

WATERLINES
THE PENGUIN BOOK OF
RIVER WRITINGS

EDITED BY AMITA BAVISKAR



PENGUIN BOOKS

Anand Pandian

An Ode to an Engineer

In December 2001, a few young men from the bustling town of Cumbum circulated invitations to an opening gala for the new internet cafe they had just established in the busy market. The town of Cumbum lies near the head of what is now known as the Cumbum Valley, stretching between the Western Ghats and the Madurai plains in southern Tamil Nadu. The invitations proudly stated that their Green Valley Internet Browsing Centre was dedicated to the memory of 'Respected Benny Quicc, The Founder Cumbum Green Valley'. This phonetic rendition of a foreign name may have been slightly off the mark, but the historical sentiment was unmistakable. The browsing centre was inaugurated in the name of Colonel John Pennycuick, the colonial hydraulic engineer almost universally credited today with having brought a perennial stream of river water into the Cumbum Valley and the arid plains of Madurai. That so contemporary a space as an internet salon would dedicate itself to the memory of a British figure who lived fully one century ago is not altogether surprising. In recent years, portraits and statues featuring Pennycuick's ramrod posture and sallow complexion have rapidly proliferated throughout the region, lending a rather surprising tint to a Tamil monumental landscape peopled otherwise by film stars and political leaders. At the base of one of these gleaming and massive busts, in fact, even he is lauded as a *Periyar* in the manner of the late leader of the Dravidian movement E.V. Ramasamy Naicker.

The engineer is celebrated today for leading the construction of the Periyar dam in the high mountain ranges of Travancore at the close of the nineteenth century. This towering masonry dam channelled

the voluminous monsoon flow of Malabar's great Periyar river towards an underground tunnel blasted through the Western Ghats, into the watershed of the Vaigai river. Diverting eastward waters once headed west to the Arabian Sea, the dam ensured that a perennial supply of water would flow through the bed of the fickle Vaigai. Projected by the colonial Famine Commission in 1879 as a 'magnificent engineering feat', the massive enterprise irrigated by 1901 over 130,000 acres of new paddy fields in the dry and drought-stricken tracts of the Madura District. Recent tussles between Kerala and Tamil Nadu over access to the Periyar's waters have lent an unprecedented visibility to the colonial engineer—Tamil farmers and activists agitating for water have mobilized an image of Pennycuick as the very symbol of attentive and effective government. In the controversial age of the Narmada, the Tehri and the Three Gorges, the veneration of Colonel John Pennycuick reminds us that big dams have stood for care and compassion as much as cold indifference in the politics of modern India.

Although the figure of Pennycuick dominates contemporary popular memories of the dam, it must be noted that the channelling of Periyar waters into the Vaigai basin was long imagined as a worthy possibility in the Tamil country. At the outset of the nineteenth century, one Captain Caldwell described the possible diversion as an ancient scheme 'handed down from father to son through many generations'. The Raja of coastal Ramanathapuram sent a team of men to the Western Ghats to investigate such a plan in 1798. Diwan Muthu Irulappa Pillai had even collected a labour force and begun to execute what was then imagined as a rather simple public works project, when intrigues in the court forced a halt to operations. Madura Collector George Parish himself journeyed to the hills for a personal inquiry in July 1807. He found to his great annoyance that 'Ignorance or Duplicity could have alone invented so ridiculous and Improbable' a scheme such as this one. A continuous succession of hills and valleys over three miles long separated the Periyar from the streambed into which they hoped to turn it. To dig a channel through such topography was 'not a work which Men can perform—Nature opposes it and therefore we must submit to its will'. The Collector's judgement was definitive—'as Providence has placed [the Periyar] in another region,

nothing less than the intervention of a God can transpose it to the benefit of the Public'.

Within a few decades, however, precisely such an intervention was considered again. Major Ryves, a British Royal Engineer, revived the project of turning the Periyar waters into the Vaigai in 1862. After five years of investigations in the leech-infested forests of the Periyar's upland terrain, Ryves proposed in 1867 to dam the river with an earthen embankment, and to divert its water into the Vaigai basin by cutting through the watershed separating the two rivers. This ambitious proposal was now deemed plausible enough to merit further investigation. The severe famine of 1876–78 temporarily suspended any administrative attention to the project, but the Famine Commission constituted in its wake specifically recommended the plan to help secure grain production in the hard-hit plains of Madura. Major John Pennycuick was ordered to assume full responsibility for the proposed project in 1882, and in the same year he submitted a detailed plan that was ultimately sanctioned. The plan called for a thick rubble masonry dam that would eventually rise 176 feet above the riverbed to impound its waters in a large reservoir—water held here would be led through a tributary streambed to a mile-long tunnel blasted through the granite mass of the Western Ghats, emerging east to tumble down to the plains of Madura. An agreement was signed with the Government of Travancore to lease the necessary lands in 1886, and work on the dam commenced in 1887. The first waters passed out of the tunnel in 1895.

A.T. Mackenzie's 1899 *History of the Periyar Project* described the making of the Periyar dam as an audacious and unprecedented feat of colonial engineering. Difficulties were legion. Many of the hurdles stemmed from the challenges posed by the natural terrain in which it was erected—a narrow valley between rugged mountain slopes, clad in thick and impenetrable tropical forests, teeming with elephants, tigers, bears and leeches, and subject to six months of steady rainfall that brought annual bouts of malaria and cholera to the thousands of wage labourers stationed in the camps, workers already debilitated by exposure to cold air at the 3000-foot elevation. Hundreds of these labourers perished due to accidents, contagious diseases and climatic exposure—camp hospital registers tell only part

of this story as many sick workers went back to their native villages never to appear again at the construction site. Today, small rows of crosses in the compact whitewashed cemetery plot overlooking the dam still mark the place where the Englishmen who died during construction were buried. However, in an unfortunate testimony to colonial *realpolitik* and postcolonial indifference, the native graveyard a few kilometres away remains unmarked and overgrown with scrub.

Graveyards are only one way in which the builders of the Periyar dam have been commemorated by their heirs in Tamil Nadu. Popular memory preserves the legacy of colonial engineering in song and tale and even in name. During the course of my dissertation fieldwork in the Cumbum Valley, I met many men named Logandurai—after E.R. Logan, a Superintendent of Plant and Machinery who must have made quite an impression on the Cumbum plainspeople while directing the tunnelling operations. I did not meet a single living Pennycuick in the region, no doubt in part due to the difficulty of bending such a peculiar combination of syllables into an attractive Tamil name. Nevertheless, stories concerning the passion and generosity of the Chief Engineer circulate widely to this day throughout the villages and towns of the valley. Engineer Pennycuick is imagined almost universally in the Cumbum Valley—and mistakenly, if official annals are to be believed instead—as a man who mortgaged off his own vast estate in England to finance the completion of the Periyar dam. Tales of his personal sacrifices sometimes reach even morbid and baroque lengths. Financier Azhagesan, who keeps a laminated and garlanded portrait of Pennycuick on his office desk in the Kullappa Gounden Patti village bazaar, described how the engineer bit off and cast away his own fingernail in frustration when the two shafts of the tunnel they were boring failed to meet at the predicted point within the mountains. A boatman whom I once met on the Periyar lake told me that the British engineer had pushed the younger of his two wives—pregnant with his child—into the yawning abyss of the construction site to prevent floods from washing away the foundations. Her tears are said to still leak from the face of the masonry dam in thin rivulets. Without Pennycuick's willingness to make such offerings, one K.M. Patti, a schoolteacher averred, the valley would remain to this day nothing

more than a 'desert spectacle'.

By far the most compelling of these popular memorials is a lengthy ode to the British engineer reportedly composed by the Tamil Christian poet Anthony Muthu Pillai (1863–1929) in the early twentieth century. Anthony Muthu wrote several Christian plays and numerous poems concerning daily life and significant events in the Cumbum Valley around the turn of the century—an outbreak of the plague, the bursting of an irrigation channel, the taming of bulls in a *jallikattu* competition, and so on. Some of these poems have since been published in a small volume called *Santhamar Sinthu Kavithaikal* that also provides a few biographical details concerning the man. Anthony Muthu hailed from the village of Hanumanthanpatti. He studied in a village school up to the third grade before dropping out to assist in the agricultural labours of his family. The poet demonstrated at an early age a gift for composing and singing Tamil verses. His descendants attribute this talent to a dream his mother reportedly had one night while Anthony Muthu lay sleeping beside her. An angel is said to have appeared in her dream and to have drawn a cross on the tongue of her sleeping son. From that moment onwards, he composed and performed verses, mostly in the *sinthu* metre. Among these appears to have been the *Vazhinadai Sinthu* concerning Chief Engineer Pennycuick and the Periyar dam. I was passed a handwritten copy of this Tamil ode one evening at the home of K.M. Abbas, Secretary of the Cumbum Valley Farmers' Association and a leading agitator for Tamil Nadu's rights to Periyar water. Although none of the poet's descendants in Hanumanthanpatti were able to confirm his authorship to me, Abbas insists that it was Anthony Muthu Pillai who had penned the ode. In any case, such concerns aside, the striking verses of the poem provide a fascinating glimpse into how a massive colonial undertaking in hydraulic engineering may have been imagined by native residents of the valley in the immediate wake of its construction.

Vazhinadai Sinthu—Ode to the Journey

A famine it was said, a famine,
a beggaring famine,
every withered heart

leaving land for refuge,
mothers and fathers swept away
with wives, all lives, and wealth,
everyone wailing for gruel,
such a famine, a terrible famine,
that earthly famine.

Channelling his compassion
along the Mullai¹ River,
bending the water—
running stream meandering
its way to the ocean—
Quick, with a mother's love,
put an end to the hunger and
thirst of the wilting people,
leaving his own country to follow closely
the river passing through thick forests—
Quick the weary wizard who blocked
and stopped the wandering water.

Herds of elephants in the jungle,
packs of striped and warring tigers,
herds of bear and wild buffalo,
hunting packs of wolves,
concealed peacocks and deer,
wriggling worms and dung beetles,
tubular sucking leeches,
all swarming under the teak trees.

In the one thousand eight hundred and
eighty-seventh year, they took up
the plan for action—
so many people to build the dam,
all the labourers crowded together,
in gangs and gangs they crowded,
gathering in pavilions under the teak trees—
gathering together in those great crowds,

they lent to Kumily its name.²

In an age of neither lodgings
nor roads nor anything—
a time of only jute bag cloaks
against the great gusts of *Ani*³ wind
and the rain that poured and poured
like the full belly of a mother cow—
in those rains and in that shivering cold,
he organized the people.

All the collected monies
became gravel and wages,
timber and other forest goods,
millets and cucumber,
kerosene to burn, and cloth
to protect against the cold,
so that the plan would succeed.

As the years passed and the works
stalled then and there,
'We plunged in
without knowing the depths'
he worried deeply to himself, then
taking the task as his personal debt,
with first man Logan⁴ by his side,
he resolved to fulfil his service.

Sal sal sang the chisels,
kal kal fell apart the rocks,
the round boulders broke down,
people came and goods piled up—
wonder of wonders
in that pathless jungle—
pack bullocks a novelty,
asses bearing loads as always,
running from the rumbling elephants,

the striking tigers
and the crafty wolves.

A pathless jungle, woman!
A pathless bewildering jungle—
rainy skies and wet earth,
swarming flies
biting mosquitoes,
bees of deadly sting,
teeming troubles
to arrest the heart.

The boulders broke down into slivers,
but the structures too,
raised with hot bricks laid close together,
with lime and ginger and sweet jaggery,
would crumble to pieces—
kala kala pola pola,
foundations slipping,
scaffolds snapping,
edges breaking away,
people crying *ayyoo* and
wailing as the blood flowed,
tying leaves around their wounds
to go out and hunt deer to eat
in their wild hunger, to cast out
nets for musk and barking deer—
to see or to hear, a piteous sight.

To dance and to sing *kummi kolattam*,⁵
to overlook troubles
and the burdens of labour,
arrack was needed,
to strengthen the body—
no work without arrack.
Arrack—
to lap up with open mouth,

to sing and to dance and forget
the chill, to revel and dismiss
the weariness.

Our venerable Penny dug in his feet
and oversaw the building dam—
approaching Government,
caring for the people,
bringing Mannars and Paliyars⁶
to chase away the elephants,
protecting the workers,
toiling always without rest,
gathering and supporting labourers
without taking even time to blink,
carrying out his limitless plans.

Sul! Breaking through the rock,
one tunnel from above, and one
tunnel from below—but through
a defect in their relentless toils,
the two tunnels it seemed
would not meet as one—
with this waste of the tunnelled shaft,
he soured on his deed in agony.

He saw the built dam,
sandbags by the thousand
swept away
by a great flood—
he suffered many times too
when the heads of state
removed their support
for the thousandfold array
of labouring people.

To the people of Cumbum
he spoke of the deficit,

turning in his worries to those
he had never met—
'I will build you an eighteenth
canal to go with seventeen,' he
promised and asked for money.
'If the river comes from the west,
the town will be ruined,' they said.
He talked to Chetti Palani, who gave up
heaps of his boundless wealth.
Cholan came with the Chetti's word,⁷
and Nilakottai people too promised aid.
He took to the field
to conquer territory and return—
left behind were all his worries.

Sala sala mala mala the dam
came up and the tunnel opened—
he danced and sang elated,
in the one thousand eight
hundred and ninety-fifth year,
an auspicious day to open
the dam and fulfil his wishes.

Sala sala mala mala the flood
of devouring foam spilt over,
rushed forth like the wind to
fall exulted upon rocks, thorns, boulders,
great trees, swirling about, then like
a small child running to hug its mother,
searched out and reached for Cumbum,
plunging the people into a flood of joy—
where five rivers once plied,
now there were six.

Driving off burning hunger,
unpleasant illness and raging enmity,
the tender coconut nectar of the good

Chera country flowed through
 the Pandi country, driving away
 hunger and feuds, evil and depravity,
 with abundant wealth and prosperity—
 the cool flood ran to protect humanity.

Wherever you looked, green!
 In the eight directions, green!
 The old saying—

 Chozha country yields in flood
 Pandi country yields in thirst
 Chera country yields in rain⁸
 fell flat and untrue.

Equal to Ganga and like the Kaveri,
 surpassing the praiseworthy Krishna,
 it became our Periyar,
 it became the Mullai Periyar,
 famous as a perennial river,
 praised by kith and kin,
 parents, wives and great men—
 Great Penny who gave food,
 gave water, gave life and drove off
 hunger and disease from all the world—
 to praise his everlasting wife⁹ is
 a most excellent deed.

Greater than the mother bearing child,
 greater than the child that is born—
 Every breath is Periyar,
 every word is Periyar,
 in every place, in all the world,
 as far as Periyar water flows,
 your name will stand—
 Penny Cuick—your name
 though written on water
 will always stand.

O Penny who drove off burning hunger,
 unpleasant illness, and raging enmity—
 thieves, housebreakers, those that
 block the roads for highway robbery,
 those who rustle cattle and engage in
 ruinous deeds—Penny, you who made
 all people into good people,
 I praise you,
 I bow at your feet.

He gave food, and he gave life—
 each and every place touched
 by the six canals and their flood
 sprung forth as a village,
 every canal a mouth from which
 many more canals led,
 a green body of silk spread
 to earn the valley
 a melodious name.¹⁰

Yoked bulls not battling elephants
 to crush the yellow paddy—
 columns of cut sheaves to see,
 ears waving with paddy grain,
 it became a place known in the
 eight directions for its beauty—
 the Cumbum Valley.

Knocking and stealing away the name
 of Thanjai as the irrigated heartland of
 the Tamil country, this here is the
 treasury of paddy—look at the
 women cutting the ears of grain,
 anointed, dressed and combed,
 with bangles and vermilion,
kohl, gold and flowers—
 a flock of swans or

beautiful peacocks?

Their graceful leaps and supple walk,
 their laughing parakeet talk, their
 young spirits and loving hearts—
 who will forget the name of our
 venerable Penny, who secured their lives?¹¹

Like a magnificent statue
 chiselled in the hearts of
 all on this earth,
 the noble man lives always
 in Uthamapalayam.¹²

Several sustained seasons of famine between 1876 and 1878 hit the dry plains of Madura especially severely. In the following years many who survived migrated westward into the Cumbum Valley in search of livelihood. The poet depicts the Periyar dam as a compassionate endeavour set against this terrible backdrop, undertaken 'with a mother's love'. Wild animals, bitter cold, violent accidents—the verses capture the harsh conditions under which labourers struggled to raise the dam. The poet's close attention to some of these labour conditions—the need for country liquor, for example—restores a measure of humanity to the anonymous individuals recorded only as statistics in official histories of the dam. The verses also throw into sharp relief an image of the dam as a struggle against nature. Floods in particular had apparently posed some of the most intractable problems in construction. 'No dam has ever hitherto been built across a river so large as the Periyar and combining so many *refractory* characteristics,' wrote A.T. Mackenzie in his intimate history of the project. Sudden thunderstorms brought violent surges of water and debris down the river, multiplying its rate of flow tenfold and even a hundredfold. The fresh masonry of the dam's foundations was swept away again and again by such unforeseen currents. Pennycuik himself described grappling with the river's violence as 'the most anxious, difficult and exhausting' work he had thus far experienced.

The poet has also captured vividly the transformations wrought by the dam on the inhabited landscape of the Cumbum Valley—wealth and prosperity, burgeoning settlements, paddy spread like a wide green silk fabric over the fields, and the sparkling vision of young women playing like swans and peacocks among these new fields. The mood of the poem is optimistic and exultant—the engineering feat is celebrated as a work of both environmental and social reform. One of these reputed consequences deserves special mention and elaboration—the transformation of 'thieves, housebreakers, [and] those who block the roads for highway robbery' into 'good people'. Within a decade of the dam's completion, the engineers' struggle against the conduct of a refractory river was credited with having subdued an equally rebellious human nature—the unruly character of the Kallar castefolk of Melur. The tract irrigated by the Periyar Main Canal north-east of Madurai was dominated numerically and politically by the Melur Kallars, a fiercely independent community that posed some of the most serious administrative problems faced by the British in the southern Madras Presidency. In the eighteenth century, excessive East India Company revenue demands sparked Kallar predatory raids on cattle and property, attacks that several British military campaigns and two merciless colonial massacres could not abate. While such troubles assumed a less organized form in the nineteenth century, their continued outbreak inspired Madura district officials as late as 1895 to characterize Melur Kallars—along with their Piramalai Kallar brethren west of Madurai—as inveterate partisans of blackmail, highway robbery and cattle rustling.

Even a few years after the opening of the Periyar Main Canal, the Periyar Special Deputy Collector testified to the Indian Irrigation Commission that farmers were reluctant to settle as tenants in the newly irrigated tract due to 'persistent and habitual cattle-lifting'. Only a decade later, however, the voluminous official discourse leading to the notification of the Piramalai Kallars as a Criminal Tribe made mention of the Melur Kallars always and only as an instance of successful reformation. Irrigation was credited with having effected what *The Hindu* described in 1915 as a dramatic 'revolution in the habits of the people'. The 1906 *Madura District Gazetteer*, published ten years after Periyar waters first reached Melur, elaborated:

'Hope for the reformation of the Kallar has now recently arisen in quite another quarter. Round about Melur the people of the caste are taking energetically to wet cultivation, to the exclusion of cattle-lifting, with the Periyar water which has lately been brought there . . . the department of Public Works may soon be able to claim that it has succeeded where the army, the police and the magistracy have failed, and made an honest man of the notorious Kallar.'

In the wake of the 1876–78 famine, many Piramalai Kallar families migrated further westward from their native tracts just west of Madurai, into the largely uninhabited reaches of the Cumbum Valley. *Vazhinadai Sinthu* seems to echo the *Madura District Gazetteer*, and to suggest that the agricultural development propelled by the Periyar dam had the same effect on the conduct and character of the Cumbum Valley Piramalai Kallars as it did on the Kallars of Melur.

Perhaps most interestingly, the poem suggests that Pennycuick turned to the native residents of the Cumbum Valley for financial assistance in his hour of greatest need. The official accounts of the project make no mention of such pleas. While there is no way to verify the claim, its implication is clear. The native people of the valley deserved these waters, which raced into Cumbum like a 'small child running to hug its mother'. In one of its most striking images, *Vazhinadai Sinthu* suggests that the name 'Penny Cuick' will always stand in the memory of the people of the Cumbum Valley, despite being written on the fickle surface of a running stream. With this promise the poet plays on a well-known verse from *Moothurai*, a collection of ethical verses by the medieval Tamil poetess Auvaiyar:

A favour done to a good man will,
like a rock edict, always remain visible, but
a favour extended to a heart without moistness
is like a word written on water.

For the people of the Cumbum Valley, the waters of the Periyar were both benevolent gift and just desert. Moistness, imagined as the essential quality of a good and sympathetic heart, bound together both the nature of a colonial engineer and the nature of a subject citizenry. In the imagination of this early twentieth-century poet, the

engineered river channelled not only water but also compassion.

Notes:

1. A tributary of the Periyar river upstream from the Periyar dam.
2. The poet here plays on the phonetic resonance between *kuzhumi*, a Tamil word for 'crowd', and Kumily, the Kerala town closest to the Periyar dam.
3. A month in the Tamil calendar corresponding to the period from mid-June to mid-July.
4. E.R. Logan, Superintendent of Plant and Machinery.
5. Two kinds of Tamil folk dance.
6. Adivasi communities dwelling in the forests surrounding the dam site.
7. The poet puns on the name of the Cholavandan village, situated on the banks of the Vaigai. The village name literally means 'the Chola name'.
8. The three classic kingdoms of the Tamil country, centred respectively in the Kaveri river delta, the Vaigai river valley, and the Malabar coast.
9. The phrase in Tamil is *avartham aaruyir manaivi*. The poet seems to suggest here that the river itself is Pennycuick's bride.
10. The poet puns on the phonetic resemblance between *pallu* as the free-flowing end of a sari and *pallam* as 'valley'. The region gains its name as the Cumbum Valley only in the wake of the Periyar dam, the poem suggests.
11. The description of young women playing in the paddy fields in this stanza is reminiscent of the Vaigai river idylls included in the classical Tamil poetic anthology *Paripatal*, where women are presented as cavorting in the floodwaters of the Vaigai in much the same manner.
12. Taluk headquarters and location of the regional Public Works Department office.