

For years I have longed to see this biography written. And it lives up to my every hope. Having travelled with Tony I knew he was a magician of forests and a modern miracle worker of environmental regeneration. But because he is softly spoken and so humble it was difficult to fully piece together this extraordinary vision. Until now. From Sicilian family roots, settling in rural Victoria, this is a story of breathtaking global impact. Indeed, it may yet save us all!

Tim Costello AO

CEO World Vision Australia 2004–2016

There are three movements that easily have been the leaders in restoring the developing world's soils and thereby making life better for village people. One is the FMNR movement led by Tony Rinaudo, the second is the conservation agriculture and green manure/cover crop movement headed by Valdemar de Freitas and Ademir Calegari of Brazil (in which I am involved), and the third is the holistic management of animals movement led by Allan Savory. Each of these movements has improved the lives of many millions of farmers. But Tony's FMNR movement has done far more, per dollar spent, to improve the lot of the world's smallholder farmers, than any other major agricultural movement in world history, including the famous Green Revolution. That may sound like it must be a tremendous exaggeration, but I have personally done evaluations of well over 50 development programs on four continents, including programs that form part of each of these three movements, and the numbers easily support what I have said.

Roland Bunch

Founder and CEO Better Soils, Better Life

Tony Rinaudo is a shining example of what perseverance and courage can achieve. Faithfully following his calling, Tony has worked diligently to ensure that some of the world's most vulnerable populations can enjoy food security and live a life of dignity. Little did he know that his concrete and simple method of helping “underground forests” re-green dry areas would improve the lives of millions. As we face an aggravating climate crisis, Tony's example gives hope. I am certain that his visionary work has the potential to change the world.

Ole von Uexkull

Executive Director of Right Livelihood

Tony Rinaudo had an epiphany in Niger in the mid-1980s about the power of Farmer Managed Natural Regeneration (FMNR) to transform the African drylands. FMNR is a practice that directly confronts the conventional paradigm of agriculture: crops ought to be produced in clean, treeless fields.

Such a new paradigm must be justified—by farmers' experience and by science. The evidence base is growing rapidly. There is now solid documentation of millions of smallholders around the world successfully practising FMNR on their farms, community forests, and grazing lands. There is also a growing body of literature validating farmer observations on the multidimensional benefits of this practice. FMNR can provide trees for food, fuel, and sellable goods: this is an obvious way to overcome food insecurity, increase incomes sustainably, and provide these families with dignity.

Tony Rinaudo's epiphany about FMNR in Niger and his steady persistence in building awareness and expanding training efforts across many countries have inspired scale-up efforts that we see taking root all over Africa and across the world.¹

Dennis Garrity

Drylands Ambassador for the UN Convention,
Senior Fellow, World Agroforestry Centre,
Chair, Global Evergreening Alliance

Hope for a planet in crisis

The Forest Underground

Tony Rinaudo

ISCAST Melbourne

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Dedication

For my dearest Liz,
who shared my vision from the start and
whose love and support have never wavered,
and to my long-suffering children,
Ben, Melissa, Daniel and Sarah,
who tolerated an all-too-often absent father.

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Foreword

I first met Tony Rinaudo in December 2018 shortly after he received the Right Livelihood Award. I was so impressed that I spontaneously decided to make a film about him. Only a few months later my camera crew and I attended the Beating Famine Conference in Bamako and then spent several weeks travelling with Tony in Mali, Ghana and Niger, places where he has worked for decades. I could see for myself: his method works. Hundreds of thousands of prospering farmers and their families are practising Farmer Managed Natural Regeneration (FMNR). In Niger alone six million hectares of denuded farmland have seen tree density increase from an average of four trees per hectare in 1980 to 40 trees per hectare today.

We soon became allies and friends. I was impressed by the energy and passion Tony put into the Beating Famine Conference and by the devotion of his wife Liz in welcoming guests and delegates. Agronomists and supporters of FMNR from all over the world applauded when Tony praised the value of trees not only for restoring deteriorated soils but, above all, for restoring hope. Indeed, wherever Tony goes, hope is in the air. Now the numerous projects and initiatives of individuals, NGOs and even governments are merging into a real social movement.

What is most striking is Tony Rinaudo's character. This is the root of his success in promoting reforestation and agroforestry in villages. To see the grateful and happy farmers, women and children is overwhelming. Their devotion, faith and passion is tangible. These people's lives have been completely transformed.

Tony's techniques and the efforts of farmers that practise them are modest, but they are successful. If we want to achieve our climate goals, it is time to change perspective. It is time for our farmers, agricultural cooperatives and representatives of industrial agriculture to shed their Western arrogance and learn from these unknown farmers who perform small miracles day after day.

Tony shows us how. During the famine of 1984–1985 he lived with the poorest of all farmers. He experienced penury himself. Ever since, he boils the water he needs the next day in his hotel room. No plastic bottles, no industrialised water for him. No air conditioning either; he just wraps a damp cooling scarf around his neck. To be fit for the day he runs an hour before sunrise, whether in the streets of Kolkata, the rural paths in Bolgatanga, by the muddy slopes of the river Ganges or the dusty Niger. Being a runner myself I joined him on these early excursions under the gaze of amused locals.

One evening, overlooking the Niger river, Tony told me that Africa could easily feed its entire population, and even that of the world. I was, at first, as doubtful as Thomas. But travelling further with him, I learned to understand the almost unlimited opportunities for agriculture on this huge, not-yet overpopulated continent.

Nevertheless, the situation is desperate for the one billion people still living as smallholders around the world. Their yields are shrinking dramatically. Up to 700 million people will be obliged to leave their homelands during the next decades because of the rapid pace of desertification. This is no vague prophecy of doom, but the forecast from over 100 scientists at the Bonn-based Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES).

In November 2019, my team and I followed Tony to India. His purpose was promoting FMNR through workshops and in-field training in villages in the eastern state of Jharkhand, and later in the huge western state of Maharashtra. To finish the trip, he spent three days in New Delhi meeting with Indian agricultural specialists and officials to evaluate the validity of his method for a population of at least 300 million farmers. This type of lobbying clearly was not up his alley. Yet it had to be done. In the last decade alone, more than 100,000 farmers in India took their own lives because they saw no other way out of their misery.

It became clear to me that, while we are all paralysed by the climate change predictions, an agronomist, a missionary, a simple man from Australia may single-handedly have found the solution. Reforestation of almost all barren land is plausible, at very low cost, thanks to FMNR. Since his work began 30 years ago, 240 million trees have grown in Niger alone. Today his

dream is to reforest a billion hectares on our planet by inspiring others. This is the most ambitious yet most affordable proposal to stop rising temperatures.

Good timing! The planet badly needs it. It is no exaggeration to say that Tony Rinaudo may save the planet. His nickname is, rightly, the “forest maker.” Tony Rinaudo needs and deserves disciples all over the world.

Volker Schlöndorff²

Director of the film *The Forest Maker*



CHAPTER ONE

Paradise

Our house in Myrtleford, a small, country town in north-eastern Victoria, sat at the foot of Reform Hill. From the lookout, I could look down on the township: miniature buildings, homes, cars and people going about their business. I could see the confluence of the Buffalo and Ovens Rivers and the rugged cliff faces of Mount Buffalo. The tranquil beauty of the blue hills and the narrow, green Ovens Valley imbued me with a strong sense of place and belonging. Even though I have lived away for longer than I have lived at home, this affinity remains strong to this day.

These hills and valleys provided me with a perfect playground. I belonged to a small band of children who lived at the end of Elgin Street's cul-de-sac. We often played together and kept our guardian angels busy. Occasionally, our mothers would learn of a near miss with a snake, mine shaft or tree climb, and our adventures would be banned until we wore down their resistance and were allowed to roam free again. Cowboys and Indians was a favourite game. When alone, I ran downhill at full pelt. In my dreams I was airborne, crashing through strong silk strands strung between trees by giant spiders.

I am the third child in our family of four boys and two girls. My younger brother Peter and I were inseparable, always bushwalking, fishing, riding bikes—though, I suspect he often came along to please me rather than out of any enthusiasm for the outdoors. After having four sons,

I was born and raised where the forest meets the farm. The Ovens River valley viewed from Mount Buffalo.

Mum dearly wanted a daughter. Dad had lost his only sibling to leukaemia when she was still a young mother of two boys, and so when my sisters Cathy and Josie were born, they were welcomed with much joy. They were special to me too and I loved helping Mum look after them.

Every Sunday morning after church, Dad pulled out his Box Brownie camera. While Mum prepared spaghetti for lunch, he



Clockwise from Mum: Peter, Sam, me, Cathy and Josie in 1966. Joe was at boarding school.

arranged a quick portrait of us children, still in our Sunday best, in front of the camelia bush. For the first few years we were taller than the camelia, but eventually it surpassed us in height. After lunch, we all piled into our Ford Falcon station wagon for the 40-minute drive from Myrtleford to Wangaratta to visit Dad's parents, Nanna and Nanu. There were no seat belts in those days. When we boys played up in the back seat Dad would swing round and with his free arm whack those of us who didn't duck quickly enough. Mum was not impressed. Apart from wanting to protect us, Mum was a nervous traveller and worried that the distraction would cause an accident.

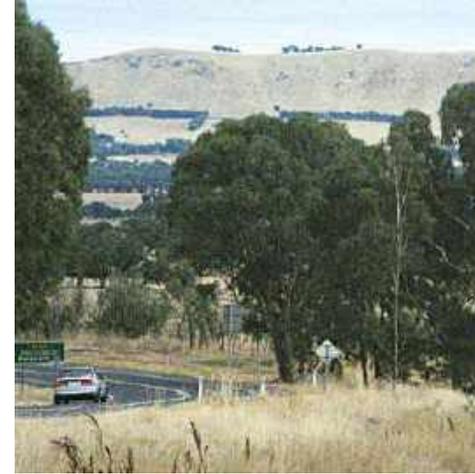
Once past the Beechworth turnoff, the country opened up and the broader plain was framed by the

treeless Murrumbidgee Hills. Can hills speak? Maybe not in words. Yet in their nakedness, they seemed to be grieving and crying out for help and restoration. As we drove to Wangaratta each Sunday, in my mind's eye I was on those hills toiling in my gumboots, shovel in hand, planting trees and plugging the deeply eroded gullies.

Sometimes we returned home in the dark. At sections of the Great Alpine Road the branches of the huge gum trees on either side of the road met above us. As the car sped through the night, the headlights illuminated the trunks and branches. An enchanted cave appeared in front of us and disappeared into the darkness behind us. Not satisfied with these short tunnels, I mentally filled the gaps by planting the missing trees!

The Jaithmathang people

The trees were silent witnesses to the past. For how many centuries had they sheltered and nurtured the Jaithmathang (Ya-ithma-thang) Aboriginal people? For how many summers



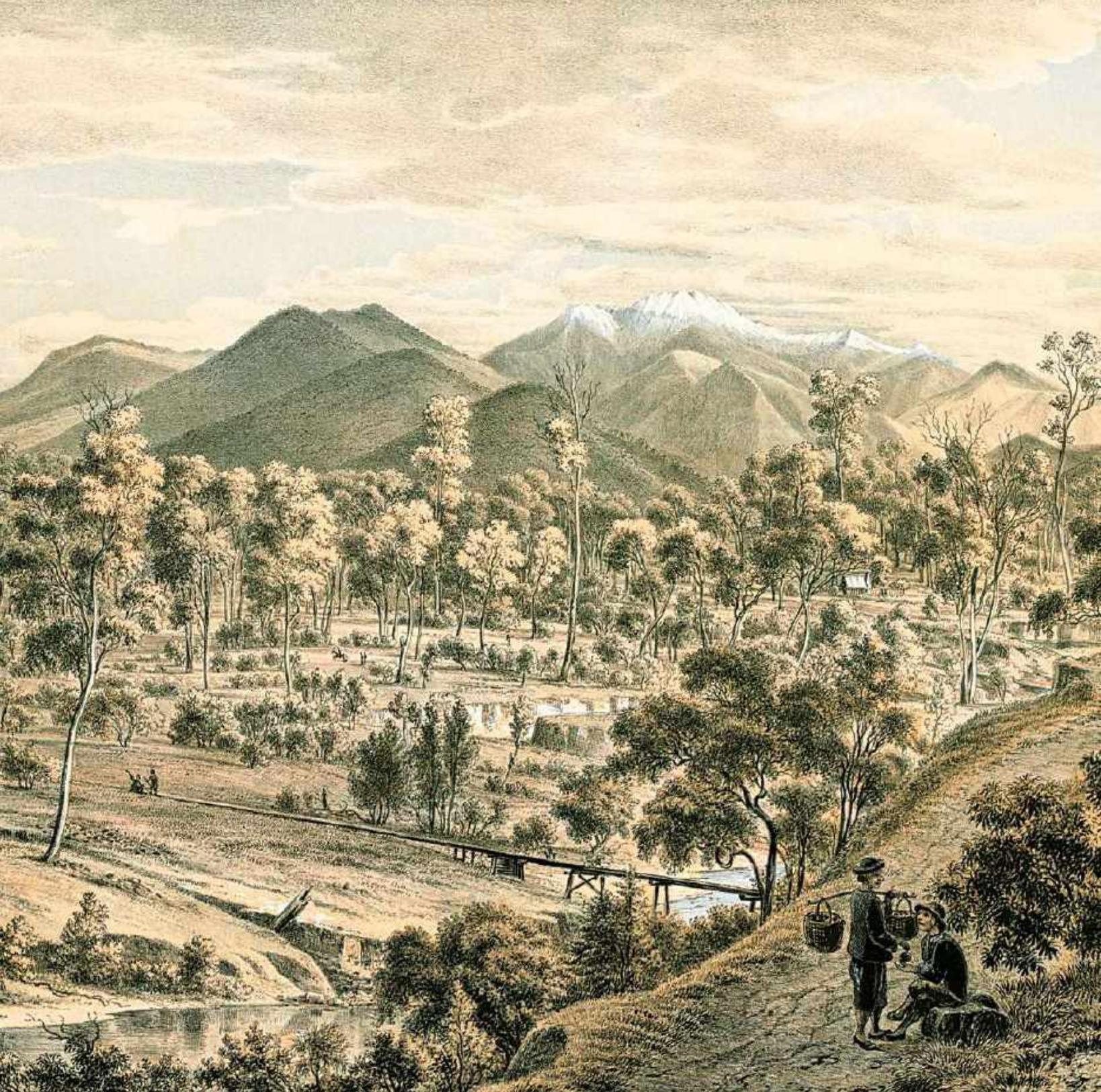
The Murrumbidgee Range from Beechworth Gap. The bare hills and naked gullies disturbed me.

had these trees heard their now-lost Dhuduroa language and watched over their annual pilgrimage to the high country to harvest and feast on Bogong moths? From up to a thousand kilometres away, each summer, millions of moths migrated to congregate in the cool rock crevasses of Australia's Southern Alps. The Jaithmathang would roast the moths on hot ash and eat them. Their high fat and protein content and sweet, nutty flavour made them a delicacy.

During the cooler months the Jaithmathang occupied the lower reaches of the river valleys. Camps were established on the soft soil of the open, flat country where water and food sources were plentiful—a recipe for disaster in the unequal competition and culture clash to come.

Don Watson's *The Bush* (2014) dispels the early settlers' myth of *terra nullius* or "empty land" which was clearly designed to justify a continental-scale land grab. He cites numerous references from explorers and early settlers to a landscape that in its open orderliness and beauty looked like a "gentleman's park," an "English park," a "French park," an "immense park" or "one stupendous park."³ In *Fire Country* (2020), Victor Steffensen describes pre-colonisation landscapes as "beautiful with plentiful food, medicines and life."⁴

The trees were managed to stay on the country, to grow old and become the Elders of the landscape, maintaining their gift of providing life and prosperity for every other living thing within their environment. Aboriginal land management ensured that most of the trees lived to be hundreds or even a thousand years old. They populated the country in plenty, drawing and giving goodness to the ground to provide the essentials for a healthy landscape.⁵



In grappling to come to terms with the “sick” state of much of the Australian landscape today, Steffensen also draws attention to the disconnectedness of most people from the land.

The impact of Europeans

Part way up Reform Hill, a stone monument marks the passage of Hume and Hovell during their 700-kilometre expedition from Sydney, New South Wales, to Port Phillip, Victoria, in 1824. In the wake of these explorers, early squatters took up land to graze sheep and cattle. Abandoned gold mines, mullock heaps, and an enormous, now-silent, rock crusher tell of the gold rush which began in the 1850s. Reform Mine was north-eastern Victoria’s most productive underground mine, producing more than 21,000 ounces of gold. Was it possible that even the Kelly Gang, the notorious bushrangers, passed this way while on the run? If we were lucky, we would see a kangaroo or an echidna, and occasionally a venomous brown or tiger snake, but more commonly, we saw the rabbits introduced by European settlers.

The countryside around Myrtleford saw various economic activities ebb and flow in importance over the years—beef and dairy cattle, sheep, flax (during and after World War II), pine, hops, wine grapes, blueberries, olives, walnuts and chestnuts. Tobacco was the drawcard that brought many Italian migrants, including my grandfather, Giuseppe “Joe” Rinaudo, to the Ovens Valley.

From the late 1920s onwards, exotic pine plantations began to replace native vegetation on many of the hills in the district. Indigenous bushland was bulldozed. Thousands of trees were heaped into windrows and burnt. The wood wasn’t even used! Steep hills were stripped of all vegetation leaving ground bare for long periods of time. Then the hills were planted with a monoculture of *radiata* pine, native to the Central Coast of California. Walking through these

dark, silent forests with no undergrowth was like walking through a dull desert. The only birds were those flying overhead to another destination. I bore a sense of loss. Even as a child this approach seemed very short-sighted and destructive. I did not hate exotic trees, but I was indignant at the enormous waste and disregard for what was already there.

The valley of the Ovens River as observed in 1866
by Austrian-born artist
Eugène von Guérard.



Not even the hilltops or valleys were spared as safe havens for indigenous wildlife and vegetation. In the fertile valleys, pesticide spray targeting tobacco crops drifted into the cold, crystal-clear mountain streams in which I loved to fish and swim with my siblings and friends. These streams provided the townships with their drinking water. For a period when pesticides were sprayed from aeroplanes, serious fish kills occurred and swimmers were confronted with the sickening sight and smell of large trout floating past, belly-up.

These same waterways suffered significant damage from gold mining, from the 1850s to 1955. Gold panning and sluicing gave way to the deployment of giant battleship-like dredges which systematically desecrated the once-living waterways, smothering fertile valleys with tailings of gravel and rock. An already-damaged river system was further degraded during my teen years when logs were removed and riverbeds bulldozed to speed the flow of water as a “solution” to damaging floods—floods caused, no doubt, by land clearing on the hills! This severe disturbance destroyed fish habitat and converted the wild and beautiful mountain streams that I loved into sterile drains designed to move life-giving water from the valleys as quickly as possible.

I was proud of the palm trees that greeted visitors to Myrtleford. They were removed because they harboured birds and dropped fronds.

Nothing, it seemed, was sacred. Myrtleford was one of the few towns anywhere in Australia that boasted a stately row of mature palm trees in the main street. The trees were like old friends who were always there to welcome visitors to the town centre. I was shocked to go into town one day only to be confronted by empty space covered over with asphalt. The palms had been removed in a perfunctory manner because



In 1911, 36 gold dredges in the Ovens Valley destroyed 250 hectares of fertile river flat.



In preparation for planting exotic pine trees, native vegetation on steep hillsides was bulldozed into windrows and burnt. The cleared land was left bare for several years—a practice continued to this day.

they harboured pests and dropped untidy fronds on the road. How and why could anyone do this? Where would it end?

I knew that farming was necessary, but I questioned the wisdom of clearing all the indigenous flora and fauna from the land. Why did it require so much destruction? At university, the insight of my daydreams seemed to be confirmed, not in the formal lectures, but in the pages of *Forest Farming* (1976) by James Sholto Douglas. Douglas wrote about how the integration of trees, crops and livestock brought about a sounder ecological balance and greater productivity of food and other materials for clothing, fuel and shelter. It made perfect sense to me, but it contrasted starkly with the approach of early settlers who imported destructive European farming practices. Colonialists saw it as their duty to tame and “civilise” the bush in order to make it “useful.” They cleared the trees and killed the wildlife that competed with livestock

and crops. In the process, they also removed the First Nations Peoples. Settlers who had been granted land were actually required by the government to clear it of trees in order to keep it. The attitude of early settlers is well summed up by the popular Australian adage, “If it moves, shoot it; if it doesn’t, chop it down!”

This saying may not have been aired in university halls, but the only difference between colonial approaches and “modern” agriculture was the air of respectability given to the latter by scientific and economic rationales. Modern agriculture was built on this flawed foundation laid by the European settlers. It meant blinkered mastery of nature through chemistry and engineering. It is characterised by uniformity of crops and livestock for high and ever-increasing

yield, and is driven by a desire for higher profits without reference to the environmental cost—loss of ecosystem function, including soil degradation and biodiversity loss. Farmers are under enormous pressure. They have to make a profit to make a decent living and stay viable. But doing so by degrading the land will only put themselves and future generations at peril. Fortunately today, regenerative agriculture, an umbrella term for a host of practices more in tune with nature, is gaining momentum globally.



CHAPTER TWO

Roots

My father's family

To build a better life for his family, Giuseppe Rinaudo migrated to Australia from Sicily in 1926. He had no intention of ever returning to Italy. He planned for his wife Catarina, daughter Domenica, and son Gaetano (Tom, my father) to join him within a year. However, the Great Depression made jobs scarce and it would be seven years before he would see them again. First, he had to repay his own passage to Australia. Then he had to save enough money to bring his family. He took work wherever he could find it. This included labouring on farms and the construction of the Hume Weir on the Murray River.

When I was a boy, I sometimes stayed at Nanu and Nanna's place. After dinner, Nanu would light up a cigarette and talk. I didn't like the smoke but I did like his stories. He told me that, at my age, back in Sicily, he used to transport wine in barrels on a donkey cart for the family tavern in Ramacca and deliver goods for others along the route. One day he fell asleep and was suddenly woken by a robber. He burst into tears. Fortunately, the robber took pity on him. From that day on he took up smoking to stay awake. When I was unhappy, he was unsympathetic. "You do not have to work to support your family. You have been given everything imaginable.

I watched my father earn the trust and respect of clients. He asked questions and listened before speaking. He endeavoured to understand what people needed and what values drove their decision making.

And yet, your generation is unhappy. Too many are using drugs, and some are taking their own lives. Why?" He told me of his experience as a swagman—the Australian version of a hobo—walking from town to town looking for work.

After walking all day, I would light a fire under a bridge and sleep there the night.