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## **“The Majesty of Concrete”**

### **Hume Dam and Australian Modernity**

#### ***The Meaning of a Dam***

Optimism was in the air. On 21 November 1936, the then Governor General of Australia, Lord Gowrie, officially opened the Hume Dam near Albury – the “largest in the Southern Hemisphere” (River Murray Commission 1936: 3). In construction since 1919, it was to become the focal point of all water conservation schemes along the River Murray, and the endpoint of the “story of vision and enterprise” that was Victorian irrigation and agriculture. As such, it was met with almost universal acclaim, even enthusiasm. The *Melbourne Age* welcomed the dam as “nation-building work of the first magnitude”, indeed as “the consummation of a fifty-year old ideal, [...] the harnessing of the Murray and the Mitta Mitta”, which had “converted arid and underdeveloped lands into prosperous, prolific gardens”. In short: it was “a crowning achievement” (*Age* 20/11/1936).

However, the Hume Dam was not just a useful tool for bringing prosperity to the region and the whole nation. It was also considered a source of delight in its own right. The *Sydney Mail*, reporting from the construction site in 1929, exclaimed about the emerging “Majesty of Concrete”:

The aesthete might regret that scarring industry has intruded into this earthly paradise, [...] but coming from his scenic viewpoint to the river level, he will become aware another form of beauty – the beauty of concrete in the mass. (*SM* 15/05/1929)

Perhaps then, it is no surprise that dams have been called pyramids, cathedrals or signifiers “of a thoroughly Australian confidence in the future” (Powell 2000: 61), but also “cathedrals of modernity” (Gestwa: 251). In the twentieth century, they became fascinating objects, which attracted the attention not only of politicians and engineers, but also of the public. Dams became popular destinations for tourists and powerful metaphors for progress and modernity, “signs and wish images of a better society that was yet to arrive” (Kaika: 296).

Thus, exploring the meaning, the embedded cultural code, of the Hume Dam can prove useful to understand the promises, hopes, and fears – in short: the ideology – invested in the expansion of hydro-engineering for irrigated agriculture and hydro-electricity in twentieth century Australia. I will argue that this ideology that developed in the early century was a highly specific and radical Australian blend of “High Modernism”. It amalgamated the settler nationalist dream of populating the arid inland with the modern confidence in the continued mastery of nature and thus the further satisfaction of human needs. Harnessing the waters and developing the

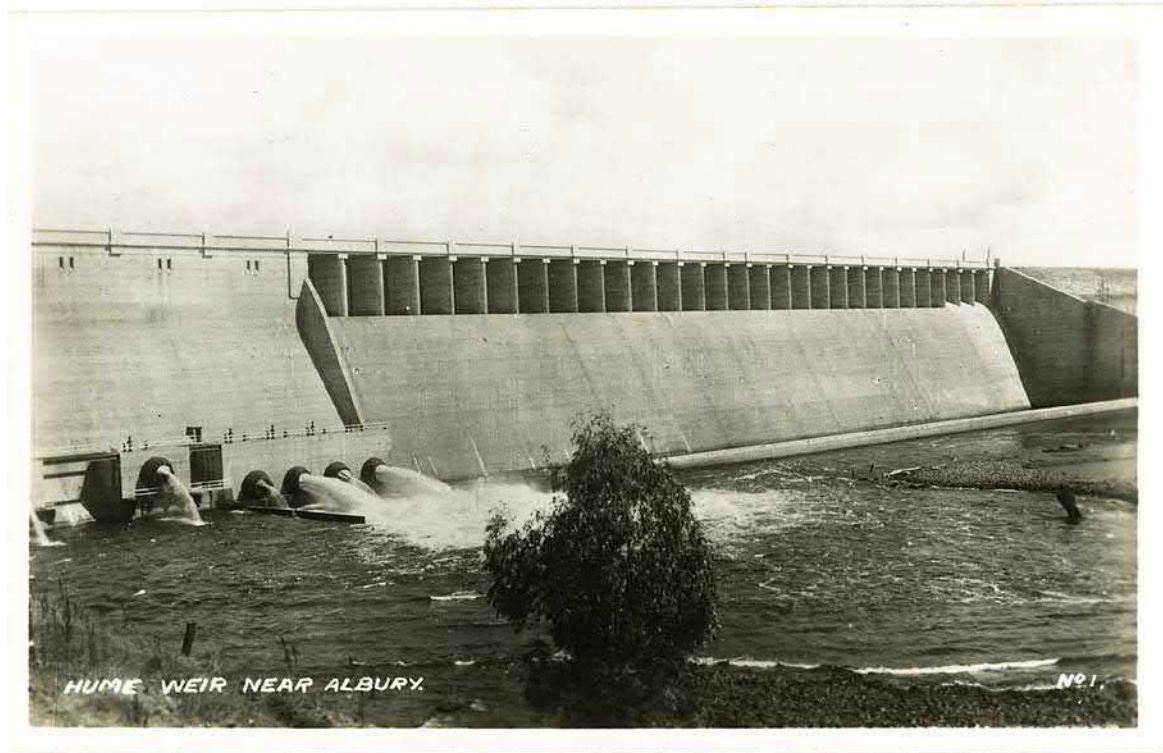


Fig. 1: Tourist photograph of Hume Dam, ca. 1940  
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“useless” Australian land, putting it to the blade of agriculture, would finally turn it into a “civilized” landscape, thereby creating a social utopia.

While the dam’s name honours Hamilton Hume and his party, the first white men who crossed the River Murray in the same area in 1824 (River Murray Commission 1986: 11), the Hume Dam proves to be both a ‘cathedral’ of White Australia and one of Modernity.

### ***Irrigation, Agriculture and Dams***

The twentieth century has been called “the era of dam building” (Gestwa: 17) with about 800 000 small and 45 000 large (over 15 m) dams built worldwide, so that, at the end of the century, two thirds of all rivers were regulated by some sort of dam. This ‘redesign’ of the world’s rivers is one of the most severe environmental changes brought about in the twentieth century. “We used and diverted water on a scale no previous age could contemplate” (McNeill: 190). Dams were used to extend irrigation, for flood control, and hydro-electricity. Accordingly, between 1900 and 1995 the worldwide agricultural area under irrigation increased from 480 000 km<sup>2</sup> to 2.55 million km<sup>2</sup> (Ibid.: 180). At the beginning of the twenty-first century, 40 per cent of food products were grown on irrigated land (Barlow and Clarke: 60). Hydro-electricity supplied about seven per cent of the world’s total commercial energy and 20 per cent of electricity in 1995 (McNeill: 181).

In Australia, dam building and irrigated agriculture saw massive expansion in the twentieth century. The River Murray, located in the *Murray-Darling Basin* (MDB), which became Australia’s agricultural heartland, was turned into a regulated river

in just one generation. Between 1915 and 1974, Lake Victoria Reservoir, Hume Dam, the Snowy Mountains Scheme, five barrages on Lake Alexandrina, thirteen locks on the Murray, the Yarrawonga Weir with Lake Mulwala, and other works were completed (O’Gorman: 137). The Murray’s seasonal cycle has been reversed for harnessing its resources. In their “natural” state, Australian rivers, except for those in the wet corners of the continent, are reduced to low and sluggish flows or chains of billabongs during dry seasons. In wet months, they flood huge areas of land and form wetlands. Now, the Murray, due to the regulation and diversion, runs nearly full in summer when the water is needed for irrigation and low in winter, when the reservoirs are refilling (Garden: 113).

In the MDB, irrigation expanded under the auspices of state construction and supervision authorities, such as the *Victorian State Rivers and Water Supply Commission* (SRWSC) and the *New South Wales Department of Public Works*. Under direction of the River Murray Commission, they collaborated to build Hume Dam. The total irrigated area grew from a mere 400 km<sup>2</sup> in the state of Victoria in 1914 to 5260 km<sup>2</sup> by the mid-1960s in both Victoria and New South Wales. By then, the area under irrigation had increased to 400 km<sup>2</sup> in South Australia. At the beginning of the twenty-first century, the irrigated area in the MDB was about 14 722 km<sup>2</sup>, over 70% of the total land used for growing irrigated crops and pastures in Australia, accounting for 40% of agricultural produce. Irrigation in the MDB also claimed about 70% of Australia’s total water use and 95% in the Basin itself (Crabb: 97; Garden: 117).

The rise of irrigation, however, came at costs for the environment. “By the end of the twentieth century, the Murray River and the Murray-Darling Basin were in a state of ecological disaster” (Garden: 113). The “Mighty Murray” has been suffering from declining water quality due to salinization, siltation, fertilizers, pesticides, and decreasing water levels. The soils on agricultural and pastoral land have been severely degraded. In the 1970s and 1980s, salinity was the primary environmental issue, with ca. 42 000 km<sup>2</sup> affected in 1982. By 2001, this area increased to 57 000 km<sup>2</sup>, and by 2050, 170 000 km<sup>2</sup> of salt affected land were predicted (Ibid.: 203–204). Though this pessimistic prospect has not eventuated and the MDB’s long-term salinity target has been met every year since 2010, salinity remains a persistent problem in the Basin (Murray-Darling Basin Authority 2015: 22). Globally, salinity is now recognized as the downside of huge hydraulic systems, with about 10% of irrigated land worldwide seriously affected by salinity in the 1990s (Meyer: 77). Furthermore, the social costs of dam building have been severe: estimates on how many people had to leave their homes by displacement or relocation in the twentieth century vary from 40 to 80 million (Gestwa: 19; McNeill: 182). Reservoirs and canals also helped spread diseases because pathogens emerge and insects can breed in the water (McNeill: 182).

### **Modernity**

Examining the meaning of the Hume Dam requires taking into account the two main ideological currents that structured the contemporary discourse of hydro-engineering: Modernity and Australian settler nationalism.

Modernity here is understood in a twofold way. Firstly, as a bundle of material processes of modernization which transformed the premodern world: “the excessive

changes in science, technology, and society in the course of the advance of industrialism in the decades around 1900” (Herbert: 11). During the period which Ulrich Herbert has called “High Modernity” from 1890 to 1914, these dynamics triggered profound change in all European societies, but also those on the periphery, with long-term consequences until the last third of the century. The lives of the masses and their living conditions were transformed by advancing industrialization, urbanization, mass emigration, technologization, and rationalization of nearly all spheres of life – especially the triumphal advance of the natural sciences and their model for explaining the universe (Ibid.: 10).

Secondly, modernity is understood as a mode of self-description. The profound changes in societies, as they became modern, were linked to equally profound changes in the realm of ideas. The increasing acceleration of technological innovations and industrial production was understood as an increase in possibilities to radically transform the world. “High Modernity” also meant an appreciation of the “Modernity of the present”, which included schemes to master the rapid changes, while at the same time embracing the possibilities of an open future. This, in turn, led to the extraordinary boom of utopian social and political schemes and movements. Lastly, a history of “High Modernity” cannot overlook nationalism as a factor determining the refashioning of ‘modernizing societies’ by offering its own interpretation of the transformations (Raphael: 76).

Thus, James Scott’s definition of a “High Modernist” ideology is useful for this analysis. He defines it as:

a strong, one might even say, muscle-bound, version of the self-confidence about scientific and technical progress, the expansion of production, the growing satisfaction of human needs, the mastery of nature (including human nature), and, above all, the rational design of the social order commensurate with the scientific understanding of natural laws. (Scott: 4)

The author emphasizes the dual core of modernity, the mastery of nature for the uses of humanity and the supreme faith in progress. The past is considered an impediment, and overcoming it is the way into a better future.

Additionally, Scott highlights how the power of the state merged with the scientific endeavour to tame and control nature: “super agencies” with state like authority like the Victorian SRWSC were formed in order to put the project of modernity into practice and to realize its goals. Those agencies were empowered to invest huge sums of capital, grant loans, expropriate private property holders, and resettle thousands of people (Scott: 94–95). It was the SRWSC’s expressed goal to “establish the State in untrammelled control of all ‘natural resources of water supply’” (Powell 1989: 147). As running water was declared public property, it was even allowed to establish irrigation districts without the affected landowners’ consent (Ibid. 1989: 163–164).

With the Murray gradually being turned into a regulated river by those state agencies, the river’s character also changed. Previously regarded as “natural” and therefore erratic, throughout the 1950s, it became to be perceived as an engineered system, under control and monitoring by state experts, who in turn also assumed responsibility for its correct functioning (O’Gorman: 137–138).

## Settler Nationalism

Around the time of Federation, a new national faith was born in Australia, which Michael Cathcart has called “Water Dreaming”. It combined the doctrine of *terra nullius* with the imperative to settle the seemingly “empty” inland, sometimes fuelled by fears of Asian invasion. The ‘Water Dreamers’ hailed the capacity of hydro-engineering as a means to facilitate this settler dream:

Energised by the titanic achievements of civil engineering, the water dreamers championed the capacity of hydro-engineering to redeem and animate the great silences of inland Australia. [...] [H]ydro-engineering [w]as an exercise in nation-building driven by an assurance that the emptiness could be filled – that human ingenuity would transform the sullen bush into a wonderland of orchards, farms, towns and cities. (Cathcart: 247)

The ‘water dreamers’ faith rested on the legal doctrine that the continent was *terra nullius* in the full sense of these words: belonging to no one. It was “one of the shared – almost unconscious – myths of white Australia” (Ibid.: 54). Thus, all Aboriginal land was considered property of the Crown. According to this view, Aboriginal Peoples could not be owners of this land, because they were neither Christians, nor ruled by Christians. But more importantly, they did not use the land’s productive potential. “Tiling of land, breaking the soil, turning it over, became the point of difference” (Muir: 92). Australia was not just a country without owners, but also considered one without history: “The country we describe is as yet without a history, without traditions, and indeed without associations. Its past is a veritable blank” (quoted in Flanagan: 67), as the Tasmanian explorer James E. Calder put it in the 1840s.

With the arrival of the Europeans, history came to the ostensibly timeless land. In their view, the Australian continent and its inhabitants, caught in a cycle of unchanging nature, would finally be conquered by civilization; “historyless ‘wilder-ness’ [ ] put to the cool, productive blade of agriculture” (Sinclair: 36). Accordingly, most Australians considered nature to be “absent” in the arid interior. Hydro-engineering was to develop these “raw elements” and refashion them into a “civilised, natural landscape” (Cathcart: 199).

However, *terra nullius* could be turned against the white settlers themselves, unless they occupied and used the land. According to Cathcart, the myth was undoubtedly self-serving, but not necessarily cynical. The European settlers considered it a fundamental rule of human affairs. Hydro-engineering was to solve this problem. Dams and irrigation channels would finally banish the spectre of drought, mitigate floods, and make Australia fit for white settlement. It would allow for radical social reform, break the squatters’ land monopoly and enable ordinary citizens to work their own lands and run their own farms (Ibid.: 201).

Hydro-engineering was considered a key factor for Federation. “[C]onserving the flood waters by locking up the rivers with dams” became the “crescendo of a new song of nationalism” (Ibid.: 200). It received popular expression in the book *Australia Unlimited* (1918), a survey of Australia’s primary industries, by journalist and writer Edwin J. Brady. It became the “bible” of the “boosters” of irrigation. In his view, Australians were engaged in a battle against the “last walls of nature” (Brady: 446).

They would storm them with an army of immigrants and settlers. He argued that Australia would need an increase in population to 100 to 500 million in just a few generations to defend the nation against the supposed ambitions of Asia. Hydro-engineering, Brady claimed, had turned the “useless” deserts of Australia into what they actually were – gardens. This was the *real* nature of Australia (Cathcart: 219–221). Similarly, the journalist and author Ernestine Hill championed river regulation and irrigation. In her popular book, *Water into Gold* (1937), a romanticized history of irrigation along the Murray, Hill wrote that with the “annihilation of deserts” (Hill: vii), nothing of value was destroyed, but on the contrary, the best was brought out of the land (Sinclair: 77–78).

By the 1920s, the “boosters” gospel had become a patriotic faith for Australians. Later, World War II and widespread concern about a Japanese threat gave further impetus to the old slogan “populate or perish”. The link of hydro-engineering, settlement and national salvation became an integral part of the national psyche, well outlasting the war (Cathcart: 236; Garden: 100–107).

From this point of view, huge hydro-engineering projects, such as the Hume Dam and later the Snowy Mountains scheme, which was commenced in 1949, can be seen as the realization of a century of ‘water dreaming’: “white Australia’s triumph over the willfulness of nature” (Cathcart: 240).

### ***Development as a Utopian Promise***

Taking into account these two major ideological currents, the meanings embedded in the Hume Dam can now be read and analysed.

The Hume Dam was regarded not just as any dam, but as the most important Australian dam of its time. It was the “Key of Murray Works” (Argus 27/03/1925) and its opening was called “a further step in one of the greatest and most beneficent public undertakings that has been carried out in Australia” (Argus 23/11/1936). Contemporaries also did not fail to mention that the dam was “one of the foremost of the world’s artificial devices for the conservation of water and the enrichment of lands by irrigation” (Age 20/11/1936). It thus became a symbol of national pride and Australian resourcefulness “that would advertise Australia on the world stage as effectively as the Sydney Harbour Bridge. [...] [A] symbol of Australia’s technically sophisticated future” (Sinclair 2001: 71;73). Given this high significance, it is valid to assume that the meanings invested in the dam show some of the key features of the ideology of hydro-engineering.

The central promise of the dam was to facilitate “development”. This concept amalgamates both ideologies of modernization and settlement into an Australian style ‘High Modernism’, and encapsulates the promise of hydro-engineering *per se*: to convert “arid and underdeveloped lands into prosperous, prolific gardens” (Age 20/11/1936).

To understand the meaning of development, it is worth considering the self-conception of the *River Murray Commission* (RMC) as one of the agents of expanding infrastructure for irrigation and agriculture. Its 1946 manifesto reads:

The real wealth of any country can be measured only by its production. The prosperity of a people depends upon the development of the country's resources, and the utilization of the natural resources of the Murray Basin by conservation and scientific application to the land in the form of irrigation, represents one of the greatest sources of wealth we have in Australia. (Ronalds: 24)

Here, the *River Murray Works* are presented as vital for the further development of the Basin states by supplying them with water. This claim is supported by proud reference to 18 million pounds' worth of agricultural products from irrigation in 1945. The RMC also claims that, without irrigated agriculture, this would have been a meagre two million and estimates that the Murray Basin was responsible for the production of nearly half of Australia's primary products and one third of its exports. In Victoria alone, two per cent of the state's area are said to contribute to 15 per cent of annual primary production – all thanks to the Commission's infrastructure. The RMC and the states' commissions are thus destined to play a paramount part in the development of the Murray Basin and the future prosperity of Australia:

As a result of wise water conservation, the lands of the Murray Basin will continue to increase in national value, and will absorb an increasing number of people who will be able to attain a standard of living not possible in those areas without the harnessing of the waters of the Murray and its tributaries. (Ronalds: 25)

The primary *raison d'être* of the *River Murray Works* is their economic potential, quantified in their contribution to primary production, and thus to an increasingly affluent society.

Then Governor General Sir Ronald Munro-Ferguson put forward an even more triumphant view in his address on the occasion of the turning of the first sod for the construction of the Hume Dam on 28 November 1919. As the Melbourne *Argus* reported, he proclaimed that the construction of the dam marked the dawning of a new era for the Murray Valley. The dam was the first step to bring the Murray's waters under man's control: "the waters of the Murray will be harnessed, like those of the River of Egypt, to the service of man". He called the dam a decisive means to redeem the shortcomings of nature by man's ingenuity: "[T]he less nature does, the greater the incentive to man to put forth all his strength and bring all his science in making good deficiencies". Humanity would free itself from the constraints of nature and "Australia will gradually become independent of the fickle rainfall and the haunting fear of drought will be banished from the land" by the works of engineers and their ability to "compel these waters to surrender themselves completely to their control". The Governor General even deemed "the measure of increased productivity given by man to the soil over and above its natural condition" to be the criterion for civilization itself (*Argus* 29/11/1919).

Civilization was also at stake for Ronald East, then chairperson of Victoria's SRWSC:

Civilisation is built largely on the works of the engineer, and water conservation is one of his greatest tasks. [...] [T]he destiny of Australia will be determined by the work of water conservation engineers. It will be water supply [...] which will determine the ultimate limit to our development and population, and our streams may well be regarded as our rivers of destiny. (East 1944: 3)

By contrast, he evoked the “unthinkable” scenario of Australia returning to its dependence on the natural dynamics of erratic rainfall, which would ultimately lead to the downfall of civilization, as it had been the fate of great ancient realms, like Egypt, when it neglected its irrigation works (East 1944: 11).

In East’s view, it was the engineer who upheld civilization by water conservation works. He was not alone. Those tasked with building the Hume Dam earned popular acclaim and admiration for their work. Reporting from the construction site in 1925, the *Argus* enthusiastically exclaimed about their perfect work:

Unique engineering problems are encountered and solved every day, and minute care is taken to see that every section of the work is perfect [...] There were so many marvelous machines that a proud boast of one of the engineers seemed justified. Surveying the works on the hill he said: ‘With this plant I could build the Pyramids in less than six months’. (Argus 27/03/1925)

Indeed, “the commission’s engineers are removing mountains and [they are] stopping the course of two great rivers” (Argus 27/03/1925). In the same fashion, the dam was hailed as “[p]erhaps the most impressive engineering triumph in Victoria” (Argus 07/07/1938) and “marvel of modern engineering, although the direction of construction [...] and the resident engineer [...] consider it part of their ordinary work” (Argus 05/06/1937).

The meaning of development is, perhaps, best summed up in the phrases of “[h]arnessing the waters of the Murray and the Mitta Mitta for irrigation purposes” (SM 23/09/1931; my emphasis added) and for dams as means to “conserve the flood waters of our greatest river” (SM 02/05/1928; my emphasis added). On the contrary, “waste” of water was to stop. In 1946, the *Argus* lamented that “750.000 acre foot<sup>1</sup> of water that could have been conserved has gone over the spillway [of the Hume Dam] in recent weeks” (Argus 01/08/1946). This dramatic wastage could have been prevented, had it already been at its full capacity. Still, the then Victorian Deputy Premier MacDonald was optimistic that the dam would soon be enlarged and that “water that has been running into the sea will soon be harnessed for the service in three states” (Argus 20/10/1948). Water that runs into the sea without being used for irrigation is wasted. Water that goes over the spillway without being used for hydro-electricity generation is wasted. “Water conservation” and “harnessing the waters” thus grasp the essence of development: meliorating the raw and unproductive forces of otherwise useless nature to service humanity by the work of engineers with the promise of increased production and prosperity for human society.

However, development could also be put to use for other goals. A prosperous society was not an end in itself. Water conservation provided higher standards of living, but also supported a growing population in Australia. It was considered “absolutely essential” (Brown: 6) for the continent’s continued occupation. According to the Governor General’s prophecy, with the construction of the Hume Dam and subsequent development works, Australia would become as economically productive as France and Germany (Argus 29/11/1919). He did not forget to add that these countries then had a combined population of 100 million.

Hydro-engineering would create conditions suitable to settle hundreds of thousands or maybe even millions of people, who would be among the wealthiest farm-

1 About 925 gegaliters. One acre-foot is defined as the volume of water necessary to cover one acre of surface area to a depth of one foot.



ers in the world (Ibid.). Keeping with the spirit of this social promise of hydro-engineering, the *Argus'* special reporter dreamed that the Murray Valley would soon carry more people than the entire state of Victoria by means of the "River Murray Conservation Works" (*Argus* 27/03/1925). In 1934, the paper celebrated water conservation as an important contributor to the massively increasing population in the past decades, through agricultural production and power generation: "The water has brought agricultural prosperity, and light and power to boot!" (*Argus* 16/10/1934)

Development also became an imperative of national defence: "National strength and stability depend upon utilising the land to the full, so as to make it capable of carrying as large a population as possible" (*Argus* 29/11/1919). In the aftermath of World War II, Ronald East sought to promote developmental works by linking them to Japanese threat: "the dangers of a small population were never so much evident as they were in the past few years of menace from the invader". Therefore, he urged Australians: "Populate or perish!" (East 1946: 12).

### ***On the Fringes of Progress***

As with other great dams, hundreds of farms and several towns were submerged under the 1 522 gicaliters of water that formed the reservoir Lake Hume upon completion of the dam (River Murray Commission 1986: 8). The *Argus* shed no tears about the prospect, that "thousands of acres of good grazing land" would be submerged once the dam would be finished (*Argus* 29/11/1919). When the newspaper reported that 1600 km<sup>2</sup> "with hundreds of farms" (*Argus* 27/03/1925) would have to be submerged, the editors did not feel compelled to comment or to ask what would happen to the farmers and other people in the area. In fact, the towns of Bowna and Ebden, which were submerged by the waters (*Argus* 07/02/1924; SM 25/11/1936) seem to have vanished without a trace.

Only Tallangatta (Victoria) has left a curious chapter in the story of the Hume Dam. The town of 900 inhabitants was to disappear for the Hume Dam to be enlarged. A reporter for the *Argus* who visited Tallangatta in 1944, with the prospect on the horizon to raise the dam, found a distinctly calm attitude of "There it is" (*Argus* 14/12/1944). Yet a year later, a report from a town assembly in Tallangatta showed more conflict than that: people demanded to know if and when the dam would be raised. And if so, was there a way to save their town. If not, they demanded to be compensated and to decide for themselves where to move, to Bolga, Bulloh or Toorak. Some speakers called for a plebiscite, others for a weir around the town. Most of all, Tallangattians pointed out the constant insecurity of having to live with an uncertain future, which inhibited investment and progress, thus subverting the use of Hume Dam and irrigation (*Argus* 07/12/1945). In the end, Tallangatta was moved to Bolga, following the preference of the SRWSC, even though the citizens of Tallangatta had previously voted to move to Toorak (*Argus* 25/07/1950). New Tallangatta was officially opened on 27 June 1956 (River Murray Commission 1986: 7).

Regarding environmental costs, the media coverage reflected a controversial debate. The *Argus* related the construction of the dam to excessive algae growth in the Murray as early as 1930, which appears to have persisted, even though the SRWSC promised to resolve the issue quickly (*Argus* 10/01/1930). Still, in 1934, citizens of



Fig. 2: Site of Old Tallangatta at Lake Hume, July 2017

©photo by Daniel Rothenburg

Albury complained that their water was unfit to drink: “The odor which arises when the house taps are turned on is sickening[.] [...] Residents are tired of the efforts of the weir authorities to clean the water, and are demanding the erection of a filtration plant” (Argus 12/02/1934). The *Sydney Mail* also identified the dam to be the principal cause of the continuing erosion of grazing land and siltation of the Murray in the previous years. Also, local graziers complained about lagoons and billabongs which were at risk of running dry, due to the absence of periodical floods. This was a “contradictory complex”, the reporter found. After all, Hume Dam was a public necessity of the first order, on the other hand, it was obvious that it had severely disturbed the natural flow of the Murray. Albury could even lose its river. In a sceptical note, he concluded:

Meanwhile ‘old man’ Murray continues its erratic course, reinvigorated by the enormous bulk of water put up behind the Hume Weir – oblivious to man’s puny efforts to curb its whims and age-old habits. (SM 26/10/1938)

Still, compared to the enthusiastic acclamation that the dam received, those voices appear underrepresented. In the view of contemporaries, the benefits far outweighed the price of progress. This was the attitude of Mr Buchanan of Tallangatta: “[H]e believes the impounding of the dam will prove of greater value than the land he will lose” (Australian Women’s Weekly 27/06/1951).

### **High Modernism, Australian Style**

The basis for development, as is understood in contemporary discourse, is the technical mastery of nature. Its central figure is the engineer, the master of the art of manipulating natural systems for human needs. To “conserve” and “harness” nature means making it useful. Thus, as the alleged “useless” Australian nature is developed by means of engineering, it can fulfil its real purpose: to expand produc-

tion and increase prosperity. Consequently, the land can carry a greater population, which in turn contributes to national strength.

Development encompasses the emancipatory promise of modern technology, the rational model of the natural sciences and the utopian optimism in the advance of progress towards a better future. It also makes those driving forces useful for settler nationalistic ambitions and their goal to increase the Australian population. Reference to “development” in early twentieth century Australia evoked the promise of a social and national utopia, facilitated by channelling water to the barren deserts of the inland and turning them into densely populated gardens. This vision of the Hume Dam’s engineers was the promise of hydro-engineering *per se*.

Australian style ‘High Modernism’, therefore, shows modernity at its most radical. With no evident appreciation of Australia’s natural wonders, Aboriginal culture or land use regimes, the settler society redesigned Australia’s nature. In their view, they destroyed nothing of value. On the contrary, development was going to create something that was worth keeping. Thus, the price of progress was not high, while the future promised affluence previously unknown. Furthermore, nationalism, frequently regarded as a factor impeding modernization, quite on the contrary, was a driver of development in the Australian case. Developing the land was the most powerful means to realize the ambivalent dreams of a one day closely populated Australia.

The environmental historian Emily O’Gorman has recently suggested, that whereas the 1950s were marked by “a mood of national faith in technoculture” and “self-conscious drive towards modernity” (O’Gorman: 143), by the 1960s, river engineering, especially dam building, was seen as a failure by various groups. The privileged position of irrigation and national development was questioned by dry-land farmers, economists, and environmentalists (Ibid.: 229). This leads to the issue of the prevalence of hydro- modernist ideas in Australia throughout the twentieth century and its continuity in the present. Specifically, it raises the question how the growing awareness of the negative consequences directly associated with irrigation transformed this paradigm.

One of the most prominent environmental problems is soil and water salinity, which became a pressing issue for the public and the authorities with the drought of 1967/68, that caused temporary spikes in the river’s salt content (Connell: 105). It triggered a series of studies and a 10-year Salinity and Drainage Strategy by the SRWSC in 1975, costing 40 million AUD (Russ: 149). In the late 1960s and 1970s, several groups emerged which dedicated a lot of effort into community education to raise awareness of salinity, promote better farming practices and introduce environmental education in schools (Ibid.: 141–143). Salinity, showing the damage that exploitative farming and irrigation practices combined with overuse of the river were doing, became a catalyst for a change of attitudes.

Arguably, these developments changed the perception of the Australian landscape as well. In 1987, the Victorian Government offered an explanation for the huge environmental damage since the beginning of European settlement in its *Salt Action* program. This appeal to ignorance is a far cry away from the triumphalist boasts of the subjugation of nature in the early century: “Australia’s settlers tried to make a living off the land *the only way they knew* – by clearing trees and shrub, and farming the way they used to in Europe” (Government of Victoria: 2; my emphasis).

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