the elements of Mahoney's personal and political dramas. It is the 'night of the long knives' – the ever-anticipated moment when black servants *en masse* kill their white masters.[72] Guerrillas have laid explosives on the dam wall, and Jake Jefferson – Suzie's husband and Mahoney's nemesis – must defuse them. Mahoney, himself, is battling insurgents directly on the Zambian border, downstream of the endangered structure, where Suzie arrives to give birth to their baby and die in childbirth. Amid this desperation, the dam assumes a positive, indispensable value.[73] Mahoney raves to himself:

> [T]he dam wall! If the black bastards blew that precious wall – Jesus, good Jesus Christ don't let that wall go up, not that wall, God! – the destruction, the unholy havoc, the biggest tidal wave in the world ... the holocaust.[74]

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67 *Ibid*., pp. 30–32.
68 *Ibid*., p. 94.
69 *Ibid*., p. 111.
70 *Ibid*., p. 127.
71 Interview, Coin, Spain, 13 January 2004.
72 Throughout anglophone Southern Africa, whites adopted this term for Hitler's 1934 murder of SA leaders. For a South Africa reference, see R. Malan, *My Traitor's Heart* (London, Vintage, 1991), p. 185.
73 For a similar interpretation, see A. Chennells, 'Rhodesian Discourse, Rhodesian Novels and the Zimbabwe Liberation War', in N. Bhebhe and T. Ranger (eds), *Society in Zimbabwe's Liberation War*, Volume 2 (Harare, University of Zimbabwe Press, 1995), p. 111.
74 Davis, *Hold my Hand*, pp. 504–5.

Jefferson saves the dam and proceeds, unknowingly, to raise Mahoney's son. Twice over, he rescues and perpetuates white-given civilisation in Africa.

He also rescues a kind of nature increasingly associated with Kariba. By the 1970s, few could deny the beauty of the littoral. Even authors who pine for the wild valley betray a sense of hydrological wonder. In 1974 and 1975, U.G. de Woronin published a series of articles in Salisbury's newspaper *The Sunday Mail* and republished them in two volumes in 1976. Born to the francophone aristocracy of tsarist Russia, de Woronin had fled the revolution as a boy and, via England, emigrated to Rhodesia. Throughout the 1930s, he had hunted in the Zambezi Valley, sometimes with Davis's father. On one level, his published recollections of this time express a straightforward rural nostalgia. Entering a particularly remote area, the senior Davis encounters geological time: '[I]f a dinosaur walked out it would not surprise me', he says to de Woronin.[75] Four decades later, de Woronin misses the ecological abundance of the free-flowing Zambezi: 'Before [the dam], raging floods inundated many hectares of river bank, depositing rich silt, which grew lush grass ...'.[76] Now the controlled river nourishes only short, sparse grass. Animals lack sufficient browse. Elephants, in particular, must uproot grass and chew through the adhering dirt. 'Their teeth can be heard squeaking on grit from far away', as they wear down seven sets of molars towards premature starvation.[77] Despite this bleakness, de Woronin acknowledges Kariba's surpassing beauty. He entitled his series in *The Sunday Mail*, 'Anecdotes from Aquarelle'. As explained in the forward to his first volume, de Woronin and his wife christened their house with this name – French for 'watercolour' – because it 'overlooks a vast expanse of the Lake and its ever-changing hues' – literally, water colours.[78] In other words, each of his memoirs of the valley first compliments the seascape that destroyed it.

Perhaps science could resolve such contradictions. In 1978, biologist Dale Kenmuir published *A Wilderness called Kariba*, the only scientifically grounded study of Kariba to reach the broader public.[79] From his base at the Lake Kariba Fisheries Research Institute, Kenmuir observed a biological recrudescence: 'sponges, shrimps, sardines, muscles, clams, jellyfish, gulls, terns and turtles', he writes, 'makes [*sic*] the phrase "Zimbabwe's inland sea" much nearer to the mark than most people suspect!'.[80] As if this was not enough to celebrate, the lake still retained pre-dam features. Elephants followed old paths, swimming where they had once walked. Eels, Kenmuir reports, have managed to migrate upstream, through drains in the dam wall.[81] Even hydro-power can serve the cause of biodiversity. Although, 'a sudden discharge of water from the flood gates kills fish in the stilling pool, ... further down-stream these waters are used for life-giving spawning purposes'.[82] Kenmuir concludes *A Wilderness* with a plea for regulated, seasonal discharges. Yet, in a later work, of children's fiction, the hero arranges a discharge deliberately to catch a trans-Zambezi rhino poacher.[83] When interviewed, Kenmuir ascribed this manipulation of the river for crime-fighting as a bit of 'poetic licence'.[84] Perhaps even more poetically, he urged me – with regard to the reservoir – 'We shouldn't think of it

75 U. de Woronin, *Zambezi Trails* (Salisbury, Regal Publishers, 1976), p. 22.
76 *Ibid*., p. 11.
77 *Ibid*., p. 17.
78 *Ibid*., p. 2.
79 D. Kenmuir, *A Wilderness Called Kariba: The Wildlife and Natural History of Lake Kariba* (Salisbury, Wilderness Publications, 1978). Still widely read, this book sold 6,000 copies in three printings. Less widely-circulated scientific works include E. Balon and A. Coche (eds), *Lake Kariba: A Man-Made Ecosystem in Central Africa* (The Hague, Junk, 1974) and J. Moreau (ed.), *Advances in the Ecology of Lake Kariba* (Harare, University of Zimbabwe Press, 1997).
80 Kenmuir, *A Wilderness Called Kariba*, p. 107.
81 *Ibid*., pp. 94–95.
82 *Ibid*., p. 139.
83 D. Kenmuir, *Sing of Black Gold* (Pretoria, De Jager-HAUM publishers, 1991).
84 Interview, by telephone, 7 June 2004.

as artificial. The only thing that is artificial about it is the dam wall'. But, he continued, the obstruction could have been caused by natural means as well – although, he admitted, the floodgates could not have been.[85] Kenmuir's science – sometimes supplemented by speculation – brought hydropower one step closer to ecological respectability.

In less temperate prose, another publication of 1978 further legitimated the dam. Born in South Africa, Alf Wannenburgh worked as a newspaper journalist, until – in a 'hippie phase' of his life – Struik Press asked him to contribute text to a photo book entitled *Rhodesian Legacy*. These colour images – the first published in a large-format book – illustrated the surprising floral evolution of the lakeshore. In the 1960s, the rule curve's regime of dramatic draw downs had killed vegetation along the lake. By the 1970s, a swamp grass – *Panicum repens* from the upper Zambezi – had colonised the shoreline. In 1977, when Wannenburgh visited Kariba, the once inhospitable 'soak zone' teemed with buffalo, other ungulates and their predators.[86] This biodiversity provoked an excitement that Wannenburgh could scarcely contain in print. '[W]itness and take part in ... the evolution of an entirely new African wildlife ecology', he exhorts the potential visitor.[87] 'Was that ecology truly wild?' I asked the author at his seaside home close to Cape Town. 'What has been created [at Kariba] is something that nature can develop', he explained.[88] If that is so, humanity has played the role of God in the Enlightenment's 'divine watchmaker' drama. Once created, ecology took its own course. In *Rhodesian Legacy*, Wannenburgh hints at this cosmology indirectly. 'Now', he reports with a markedly unjournalistic reliance on hearsay,

> some Tonga say there are two Nyaminyamis – one for the deep water and one for the shallows ... When the waters are blue and unruffled ... they say that Nyaminyami is contented in his situation. But when the sky is black with clouds, and the lake is lusterless and opaque ... they say he regrets having agreed when he did to live out of reach of the sunlight.[89]

If Nyaminyami symbolises the will of African Nature, then, on a good day, Nature appreciates the full package of concrete, reservoir and *Panicum*. Indeed, as Wannenburgh slyly insinuates, Nyaminyami accepted the idea from the beginning.

Two years later, the novelist Richard Rayner, issued an even more magnanimous pardon in Nyaminyami's name.[90] *The Valley of Tantalika* (1980) concerns a river otter and a herd of impala threatened by the rising waters of the reservoir. Narrated mostly from the animals' point of view, the story follows the river otter, Tantalika, as he seeks an explanation for the flooding from his deity, saves the impala and ponders the ways of white men. He consults Fura-Uswa, the animals' equivalent of Nyaminyami, who tells Tantalika that humans 'are trying to destroy all living things in the Great Valley and even the valley itself'.[91] Tantalika warns the impala to seek higher ground. Yet, as the flood begins, the narrator shifts perspective: 'There was a strange and terrible beauty about the spectacle of a valley which had lived, vibrantly, for millions of years, slowly drowning by the hand of man, to serve him in its death'.[92] Soon,

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85 Interview, Fishhoek, South Africa, 17 May 2004.

86 Wannenburgh spent only four days at Lake Kariba, most of it in the company of the noted tour operator and photographer Jeff Stutchbury, whose work was later published in J. and V. Stutchbury, *Spirit of the Zambezi* (London, CBC Publishing, 1992). For recent research on lakeshore *Panicum*, see C. Skarpe, 'Ecology of the Vegetation in the Draw-down Zone of Lake Kariba', in Moreau, *Advances in the Ecology of Lake Kariba*, pp. 120–38.

87 A. Wannenburgh, *Rhodesian Legacy* (Cape Town, Struik, 1978), p. 22.

88 Interview, Muizenberg, South Africa, 20 May 2004.

89 Wannenburgh, *Rhodesian Legacy*, p. 27.

90 R. Rayner, *The Valley of Tantalika: An African Wild Life Story* (Bulawayo, Books of Zimbabwe, 1980). *Tantalika* was republished in 1984 by MacDonald Purnell (Johannesburg) and in 1990 and 1999 by Baobab Books (Harare).

91 Rayner, *Tantalika*, p. 34.

92 *Ibid*., p. 74.

humans – explicitly 'pale' men – reveal further unexpected capacities. They assist Tantalika in his mission of rescue. A human, surely modelled on Rupert Fothergill, saves Tantalika himself from drowning. Fura-Uswa is 'almost pleased with what they were doing', relates Tantalika,[93] and Rayner's epilogue completes the moral closure:

> The Great Valley is at peace now; the deep wound which man inflicted is healing, for he has come to terms with Nature and Nature, perhaps, with him. Both are receiving the benefits from the forming of the lake. For man there is the hydro-electric power for his homes and industries in Zimbabwe and in Zambia, with a vast playground for his leisure, where he can gain new knowledge of Nature's ways. For Nature, there is a sanctuary for all her children of the Great Valley in the areas which border the lake, and there is the lake itself.[94]

Wild animals redeem the lakeshore, and the lake redeems the dam.

Is this resolution too tidy? Dick Pitman, the author of the last of the 1978–1980 works, admits as much and confesses to self-deception. *Wild Places of Zimbabwe* – a meditation on nature and tourism that sold 10,000 copies – devotes a chapter to Matusadona National Park. Pitman, who had emigrated from Britain in 1977, labels Kariba unflinchingly as 'one of the most massive ecological disturbances yet created by mankind'. 'However', he continues, 'nature has made a spirited attempt at putting matters right' – largely, through the *Panicum* grass – and 'much of the Matusadona shore has a unique and haunting beauty'.[95] In Harare, I probed these thoughts with Pitman. 'The attraction is very largely aesthetic', he admitted. 'It has very little to do with functioning ecosystems and all that. Looking behind the veil', the lake is artificial, 'but you get there and sit there and it doesn't matter. I mean how much reality can you handle?'[96] His candour startled me, especially given that in 1982 Pitman founded the Zambezi Society precisely to fight another dam. He and the organisation's 90 per cent white membership contributed to the defeat of proposals for the Mupata Dam downstream from Kariba.[97] Why would he support one dam as built and not the other as designed?[98] For Pitman, something changed between the closing of Kariba's dam wall in 1958 and his publication of *Wild Places* in 1980. Urban southern Africans – white and black – seemed increasingly to appreciate wilderness, or places that appear to be wild. Like John Muir in the industrialising United States, Pitman sees such locales as an antidote to technological life.[99] He foretells that 'the appreciation of beauty will grow ... [and] the need for refreshment seems certain to grow accordingly'.[100]

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93 *Ibid*., p. 162.
94 *Ibid*., pp. 164–5.
95 D. Pitman, *Wild Places of Zimbabwe* (Bulawayo, Books of Zimbabwe, 1980), p. 164.
96 Interview, Harare, 30 June 2003. In a tourist magazine, Pitman writes that the apparent nature 'is superficial, of course, because it cloaks a turmoil of ecological change. But, in purely aesthetic terms, Kariba produced an amazing variety of new landscapes'. D. Pitman, 'The Mighty Zambezi: Part Two, the Inland Sea', *Africa Calls from Zimbabwe*, 140 (1983), p. 11.
97 At its height in the early 1990s, the Zambezi Society had roughly 1,000 members, including around 100 black members (interview, Harare, 20 May 2003).
98 In the magazine of the Wildlife Society – another nearly all-white conservation group – – Pitman excoriated the 'insidious attitude that 'Mana has already been killed by Kariba, so why bother with it any more?'. See D. Pitman, 'The Zambezi Group', *Zimbabwe Wildlife*, 32, 10 (1983), p. 10; D. Pitman, 'The Mighty Zambezi: Part Three, the Middle Valley, *Africa Calls from Zimbabwe*, 141 (1983), p. 27.
99 For a critique of the idea of wilderness in American thought, see W. Cronon, 'The Trouble with Wilderness; or, Getting Back to the Wrong Nature', in W. Cronon (ed.), *Uncommon Ground: Rethinking the Human Place in Nature* (New York, Norton, 1995), pp. 69–90.
100 Pitman, *Wild Places*, p. 190. Certainly, some writers and photographers still found Kariba ugly. Thus, they chose to publish on other more attractive places, allowing the redemption of Kariba to continue unchallenged. John Struthers, who published three books on Mana Pools (including J. Struthers, *The Life and Death of a Pool* [Shrewsbury, UK, Swan Hill Press, 1993]), photographed buffaloes eating *Panicum* in Matusadona, but did not publish the photos. The buffaloes looked sick 'because it is an unnatural situation. They all got river fluke' (interview, Stellenbosch, South Africa, 18 May 2004).

This hypothesis did not explain why Kariba, as a particular locale, should refresh the white onlooker *circa* 1980. Contrary to Pitman's prediction, blacks did not take up lakeshore recreation in the 1980s.[101] Surely, the high cost of boats and nautical gear deterred most, then as now. For whites, Kariba proved all the more alluring after Zimbabwe's independence. It solved a problem described by Coetzee (1988): the mismatch between European language and extra-European land. The 'New World' in particular forced colonising anglophones to borrow ('canyon') and improvise ('waterfall') to create a vocabulary for hydrological exotica.[102] In southern Africa to this day, English-descended Africans employ Bantu-language or Afrikaans words for features of the bush unknown in Europe. African landscapes Africanised English. Kariba, however, reversed that process for a moment. In a coffee-table book of the early 1980s, Pitman describes the Sanyati Gorge as a 'fiord'.[103] 'Loch' would have done just as well, he told me.[104] Although neither is English, both terms recall the last ice age and the rugged, northern European coastline it created. Could Kariba's writers not find descriptors more suitable to Zimbabwe's latitudes and climatological history? I posed the question indirectly to Kenmuir, who in a novel also refers to the 'fjord-like' Sanyati.[105] 'I've never actually seen a proper fjord', he explained, but, based on pictures, 'there's not an African word that would describe that'.[106] For once, Tonga-, Shona-, and Ndebele-speakers would be at a loss for words. By changing the land, anglophones avoided changing their language. Rather than face Coetzee's question – 'How are we to read the African landscape?' – they *rewrote* the African landscape.[107] They built the sea and perforce imported European labels for it. Then, as in Lessing's passage, they 'listened to the waves break', felt at peace and conveniently forgot the concrete that made those feelings possible. Kariba helped Europeans to demonstrate that their languages – and implicitly their entire way of life – belonged in the Zambezi Basin. Whites entered postcolonialism feeling at home.

Conclusion

Kariba demonstrates the plasticity of nature – as an object of engineering and of discourse.[108] Indeed, it demonstrates the similarities between building structures and building ideas. The dam-builders blocked and harnessed the largest river ever dammed at the time. In the process, they carried out an atrocity: the dam obliterated every ecological process extant on thousands of square kilometres. No single project before or since has snuffed out this much life this fast. Yet, the lethal wall of concrete no longer causes onlookers – even romantic ones – to shudder. If engineers tamed the river, writers tamed the dam. Or, at least, conservationist writers helped their Zimbabwean readers overcome regret and accept, without guilt, a lake and all the enjoyment that it provided. Authors redeemed the reservoir. Yet their job was not easy. Just as engineers and construction workers must oppose forces of gravity and hydraulics, Kariba's writers had to remould set notions. Their texts 'worked' to shift and

101 R. Heath, 'The National Survey of Outdoor Recreation in Zimbabwe', *Zambezia*, 13, 1 (1986), pp. 30–1.
102 M. Davis, *Ecology of Fear: Los Angeles and the Imagination of Disaster* (New York, Vintage, 1998), pp. 11–14; M. Campbell, *The Witness and the Other World: Exotic European Travel Writing, 400–1600* (Ithaca, NY, Cornell University Press, 1988), pp. 225–6; H. Raffles, *In Amazonia: A Natural History* (Princeton, NJ, Princeton University Press, 2002), p. 101.
103 D. Pitman, *Zimbabwe Portrait* (Harare, Modus Publications, no date), p. 52. This book sold roughly 10,000 copies, as well.
104 Interview, Harare, 30 June 2003.
105 D. Kenmuir, *The Catch* (Cape Town, Maskew Miller Longman, 1993), p. 57.
106 Interview, by telephone, 7 June 2004.
107 Coetzee, *White Writing*, p. 62.
108 For a similar argument, see Raffles, *In Amazonia*, p. 62.

leverage readers' preconceived ideas of nature, geology and landscape. Authors employed polyvalent, ambiguous symbols, such as Nyaminyami. Other writers insinuated into their texts folk models of ecology, such as that of the divine watchmaker. The willing reader came to believe that Nature adopted the reservoir and made it her own. He or she also came to value the lake and to insist upon an ethic of care for it. Writing, in other words, transformed an instrument of technological death into a site and symbol of life. At another level, this literature bridged the gap between two conventions: the landscape of production and the landscape of leisure.[109] The same device that powers Zambia's copper mines paradoxically provides 'refreshment' from a life dominated by industrial technology. Herein, lies the true artifice of Kariba: literary and material design allowed Euro-Africans to destroy the wild and remake it in their own image.

What does it mean to conserve Kariba then? At the lakeshore, conservation carries out a cultural agenda. To be sure, the Matusadona National Park and other protected areas provide habitat for a rich array of species, but they also provide habitat for whites. The dam itself resolved the aquatic deficit vis-à-vis Britain – a source of abiding unease for pre-1960 Euro-Africans. The resulting shoreline provided them with niches for boating, fishing, game-viewing and other forms of recreation. Meanwhile, through devices such as a 3-km exclusion zone, the state kept the Tonga at bay. After the 1980s, there was something perverse in all this: a black, post-independence government guarding the leisure space of an already privileged group. The arrangement did not last. In 2000, the state began a campaign to remove whites from their cherished landscapes, most notably by sending paramilitary squads onto white-owned farms. With less violence and fanfare, the Department of National Parks and Wildlife Management appears to have suspended conservation rules. Poachers net Kariba's famed tiger fish and snare terrestrial species with minimal interference. White anglers and wildlife enthusiasts are losing the pastimes they love, amid expressions of shock and indignation. Perhaps, eventually, popular and scientific conservationists can chart a more strategic course: first, by acknowledging the (white) historical, cultural roots of conservation at Kariba and elsewhere and, second, by crafting new conservation rules that reflect Zimbabwe's broad heritage.[110] Enthusiasts of nature, having embraced a mega-dam decades ago, can at least make space for black smallholder agriculture. Kariba points the way toward a postcolonial, pluralist conservation.

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109 A. Wilson, *The Culture of Nature* (Toronto, Between the Lines, 1991). The dichotomy is equivalent to Lefebvre's more famous distinction between 'landscapes of production' and 'landscapes of consumption'. See H. Lefebvre, *The Production of Space* (Cambridge, UK, Blackwell, 1991).

110 In creating a new category of 'cultural landscape' – supplementing the earlier 'world heritage site' – UNESCO has already embraced this kind of thinking. In Zimbabwe, UNESCO recently designated the Matopos as a cultural landscape.