

HARVEST OF THE SUBURBS



**AN ENVIRONMENTAL
HISTORY OF
GROWING FOOD IN
AUSTRALIAN CITIES**

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CHAPTER 1

Into the suburbs...

WHEN driving through the streets of almost any Australian suburb today, it is hard to imagine that they were once home to an assortment of agricultural enterprises—a dairy here, a market garden there, a piggery down by the river. As rows of more-or-less tidy front yards flash by, punctuated by stern walls and tangled native gardens, it is perhaps even harder to imagine that though the dairies may be long gone, every second or third suburban household, on average, still produces some of its own food. The observant will spot lemon trees reaching over eaves and passionfruit draped casually over side fences; more obvious are the tall beanpoles and grafted eggplants, often with origins in a southern European dream. But tucked away behind countless double carports, rickety gates and galvanised sheds, lurk ramshackle poultry coops, perhaps empty since the foxes from the local golf course got in, or busy with the sound of rustling straw as a young hen settles on the nest. Fruit trees—apples and a lemon in the cooler cities, oranges and a lemon in the warmer—are dotted along the back fence, a respectable distance from the small vegetable patch, where cherry tomatoes run rampant among the silverbeet. The

Anglo-Australian convention of a front yard devoid of food plants or animals largely conceals the cornucopian places within Australian suburbia, but growing food for the table has formed part of the experience of countless suburbanites. It is an activity rich in meaning, that can tell us much about the values held by Australians living in suburban areas, as well as providing a window onto often unremarked urban ecologies.

In spite of its abiding popularity, there has been little sustained reflection on the ways in which suburban Australians have gone about and understood keeping animals and gardening for food. Arcadian backyards have been woven into narratives in autobiographical mode, as potent symbols of the ‘natural’ simplicity and innocence of childhood. They have also, very occasionally, been the subject of scholarly analysis. Most academics who have ventured to write historically about Australian backyards describe a transition—usually portrayed as more-or-less complete—from pre-Second World War ‘production’ or ‘utility’, to various postwar uses described in terms of ‘recreation’, ‘display’ or more broadly, ‘consumption’.¹ Kim Dovey declares that ‘the backyard has been transformed from a place of production to one of consumption. The vegetable garden and solar clothes dryer are displaced by swimming pools, electric clothes dryers and designer landscapes.’² Deborah Malor talks of ‘the move from no-frills function to manicured leisure centre’.³ Even George Seddon—probably the most-quoted of writers on Australian backyards—asserts that ‘The function of the back yard changed from production and service to recreation, and in the more up-market homes, to display’, though Seddon also acknowledges that the changes have not been universal.⁴ However, the portrayal of a simple transition from production to consumption—from vegetable patch to swimming pool—is somewhat flawed, as a substantial proportion of suburban households continue to produce some of their own food. The containment of (prewar) backyard spaces and activities within the terminology of ‘utility’ or ‘no-frills function’ is also inaccurate, as it implies that these spaces were purely instrumental—useful, but not meaningful.

Several authors have noted that for much of the twentieth century, the design and maintenance of most front gardens revolved around predominantly middle-class concerns with order, decency and

respectability.⁵ John Fiske, Bob Hodge and Graeme Turner, in *Myths of Oz*, go even further, claiming that whereas the style of the front garden was ‘determined by canons of middle-class decency and taste’, the backyard, with its vegetable garden and fowl pen, seemed to effortlessly disregard those canons ‘in the name of practicality’. They suggest that the wilful ‘neglect of imposed standards of taste’ supposedly found in Australian backyards is evidence of a working-class and rural discourse of Australianness, which ‘constructed the family and the nation in its own specific ways’. This discourse is opposed to a new ‘middle-class interest in vegetarianism, whole foods and “health” as a lifestyle’ which is seen as responsible for the return of the vegetable garden to Australian backyards, and which, with its ‘materialist middle-class values’ somehow threatens the ‘Australianness’ of the backyard.⁶ But whilst the features and practices of Australian backyards were conceptually aligned with ‘the rural’, there is little evidence that they were purely—or even primarily—working-class places. Rather, throughout the twentieth century, the productive backyard has been the domain of the middle class and those skilled workers in steady employment who formed the backbone of the settled, ‘respectable’ working class. For these people, home food production has long been a source of food valued for its freshness, purity and health-giving qualities. Perhaps it is not so easy, then, to neatly assign fowl coops, fruit trees and vegie patches to the category of working-class and rural functionality.

When asked why they grow fruit or vegies or keep chooks,⁷ most people will say that they ‘just enjoy it’. One of the challenges of my research, then, was to account for this satisfaction: what lies behind it? How has this changed over time? These questions are inseparable from the others that drive this book: who has grown their own food in Australian suburbs? For what reasons? What techniques and materials did they use? With what impacts—positive and negative? And perhaps most importantly, as an activity incorporating social, cultural, economic and ecological dimensions, what can food-producing places and activities tell us more broadly about the changing conditions and concerns of life in Australian suburbs?

As I pursued these questions through archives and magazines, backyards and blue books (the annual statistical returns for Colonial

parliaments), I was constantly reminded of the extent to which the whole project, at one level, was about the complex relationships between people and suburban places; this is why the book stakes a claim, perhaps contentiously, as an environmental history. Environmental history is a necessarily diverse enterprise, which seeks to explain present landscapes through their history and more generally explore the historical interaction of people and environments—including the complex and ‘ever-mutating’ systems that comprise urban environments.⁸ To date Australian environmental historiography has tended to focus on rural and regional issues, such as agriculture and forestry, and the development of an Australian environmental consciousness. Relatively little attention has been paid to the effects of patterns and forms of consumption on environments, relationships between environment and identities other than ‘national identity’, or to urban environments.⁹

Ecologists have been quicker than historians in turning their attention to cities, conducting a range of studies on ecological phenomena within urban environments. Less attention, however, has been devoted to the holistic study of cities as ecosystems—communities of organisms interacting with each other and with the environments in which they live—because this would involve the introduction of a new order of complexity in accounting for the forces shaping human behaviour within the environment.¹⁰ However, more ecologists are now beginning to recognise that ‘most aspects of the structure and functioning of Earth’s ecosystems cannot be understood without accounting for the strong, often dominant, influence of humanity’.¹¹ In order to achieve a more comprehensive understanding of the Earth’s ecologies, it is increasingly considered necessary to integrate approaches from the humanities, economics and social sciences (which formulate explanations for the multitude of human decisions and activities producing ecological impacts), with ecological approaches (which trace and account for ecosystem patterns and processes, or interactions of organisms with each other and their environment). This is the basis of the new interdisciplinary ‘urban ecology’. As an environmental history, this book addresses itself to urban ecology not from the ecological sciences, but from the humanities. It therefore does not make use of specialised ecological techniques, but employs

a broadly ecological approach to questions of flows of energy and information and cycling of matter, which are addressed within an historical narrative.

More generally, this book takes suburban open space seriously as an environment, tracing its part in the production not only of food but also pollution; its changing role in nutrient cycles; its status as habitat for a range of native and non-native birds, insects and mammals; and its significance as a source of images and stories about 'nature'. As David Harvey suggests,

The intertwinings of social and ecological projects in daily practices as well as in the realms of ideology, representation, aesthetics and the like are such as to make every social (including literary or artistic) project a project about nature, environment and ecosystem, and vice versa.¹²

There exists a complex and often ignored web of connections between environments—in this case food-producing suburban environments—and the social, political and cultural ideas and institutions that are mobilised in everyday life. In teasing them out, the story of suburban food production takes environmental historiography into the realm of the everyday, acknowledging that most landscapes bear the imprint of countless small-scale decisions of people within countless households, operating in broader economic, social and cultural contexts. Suburban residents and environments are at the centre of the story, but it extends to municipal councils, parliaments and government departments, journalists, retailers and reformers, as well as rural hinterlands and domestic markets, global networks of trade and migration, and global conflict.

Stephen Dovers has pointed to the need for environmental history to make itself relevant by addressing itself to current concerns, and suggested that it can be of particular value to sustainability, as a policy field which calls for long-term thinking.¹³ Certainly the story of food production in Australian suburbs offers a general historical perspective on one aspect of everyday interaction between people and environment in the habitat of the majority of Australians. In doing so, it enlarges and complicates a range of arguments which hold some

explanatory power in relation to Australian suburban life, such as the ‘two spheres’ ideology which is seen as giving rise to ‘masculine’ cities and ‘feminine’ suburbs; ideas about Australian cities as private, individual and independent versus public, communal and interdependent; and the notion of the ‘territorial advance’ of capitalism. With a more comprehensive understanding of the many forces shaping suburban life, we are better equipped to recognise and address the broad challenges facing us in the pursuit of sustainability.

In offering a perspective on the historical importance of suburban food production this story also contributes, in a more narrow sense, to the debate over urban consolidation—a proposal to make Australian cities more sustainable by making them more dense and compact. These discussions form part of an older discourse on Australian suburbia, centred around the questions: are suburbs good places to live? And how might they be improved? In the minds of the early suburban developers and residents, the suburbs provided an escape from the noise and evils of the city, where the advantages of country living were reconciled with the advantages of city employment.¹⁴ The new suburbs featured residential segregation along class lines with the upper classes literally taking the high ground and other pleasant areas, subdividing them into large blocks, leaving the low-lying and less desirable areas for working-class housing. The low-density nature of most suburbs was encouraged by government provision of infrastructure, and protected by local by-laws stipulating minimum lot sizes, as well as sizes of houses and rooms.¹⁵ A strong desire for home-ownership in the colonies may in the first instance be traced back to Britain, where property conferred both political rights and status. A longing for independence and security were more enduring motivations.¹⁶ Aspirations for home-ownership were translated into high levels of owner/purchaser occupation by relatively high wages (for some) and supportive government policies. For example, in 1911, 41% and 37% of dwellings were occupied by owners or purchasers in Perth and Melbourne respectively, rising to 55% and 45% in 1941.¹⁷ The Australian preference for ownership of a detached house in a garden setting was thus established at an early stage and as we shall see, the garden was not merely the space surrounding the house, but had meaning and importance in its own right.

Although chosen by countless Australian families as desirable places to make (and own) a home, the low-density residential suburbs also attracted criticism. The nationalist *Bulletin* writers might not have been the first to attack suburban life, but they did so conspicuously. One salvo, fired in 1906 by Louis Esson, was a poem entitled ‘Song of the Sububbs’, in which food production was part and parcel of a suburban malaise:

When the office is locked, the sububb returns to
rest in its backyard bowers;
It clasps its leaking hose with joy and sprinkles
the cauliflowers;
It eats and drinks and goes to bed at
unsensational hours.¹⁸

Academics and social commentators proceeded to associate the suburbs with stifling materialism, spiritual banality, parochialism, monotony, conformity and rampant conservatism; locating alternatives to suburbia in the danger and intellectualism of cosmopolitan life, or the mateship and character-building rigours of ‘the bush’.¹⁹

In the postwar years, the scale and character of suburbia changed. Driven by economic growth, generous housing finance policies, immigration, the ‘baby boom’, and, following the removal of petrol rationing in the 1950s, a rapid increase in car ownership and use, the low-density, primarily residential suburbs expanded outwards, and filled in the areas between public transport ‘spines’ at an unprecedented rate. As they did so, arguments about the economic and social inefficiencies of extensive low-density development, and its perceived degradation of landscape, were added to the extensive list of objections to suburbia.²⁰ From the 1970s, feminist scholars also added their voices to the anti-suburban chorus, on the grounds that the segregation of residential and commercial/industrial land reflects and perpetuates a ‘separation of spheres’ which isolates women in suburban homes.

Postwar suburbia has also had some strong supporters, including those such as Sir Robert Menzies who saw the privacy and individualism of the suburbs—condemned by socialist writers and

disputed by others—in a very positive light. One of the most prominent proponents of suburbia was Hugh Stretton, who acknowledged that the suburbs are where most Australians—‘poets and painters and inventors and protesters’ included, grow up and live with ‘space’ and ‘freedom’.²¹ For Stretton, the suburbs indeed represented the best of both worlds, particularly for children.

In the 1970s, the rise of the new environment movement, the oil crises and the increasingly evident problem of urban air pollution, focused attention on the environmental and economic costs of the privatised low-density urban form of Australian cities.²² More or less simultaneously, the work of feminist writers, along with the apparent end to full employment in the industrialised nations, provoked a renewed interest in the social costs or possibilities of suburbia. Three main streams of thought on suburban society and environment emerged: one which saw the prevailing mode of low-density development as environmentally sound; one which proposed the creation of village-scale ‘green’ urban areas; and one which proposed higher density ‘consolidated’ cities.

The first stream is evident in Hugh Stretton’s 1976 work *Capitalism, Socialism and the Environment*, in which he discusses the environmental benefits of the privatised low-density suburban form and way of life:

It is in private houses with storage space and some land around them that it is easiest to use more human energy in a satisfying way, and to manage with less powered commercial services...Environmental policies will always be determined chiefly by people’s values; and urban houses and gardens are the nursery of most of the best environmental values. People who live in town but grow some foliage of their own, and keep a cat to deter mice, are the mainstay of all movements which work to protect larger landscapes and eco-systems. Private residential land is both an environmental good which ought to be fairly shared, and a vital educator: a classroom for work-skills, play-skills, nature study and environmental values which an environmentally careful society would be mad to deny to any of its people.²³

This analysis is in keeping with Stretton's view that the scope and importance of non-wage domestic labour based on home-ownership should be increased in order to provide a means of escape from industrial wage labour.

In contrast, other approaches to Australian urban environments portray privatised low-density suburbia as 'Sprawlsville': an unsustainable feature of Australian life whose expansion threatens valuable forest and wetlands as well as agricultural land, and whose operation—based on the use of private cars—is highly polluting. One stream of thought, dubbed the 'rural commons' view, is best represented in Australia by Ted Trainer and Allan Rodger.²⁴ It draws on ideas which emerged internationally amongst anarchists and radical environmentalists in the 1960s and 70s, starting perhaps with Murray Bookchin's 1965 *Crisis in our Cities*, and going on to include permaculture (see chapter 7), bioregionalism and urban social justice agendas.²⁵ It proposes the breaking down of cities into villages—small-scale, largely self-sufficient communities which operate cooperatively, rely on renewable energy for power, and use electronic communication to keep in touch with the rest of the world. Critics of this view have located it within the long Australian tradition of anti-urbanism—a tradition which played a part in the creation of the suburbs in the first place and which, the critics argue, would lead the rural commons to basically replicate existing suburbs in a way which is more 'green', but restricts opportunity for human achievement.²⁶

The 'urban commons' view, promoted most vigorously in Australia by Peter Newman and Jeff Kenworthy, envisages a 'consolidated' city of higher density living, shopping and working areas—'urban villages'—with an infrastructure favouring walking, cycling and public transport.²⁷ In this form of urban renewal, public gardens replace private yards and unnecessary roadway and parking space. Agriculture on the urban fringe is not threatened by the consolidated city, but on the subject of suburban food production, Newman is clear: 'To respect the flows of nature does not mean you have to produce food from it.'²⁸

Some 'gastronomic' positions on sustainable urban development have also emerged. Broadly speaking, they are characterised by a tension between the rural and urban commons: a desire for increased

production of fresh food at home vies with a longing for more densely populated, cosmopolitan cities which (at least in theory) support a greater variety of food outlets and local, sociable dinner companions.²⁹

The 'urban commons' view has been criticised by Graeme Davison and Tony Dingle as drawing on the 'old anti-suburban rhetoric, offering us cities which will grow more exciting and diverse as they grow more dense'.³⁰ Another more extensive critique of both the 'urban commons' and 'rural commons' views has been offered by Patrick Troy. Like Davison and Dingle, Troy has challenged the assumption that increasing density leads to a more creative or 'cultured' society. He also questions the consolidationists' use of figures, claiming both that the quarter-acre block is now a rarity, and that to achieve any substantial savings in space, densities would have to be greatly increased, with less public space available per capita. Troy has also challenged the urban village solution, on the grounds that the concept was imported from very different socio-economic settings, without consideration for Australian contexts. He ascribes village 'community spirit' to grinding poverty, and claims that 'village' proponents ignore the 'inexorable polarisation, marginalisation and exclusion' associated with villages. In conclusion, he dismisses the urban village idea as a product of middle-class insecurity.³¹

The alternative offered by Troy includes government policy to ensure freedom, social justice and minimisation of 'environmental stress', combined with free market provision of appropriate housing in response to demand. Troy acknowledges that the single-family detached house and garden represents the housing choice of an overwhelming majority of people. In defending this choice on environmental grounds, he places the onus of environmental responsibility squarely on the shoulders of the householder, advocating on-site waste separation and composting plus collection and use of rainfall, leafy private gardens for climate modification and air purification, private tree planting for amenity and fuel, house design to utilise solar energy and wind, and greater 'autarchy' or self-sufficiency in food, in order to 'reduce the demand for large-scale, monocultural food production which would, in turn, reduce the environmental stress elsewhere'.³² Like Stretton, Troy thus locates urban sustainability in the suburban house and garden, with the response to environmental

degradation based around domestic work, including food production. The question of who is to perform this work is left unanswered.

In reducing the amount of private open space available to suburban residents, a higher density 'consolidated' city would cut off the potential for traditional forms of home food production for many years to come. As urban residential densities in Australian cities are increasing, and the potential for private home food production consequently diminishing, the need for an examination of the past, present and possible future roles and meanings of food production in Australian cities is becoming urgent. In his 1976 study of the use of suburban gardens and yards in Adelaide, Ian Halkett proposed that the argument over urban consolidation turned on whether suburban front and backyards were in fact a waste of space that could and should be dispensed with—an issue which had not then been examined in any depth. Halkett concluded that yards and gardens were in fact put to a variety of uses, from keeping pets and drying laundry to the production of fruit and vegetables, and that a widespread reduction in garden space would reduce the number of uses to which gardens could be put, resulting in 'either a more sedentary population or an increased demand for public and commercial recreation facilities'.³³ Halkett proposed that ultimately, more research was required before any real attempts at urban consolidation were made.



In addition to attempting some quantification of suburban food production, as a use to which private suburban land has been put, this book explores the economic dimensions of the activity. A common-sense story has emerged in relation to the economic aspects of home food production, which goes something like this: prior to the Second World War, people grew their own food because they *had to*—fruit, vegetables, eggs and perhaps also milk were simply too expensive for families living on modest wages to afford to buy sufficient for their needs. After the war, when there was work for everyone and wages were high, virtually everyone bar the migrants from Southern Europe and a few Anglo hobbyists installed patios and swimming pools where vegetable gardens, fruit trees and chook pens

once stood. Landscaped gardens for recreation and display supplanted yesterday's utilitarian backyard.

This story, however, raises more questions than it answers: can the prevalence of home food production be entirely—or perhaps even principally—explained by economic factors, whether in the form of necessity due to poverty, or a propensity toward thrift? Would many of the lowest income households, struggling with sickness, old age, disability, cramped quarters, or a need to move often to find work or accommodation, have been able to produce their own food? Most obviously, homeless people have rarely been in a position to do so. It is also necessary to ask whether food could be produced more cheaply in the home than it could be bought, as well as looking at what people preferred to eat: did working-class people usually eat much fruit, vegetables, milk and eggs, and if not, would they have been prepared to change their diet to do so? In general, the evidence suggests that although economic motivations—whether thrift or necessity—have been important for some households, they are but one of many common reasons why people have chosen to grow their own food. The explanation for the prevalence of home food production is more complex than has often been assumed, being a confluence of economic factors, the availability of space and other resources (from water and fertilisers to free time), and meanings attributed to keeping animals and gardening for food.

Gender is an important factor in meaning-making in virtually all areas of social and environmental interaction, and suburban food production is no exception. To date, however, Australian authors have failed to agree on how food production tasks have historically been divided between female and male household members. George Seddon places care of the suburban vegetable garden firmly within the male sphere of activity, while Patrick Mullins has suggested that such production in his proposed pre-war 'urban peasantry' involved a fairly clear sexual division of labour, with men 'preparing and tending the vegetable garden', and women harvesting the crops and looking after the poultry. Jill Matthews, on the other hand, implies that tending the vegetables was largely women's work.³⁴ Such uncertainty most likely arises from problems of evidence associated with the study of suburban sites: often private, and invisible to the public eye, their

experience leaves relatively few traces (unlike their imagining, which is richly captured in a range of gardening magazines and books). Detailed examination of home food production therefore has an important role to play in adding complexity to broader analyses of gender and urban places.³⁵ In particular, animal-keeping and fruit and vegetable production have been fertile sources of imagery and settings for activities with which to define and perform gender identities. Especially evident are dominant notions of masculinity—involving independence, productive physical labour, and the breadwinner role—and conventional ideas of femininity, aligned with consumption and women's role as 'dependent' wives and mothers. As gender became linked in specific ways to these activities, it played a very real role in patterning the landscape.

The extent to which Australian cities reflect the value ascribed to privacy, individualism and independence on the one hand, or shared public space, communal activity and interdependence on the other, forms another central theme of this book. In his 1961 classic, *The City in History*, Lewis Mumford frowned upon the low-density suburbs as expressing a desire 'to retreat from unpleasant realities, to shirk public duties, and to find the whole meaning of life in the most elemental social group, the family, or even in the still more isolated and self-centred individual'.³⁶ Several decades later, and writing in an Australian context, Patrick Troy is skeptical of any connection between higher densities and civic-mindedness, seeing the 'community' supposedly located in 'urban villages' as the fantasy of an insecure middle class. On the opposite side of the urban consolidation debate, both the 'rural commons' and 'urban commons' streams of urban environmental thought echo Mumford in their belief that Australian suburbia

over-emphasises the private, individualised world at the expense of the commons. It provides for private splendour in our houses and backyards and in our cars, but public squalor in our air and water, at the urban fringe as it falls under the subdivision's bulldozer, in the global environment due to greenhouse, in the feeble attempts at community which characterise our suburbs, and in our public transport, which is allowed to run down and become vandalised.³⁷

The ‘private splendour, public squalor’ thesis was put under the microscope by Jim Kemeny in his 1983 work *The Great Australian Nightmare: A Critique of the Home-ownership Ideology*. Kemeny is highly critical of what he sees as a deliberately manufactured Australian tradition of detached-house ownership which has led to, and perpetuated, an urban infrastructure in which public facilities are underdeveloped. Kemeny concedes that there is no necessary relationship between home-ownership and detached housing on large blocks, but claims that the association makes sense in countries like Australia, where poor provision of public transport, meeting-places and other facilities means that maximising private space becomes important. Kemeny neglects the long history of antipodean desire for ownership of detached housing, and the various kinds of significance attached to ‘the home’, but nonetheless rightly claims that in Australia, suburban life was—and to a large extent remains—overwhelmingly home-centred. The home became a primary site for work and leisure, production and reproduction of identity, and investment of wealth. It was ideally a man’s ‘castle’, within which he and his family could be secure and self-contained. In historical reflections on Australian society and culture, the extent to which Australians have looked inward, toward the kitchen table, rather than outward, toward the bush, the beach and the world beyond, is often overlooked.

Principally carried out in the grounds of small suburban ‘castles’, food production has long reflected a strong orientation towards what might be called self-sufficiency, self-reliance, or *independence*; an individualistic disposition which eschews reliance on others and values the ability to stand on one’s own two feet. Its traces are discernible in various facets of suburban life, from the preference for private, detached housing and personal (rather than mass) transport, to relationships with nature. Food production has been an important symbol of independence, and this is reflected in the way in which it is conducted. Although community gardens are increasing in popularity in Australia, they still only account for a small proportion of all private food production. Furthermore, it is the allotment gardens, which most closely mimic the individualism of the backyard, that are proving most popular and productive. Gardens where the

cultivation is cooperative, and areas of individual responsibility are not defined, tend to be less successful. As a barometer of the relative significance attached to independence and interdependence, such food production preferences suggest that any shift from a focus on the virtues of self-reliance, to those of community spirit, is likely to be a gradual one.

In his study of supermarkets and cultures of consumption in Australia, Kim Humphrey has pointed out that consumption, too, is bound up with values of self-determination and individual freedom.³⁸ He also notes that in spite of much academic musing to the contrary, consumption, or a 'commodity culture', has not entirely engulfed the lifeworlds of those in the post-industrial west. He challenges the ubiquity of consumer culture, and recognises that not only do people 'play' with commodity culture, they also at times refuse it, maintaining aspects of their lives that are distanced from it. Suburban food production seems, often, to be one of these aspects: Australians have, for much of the twentieth century, engaged with it as an activity understood as 'authentic', and opposed to the artifice and superficiality of commodity culture.

An emphasis on this aspect of suburban food production challenges the assumptions made by a wide range of authors about the transition from production to consumption in the twentieth century. Sociologist Patrick Mullins, for example, suggests that the dominant form of capitalism in Australia from the 1820s to the 1940s gave rise to an 'urban peasantry', who were in a position of 'forced self-sufficiency'. Due to a lack of capital investment in property and infrastructure, the urban peasantry had to provide for themselves in a range of ways, including the production of food. In the postwar era, the rise of multinational corporations and a new kind of corporate capitalism gave rise to a new urban structure geared towards consumption of mass-produced items, in which there was no place for food production.³⁹ Approaching the relationship between the household and wider economy from a different angle, Claus Offe and Rolf Heinze have explored the mechanics of capitalist expansion in relation to the household during the long boom in Germany. Their analysis is broadly based on a central tenet of Rosa Luxemburg's theory of imperialism:

...that capitalism, by no means in its early phase, but as a whole, bears the imprint of a logic of 'territorial advance', that is to say, continual expansion into a non-capitalist environment.⁴⁰

This territorial advance is characterised by the drive toward dependent modernisation of the developing world and other non-capitalist regions, as well as colonisation within capitalist societies of the life-world or 'traditional sector', including elements of intensive household production. Following this line of reasoning, the two decades of postwar prosperity are the result of capital's advance into the 'traditional sector', whereby women were taken into the paid employment market on a larger scale than before, and the goods and services normally produced in the traditional sector—including some food-stuffs—were replaced by industrial and professional products. In the Australian context, Jill Julius Matthews, Elizabeth Harman and Rosemary Pringle have stressed the significance of changes wrought by the process of territorial advance of capitalism, as it transformed women's household work from 'productive' work (including the production of food) to the labour of consumption.⁴¹

Some have further argued that there can be no return to older forms of 'traditional' economic life, because the territory 'occupied' by capitalism has changed to such a great degree, and culturally desirable goods are generally only obtainable within the market. Patrick Mullins and Chris Kynaston, for example, proposed in 2000 that 'The consumption of culturally-desirable goods and services—from Pepsi to the opera, and from new cars to overseas holidays—can only be satisfied with cash'.⁴² Historical geographer I.G. Simmons, too, is convinced that very little territory has been left untouched by the advent of industrial capitalism, try as we might to escape it:

Most people in developed countries...would be unhappy without the benefits of the industrial economy, but cherish the illusion that it is not all-pervasive by having rural second homes, vacations in poorer places, and above all by cultivating gardens.⁴³

The trends described by these authors are undeniable; but their extensiveness is thrown into question by the continuing popularity of home food production, and the value persistently attached to home-grown food. This book engages with arguments about territorial expansion and the domestic sphere by acknowledging that food production has represented a rejection of capitalist processes of commodification for some, and that many seek to produce not 'food', but 'home-grown food', a distinctive type of produce. This distinction has been particularly marked in Australia, where it has come to express a variety of class-based ideas relating to status, health, and the body. Capitalist production could only expand into this territory by persuading most home food-growers that the bought item is superior to the home-grown. So far, this has not generally occurred, and in this book I look at some of the reasons why. Capitalist enterprise has been more successful at expanding into the field of home gardening through the production and promotion of sprays, fertilisers, gadgets and plants, although a substantial proportion of gardening resources are still recycled rather than bought. In general, it seems that the territorial advance of capitalism into the sphere of domestic production is a more complex and fragmentary phenomenon than often assumed.



This book deals with those areas of temperate mainland Australian state capitals that were generally regarded by contemporaries as suburban. This means of defining 'suburban', imprecise as it is, captures the area between the central business district and the rural borders of the urban fringe better than changing official definitions of 'metropolitan'. Many of the examples are drawn from Perth and Melbourne, as two highly suburbanised cities on opposite sides of the continent for which good source materials were available, and which allowed for exploration of regional differences, as well as commonalities. The major food products considered are milk, eggs, fruit and vegetables. Harvesting of fish and game are not included, as these involve quite different land-use questions (and most likely carry some quite different meanings) to horticulture and the keeping of poultry and livestock. The processing of raw products into, for example,

sausages and preserves is likewise outside the scope of this work. The focus is on non-commercial production, as the reasons for commercial production are fairly transparent. The reasons for home food production, though fairly opaque, provide an unusual route into the physical and mental landscapes of Australian suburbia.

CHAPTER 2

Fecund and fetid: 1880–1918

AT the end of the nineteenth century, Australian cities were teeming with animal life. Days began with cock-crows and the impatient stamping of dairy herds; at night, rats ruled the laneways and the wharves. The hordes of resident animals provided cities with much of their milk and eggs—less of their meat—plus hides, glue, tallow and fertiliser. They dominated the transport, and contributed prodigiously to the generation of dust, noise and disease. In 1895, the livestock census of the Sydney metropolitan police district found 7192 sheep, 1154 goats, 5560 swine, 7318 dairy cows and 16 922 horses. In Perth and Fremantle the following year, they counted poultry also—almost 20 000 fowls, as well as 3653 ducks, 415 geese and 176 turkeys.¹ In Melbourne, too, livestock were common, and indeed must have lived in close quarters with people. However, as would be expected, there were more livestock per capita in lower density suburbs: in Brunswick in 1881, with 2.3 persons per acre, approximately 40% of households owned large livestock, and 63% of households owned poultry; in Melbourne city, with 13 persons per acre, 8% of households owned livestock and 21% poultry.²

Some of these animals were kept for commercial or semi-commercial purposes. In an era with limited efficient transport and no refrigeration, it made sense for milk to be produced locally, and most districts were fairly well-endowed with dairies: in 1901, for example, the area supervised by the Fremantle Local Board of Health boasted 15 dairies, with 176 head of cattle.³ House cows were also fairly common, at least in the lower density areas: in 1903, around 7–8% of households in the Perth area kept a house cow, and many without the resources for a cow kept milking goats instead. In 1886, William Clarson included notes on cultivation of ‘the cow and horse pasture’ in his *Kitchen Garden and Cottager’s Manual* because, as he put it, ‘It frequently happens that suburban and country gardens have attached, or near at hand, a small paddock devoted as grazing ground, or for the culture of rough crops suitable for the cow or horse.’ As often, these animals were kept in backyards—whether capacious or cramped—and turned out ‘into the bush’ or ‘along the river’ to graze. In the early 1880s, Collingwood’s 300-odd cattle subsisted on garbage, cheap hay, and what grass they could find in vacant allotments or along the Merri Creek. In 1902, Sydney cowkeepers could graze their stock on Moore Park during the day for 2s per week; half price for night grazing.⁴

Cultivation in cities was also commonplace. Market gardens were often first established as part of small mixed farms also incorporating livestock, orchards and sometimes cereal crops. They were usually located on low-lying land at the edge of wetlands or rivers, where the soil was rich and there was easy access to water for irrigation. Suburban horticulture was boosted with the arrival of Chinese people, who successfully applied the time-honoured, labour-intensive cultivation methods of south-eastern China to plots on the banks of the Yarra, the Swan, the Botany Swamps. They comprised 44% of market gardeners in Victoria in 1905, and dominated Perth market gardening by 1910.⁵

Home fruit and vegetable production is not covered well by the statistics, though a range of other sources point to its existence. The Wright family of South Perth, for example, produced fruit and vegetables as well as milk, honey and eggs for their own needs, and sent part of their fruit crop to be sold in Kalgoorlie.⁶ The Wrights

appear in one of many oral histories of life in Perth, which collectively tell us that at this time many homes—particularly those with larger gardens in middle and outer suburbs—were partially or wholly self-sufficient in fruit, vegetables, eggs and sometimes also milk. Local historians working closely with such material have used it to form overall impressions of the prevalence of food production in metropolitan suburbs. For example, Cathy May writes of the Perth suburb of Bayswater in the early twentieth century:

With land still so cheap, owners sometimes bought two or more adjoining blocks, some for use as a garden area. Even in the most built up areas, large vegetable gardens with a few fowls or ducks were common.⁷

Together, the various sources paint a picture of suburbs where livestock were common—particularly where densities were low—prior to the First World War. The prevalence of home fruit and vegetable gardens, however, is more a matter of conjecture. Although there is no doubt that some households produced large quantities of fruit and vegetables for their own needs, and it is tempting to assume that this practice was widespread, in reality there is now insufficient evidence to be able to say whether it was or not.

Water was one factor influencing the amount and type of food production. In contrast to market gardeners, most home-owners were happy to live as far away from ‘swamps’ as possible, as it was felt—not unreasonably, given the state of most urban wetlands—that the healthiest sites for homes were on high ground. Their water came mainly from rooftop tanks and piped supplies. However, in 1891, 99 634 houses in Melbourne and suburbs were connected to a reticulated water supply and consuming an average of 259 gallons per household per year—exceptionally high by international standards, and explained at the time with reference to the relatively high temperatures, propensity of Melburnians for bathing, and the prevalence of gardens.⁸

Perth, on the other hand, suffered from an inability to meet demand. The town was reticulated in 1891 but the system suffered from a lack of water, particularly as much of the available supply was

depleted before it reached the Mt Eliza reservoir, being squandered by the rich residents of St George's and Adelaide terraces. In the summer of 1896–97, water only flowed to the residents of the inner northern suburb of Highgate twice in three weeks, and then only for one or two hours. Rainwater tanks were not uncommon in Perth, though their ability to provide water for garden purposes was limited. For those households forced to rely primarily on water carts and wells, from which buckets of water were carried back to the residence, the possibility of summer gardening would have been severely restricted. Throughout Perth, those who wanted water for gardens were required to pay for the installation of a meter and charged for excess water usage, so even where water was available, summer gardening would have been largely restricted to the well-off.⁹

For those Perth residents with access to sufficient water for gardening in summer, water conservation would have been a high priority, as the lack of summer rain combines with free-draining sandy soils to produce pervasively dry conditions. Gardening publications only began to be produced in Perth, for Perth conditions, in the mid-1920s. One, the 1924 *Western Australian Gardening Guide*, referred several times to the problem of long, 'practically rainless' summers, and recommended various means of water conservation, including tramping the soil after digging, applying a top-dressing of clay, and selecting suitable crop varieties. It also suggested that the backyard gardener, who 'is desirous of producing a limited crop for his home use only, and has not the time at his disposal to raise Summer vegetables', would be better off raising vegetables only during the period of winter rains.¹⁰ Another Perth author, James Conarty, suggested that the summer garden would most likely be only about half the size of the winter garden.¹¹ However, Perth was not the only water-conscious region. W.S. Campbell, writing for publication by Dymock's in Sydney in 1907, advised those in dry areas to save 'every drop of "waste water" from the house, bath water, washing water, &c', and that 'if this saving be carried out daily there may be enough water for the plants in even a good-sized garden, if, at the same time, a surface mulch be used to prevent evaporation'.¹² The gardening literature endorsed various strategies for conserving soil moisture, from constant cultivation to produce a 'dust mulch' to a surface mulch of short stable or animal

manure, grass clippings, or any other material sufficiently open to let water through, yet keep the ground moist and cool.¹³ However, it is likely that the difficulties of gardening in hot, dry summers probably contributed to the relative popularity of backyard poultry (which have low water requirements) and lesser interest in home vegetable gardening in Perth and Adelaide, compared with rainy Melbourne. For the terrace-dwellers of damp and mild Sydney, space was a more critical concern. Whereas Perth gardeners were counselled on water conservation in the mid-1920s, Sydneysiders were given advice on ‘crops for small areas’: beans, for example, took up little room, and ‘a choko could be trained up a dividing fence’.¹⁴

Other than water, and for some, space, most of the resources for gardening were widely available in Australian cities. Commercial food producers relied on a variety of locally available resources in producing and marketing their food. Most of the energy came from people and horses. Chinese gardeners in Perth bundled their vegetables with a type of flax, which was grown especially for the purpose. Some used waste fish and meat for fertiliser: in 1885 the *West Australian* reported that Chinese gardeners were buying small river fish for £2 per ton; and in Bayswater in 1909, enterprising Chinese gardeners arranged to take slaughterhouse waste for use as a fertiliser, although the manner in which the waste was stored—an open vat—irked the local health inspector.¹⁵ Others fertilised their gardens with horse manure from livery stables in the city, brought back to the gardens in carts on the way home from market. Market gardeners in and around Melbourne likewise availed themselves of the city’s ample horse manure supplies: in 1891, the 2632 horses in the City of Melbourne alone would have produced 13 160 tons of manure.¹⁶ Fortunately for the proprietors of urban stables, vegetable gardens could use quite spectacular amounts of manure, particularly on sandy soils: 200 tons of stable manure was ploughed into one six-acre Chinese market garden in Bayswater during the non-growing season. John Sullivan’s father kept horses in East Perth around 1912–14, and John later recalled how he was ‘inundated with market gardeners, people running gardens: the demand on the horse manure was really terrific’.¹⁷

Cow manure was also available for use on gardens. Many dairies were located, like market gardens, on the fringes of wetlands,

and it was common for them to run their own gardens where they grew vegetables and/or fodder for the cattle. This was a convenient, and profitable, practice which was also looked upon favourably by the ever-vigilant health inspectors:

I found the cow sheds and surrounding land scrupulously clean...There are about 8 acres of garden attached to the premises all in a high state of cultivation and all manure produced is at once removed to the garden.¹⁸

Some dairies even had drainage systems which conveyed liquid waste from the cowsheds to the gardens. Dairies without gardens often gave their manure away to gardeners; some were in the fortunate position of being able to sell it.¹⁹

Manure was also produced by that other prevalent urban species—humans. Some human waste was disposed of via centralised sewerage systems. In unsewered areas, ‘nightsoil’ was collected from most areas by a contractor, who would—at least in theory—take it to the Council depot or deliver it to urban farmers (in practice, carriers from inner suburbs such as Collingwood in Melbourne often found it less troublesome to release all or part of the load *en route*).²⁰ In the 1880s and 90s, the Health Acts in both Victoria and Western Australia gave a nod and a wink to the practice of using nightsoil on gardens and orchards, as long as it was treated in accordance with regulations.²¹ In the early twentieth century, Chinese market gardeners in the Perth suburb of Belmont were using nightsoil on their gardens and in 1908, the Fremantle Council was still selling nightsoil to gardeners along Jandakot Road.²² In the south-eastern suburbs of Melbourne, however, the use of nightsoil was regarded less favourably. In 1895, for example, the Oakleigh Council received a letter from neighbouring Caulfield Council, which was displeased that just over the border, nightsoil was ‘being used in large quantities on gardens’. Council minutes record that

Oakleigh Council said they had policemen out at all hours looking for offenders and they had to carry firearms for protection. The mayor said Caulfield should look at their own place first.²³

In 1898, the Melbourne City Council was able to sell its locally produced nightsoil for a grand total of £2298—almost as much as the £3140 obtained through sale of fertiliser (blood and bone) produced at the City's abattoirs.²⁴ However, as public health took on a higher profile in the context of the increasing popularity of environmentalist ideology, and greater understanding was achieved as to the means by which disease was spread, the practice of using nightsoil as manure was discouraged.

D.A. Greswell's investigation into the sanitary condition of Melbourne revealed that much manure from cowsheds and stables, as well as market waste, ended up at the council depot, where it became a potential aquatic pollutant rather than being recycled for further food production. Depending on the soil type and groundwater depth, accumulations of manure could also affect the quality of well water. Greswell unearthed frequent cases of manure and liquid waste from backyard cowsheds accumulating in heaps, and being 'allowed to freely soak into the soil'. Where manure from dairies was not used on gardens, it was often dumped on vacant or private land, where it stank and posed a potential threat to groundwater. Greswell also found that in many cases household refuse

consisting in chief part of animal and vegetable matters have hitherto been, and are, in the majority of cases, still being, disposed of at the nearest available spots of low-lying land. Owing to the cost of cartage, there is a strong temptation to dispose of refuse-matters as near as possible to the place where they are collected.²⁵

Urban rubbish of all kinds—including human excreta—was therefore often deposited alongside food-producing enterprises (or their water supplies). A striking example of the very unhealthy situation this created comes from Smith's Lake (now Veryard Reserve), in North Perth. In August 1899, Inspector Lockwood of the Central Board of Health made an inspection of the lake. He reported that:

Three quarters of the ground around the margin is used for the cultivation of vegetables, principally reared by Chinamen, and immense quantities of manure are used.

It is the receptacle of the natural drainage from the Perth Sanitary depot, and large deposits of refuse. There are three piggeries [with a total of around 300 pigs] on its banks, draining immediately in to it...In the summer time the water is said to be covered with a green scum, and the odour from it is augmented.

Fourteen chains by measurement of the fence skirting the Wanneroo road has been demolished, and this allows the herds of Dairy cattle to approach the lake...Whilst the inspection was being made a herd of dairy cows was driven down to the edge of the water to drink...In traversing the ground another herd was encountered coming through the gap in Coombs & Sons fence, to the number of 16...the person in charge said it was usual for them to drink from the lake... There is a considerable amount of refuse deposited around the lake, and a large quantity of worn out sanitary pans in one place...In conclusion I would remind you that only recently W. Coombs and the contractor were both fined at the Perth Police Court for burying nightsoil close to the edge of the lake.²⁶

House cows were no doubt also grazed in the vicinity, and watered at the lake.

In September 1899, the Government Analyst examined some water from Smith's Lake, and found, unsurprisingly, that it was 'very seriously polluted'. Such conditions could, and did, lead to outbreaks of disease: typhoid outbreaks in the Sydney suburbs of Leichhardt in 1886 and Randwick in 1890, for example, were traced to contaminated water at local dairies.²⁷ Just as the safety of suburban food production could be jeopardised by urban wastes, food production itself could be a source of pollution. In terms of urban ecology, the interaction between food production and its suburban surroundings clearly had both positive and negative effects.

It is surprising that any manure was allowed to lie around, as home gardeners appear to have sought it as vigorously as commercial growers. Presumably the difficulties of transporting a pile of steaming manure from the block next to the dairy to one's backyard were, in

some cases, insurmountable. The *Yates Gardening Guide* declared in 1895 that ‘It is no use trying to grow fine vegetables without using plenty of manure’, and the *Home and Garden Beautiful* announced in 1916 that ‘In all vegetable growing there is nothing to supersede farm-yard manure’. Various manures were recommended for different purposes. For example, the *Garden Gazette* in 1902 maintained that hens’ or pigeons’ droppings soaked in water made an indispensable liquid manure, and the *Home and Garden Beautiful* in 1915 argued that for growing lettuce, ‘No manure is better than that from the cowshed, the drainings from which make a capital stimulant for the crop when the plants are about half grown.’²⁸ The most widely available, however, was horse manure, which could often be obtained from private and commercial urban stables. Harry Simpson remembered that as a teenager in Surrey Hills, he ‘would go to the butcher a couple of times a week to bring home a barrow load of manure. Lovely rich hot steamy stuff, full of straw.’²⁹ Human manure was also recommended for use, although always either composted or buried.

Much was also made of the benefits of keeping a ‘waste-heap’, on which was thrown all manner of organic household and garden rubbish. The 1914 *Yates Gardening Guide* recommended that the heap

should be kept moist by mixing with urine if possible, and poultry, pig or sheep manure may be added with benefit... It takes about two years, more or less, according to its composition...to make compost.³⁰

Apart from its value as a garden fertiliser, the making of compost was seen as desirable because it was a prudent and thrifty practice which turned rubbish into a valuable product. Furthermore, it avoided the vice of waste: ‘The chief point to remember is that what came from the ground can enrich the soil for future crops, and that wilful waste is a bad principle.’³¹ The literature conceded that where animal manure was not available, artificial fertilisers, in combination with ‘rotten weeds, animal refuse, &c.’, formed a very good substitute.³² This was to remain a popular recommendation throughout the twentieth century. A few authors endorsed the use of artificial manures alone,

particularly for root crops, and as early as 1917, a Camberwell gardener requested that *Home Gardener* magazine provide 'information of various chemical manure suitable for vegetables in lieu of stable manure, which is increasingly hard to obtain in these days of motors [i.e. motor cars]'.³³ Artificial fertilisers including Mount Lyell horticultural manure, nitrate of soda, sulphate of ammonia and superphosphate of lime were available from stores such as Brunnings in Melbourne.³⁴

Another alternative to animal manure was 'green manure'—the growing of particular crops (especially legumes, which fix atmospheric nitrogen in the soil), to be dug back in. Though appearing in gardening books and magazines from time to time, the paucity of references to it suggests that it was not a very widespread practice. At least one writer also believed that 'well cultivating the soil is equal to a load of manure'.³⁵

Each of the three main fertilising materials had different environmental impacts. The practice of composting was the most environmentally beneficial of the three as it reduced urban waste, at the same time producing a stable material which made a useful contribution to soil fertility and didn't threaten water quality. However, it was generally recommended that compost be produced and/or used in conjunction with either artificial fertilisers or animal manures, as it was often otherwise deficient in nutrients. Animal manure could end up contaminating waterways and wetlands. Furthermore, the production of animal manure was not altogether innocent of involvement in broader environmental degradation: urban animals were often fed at least partly on chaff and grains grown on broadacre farms further inland, where artificial fertilisers had at a very early stage of European settlement become the mainstay of crop nutrition, and farming practices often led to soil erosion and salinity in susceptible areas. Artificial fertilisers were mined (as with the base materials for phosphatic fertilisers from 1897), or produced in relatively energy-intensive processes (as with nitrogenous fertilisers, although ammonium sulphate was commonly produced as a waste product at gasworks). As artificial fertilisers were usually concentrated and relatively soluble, their use (particularly on sandy soils) carried an increased risk of leaching of nutrients into waterways through groundwater, or by direct runoff. Leaching of nitrates into groundwater used for drinking

creates a health risk, whilst phosphates in aquatic systems may lead to eutrophication of wetlands and estuaries, with consequent algal blooms (which may be toxic), loss of wildlife and general degradation of aquatic ecosystems. In sandy Perth, it is likely that nutrient input from urban agriculture contributed to the algal blooms recorded in the Swan River as early as the 1870s, and noted periodically throughout the nineteenth and twentieth centuries.³⁶

Pest control, in both commercial establishments and home gardens, also contributed to suburban pollution, as toxic and persistent chemical dusts and sprays often—though by no means always—came to replace older non-polluting practices. In 1886, garden and orchard pests in Melbourne included

red spider, thrip, scale or coccus, aphids, bug, fly, crickets and the larvae of destructive moths and beetles, with snails and wire worm; and the various fungoid affections having the general name of ‘blight’, and known as mildew, spot, rust, canker, smut, cluster caps and the like.³⁷

Nineteenth-century remedies were often cultural (that is, relating to the methods by which the crops were cultivated). They included utilisation of crop residues and waste, destruction of diseased or infested material, removal of alternate pest hosts (such as certain weeds), crop rotation, cultivation to disrupt soil-based stages of pest breeding cycles, timing of crops, isolation from other crops, and similar strategies which relied on some basic knowledge of the life-cycles of pests and plants.³⁸

Pest control could involve work for people or animals. One British pest-control manual from 1890 recommended that children be employed as a cost-effective way of controlling cabbage moth caterpillars:

Hand-picking is of use, and may best be done by children, as their small fingers are most suitable for getting between the folds of the Cabbage-leaves, and, under proper inspection, the Cabbages may be well and rapidly cleared at a small expense.³⁹

Poultry were also deemed ‘to be of service in clearing the ground of chrysalids, as the common barn-door fowls are particularly fond of them’, though hand-picking was regarded as ‘the surer method’. In the days before ready availability of reticulated water at good pressure, aphids could be cleared from cabbage by ‘thorough drenchings of water with the garden-engine’. In the orchard, the usefulness of insectivorous birds for controlling apple pests was recognised.⁴⁰ Many gardeners may also have relied on English and other folk knowledges, such as sowing seed generously to allow for seedling losses to pests and diseases:

One for the rook, one for the crow
One to die, one to grow.⁴¹

Some chemical remedies, comprising a variety of patent and everyday substances, were also recommended in the late nineteenth century: ‘pests of leaf and stem’ could be conquered with soap suds, Gishurst compound, Persian insect powder (pyrethrum), and fumigation with tobacco, within calico or paper frames. ‘Phenile’ (disinfectant phenyle), gasoline and kerosene were suggested for scale on fruit trees, though not recommended for use on vegetables. Sulphur, or a mixture of quicklime and sulphur, was used to counter ‘blight’ (fungal infection).

How effective were these remedies? William Clarson, author of the *Kitchen Garden & Cottager’s Manual* and member of the Victorian Institute for the Advancement of Science, was an early believer in the application of science to gardening—an approach which would achieve widespread popularity in the interwar period. However, even Clarson acknowledged the difficulty faced by his contemporaries in contending with pests:

The motto of the gardener in regard to insects and other enemies of vegetation should be—‘Watch and worry,’ for if a system of persistent attack be maintained on their discovery, they will be kept under, if not eradicated...To sit down quietly with folded hands and lament the evil is rather tantalising; and to be perpetually haunted with the idea that one is beaten by a slug, a louse, a beetle or a fungus, is terribly humiliating in the present days of advanced science.⁴²

By 1895, Bordeaux mixture and Paris green (copper arsenate) had been added to the gardener's arsenal. Bordeaux mixture was discovered in 1884 by vigneron in the French district from which the mixture derives its name. The vigneron were plagued by children, who were consuming copious quantities of roadside grapes. To deter the pest, the vigneron painted a mixture of white lime and copper sulphate on the vines closest to roads. The year 1884 was particularly bad for mildew, but the vines nearest the roads, which had been painted with the lime and copper sulphate mixture, were largely unaffected. The mixture was trialled on larger areas, with much success, and the relatively innocuous (if foul-tasting) Bordeaux mixture was soon being used to combat fungus in vineyards, orchards and market gardens around the world.⁴³

Shortly after the discovery of Bordeaux mixture, European orchardists discovered that various arsenic-based dyes effectively controlled chewing insects. Copper arsenate, or 'Paris green', rapidly became popular in Australia for the control of codlin moth, which by the end of the century had become a major pest of apples, pears and quinces in the eastern states of Australia. Codlin moth was first found in Tasmania in the 1850s, in Victoria in 1885 and in New South Wales and Queensland shortly thereafter. In Western Australia, it was first discovered at Albany in 1903, where it was eradicated by destruction of infested orchards and associated buildings, a programme of heavy spraying, and stripping of fruit in buffer zones. Between the 1903 Albany outbreak and 2000, codlin moth infestations were discovered in Western Australia no less than 19 times, but in each case eradication campaigns were successful, and the moth has not gained a permanent foothold in the State.⁴⁴ Although Perth orchardists generally enjoyed freedom from the moth, their counterparts in other states around the turn of the century employed the traditional tactics of orchard hygiene and trunk bandages (which trapped the grubs for collection and destruction), as well as the new poison spray.

Although Paris green was fairly effective against garden and orchard pests, it also posed a substantial threat to the health of both humans and wildlife: it irritates eyes and the respiratory tract and even at low doses it can result in severe haemorrhaging, collapse and death. Longer term exposure can result in disorders of the peripheral

nervous system, skin, mucous membranes and liver, and can cause cancer as well. Furthermore, the compound persists in the environment. Its use in commercial and home gardens clearly constituted a health and environmental hazard and when used in urban areas, more people were at risk of exposure.⁴⁵

By the early twentieth century, Paris green was being superseded by a compound which was probably as hazardous, if not more so: lead arsenate. Orchardists preferred lead arsenate to Paris green for control of codlin moth because it clung to the fruit for longer, and they soon came to rely solely on the spray, abandoning the time-consuming trapping of caterpillars in trunk bandages.⁴⁶ Lead arsenate thus provides one of the first major examples in Australian horticulture of non-chemical controls being replaced, rather than supplemented, by chemical sprays. Like Paris green, lead arsenate posed a significant threat to the health of people and wildlife. As well as irritating the eyes, skin and respiratory tract, short-term exposure may affect the gastrointestinal tract and nervous system. Long-term exposure can increase the seriousness of these effects, as well as damaging the kidneys, liver and blood. Lead arsenate is now a recognised human carcinogen. Furthermore, arsenic and lead are fairly immobile once they are in the soil, so areas treated with lead arsenate can remain contaminated for some time: levels of lead and arsenic residues on old orchard land have been measured at up to 30 times the concentration of uncontaminated agricultural soils.⁴⁷

Although people around the turn of the century lacked our present detailed understanding of the health and environmental risks of arsenical insecticides, arsenic was well-known as a poison employed for purposes of homicide and suicide, and a cause of accidental deaths. In the mid-nineteenth century most European nations passed laws restricting the amount of arsenic allowable in various manufactured products, and in Britain, limits for arsenical residues in food were set following the Royal Commission on Arsenical Poisoning in 1903.⁴⁸ However, in spite of a general knowledge of potential chronic and acute risks to human health, from the 1910s synthetic chemical sprays were increasingly identified, by food producers and entomologists alike, as the first line of defence in the war against insects.

It is difficult to estimate the extent to which home gardeners came to rely on the same chemical remedies as their larger scale commercial counterparts. Certainly, one purpose of gardening guides such as Brunning's and Yates' was to promote the products sold by the company, and by the 1910s an increasing range of proprietary insecticides were being recommended for insect control. In the 1916 edition of Brunning's popular home gardening manual, *The Australian Gardener*, the section on vegetable pests was prefaced with the comment:

As many new mixtures for spraying have been placed on the market, several experiments have been conducted by the Entomological Branch with the extermination of pests. Some of the mixtures have proved successful, and it is well to know at the beginning of the season what are the best materials to use.⁴⁹

These materials included Benzole emulsion, Pestend, Clift's manurial insecticide and 'Harbas' red oil, as well as Paris green, lead arsenate, and various tobacco preparations. Lead arsenate was recommended for home garden use in the control of cabbage moth, cutworm, pumpkin beetle, slugs and snails, as well as codlin moth, and small tins of lead arsenate for home garden use were available from seedsmen. It is likely that some home gardeners welcomed the opportunity to abandon the time-consuming practice of trunk bandaging, particularly as they were assured that it would 'not be necessary if the trees are sprayed several times with arsenate of lead'.⁵⁰ Harry Simpson grew up at Rosemont, a stately home set in one and a quarter acres of garden in the Melbourne suburb of Surrey Hills. The garden consisted mainly of fruit trees and roses, and some 60 years later, Harry recalled that 'The everlasting spraying seemed to go on endlessly. Arsenate of lead was all that was used as far as I can remember though I think nicotine came in somewhere.'⁵¹

Tobacco was used as a contact insecticide in various forms: as a dust, an infusion, and in a processed form—nicotine sulphate—in preparations such as Nikoteen, Black leaf 40, and Surpazoll. Botanicals such as quassia chips and hellebore powder were also

available, though recommended only occasionally, as were a range of ‘non-poisonous’ patent insecticides, whose formulae were jealously guarded. Several of the patent preparations were offered in forms which were ready to use or required only dilution in water. Whereas these would have been fairly convenient, it is likely that the combination of a large garden and a serious pest infestation would have been necessary before a home gardener would have gone to the effort of making up one of the various home-made washes or emulsions which were also recommended. For example, kerosene emulsion—which by 1916 was recommended for use on vegetables as well as fruit trees—required 2 pounds of ‘Lotus Soap’ to be dissolved in 10 gallons of simmering water, and half a pint of kerosene added whilst hot, ‘the whole being churned until thoroughly emulsified’. The emulsion was then to be applied with a spray pump, in the evening or on cloudy days. While this was done,

Great care must be taken to keep the mixture agitated, and the vessel used to carry the mixture should be thoroughly emptied each time before refilling, or the kerosene, which never thoroughly mixes, may accumulate and give too strong a dose.⁵²

Given the expense and inconvenience of the alternatives, it is likely that many gardeners, particularly those with small- to medium-sized gardens, would have stuck to the remedies on hand—such as soapy water—and the various manual (or animal) controls still recommended in some gardening magazines and books. The prevalence of suburban poultry meant that many suburban gardeners would have been able to follow the *Home Gardener’s* recommendation, in 1917, that:

To give the poultry an occasional run in the orchard will be of some benefit to both them and the trees, as fowls eat many of the caterpillars that are found in orchards. In addition, the manure will be of some use to the trees.⁵³

Even as late as 1916, Brunning’s *Australian Gardener* recommended that cabbage aphids could be adequately dealt with by

placing a few broods of newly-hatched chickens here and there amongst the crops, in coops so constructed as to allow the chicks free egress and ingress, whilst the mother-hen is confined. The quantity of the aphides devoured by these little ones is quite amazing, and the plan has been attended with the greatest benefit to those who have adopted it.⁵⁴

Crop rotation continued to be recommended as a preventive measure against pest infestation, as was the use of appropriate plant material. In the early twentieth century, apple scions were commonly grafted onto Northern Spy rootstocks, which were immune to woolly aphis attack, and grape scions grafted onto American rootstocks which were resistant to grape phylloxera.⁵⁵

Failure to find a completely effective spray or biological agent for control of Mediterranean fruit fly saw Western Australians attempt to suppress the pest in the metropolitan area through the coordinated application of cultural controls. The fly was first found in the colony in 1895, when specimens from an orchard in the western suburb of Claremont were presented to the local Department of Agriculture.⁵⁶ It rapidly gained a foothold in the metropolitan area where it remains to this day, infesting just about every kind of fruit—stonefruit, citrus, pome fruit, passionfruit, even plantains. For much of the twentieth century, control of the fly was particularly challenging as the female fly lays eggs directly into the fruit, and the maggots are therefore beyond the reach of poisons such as lead arsenate, which cling to the surface of the fruit. Furthermore, as it infests a wide range of fruit, at any given time of year a host plant will be fruiting, thus offering the fly an opportunity to reproduce. Early control attempts relied on trapping and baiting of the fly with pollard and borax solutions and Clensel in glass jars and tins. Keeping the ground clear of fallen fruit also served to disrupt the pest's breeding cycle. By 1915, a spray based on lead arsenate was 'found to be beneficial', although by itself it did not offer adequate levels of control. Several potential predators were introduced, though none were effective.⁵⁷

Other attempts at eradication were community based: as there are no native hosts for the pest, it is only necessary to destroy the fruits of introduced species in order to break the fly's cycle of reproduction.

In Guildford in 1913, the Department of Agriculture organised a local campaign involving voluntary stripping of all fruit from trees after June 30 in order to prevent the carry over of the fly into summer fruits. The results of this experiment were ‘exceptionally good’, even though ‘some householders would not assist the department, and...the adjoining districts did not strip’.⁵⁸

Attempts to engender, or even enforce, this kind of cooperation more widely, however, failed. Under the *Insect Pests Amendment Act 1898* (WA), which was intended to control the spread of horticultural pests and diseases, all orchards were required to be registered for a fee of 2s 6d for an orchard of less than an acre, and 5s if over an acre. The definition of ‘orchard’ included one tree, so effectively all householders with any number of fruit trees were compelled to register them. This was supposed to provide the Department of Agriculture with a list of all orchards which could then be inspected for compliance with the Act, which required ‘orchard’ owners to control fruit fly on their land. However, it appears that the registration requirement was not strictly enforced, and effective regular inspection proved impossible.⁵⁹ In 1899, four years after the fly was first reported in the colony, the Department of Agriculture issued a circular directing orchard owners in the infested area around Claremont to strip their trees of fruit by the 15th of August. However, some householders refused to cooperate, and the fly continued to spread.⁶⁰ The *Plant Diseases Act 1914* (WA), which also required the payment of an annual registration fee and made households with fruit trees liable to inspection, similarly failed to control the fly. The fly has always found suitable conditions for reproduction and it remains a pest in Perth, many years after effective chemical controls were developed. This story suggests that the dispersed nature of food production in suburban areas renders effective surveillance of household food production virtually impossible, and that concerted voluntary action by all householders is improbable, particularly in a context where independence (which emphasises individual rights) is generally valued more highly than interdependence (which emphasises mutual responsibilities). This combination of factors seriously inhibited—and continues to inhibit—the effectiveness of cultural controls of insect pests in suburban areas.⁶¹

By contrast, a combination of luck, vigilance and a more authoritarian and concerted approach to infestations have protected South Australian gardeners from the Queensland fruit fly and Mediterranean fruit fly for more than 100 years. After the pests were identified as a threat in the late 1890s, incoming fruit was inspected, and travellers were warned of the danger. This approach was successful until the 30th of January 1947, when the first outbreak of fruit fly in the state was reported in the Adelaide suburb of Glen Osmond. The Department of Agriculture and State Government responded swiftly: they decided to eradicate the fly, and stripping of all fruit and host vegetables in the area began the following day, using staff from the Departments of Agriculture and Water Supply. Three days later, another infestation covering 100 acres was reported in Glenelg. Gangers, foremen and labourers from the Highways Department were initially despatched but more hands were needed, and eventually Municipal Councils, students, scouts and surf life savers, as well as householders and fruit growers, were called in to help. Trapping and baiting were carried out and about 20 tons of fruit per day were stripped from the affected areas—an indication of their productivity. The harvest proved too great for the Halifax Street incinerator, and bagged fruit—lightly dusted with DDT—was dumped at sea. Not all residents supported the campaign, objecting to the costs, waste and damage involved, but there was little they could do to prevent their fruit being taken. In all, 971 home gardeners and 39 commercial growers applied for compensation in the wake of the 1947 outbreak. Recognising that it would be wise to secure householders' cooperation, compensation arrangements were soon formalised, with receipts issued for fruit and plants destroyed.

In the 50 years after 1947, a total of 162 fruit fly outbreaks were recorded and eradicated, 142 of them in Adelaide. Householders played an important role in reporting outbreaks of fruit fly, though resistance to the stripping of fruit also continued. Indeed, in 1953 some householders petitioned the government to adopt a system of orchard registration, placing the onus on the householder to control the pest, instead of having fruit fly control staff take away their fruit. This was rejected, however, and stripping of fruit in outbreak zones continued until 1975, when it was largely abandoned in favour of

baiting and spraying. A total of \$1 087 848 was paid in compensation for fruit destroyed between 1947 and 1976.⁶² The success of the eradication campaigns was due largely to the fast and decisive action taken, and the availability of resources, such as labour, for effective control. It is probably not a coincidence that the Premier at the time of the initial outbreak, (Sir) Thomas ‘Tom’ Playford, was also an orchardist in the Adelaide Hills. Certainly, in the long term such decisive action meant that there was one less pest to spray for—both an environmental good and a boon for South Australian fruit growers. However, the persistence of householders’ complaints about the loss of fruit, even where compensation was available, indicates the extent to which they valued their crops: for many, these crops were irreplaceable.



There is no doubt that regardless of the techniques employed, around the turn of the century producing food in Australian suburbs involved hard work. Those operating market gardens and dairies were in it primarily to make money. Why, however, did householders do it? The ‘commonsense story’ of home food production is that prior to the Second World War, food production was carried out by suburban householders mainly for reasons of economic necessity: they did it because times were tough and they had to. But was this indeed the case?

Certainly the period from 1891 to 1940 has been characterised overall as one of economic stagnation. The population increased at the expense of living standards as demand for Australia’s primary produce slackened, whilst the scale of the Australian economy was not sufficiently large to generate self-sustained growth in the metropolitan centres. Even Ian McLean and Jonathan Pincus, who have attempted to argue against the ‘stagnation’ thesis, admit the possibility that between the 1890s and late 1930s ‘real income and real consumption per capita grew little or not at all’.⁶³

The 1890s depression increased levels of poverty, as unemployment ran into double figures for 10 out of 14 years, from 1891 to 1904. For those workers lucky enough to remain employed,

remuneration was often poor: the minimum weekly wage of male adults stagnated, and average annual earnings in manufacturing fell.⁶⁴ Recovery from the depression was delayed by the ‘federation drought’ that lasted from 1895 to 1903—the most severe in terms of stock losses in post-invasion history—in which sheep numbers were halved and more than 40% of the nation’s cattle died. In contrast to the Second World War, the First World War did not boost production or employment, as physical distance from the war limited Australia’s industrial participation, and the enlistment of 15% of the labour force caused widespread disruption.⁶⁵

At the same time, however, there were significant changes in some of the factors relating to poverty. For one, average family size decreased from the 1880s, with the 2–3 child family normalised in the period following the First World War (though of course a proportion of families, particularly among the working class, remained large). In the twentieth century, the state began to provide some limited welfare: the first old-age pension scheme was introduced in NSW in 1900, and Victoria followed suit soon after. Not long after federation, the federal government took some limited responsibility for welfare provision, with old-age and invalid pensions introduced in 1908, maternity allowance in 1912, and pensions for war widows in 1914. Whilst these measures may have diminished the number of those in desperate need, pensions were not overly generous, and of course there were those who did not qualify, or who did not apply.

But were the poor foremost among food producers? In Melbourne, at least, it appears that rich and poor alike engaged in the activity. When the mansion Crediton House in Northcote was sold in 1894, its outbuildings included a fowl house. Similarly, a *Garden Gazette* article of 1902 recorded that the orchard and kitchen garden plots of Sir Frederick Sargood’s mansion were ‘among the best in the colony...At Rippon Lea, vegetables, fruit and herbs, more than sufficient for that extensive establishment, are grown of the best.’ No less than 20 gardeners were employed to keep the grounds of Rippon Lea in top aesthetic and productive condition. On a somewhat smaller scale, prominent Melbourne solicitor Arthur Johnson and his family (with the help of a gardener) grew vegetables and kept poultry and a cow at Fairholme, their home in Camberwell, from 1907.⁶⁶

Authors of gardening manuals directed their advice to those, like Johnson, with substantial suburban villas:

The Kitchen Garden should be situated in the rear of the house, and near as it may be convenient, so that communication with the kitchen and stables may be made with facility; it should also be in proximity to the back approach, for conveniently obtaining manure and other material without having to convey them through any part of the pleasure-grounds.⁶⁷

The spacious grounds of Government House in Malvern also accommodated cows and poultry sufficient for the Governor's household. Turning to the other end of the social scale, in 1906 Northcote Councillor Edwards complained that 'Places have been put up for human habitation that we would not put our fowls in'. In one such house, at the eastern end of Clarke Street, the living portion was only 7 feet square and the galvanised iron roof 6 feet 6 inches high. Attached to the shack was a fowl shed.⁶⁸

Authors of gardening books published around the turn of the nineteenth century generally made mention of the economic aspect of domestic food production, though always in conjunction with some glowing praise of the other benefits of growing one's own—from the 'interest and pleasure' derived from the activity, to the health benefits of abundant fresh produce. However E.W. Cole, of *Funny Picture Book* fame, was careful to point out that 'vegetables may cost less to purchase than to grow at home'.⁶⁹ The evidence in relation to cost and availability of fruit and vegetables seems contradictory, with some contemporary sources pointing to their cheapness and availability, and others painting a picture of expense and scarcity. This probably indicates a situation of unreliable supply, of gluts alternating with shortages, and uneven distribution. Whereas some suburbs were well-served by local Chinese or other market gardeners, others had to rely on more costly supplies from further afield.

The availability of cheap produce could make vegetable gardening seem a lot less attractive. This was certainly the case for Enid Ross' family, living in the Newcastle coal-mining suburb of

Merewether in the 1900s and 1910s. Enid's father was a surveyor, though his work was irregular and money was tight. For Enid, the backyard was a place shaped, at least in part, by the cost, quality and availability of food, her father's nutritional knowledge, and a view of gardening as domestic labour rather than recreation:

...we didn't make gardens in those days because the fruit and vegetables were so cheap it wasn't worthwhile. We did have fruit trees in the yard. I remember having a quince tree and that was really lovely. Lemon tree and another one... I think it might have been perhaps a mandarin tree, and that was all we had growing. Parsley perhaps and mint is something that's needed for the addition to food but tomatoes were only four pence a dozen and the Chinaman with his baskets would come...and he would have quite a variety of vegetables, cabbage—eight pence, perhaps cheaper sometimes, cauliflower and the like, and celery, all freshly picked out of his garden and a soup bunch made up which had carrot and parsnip and perhaps a shallot and some parsley with it, threepence each. Well, it wouldn't be worth making a garden for that...And so many varied things, even watercress they would bring around because they would have it growing in their waterways and my father was very fond of it and so we purchased it from them and all the health-giving things he knew about them so we had them. And fruit, oh it is unbelievable the price we paid. We paid threepence for a melon, a watermelon, and grapes and all manner of fruit were only merely pence and therefore we had no need to make gardens.⁷⁰

Conversely, those who had recently arrived in the suburbs from farms—a substantial proportion of the urban populace in the early twentieth century—may have found food production to be a resilient habit, which also provided a sense of security in their new environment.

An enthusiasm for eating fruit and vegetables was a relatively recent development among the British (and a few of their colonial counterparts). From the 1870s in England there was a fairly dramatic change in taste, related to the spread of the 'Anglo-French manner of

cooking'. Middle-class households in particular were becoming accustomed to eating greater quantities of fruit and vegetables, as food that was fashionable, light and affordable. Working-class people, on the other hand, ate much of their fruit as jam.⁷¹ It is unlikely that 'salading' would have been a feature of many working-class diets in Australia: for those who could afford it, appetites were satisfied with meat. In 1897, for example, prominent physician Philip Muskett reported that Australians ate 276 lb of meat per head per year—twice as much as the English, three times as much as Canadians, four times as much as Germans and ten times as much as Italians. In 1901, T.A. Coghlan estimated that meat consumption in New South Wales was even greater, at 297 lb per person, per year.⁷² In working-class households, meat would typically form the basis of lunch and dinner meals, with boiled vegetables such as potatoes, carrot and pumpkin appearing only as an accompaniment to dinner, and fruit being eaten at lunch or as an afternoon snack. In some households where a breadwinning male had a job involving strenuous physical labour, he also commonly had meat—chops, sausages or steak—for breakfast.⁷³

Muskett and his few dietary reformer contemporaries urged Australians to switch to a more varied diet which incorporated less meat and more fruit and vegetables. Their message appears to have reached those such as Enid Ross' family in Merewether, who understood the 'health-giving' properties of vegetables (although it could be that they were relying on older folk knowledge). However, the reformers were fighting a losing battle. High levels of meat consumption continued in Australia into the twentieth century for several reasons: common wisdom stressed the importance of protein (vitamins were only discovered in 1906); meat remained a high-status food item; working-class people were often reluctant to be 'reformed'; there was occasionally suspicion—or even outright rejection—of Chinese-grown vegetables (often the only sort available) in a climate of racial hostility; and in Australia, meat was relatively cheap.⁷⁴

Although there were clearly exceptions, upper- and middle-class people were more inclined than the workers, and certainly the poor, to include fruit and vegetables in their diet, as they were more likely to be aware of, and open to, nutritional advice, and they possessed a more 'European' orientation. This picture is confirmed to some extent by

household expenditure studies conducted in the early decades of the twentieth century. Rather than turning to home food production, it appears that most large, working-class families struggling to make ends meet simply replaced the more expensive food items with bread.⁷⁵

Up to and throughout the years of the First World War, home food production usually had the potential to free up somewhere in the order of 5–13% of expenditure (less for small, high-income families; more for large, low-income families), where a household with an average diet was self-sufficient in fruit, eggs, milk and vegetables.⁷⁶ For working people and the poor, food constituted the largest single, regular item of expenditure, and self-provisioning could therefore potentially present a significant opportunity for saving, particularly where food was expensive and families were prepared to change their diet to eat what they could grow.

However, the self-sufficiency option was not available to all. Firstly, food production requires reasonably secure access to sufficient land on which to keep animals or grow plants. It is clear that many of the urban poor, particularly in the inner suburbs, lived in houses with small shady, paved, or poorly drained backyards, in which food production on a significant scale would have been impossible.⁷⁷ They also moved around. Graeme Davison has pointed out that in late nineteenth-century Melbourne, a high rate of labour turnover in many industries was accompanied by a correspondingly high level of residential mobility, particularly among tenants. Unskilled labourers were most prominent among the suburban ‘nomads’: 67% of them would have moved house between 1884 and 1889—some several times.⁷⁸ Those who moved often would have been unlikely to invest heavily in food production: using contemporary trenching and cultivation methods, it would have taken two months or more to bring a vegetable bed into a good productive condition, and then from one to over six months for crops (depending on type) to reach maturity. Fruit trees, of course, might take years to reach bearing age. Animals are more portable, though the inconvenience of having to construct new housing for them at each new address may well have been discouraging.

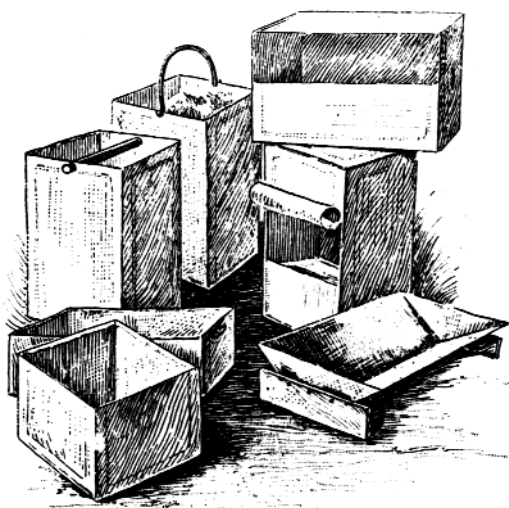
The second barrier to self-sufficiency amongst the poor lay in the costs associated with running a garden and keeping livestock.

Horse or cow manure could often be had for nothing from local dairies or stables, or gathered from the street after the milkman and various other suppliers had made their deliveries. Poultry manure could be obtained as a by-product of backyard egg production, and the ‘waste-heap’ was a cost-free way of recycling nutrients. Seeds were cheap at 6d per packet; seedlings, though less common, were also affordable. However, the cost of acquiring tools such as spades and hoes, or larger ticket items such as wheelbarrows and sprayers, would have been a disincentive to those—including most women on marginal wages. Although it would be possible to garden successfully with second-hand, improvised or borrowed tools, and using, for instance, buckets instead of hoses, it cannot be assumed that all, or even most, low-income families were able to access resources in this way.

Keeping livestock and poultry at home also involved costs, although they appear to have had more potential to produce a ‘side-line’ cash income than fruit and vegetables. This factor, along with their greater mobility (relative to fruit trees), may explain why even though livestock and poultry were kept by the middle and upper classes, they appear to have been most popular among working-class households. Poultry could be purchased fairly cheaply when young—in October 1900 a pair of ‘chickens’ (the contemporary term for young fowls) sold in Perth for 3s to 4s per pair, and ducklings for 3s 9d to 4s per pair. Once a flock was established, birds past the age of economic production were put in the pot, and replacements hatched out under a broody hen (from the flock’s own eggs if a rooster was kept, or from settings of fertile eggs purchased from breeders). In February 1889 William Farrell, a West Melbourne man engaged in casual labouring work on cable tram lines, wrote in his diary that he ‘Set the little hen in the coope [*sic*] today put 9 eggs under her. I wonder how she will get on’. Three weeks later, ‘The little hen had 8 living chickens’.⁷⁹

Startup costs for poultry could be minimised if the birds were left to roost in the lemon tree, or if rudimentary housing was cobbled together—as often it was—from scrap wood and metal. Kerosene and meat tins could find new life as food and drink containers for poultry. Although a small outlay might be required for bran, pollard

and meat meal for mash, as well as grain to scatter, feeding costs were reduced where poultry were also fed (as was common) table scraps and greens grown on-site. However, as a body of regulation relating to the housing of poultry was established, those keeping poultry on the cheap could risk substantial fines. In 1901, for example, one Mrs Stewart of Pier Street in Perth was fined £2 0s 3d—in a case that was ‘practically undefended’—for creating a nuisance by keeping poultry without the ‘proper conveniences’.⁸⁰



With kerosene widely used in a range of applications in early twentieth-century suburbs, the ubiquitous kerosene tin could find new life in the poultry yard as food and drink carriers and containers, nesting boxes and egg baskets.

(Source: G. Bradshaw, *Farmers' Fowls*, Department of Agriculture, Sydney, 1907, p. 149.)

Cows, and to a lesser extent goats, required a more substantial initial outlay: in the early years of the century, good milking cows commonly sold for £10 to £12 each, with top-quality stock fetching up to £20.⁸¹ It is unclear how working-class people were able to find the capital to buy a cow, although apparently some did. It is also clear that the capital cost of a cow could be recovered quickly—as little as two to three milking months, where provision of basic unpaved

housing and use of reserves for grazing kept housing and feeding costs to a minimum. There were no restrictions on the production of milk for consumption by one's own family, but in order to sell milk legally, cowkeepers were required to register with a local or central Board. In most cases, to register as a dairyman or cowkeeper would require a substantial outlay on paving and the construction of drainage, manure receptacles and a special milk room, as well as payment of an annual fee (usually between 10s and £1). In order to avoid the fees and costs associated with higher housing standards required by dairy inspectors, householders sold their milk on the sly.⁸² In 1905 one Michael Horrigan of Lake Street in Perth was investigated for allegedly having sold a pint of milk daily to a neighbour for 5d whilst unregistered as a dairyman.⁸³ Unless Horrigan had a very large family or was making butter or cheese, it is likely that other neighbours also bought his milk. If his cows could be fed substantially for nothing on nearby bush or vacant land, this then would amount to a valuable cash addition to the family income—probably between 2s 6d and 2s 8d per day by the time family requirements were taken out, at a time when labourers were commonly paid 7s a day (or less), and daily earnings for women doing wage work were commonly in the order of 4s.⁸⁴

However, livestock could also prove to be a liability if, for example, they were impounded. In an application made in 1914 to the Fremantle Council for a refund of 15s worth of pound fees, J. Foley of Beaconsfield sought to impress upon the Council the economic imperative of his cowkeeping: 'I feel sure it is not your desire to penalise a man for trying to provide pure food for a family of 7 depending solely on his earnings.'⁸⁵ Similarly, when the Perth City Council imposed a yearly fee for goat registration of 5s in 1918, they were inundated with letters of protest from goat-keepers pointing to the health benefits of goats' milk, and the fact that in many cases they would not be able to afford an adequate substitute. For example, in a petition from the goat-keepers of Victoria Park, then a working-class outer suburb of Perth, Mrs J. Phillips pointed out that:

You will readily see that the proposed tax of 5/- per annum for each goat would constitute a fresh burden on the already struggling poor in these outlying parts, and as it is felt that

the extreme effort to make ends meet by those who are placed in unfortunate circumstances financially is not realised to its fullest extent, I appeal to you to use your kind influence to prevent such a tax being enforced as it would certainly be the means of creating further hardships.⁸⁶

Many women wrote requesting additional time to pay fees, or indicating that they had disposed of their animals:

With reference to Notice I received Last Tuesday afternoon to pay 5/- registration for a Goat Kid. I wasn't aware that young Kids had to Be registered. I cannot afford [*sic*] to pay the 5/- as my Husband has been unable to Work for Over 12 Months on account of illness—so We have disposed of the Kid.⁸⁷

As well as being disproportionately affected by the imposition of livestock fees, the many poor households in inner-city areas were often the first affected by regulations which banned livestock altogether. Large livestock were the first to be regulated, with cattle restricted and pigs and goats prohibited in certain areas of Melbourne as early as 1850. Later, poultry would attract similar attention.

It is probable that the keeping of livestock in particular, and food production more generally, contributed to an improved standard of living in some working-class households. However, several factors suggest that it was taken up most actively by the middle class and that fraction of the working class which—particularly from the 1880s to 1930s—thought of itself as ‘respectable’. The costs (including fees) of food production were in many cases a disincentive to low-income earners, and it seems there was also a cultural preference among at least part of the working class for a diet rich in meat where they could afford it and bread where they could not. The better-off also had access to sufficient appropriate and secure land on which to establish gardens, a pattern that would be discernible throughout the twentieth century.

CHAPTER 3

‘His own vine and fig tree’

WHY then did so many people, most of whom could apparently afford to buy the food they wanted to eat, take the time to produce it themselves? The answer lies, at least in part, in the connections between food production and ‘independence’. Within the middle and upper working classes, independence was both a goal and a concept central to identity formation. As such, it was internalised to the point where it is best described as a disposition, serving to guide everyday social activity and make sense of the everyday world. The history of the disposition toward independence might be traced back at least as far as the Reformation, to the so-called ‘Protestant ethic’ which Weber identified as the rationalistic and accumulation-oriented ‘spirit of capitalism’ in Western Europe.¹ By the Victorian era, the virtue of industriousness had taken on a particularly individualistic, independence-oriented significance, as part of a cluster of largely bourgeois virtues—including self-help, respectability and thrift—associated with the ‘gospel of work’. One of the chief exponents of these virtues was Samuel Smiles, who in 1859 published a best-seller entitled *Self Help*. By the end of the nineteenth century, it had been reprinted

many times, translated into several different languages, and had sold around 250 000 copies.

R.J. Morris has described *Self-Help* as 'a charter by which the lower middle and properous working classes might restore their self-respect after the defeats of the 1840s'.² In a slightly different vein, Asa Briggs has proposed that although intended mainly for the working class, the values and ideals contained in Smiles' writings were predominantly middle-class ones. Certainly in the era of Gladstonian liberalism, the values and ideals represented in Smiles' work flourished in Britain among both working- and middle-class people.³ They were also carried to the antipodean colonies by emigrants anxious to improve their life chances. There too, they flourished and endured.

In the introduction to *Thrift*, Smiles emphasised the importance of the ideal of independence:

Every man is bound to do what he can to elevate his social state, and to secure his independence. For this purpose he must spare from his means in order to be independent in his condition. Industry enables men to earn their living; it should also enable them to learn to live. Independence can only be established by the exercise of forethought, prudence, frugality and self-denial.⁴

Economic independence for working people had also been important to working-class reformers such as Chartist William Lovett, who wrote of 'devising means by which the working and middle classes may have Comfortable Homes, and be gradually enabled to become Manufacturers, Trader, or Farmers, on their own capital'. Lovett further sought 'the Promotion of Temperance, Sobriety, Cleanliness and Health amongst all classes'⁵—concerns that were also taken up by Smiles.

The cluster of values associated with 'independence' was a means by which the British middle class and the better off fraction of the working class could, and did, differentiate themselves from the 'dependent' poor. Furthermore, the ideology absolved the better-off from guilt about the suffering of the poor, who were usually seen as responsible for their own plight:

We often hear the cry raised ‘will nobody help us?’ It is a spiritless, hopeless cry. It is sometimes a cry of revolting meanness, especially when it issues from those who with a little self-denial, sobriety and thrift, might easily help themselves.⁶

The focus on independence, and the way in which it was understood as the opposite of dependence, could be detrimental to an orientation towards community-based *interdependence*: ‘The man who looks to others for help, instead of relying on himself, will fail.’⁷ This privileging of independence and relative neglect of interdependence would be maintained to a large extent by the urban middle class in Australia. For the working class, interdependence was often more of a necessity.

The ‘independent disposition’, as manifested among the middle class in particular, incorporated a dislike for extravagance and ostentation—an asceticism born of both religion and necessity. Nonconformist Protestants were taught that money was not to be spent on comfort or enjoyment. Furthermore, most members of the British—and later Australian—middle classes had few opportunities to achieve real wealth yet were still bent on achieving an ‘independence’. Together these factors produced a set of tastes described by Smiles as ‘the art of living’: a predilection for order and plainness in all things, and for quality rather than quantity. Such tastes also served as a durable form of class distinction:

The art of living extends to all the economies of the household. It selects wholesome food, and serves it with taste. There is not profusion; the fare may be very humble, but it has a savour about it.⁸

Middle-class fare was thus distinguished from the ‘rough’ fare of the poor, and the extravagant dainties of the rich. The ‘art of living’ also set a high value on cleanliness. Smiles wrote approvingly of Edwin Chadwick’s ‘Sanitary Idea’, and portrayed cleanliness as a means by which to avoid moral degeneration: not only was it ‘the best exponent of the spirit of thrift’, but it also influenced ‘the moral condition of the entire household’.⁹

Within this discourse, the body was conceived of in a particularly middle-class way, not as instrumental for labour (which Smiles regarded as 'not only a necessity, but...also a pleasure') but as a natural (and free) means to enjoyment of God's creation:

The human system has been so framed as to render enjoyment one of the principal ends of physical life. The whole arrangement, structure and functions of the human system are beautifully adapted for that purpose...What can be more pleasurable...than the feeling of entire health,—health, which is the sum-total of the functions of life, duly performed?¹⁰

The maintenance of the body in 'entire health', as well as the avoidance 'of bodily ailments, which always accompany sedentary occupations' was seen to require relaxation and exercise, intake of wholesome food, and restraint with regard to alcohol. The connection between physical and moral health was seen to be a close one, and as well as avoiding the path of ill-health, bodily discipline could prevent a fall into moral degeneracy, and dependence.

The focus on exercise, cleanliness and moderation in food was also driven by the desire for a particular body type, with neither the corpulence traditionally associated with the rich, nor the coarse and dirty thinness associated with the poor. As Bourdieu claims:

Taste, a class culture turned into nature, that is, *embodied*, helps to shape the class body...It is in fact through preferences with regard to food which may be perpetuated beyond their social conditions of production (as, in other areas, an accent, a walk etc.), and also, of course, through the uses of the body in work and leisure which are bound up with them, that the class distribution of bodily properties is determined.¹¹

The middle-class body was to be a public display of the self-discipline of its owner, the product of moderation in food, and sufficiency in exercise. For women, the anxiety over maintaining a properly 'classed' body also manifested in the use of corsetry, and proprietary 'slimming' medications.

Probably the most important source and reflection of independence, however, was one shared by the middle and working classes: independence from the landlord via the acquisition of land, or at least one's own home. Graeme Davison has outlined the four main forms of independence that home-ownership offered to Englishmen in the mid-nineteenth century: security in old age, rights to political participation, social status, and moral virtue in the form of thrift.¹² Smiles wrote approvingly of home-ownership and Land and Building Societies, which he saw as 'chiefly supported by the minor middle-class men, but also to a considerable extent by the skilled and thrifty working-class men'.¹³

Many from the English middle and working classes who were seeking 'domestic independence' but frustrated at home, found their way to the colonies. In 1856 Michael Horgan, writing from his South Melbourne cottage, informed his brother:

This is the place where a man makes all for himself independent of any master for at once you purchase land here you have it forever without taxes or any other Cess.¹⁴

Independence was a powerful motivator in the colonial context. From the 1850s in New South Wales and Victoria, and the 1880s in Western Australia, gold rushes attracted men in search of independence of lifestyle and means; later, as surface showings became scarce, many settled in the metropolitan centres, especially Perth and Melbourne. In his 1871 guide to 'Victoria as a field for emigration', *Homes and Homesteads in the Land of Plenty*, the Rev. James Ballantyne repeatedly stressed the potential for upward mobility and ultimately independence (or its synonym, 'competence') in the colony. Ballantyne bemoaned the fate of 'young men of spirit and manliness' in the 'old country', where 'the avenues to promotion are all choked up by thousands just as eager to get a little forward as themselves'. But, he declared,

let such young men set foot in a colony like Victoria, with the determination to accommodate themselves to its circumstances, and to reach in process of time a position of independence; let them, moreover, be sober, frugal, industrious and persevering—and there is nothing to hinder them gaining their end.¹⁵

Ballantyne was at pains to point out that in the colonies, independence was even within reach of working men, and that one of their rewards would be possession of that which 'every Englishman glories in—a house which will be his castle'.¹⁶

Janet McCalman sees 'respectability' as one of the most important items of cultural baggage brought to Australia by working people seeking 'dignity and prosperity in a new land'.¹⁷ 'Respectability' was a bundle of ideals and prescriptions for behaviour which included thrift, cleanliness, sobriety, self-reliance, and manly independence. As such, it shared much ground with the predominantly middle-class ideals espoused by Smiles. Whilst McCalman discerns a widespread working-class identification with 'respectability', Terry Irving has argued that a distinct, 'respectable' working class had formed in Australia in the second half of the nineteenth century, drawn from small-scale services and production and driven by 'dreams of economic independence'.¹⁸ Similarly, I use the term 'respectable working class' to denote mainly those skilled tradesmen, and their families, with relatively stable jobs, adequate incomes, and at least the prospect of home-ownership, who were front-runners in the pursuit of respectability.

The individualistic aversion to interdependence general among the middle class never entirely penetrated the urban working class in Australia, among whom neighbourhood relations were often close, and workplaces organised. However, even as they organised collectively, some degree of independence (from the fear of destitution, from the landlord, or even from the boss) remained a goal—or a dream—for many working-class people. Lionel Frost and Tony Dingle have noted that from early in the twentieth century, some Labor people saw home-ownership as providing workers with an independent and secure base from which to collectively pursue their industrial interests.¹⁹ In her history of the eastern Perth suburb of Bassendean, Jennie Carter similarly recognised this coexistence of orientations toward independence and interdependence among the suburb's working-class residents:

Dedicated as were most of the residents to the advancement of the 'workingman' and to the principles of the Labor Party, and despite lip service to the socialist cause, Bassendean was

a very settled, respectable, even traditionalist suburb. What could best be described as a ‘yeomanry’ outlook permeated the district, exemplified by an ambition to own the family home and enough land around it for gardens and to support a small amount of livestock as a means of ensuring at least partial self-sufficiency.²⁰

As Ballantyne suggested, the fraction of the working class with the most capital were often able to achieve some limited independence. Thus in 1932 liberal politician and intellectual Frederic Eggleston claimed that the ‘standard of comfort in Australia is so high that the worker is really taken out of the class of proletarian into the class of suburban bourgeoisie with a “position to maintain”’.²¹ Eggleston clearly exaggerates the case, as Australia has by no means been a ‘workingman’s paradise’ for all. However, many working-class people recognised, for example, the value of a private school education and sought, through hard work and thrift, to buy a family home.²² The ideal of independence was held dear among the ‘respectable’ working class, as well as the middle class.

One of the most basic expressions of the independent disposition was the production of one’s own food: it was a means by which to achieve independence, being (at least in theory) thrifty, particularly in making use of wastes. It was also highly symbolic of independence, in its use of household land and labour to avoid reliance on others for a basic need. For the middle class, especially, it provided exercise and wholesome food, both of which were culturally tied to the ideal of independence. It became one of the markers by which one could reaffirm one’s class status, seeing oneself as respectable rather than rough, and industrious rather than idle. Yet there was room for further layers of meaning.

In the colonies, environmental determinism—the belief that environment shapes people—was popularised in the context of debates over the fate of the transplanted British ‘stock’. It also emerged in the idea that urban residents needed to escape the degenerative influence of the city, and avail themselves of the reforming, healthful influence of rurality, even if only in suburban backyards. Several authors have pointed to the somewhat ‘rural’ nature of suburban Australian

backyards, but few have dissected the rurality perceived in this context to ask, as Raymond Williams has done, 'what kinds of experience do the ideas [of city and country] appear to interpret, and why do certain forms occur, or recur, at this period or at that?'²³ From the late nineteenth century, the idea of 'country' found in Australian suburban backyards is inextricably bound up with the figure of the yeoman. Graeme Davison, in *The Rise and Fall of Marvellous Melbourne*, asked 'was the yeoman dream of five acres and a cow realised in a quarter-acre block and a pen of chooks?'²⁴ The answer, for the late nineteenth and much of the twentieth centuries, is a clear 'yes'.

Robert Freestone and Jenny Gregory have also suggested that the yeoman ideal was a significant factor in the shaping of Australian middle-class suburbia.²⁵ By the seventeenth century in England, Gregory argues, the yeomen were a rural middle class, between the gentry and the peasantry, and their values—ambition, thrift, industry—and ownership of land were remarkably consistent with those of the urban middle classes of the Victorian era. However, as Joe Powell has argued, by the nineteenth century the 'yeoman farmer' had become a central symbol in 'a form of popular and politically useful agrarian idealism' in the lands of the English diaspora, including Australia.²⁶ Powell has shown how the yeoman image was built on a rich foundation of social and philosophical thought dating back to the seventeenth century. British scholars concerned with the relationship between life and land included John Locke, who argued for a 'natural' right to land, and William Ogilvie, Professor of Humanities at King's College, Cambridge, who wrote in 1782:

Men employed in cultivating the soil, if suffered to enjoy a reasonable independence and a just share of the produce of their toil, are of simpler manners, and more virtuous, honest dispositions, than any other class of men...That every individual who would choose it should be the proprietor of a field, and employed in its cultivation, is most favourable to happiness, and to virtue.²⁷

These ideas would later be taken up enthusiastically by Chartists and other reform groups.

As industrialisation in Britain proceeded apace, a range of image-makers from artistic, literary, political and commercial spheres evoked the Australian colonies in nostalgic mode, as an Arcady (the poetic name for Arcadia) in which British men might recapture a golden age of 'rural prosperity and individual dignity'.²⁸ Within Australia, the yeoman vision was pursued with vigour, through free selection, closer settlement and later soldier settler schemes. All this, of course, on land stolen from Aboriginal people: their 'birthright in land' was overlooked by most. In 1879, the Victorian Crown Lands Commissioners declared that the state's intent was 'to people the land with yeomen and producers of food'.²⁹ Similarly, in Western Australia in 1886, John Forrest spoke in parliament of his vision of a 'bold peasantry'. He was later rebuked for this view in the *West Australian*, on the grounds that such a peasantry would have to be imported, 'ready made', from France, Germany and Italy, and that what the state really required were 'stout British Yeomen'.³⁰

Given the consistent, overwhelming failure of schemes to settle families on relatively small acreages in Australia, 'the yeoman' was less a real figure than a convenient package for a bundle of virtues tied to the social and economic circumstances of the colonies, and enacted 'in miniature' in food-producing backyards: imperial economic relations and ties meant that the production of food and other raw materials was applauded as a national good; rural work and lifestyle—or at least an idealised version of these—was widely seen as the answer to the spectre of urban degeneration; finally, the yeoman was his own boss, independent of the relations of capitalism (in the ideal, at least), and largely self-sufficient. He therefore personified the ideal of 'manly independence' in a colonial context.

The figure of the yeoman also served to reinforce the prevailing gender order, in which men claimed 'independence' for themselves, and women were relegated to 'dependence'. Although based in reality on a model of family production, the yeoman *ideal* was clearly one of *masculine* production, with men taking the role of independent producers and providers, and dependent women being responsible for the transformation, indoors, of raw produce into finished product (for example, through cooking and preserving). Daphne Spain has observed that 'femininity and masculinity are constructed in particular

places'.³¹ In Australia, the residential suburbs formed part of a gender ideology of 'two spheres': as ideal venues for the expression of women's femininity in their role as care-givers for children and a weary husband, the suburbs were seen as part of a private 'feminine sphere', isolated from the public, 'masculine sphere' of the city.³²

The 'separate spheres' was a powerful ideal, which was certainly implicated in the physical separation of commercial and industrial areas from residential ones. It was, however, less coherent and complete than was often imagined. It is now widely recognised that many women, and particularly working-class women, went to the city to work every day, and the private house was the principal venue for the exploitation of women engaged in sweated labour.³³ Less attention has been given to the activities of men in suburban spaces. As sites where the yeoman ideal was practised in miniature, the productive places within Australian suburban backyards were important sites for the construction of masculinity. Linked as it was to the 'manly independence' of the yeoman, the element of hard physical labour (long central to constructions of masculine work) involved in such activities as double-digging a vegetable bed, was particularly attractive to white-collar employees whose regular work was not so identifiably 'masculine'. It therefore seems that whilst ideal places for women might not have existed in the city, masculinity could be very much at home in the suburb.³⁴ Had food production been seen predominantly as women's work, it is unlikely that as many men would have been involved in it. As it happens, women were also frequently engaged in the work of food production, although their contribution to this 'masculine' domain, carried out in the relative invisibility of the backyard, generally went unseen and unacknowledged by those people—mostly male—who controlled the public representations of backyard spaces. Instead, contemporary 'house and garden' literature consistently aligned femininity with consumption, ornament and passivity.

From the early twentieth century, the yeoman ideal was joined by the newly institutionalised ideal of the breadwinner as a yardstick of masculinity. The concept of the family wage, enshrined in Justice Higgins' 'Harvester' judgement of 1907, reinforced female dependence, thus cementing the relative independence even of men who were

unable to escape dependence on wage labour, or the landlord. In this context, suburban food production became even more integral to the everyday enactment of masculine identity, as a continuing statement of self-sufficiency and thus a symbolic act of independence from the wage labour system. It also comprised an extension of the masculine imperative, as breadwinner, to provide for his family.

Much of the literature on suburban food production from the late nineteenth and early twentieth century is ostensibly devoted to providing a ‘practical guide’, and the bulk of it in fact provides sober advice on digging, manuring, sowing times and pest control. However, advice was generally offered to the ‘householder’ making provision for ‘his family’s needs’, and made it clear that the assumed subject was the male head of the household. For example, *Adamson’s Australian Gardener* advised in 1896:

The future management of the garden, the kind of vegetables grown, and the quantities of each sort, must always depend upon the requirements of the family and the preference of the proprietor for particular kinds.³⁵

This was a formulation which prevailed in this popular text well into the twentieth century. In feminist magazines such as the *Woman Voter* and *Western Women*, women were encouraged to gain some independence for themselves by going onto ‘the land’ and taking up the ‘lighter’ branches of farming; nothing, however, was said of suburban ‘yeowomen’.³⁶ In less radical circles, there was even a reluctance to acknowledge women’s involvement in *rural* farming work, suggesting the extent to which food production was seen as a properly male occupation.³⁷

Discourse on home food production also occasionally deployed ‘independence’ in racial, as well as gendered terms. In 1902 for instance, just one year after the new Commonwealth parliament enshrined the White Australia Policy in its *Immigration Restriction Act*, the *Garden Gazette* announced in its inaugural issue that:

Floriculture, fruit and vegetable growing, if based on sound principles, cannot fail to be both pleasant and profitable. It

will be the aim of the GAZETTE to give that information in a simple, practical and useful form, so that the average citizen will not be so much dependent, at least for vegetables and fruit, on the Chinese grower as he has hitherto been.³⁸

Food production was also shaped along class lines, both in terms of meanings and practices. The property qualification and system of plural voting in local government elections meant that municipal councils were in most cases, and until quite recently, predominantly middle-class bodies concerned with protecting middle-class interests.³⁹ Councils exercised their power to shape local communities in a variety of ways, including the proclamation of by-laws. In the early years of the twentieth century, there was a general tolerance of productive animals in the suburban landscape, and local councils appear to have been most concerned to protect residents' rights to keep livestock. The few by-laws pertaining to animals arose from concerns over health. They applied mainly to commercial enterprises, and stipulated allowable distances between living areas and decomposing matter which was thought to generate 'miasmata'—smells or gases believed to cause disease.⁴⁰ However, from the years immediately preceding the First World War, and extending well into the twentieth century, local governments in their by-laws gradually sought to define rights to the enjoyment of private property in terms of amenity, or a pleasant environment, and began to privilege the individual enjoyment of neighbourhood amenity over the potential for food production involving livestock.

The concern with the quality of an environment was a central tenet of much contemporary discourse on urban planning and development. This, in turn, formed part of a broader middle-class reform effort grounded in environmental determinism, which aimed at decreasing crime and delinquency, as well as improving the Australian 'type', through improving the moral, social and physical contexts in which people lived. Such 'environmentalist' reformers, working within local governments or associations, tackled a range of urban issues from playgrounds to pollution. Although often addressing problems with a direct impact on health, such as sanitation, much of the reform effort was also directed at producing a pleasant environment

through the provision of parks and playgrounds, and removal of all that was 'unsightly'. Thus the constitution of the Town Planning Association of Western Australia proudly bore the words of Sir William Lever:

Surround a home with slums and you produce moral and physical weeds and stinging nettles. Surround a home with a garden and you produce the moral and physical beauty of the flower and the strength of the oak.⁴¹

The rise of the germ theory at the end of the nineteenth century meant that productive animals were no longer generally viewed as potential contributors to dangerous miasmata, though they were occasionally linked to the 'fly menace' and thus viewed as a potential threat to the health of residents. More often, however, they were characterised as a threat to amenity. 'Pleasant' environments devoid of dusty dairies and ruinous goats also protected property values, which interested Councillors as both landowners and rate-collectors.

Large animals, and even poultry, were thus regulated along middle-class ideological lines by councils who were both influenced by environmental determinism and concerned to protect property values. *Rus in urbe* and self-help was all very well, but the individualism of the middle-class, independent disposition meant that a pleasant (and thus healthy) household environment was regarded as more important than others' attempts at self-help, particularly where those attempts were carried out on premises seen as too small, or in a manner which lacked the requisite cleanliness and order. Middle-class privacy and self-containment was challenged where animals, or their sounds and smells, crossed property boundaries. Large animals, which needed space and were liable to escape and damage the surroundings, thus became problematic, as did poultry-keeping in the higher density areas. The animal-keepers most affected by this middle-class regulation were often the poorer members of the working class: productive animals such as goats could be of considerable economic importance to low-income households. Furthermore, it was on smaller blocks that specifications relating to distances between animals or poultry and living quarters were hardest to satisfy. Thus,

in its focus on transformation of people's surroundings, not only did the middle-class, environmentalist reform effort fail to address the causes of poverty, but in some cases it actively militated against working-class attempts at self-help.⁴²

The environmentalist reform efforts were also a result of increasing concern over the falling birth rate in Australia, as average family size decreased from 7 children in 1881 to 4 children in 1911. Initially, efforts were directed primarily at increasing the crude birth rate but by the First World War, attention was turning more to the quality, rather than quantity, of the population. As well as the burgeoning town planning or 'garden city' movement, with their 'beautification' brand of environmental determinism, this notion found expression in the reform of the family along scientific, rational lines.⁴³ Tension between the latter, with its emphasis on nutrition and hygiene, and the former, focusing on improved moral and physical health through a general improvement in surroundings, became quite obvious in struggles over the keeping of goats in the years of the First World War. As Councils attempted to 'beautify' their suburbs in the name of health (as well as land sales and increased rates) by attempting to exclude goats from suburban areas, working-class women often found themselves unable to meet the expectations of the 'experts' who recommended goats' milk for infant and child health.

In the war years, complaints relating to goats became reasonably common, due to the beasts' ability to wreak havoc on street trees and gardens.⁴⁴ In Perth and Fremantle almost all complaints involved a female goat-keeper, suggesting that women were largely responsible for the care of milking goats in suburban areas. Complaints about goats were taken very seriously: in 1905, for example, the Oakleigh ranger was instructed to shoot geese and goats at large in the town; a memo from the Fremantle Town Clerk to the Health Inspector in 1916 issued similar instructions.⁴⁵

The Perth City Council took a different approach to the control of goats, attempting in 1918 to reduce their number by charging a license fee of 5s each. This effectively put goat-keeping beyond the reach of poor families, and the Council subsequently received many letters from women requesting more time to pay their fees, or an exemption. These letters demonstrate the way in which women

sought to negotiate the gender dimensions of food production in their dealings with a civic body. In East Victoria Park—then an outer, predominantly working-class suburb—the residents, led by one Mrs Phillips, raised a petition, begging their Councillor to prevent the 5s fee from being enforced on the following grounds:

Apart from the manifest injustice this would be to infant life, seeing that most people would have to dispose of their goats because of their inability to pay the fee, it would certainly be a means of increasing the death rate among those of tender years, in verification of which statement there is ample medical testimony...it may be mentioned that the maternity bonus was granted by the Federal Government for the purpose of encouraging the birth rate, but it seems to your petitioners that the proposed tax would not only defeat that object but would render a considerable disservice.⁴⁶

The women clearly saw goat-keeping as a way to fulfil their responsibilities as mothers and avoid falling (further) into poverty. However, despite the petition containing 35 signatures, and an assurance that ‘the goats are, in every case, either in enclosures or are tethered, and therefore no charge can be laid that they are destroying property’, the Council was adamant that the fees would not be waived. The Council must surely have recognised that their approach would impact more heavily on the poor than those able to afford milk for their children, but considered this part of many women’s work, and responsibility *as women*, to constitute an unacceptable interference with the ‘public sphere’ and the plans of those who would ‘beautify’ it. This tension undoubtedly contributed to the decline of suburban goat-keeping: in Perth, the number of goats peaked at 541 around 1916; by 1929, only 174 goats were counted.⁴⁷

The appearance of animal-keepers who were female or poor (or more likely, both), troubled the dichotomy whereby suburban food production was associated with middle-class and ‘respectable’ working-class masculine independence and opposed to the dependence of women and the poor. For the middle-class in particular, food production was to be contained in an individual backyard, where it

was carried out in an orderly fashion, by independent breadwinning men, as a virtuous form of leisure (or an enjoyable form of household work). This dichotomy between acceptable middle-class 'gardening' and the food production activities of the 'slum-dwelling' dependent poor was also represented in the literature. For example, in a discussion on minimum allotment size appearing in the *Home and Garden Beautiful* in 1912, an anonymous contributor argued:

A man who makes his 30 feet backyard a repository for jam tins and a gambolling ground for dogs, cats, and goats, will not suddenly become a gardener because he is forced to live on a 50 feet allotment. The mission of those who desire to see the slum mode of living abolished is first to educate the people up to a standard of decent living in artistic surroundings.⁴⁸

To the middle class, 'gardeners' were those who understood, and practised, the 'art of living'. As Elliot Cole remarked: 'A love of gardening is almost invariably connected with neatness, cleanliness, and good order.'⁴⁹ The vegetable garden, in particular, was an ideal venue for display of these virtues: rectangular beds had long been the norm and the literature directed that it was 'essential to have perfectly straight rows'.⁵⁰ Where, on the other hand, food production took on the form of a chaotic subsistence activity, it bespoke poverty, and poverty bespoke dependence.

The 'independent disposition' also influenced middle-class ideas about food, health and bodies. Even for the early twentieth century in Australia, it is possible to see that gardening in general, and productive gardening in particular, was an activity bound up with the discipline of bodies. The discourse is clearly a middle-class one, with exercise being seen as a counter to the increasingly sedentary character of many middle-class occupations:

...nothing can be more healthful, interesting, inspiring, and refreshing for a man engaged in some sedentary work or business, confined to a stool nearly all day, than to have a garden and to commence work upon it when he returns home in the evening.⁵¹

Gardening was also seen as ‘an exercise which proves highly beneficial to persons engaged in literary pursuits’. W.D. Campbell, the New South Wales Director of Agriculture, similarly believed that the labour involved in making a garden ‘should bring health’, even if the (male) gardener’s ‘hands become somewhat sore and hard at first’.⁵² This work was all the more healthy and satisfying in the context of the yeoman myth, and the related belief that ‘gardening is farming in miniature; all cannot be farmers, but every one possessed even of a rood of land may have a garden’.⁵³

The products of backyard vegetable gardens and orchards comprised a tasteful addition to the suburban Australian middle classes’ ‘art of living’, as food that was wholesome, plain, and, in theory at least, of high quality. The fact that it was produced outside of the usual large-scale commercial systems gave it an inherent value, a distinction by which it could be marked off from the food of ‘the masses’. This was well understood within the class, and home-grown produce thus became an important item of exchange; if produce was economic capital within the household, it became a type of symbolic capital outside it, a gift of distinction which also signified the independent orientation of the giver: ‘flowers and fruits grown by ourselves are delicate and welcome presents which can generally be given without offending the most sensitive or independent friend or stranger’.⁵⁴ Home-grown food was also made valuable by virtue of its purity:

I think it will be admitted by all that fruit picked direct from the tree is infinitely superior to that purchased from the retailer. It is so much crisper than bought fruit, and one has the satisfaction of knowing how it was produced, and by whom it has been handled.⁵⁵

Food produced in one’s own backyard would be fresh, healthy and free from contamination by the hands of the casual ‘dirty’ poor or Chinese people.

In a context of anxiety over maintaining a healthy, disciplined body, purity and freshness were particularly important. They were even more important for those who followed the prescriptions of the new ‘health food’ movement. This was a diverse collection of

theories about food and health, ranging from O.L. Abramowski's fruitarianism, to the Seventh-Day Adventist venture which began manufacturing wholegrain products under the 'Sanitarium' label in Melbourne in 1898. Even Elliot Cole included a section on 'Health Plants' in his *Happifying Gardening Hobby*. Beginning with 'Medicinal Vegetables', Cole advised, for example, that 'celery acts upon the nervous system and is a cure for rheumatism and neuralgia'.⁵⁶ The concept of a backyard medicine chest was also highly congruent with the notion of independence; families who were 'growing their own medicine, doctoring their temporarily sick ones, and thereby keeping them healthier and happier' exemplified the middle-class virtues of prudence and self-reliance.⁵⁷ The reference to 'temporarily sick ones' is particularly interesting, as it suggests a concern on Cole's part not to conjure up the spectre of protracted or permanent sickness, which was often the means by which middle-class people could fall into dependence.



The multifaceted nature of the connection between home food production and the ideal of independence is well-captured in the debate over the Western Australian *Plant Diseases Act* in 1913–14. The primary intent of the Act (to control Mediterranean fruit fly) was thwarted by a lack of concerted voluntary action among householders. At one point during the debate, J.F. Cullen, MLC for South-East Province, connected health and the role of the State in proposing that 'the healthiest home is the home that grows fruit for itself. Therefore, Parliament must encourage home gardens'.⁵⁸ He also declared: 'as a citizen of the State I say it is a good thing for everybody who has a bit of land to have his own vine and fig tree, to have a few fruit trees'.⁵⁹ The 'vine and fig tree' metaphor, which has its origins in Micah's Old Testament prophecy (from whence also comes 'swords into ploughshares' and 'spears into pruning hooks', though for some reason the latter never achieved such popularity), came to stand for the ideal of every man owning property and, as head of a sovereign household, being free to enjoy the fruits of his labour without fear of theft or persecution. In Cullen's use of the phrase, we see an easy

slippage between the metaphorical and literal, perhaps reflecting the extent to which actual fruiting vines and trees were understood as symbols.

With its patriarchal construction, touch of productive rurality and focus on independence, it is little surprise that the ‘vine and fig tree’ metaphor should have appeared in Australia in the mid-nineteenth century, when both the urban ‘middling classes’ and ‘respectable’ working class were coming into their own.⁶⁰ In 1852, Samuel Sidney described Australia as

a home of peace and independence for the industrious—an El Dorado and an Arcadia combined...where every striving man who rears a race of industrious children may sit under the shadow of his own vine and is own fig tree—not without work, but with little care—living on his own land.⁶¹

Later, in the 1940s, the ‘vine and fig tree’ would also form part of the rhetoric of that champion of the middle classes, Robert Menzies.

CHAPTER 4

Prudence and preference: 1919–37

THE interwar years saw the expansion of ‘Home Gardening’ (always capitalised) as an accompaniment to the rise of middle-class, low-density suburbia. Leslie H. Brunning, in his Preface to the 1920 edition of the *Australian Gardener*, perceptively addressed the guide

...to the needs of the ever-increasing army of householders who realise the saving of expense, the healthiness of the occupation, and the general satisfaction to be derived from Home Gardening.¹

Searl & Sons echoed this sentiment in their 1922 *Key to Australian Gardening*: ‘Gardendom is ever athirst for knowledge and it is astounding how the popularity of this delightful recreation has increased within recent years.’²

The information needs of the burgeoning ranks of Home Gardeners were also satisfied by a flourishing house-and-garden periodical press, now the source of abundant evidence that Home Gardening often included home vegetable and fruit production.

Michael Symons has argued that in the interwar period ‘the bourgeois ideal became an ostentatiously ornamental garden, featuring unproductive lawn and a miniscule vegetable plot’.³ However, the idea (at least) of productive gardens was popular amongst the creators and largely middle-class readership of *Australian Home Beautiful* magazine, and substantial kitchen gardens and poultry pens were usually included in the tasteful garden plans appearing in every issue. Although vegetables were generally consigned to rectangular beds in an area fenced off at the back of the block, one *Women’s Weekly* writer observed in 1933 that in some gardens, particularly where space was at a premium, the flower and vegetable beds ‘seem to meet, without any distinct division, and both may be well in view from the house’.⁴ Fruit trees, and occasionally small vegetable beds, were also valued for their ornamental qualities, and located in prominent positions.

At the same time, home food production had the potential to make a significant contribution to the welfare of the average family. The Royal Commission into the Basic Wage, appointed by the Commonwealth Government in 1919, assessed the actual cost of living in Australian cities, for the ‘average employee’ with a wife and three children. It was found to be higher than the various basic or minimum wages awarded in each state.⁵ Although family size varied, clearly many families were having to do without some of the items included by the Commissioners, of which few could be considered luxuries. Food constituted the largest single household expenditure category. In an average family on the basic wage, around 6–9% of income was spent on fruit and vegetables; a further 7% on milk and eggs. Complaints over the high cost of living were sufficiently loud and ubiquitous for the Victorian Government to instigate two Royal Commissions into the high cost of living—one in 1919, and another in 1923.⁶ The high prices also motivated the formation of Housewives’ Leagues and Associations.

Opposite: Garden plan by Edna Walling for Clematis, a property in the Melbourne suburb of Burwood. Note the large vegetable garden and collection of fruit trees at the rear of the block. (Source: *Australian Home Beautiful*, September

1926, p. 59. Reprinted courtesy of *Australian Home Beautiful*.)

In more spacious middle and outer suburbs, some families relied on the income from food production to make ends meet. Amy Miller recalls her childhood in the eastern Perth suburb of Bassendean:

My father used to do odd jobs around the place, he was never well enough to do anything else and he didn't have a trade, so we girls went into service pretty young. My mother had the poultry and worked at that. She used to make money selling the eggs and dressed birds.⁷

This reliance on money received from the sale of eggs and poultry was apparently not unusual in the area, particularly during the early 1920s and the Depression. Large blocks allowed for the production of a wide range of foods—a potential exploited by Frances Warren's family, who moved to Vermont, then on the outskirts of Melbourne, in 1922. Frances' father was on a basic wage at the Australian Tessellated Tile Company, with four children (one of whom died in childhood) and his wife's father to support. On their large block the family had fruit trees, berries, passionfruit, vegetables, poultry, bees and a cow, and they were able to make ends meet by being self-sufficient in many of their dietary needs. However, although there was some economic motivation behind their extensive production, they also produced sufficient vegetables to give some away, and enough milk to share with a neighbour and her small children, as well as Frances' aunt, who lived nearby and whose husband was out of work. More than just an economic activity, food production was an important part of the family's involvement in community life. It was also a source of happiness. As Frances recalled: 'My *Mother* did the chooks, she loved her chooks and she'd go down and cackle with them...So that was a great joy for her.'⁸

Food production was also undertaken by some at the very margins of society, such as the old single men who occupied tents and humpies on land next to the railway line in the Perth suburb of Bayswater in the 1920s and 30s. The camp was quite substantial—around 1930 there were 67 men living there. Amongst the dust, canvas and corrugated iron, many of the men established gardens, which included exotic species such as peanuts.⁹ Meanwhile, many relatively

comfortable households were also growing their own food. For families such as the Nilssons, the value of a vegetable garden probably lay not so much in its ability to reduce the cost of living, but to reduce the cost of living *well*. Isabel Nilsson's father was an engineer, and her mother was born in the Western District of Victoria. The family, who lived in East Malvern from the 1930s, were virtually self-sufficient in fruit and vegetables, honey for a time, and probably also eggs and poultry (fowls and ducks). They paid for some goods and services (storage of large cuts of meat, cleaning, cream, fish) with fresh produce and the person who did their cleaning and ironing 'was encouraged with a basket of fruit or vegs to do a good job'.¹⁰ Isabel's family also gave produce away—to family, neighbours and the church—or sold it and donated the proceeds to charity. Recalling her years at Malvern, Isabel doubted 'that very much money was saved growing vegetables etc. (perhaps it was), but I do think my mother and for that matter our family had an innate dislike of commercially produced produce'. This preference for the home-grown over the purchased was widely held and was also often reflected in gardening books and magazines. Take, for example, this quotation from the 1920 edition of that ever-popular standard, *The Australian Gardener*:

A Vegetable Garden whether small or large, according to the space available, is always a profitable asset to every home, quite apart from its value as a hobby, for there is no comparison between the bought article and the fresh homegrown vegetables. A Vegetable garden lessens the cost of living, for home-grown vegetables are cheaper, cleaner and fresher.¹¹

Those with the room for a lemon tree not only had fresh fruit for low-cost puddings, sauces, syrups and jellies, but also a stain remover, hair rinse, freckle lotion, and cough syrup.¹²

Janet McCalman remarks that Lilian Campbell's family were better-off than most in Richmond, as their large block enabled them to run poultry (and keep a pony and jinker).¹³ However, many low-income households, especially in the more crowded inner suburbs of Melbourne and Sydney, did not—or could not—produce their own food. As in earlier decades, the appetites of the poor in 1920s Richmond were

satiated with ‘refined carbohydrate stodge’, and sweet food for comfort: diets of bread, potatoes and jam were embellished with mutton flaps and purloined fruit.¹⁴ And even where low-income families had the space for food production, their attempts could still be thwarted by Council regulations and fees. In December 1925, for example, the City of Perth banned the keeping of poultry in the inner city, with the City of Fremantle following their example a few months later.¹⁵ Poultry-keepers in the higher density, lower income areas of Prahran in the 1920s were similarly directed to restrict their poultry-keeping, or in some cases discontinue it altogether.¹⁶ In 1902, the Sydney City Solicitor had informed the Town Clerk that a by-law prohibiting the keeping of poultry within a certain distance of dwelling houses ‘would be held by the court to be unreasonable and therefore ultra-vires’.¹⁷ However, by the 1920s, the keeping of poultry within 25 feet of a dwelling was prohibited under the local government ordinances in many Sydney municipalities. When the Sydney City Health Officer proposed a similar regulation in 1920, in order to do away with the ‘many small yards in the City in which poultry are kept’, it was rejected by Council. He tried again the following year, ‘in view of the impossibility of keeping premises reasonably free from rats, and the general nuisance from fowls in the city’, this time with greater success.¹⁸ The regulation was enforced in the city and inner suburbs when a complaint was received, and resistance, though encountered, was futile: one Darlinghurst pensioner, faced with the loss of his poultry just before Christmas 1933, returned his notice to sender marked ‘no such number’. When it arrived back at Town Hall, he was promptly served another, in person.¹⁹

In the mid-1920s, some goat-keepers in Perth—mostly pensioners or unemployed—were still experiencing difficulty paying the registration fees required by the Council. One letter-writer pointed out that it was necessary to have several goats in order to ensure a ‘sufficient and continuous’ supply of milk for her children:

I have a milking goat which I keep for milk for my four children. I should very much like to keep at least another goat in milk and two or more dry goats which would come in when the goats at present milking go dry, as it is almost

impossible to get goats that are in milk when one wants them. However I find I cannot afford to pay the licence fee of 5/- each which would be required of me, and would like you to consider if you could make a reduction in the licence fee for goats which are kept solely for the use of one's household... With wages at their present level and the cost of living as high as it is at present, the struggle to rear and educate a family is a severe one, and anything that would tend to cheapen the cost of such an essential as milk is worthy of your earnest, and, I trust, favourable consideration.²⁰

Given the Council's intransigence with regard to such requests on other occasions, it is unlikely that any concession was forthcoming.

As the 1920s drew to a close, backyard production for many households was about to become more significant than before. The Great Depression was a time of poverty for many Australians, with unemployment affecting somewhere between 20% and 35% of all wage earners in 1932. Pension payments and wages were reduced, the minimum weekly wage of male adults stagnated, and average annual earnings in manufacturing fell.²¹ Some of those who were fortunate enough to remain in constant employment without wage cuts enjoyed higher real wages, as prices dropped. However, for single women supporting families on their low wages alone, and those forced to survive on the meagre dole, every addition to the household's resources made a big difference. Historians have not reached a consensus on the extent of actual hunger during the Depression, though it was certainly not unknown.²²

Home food production appears to have been one response to unemployment or underemployment during the Depression. A health inspector in the inner suburbs of Melbourne, for example, reported that:

Manure (the best breeding ground for flies) is seldom allowed to accumulate now, being very much in demand by the many unemployed who now grow their own vegetables. Back yards and vacant allotments have in numerous instances been cleared of noxious plants and in their stead a nice vegetable or flower garden has been laid out and maintained.²³

In Perth during the Depression, numbers of cows and poultry both increased—the latter by a substantial number—in the early 1930s. The 1933 census of poultry in Victoria, conducted in conjunction with the Commonwealth census, also painted a picture of poultry in plenty. In spite of collecting data at the time of year when flock numbers would be at their lowest, the census found 38 894 owners of 895 171 fowls in Metropolitan electorates. In addition, 4817 owners had 32 341 ducks, 190 owners 766 geese, and 206 owners 540 turkeys between them. All flocks of over 100 were presumably full-time commercial enterprises, thus leaving around 37 761 private (or semi-commercial ‘sideline’) owners of poultry in metropolitan Melbourne: around one in six households.²⁴

A series of oral history interviews, conducted between 1966 and 1985 and analysed by David Potts, provide a rare insight into perceptions of home food production in Melbourne during the Great Depression. Potts claims that ‘Home gardens stand out in the interviews as a significant source of food for those affected by the Depression’.²⁵ Of the 365 interviewees who answered a question relating to home food production, 70% claimed to have grown some of their own food. Most of these people grew some food prior to the Depression: ‘it was common practice whether a person was unemployed or not’. Potts’ results, however, should be treated with some caution, as the sample size was small and included rural dwellers; some of the interviewees would have been quite young during the Depression; and several decades had passed between the Depression and the interview. Furthermore, the extraction of data from its context within the interview removes the possibility of achieving an understanding of the narrative each interviewee was constructing about his or her experience, and the place of food production within that narrative. However, in the context of other evidence pointing in a similar direction, the interview material at the very least hints at extensive home food production in suburban Melbourne in the 1930s.

Potts attempts to refute the notion that hunger was widespread during the Depression, arguing that self-provisioning, shrewd shopping and sustenance filled the gap. However, 4% of all interviewees recalled or implied hunger; significantly more experienced ‘slight problems’ or cutbacks. Of those interviewees who were unemployed during the

Depression, less than half experienced no new problems with their food supply. Many of the unemployed turned to self-provisioning, with 40% creating new gardens or expanding their existing ones (whereas only 4% of fully employed interviewees did so). However, in all, only 48% of interviewees who were unemployed during the Depression ‘ran gardens’—a significantly smaller proportion than the 70% of the general population who did so. It is likely that many of the unemployed lacked one or more of the necessary resources for food production, such as time, space, security of tenure, knowledge, or money for gardening supplies. In particular, Potts found within his sample that although some interviewees were producing food in the high-density inner suburbs, most depended on the space available in the middle and outer suburbs for extensive production.

For some interviewees who were able to establish or extend vegetable patches, and who already had access to fruit trees, gardening was the main use of their enforced spare time. Many attached great importance to growing vegetables, tending fruit trees, keeping fowls, and keeping cows, and several claimed that home production was the main reason that they were able to eat well. Some produce was given away to neighbours or family, or bartered for other needs: one man from a family of five in the Melbourne suburb of Bayswater remembered that ‘Visitors...would cry to see our well-stocked garden... As we grew vegetables and produce these were always in demand...We bartered eggs, milk, fruit and vegetables for the things we needed.’

However, as Potts’ data suggest, by no means all suburban food production during the Depression was associated with poverty. The *Australian Home Beautiful* continued to include a kitchen or vegetable garden in its fashionable house and garden plans almost as a matter of course. Some of those who were not in a position to produce their own food benefited from the production of those who could. Some were the recipients of gifts; others ‘redistributed’ the fruits of middle-class backyards. In Victoria, Vin Greaves, who grew up on the ‘other’ side of Glenferrie Road in Hawthorn, recalled stealing fruit ‘for fun, as well as food’ during the Depression.²⁶ The houses of the well-to-do residents of Hawthorn Grove and Kinkora Road all had fruit trees at the back, providing their middle-class owners with fresh fruit, and unemployed Vin and his brothers with a

welcome change from sustenance bread, butter, potatoes and meat. Even in 1935, when things were looking up, the National Utility Poultry Breeders' Association of Victoria wrote to tell the Minister of Agriculture that 'Poultry stealing is very rife, and many valuable birds are stolen.'²⁷

Another form of 'resource theft' occurring in the 1930s (and no doubt long before, and after) was the deliberate grazing of cattle on prohibited land. One cowkeeper in Perth gazing upon the green grass of the Esplanade—the area between the city centre and the river—saw only excellent cow feed going to waste. The temptation was irresistible. In April 1936, the Town Clerk of Perth wrote a memo to the Chief Health Inspector:

Last night, and on several previous occasions, cows have been depastured on the Esplanade recreation ground. In addition to causing damage to shrubs, there is the nuisance committed by them on the ground. Will you please have a constant watch kept on the ground and endeavour to impound the cows so that we can take proceedings against the offenders.²⁸

The following day, another memo followed:

Re my memo. of yesterday, the cows were again depastured on the Esplanade last night. Something will have to be done promptly. The Gardener thinks they are placed on the reserve in the early hours of the morning and removed before daylight.

There is no record of whether the phantom cowkeeper was ever caught, but somewhere, someone in Perth enjoyed milk made on the Esplanade.

In the interwar years, then, home food production was economically important to many people, particularly those who fell on hard times during the Depression. There existed, however, a continuum, with households engaged in food production purely for survival at one end, and the comfortable Home Gardener at the other. There were relatively few households at the subsistence end of the scale, as the poorest often lacked the space, knowledge, money and other resources necessary for substantial food production. More common, even during

the Depression, were households for whom food production may have represented a saving, but was by no means a necessity. Conversely, even among those households for whom food production was necessary, there were more subtle satisfactions to be gained from the activity: the love of poultry, the taste of fresh milk, sharing baskets of berries with family and friends, serve to further complicate the narrative of necessity.



Even in hard times, then, the meanings of food production remained significant. Vegetable gardening in particular continued to provide a means by which to enact, in the suburban places in which many Australian men lived, an ideal masculinity tied to independence, productive physical labour and the breadwinner role. Conventional gender identities were reflected and reproduced in the illustrations and advertisements in gardening magazines and books, which commonly represented men in the independent, active, productive roles and women as the observers and consumers, dependent on the fruits of the independent male's labour.²⁹ In reality, for many male breadwinners, there were few daylight hours in which to carry out the tasks of gardening and animal husbandry, so it was often left to the 'dependent' wife and children to do the everyday work, with the men resuming their place in the backyard yeomanry only on summer evenings and weekends.³⁰

Representations of food production also referred to independence in terms which, whilst not overtly gendered, served to reinforce the close alignment of the dichotomies of independence/dependence and production/consumption (extrapolated elsewhere to male/female). A 1931 *Australian Home Beautiful* article on 'How to Start a Poultry Farm' enlarged on the desirability of 'going in for fowls', even in a small way:

Poultry farming gains more recruits than any other rural industry from the ranks of city workers of all grades. This is because it can be begun in a suburban back yard, and from the outset yield valuable sustenance for the home in the shape of eggs and table poultry...One man who might be regarded as having attained a degree of independence which

would appeal to thousands of city workers...said that he had been making five or six pounds a week over his living expenses without any excessive effort.³¹

Meanwhile, the *Garden and Home Maker of Australia* urged the suburban man living on a large block to ‘cease being a consumer: become a producer’, the latter being a much more independent, thus desirable, state of affairs than the former: ‘the wage earner, with little capital, should not take it for granted that he must remain a consumer all the time. To a great extent he must, but he can improve his position tremendously by becoming a producer too.’³² The elevated status of production was widely understood. We see it, for example, in the letters of J. Foley of Beaconsfield, whom we first encountered in chapter 2 when he wrote to the Fremantle Council in 1914 seeking a refund of pound fees. In 1922, his cows were still being impounded, and in seeking once again to have his pound fees refunded, he attempted to draw upon the respect accorded to both thrift and production:

As you are aware there is [*sic*] a few Ratepayers in the suburbs still try and keep a cow or two for their own use and nature provides at certain seasons luxuriant feed and I think from a thrifty point of view these should be encouraged instead of been [*sic*] penalised although they may be in the minority. They are certainly producers.³³

The independence/dependence dichotomy was often mobilised by cowkeepers in the 1920s and 30s, when house cows were coming under increasing pressure from suburban Councils. In Melbourne, when the Oakleigh City Council declared that it intended to prohibit cows in most of the city from 1938, Mr J. Creed, President of the Oakleigh State Electoral Council of the Australian Labor Party, objected to the state of double dependence that this change would precipitate:

There are 50 cow owners in Oakleigh. That means if the Council brought in a by-law prohibiting cows, it would mean 250 people would be thrown on to the dairyman, who in turn is at the mercy of the Milk board.³⁴

Individuals and groups do not necessarily act in intellectually consistent ways, and Oakleigh cowkeepers determined to protect their ‘independence’ resorted to collective action. On the 8th of July, a large crowd of cowkeepers attended the Council chambers to protest the proposed by-law prohibiting cows. The motion was defeated on that occasion, but when it was raised again at subsequent Council meetings, so many cowkeepers attended that the police were summoned to maintain order. Such protest, it seems, was reasonably effective: by the end of 1938, cows were prohibited in only a small part of the City, and fourteen years would pass before they were prohibited entirely.

The independent disposition, as manifested in the middle and ‘respectable’ working classes of Perth and Melbourne in the interwar years, was captured by (Sir) Frederic Eggleston in his portrait of the ‘self-contained man’. Eggleston, a member of the Australian delegation at both the Versailles and San Francisco Peace conferences, and wartime Minister to first China and then the US, was also a Caulfield City councillor from 1911 to 1920, and a pioneer supporter of town planning. In his 1932 *State Socialism in Victoria*, he expounded his belief that although state socialism was a ‘rational system’, the citizenship of the average Australian was ‘not quite good enough for it’, tending rather to individualism and civic apathy.³⁵ Eggleston saw Australian society as comprised of ‘self-contained men’ who had ‘stepped up from the inarticulate mass’ of workers, but who were imperfectly individualised, narrow and self-contained. This ‘self-containment’ was reinforced where a man had property, a surplus to spend, and a position to maintain, and was encouraged in a particular setting:

The home of the ‘self-contained man’ is in the suburbs; and in the highly developed suburbs of an Australian city, with good accommodation, a nice garden, a back yard, vegetables in his plot and fowls in the shed, a fence against intrusion, he has probably reached a higher pitch of development than anywhere else.³⁶

For Eggleston, then, the vegetable garden and fowl run represented the triumph of independence over interdependence, individual (family) over community. Although Eggleston saw the strengths of the

self-contained man in ‘self-reliance and independent thought’, he also despised his ‘selfishness, ignorance and arrogance’.

In *Self-Help*, Samuel Smiles quoted William Wordsworth as saying ‘these two things, contradictory though they may seem, must go together—manly dependence and manly independence, manly reliance and manly self-reliance’.³⁷ In both Smiles’ text, and suburban Australia, the value of dependence and reliance were often quickly forgotten. This is not to say that there was no actual community interdependence in middle-class suburbs: as Janet McCalman notes, in the middle-class suburbs of interwar Melbourne ‘Neighbours mattered and were cultivated and cared for’.³⁸ Neighbourhood networks were even more important in working-class suburbs.³⁹ As well as the local community being a source of surveillance and social control, it could also provide support—both moral and material. Although food production was predominantly associated with independence, where a surplus was produced it was often given away to friends, family or neighbours (more so for fruit and vegetables than livestock products). Where the recipients were not in a position to reciprocate, such gifts of food may be seen in terms of symbolic capital—prestige accrued through apparent philanthropy. Where, however, produce was exchanged in reciprocal relationships, networks of interdependence could be strengthened. Thus Isabel Nilsson’s parents exchanged home-produced goods ‘for good relationships with neighbours’.⁴⁰ In general, however, it appears that interdependence was not valued highly; indeed, there was no room for it in the independence/dependence dichotomy.

Just as middle-class families sought to contain their private lives within suburban homes, so too they sought to ensure that their suburban homes were contained in residential suburbs from which other activities—commercial and industrial—were excluded. The protection of residential amenity through control or exclusion of uses identified by residents as ‘conflicting’ was one of the few bases for concerted community action in many middle-class suburbs in the interwar period. Progress Associations, for example, formed where the boundaries of ‘containment’ were extended to the boundaries of the neighbourhood.

The tenacity with which residents could, on occasion, fight to exclude productive enterprises, as well as the kinds of distinction

drawn between gardening and animal husbandry, leisure and work, are amply demonstrated in the protracted conflict over a dairy in the Perth suburb of Wembley.⁴¹ The dairy, belonging to one Mr Delamere, was established in 1905. Gradually, suburban settlement extended to the vicinity of the dairy, and in the late 1920s and early 1930s, the conflict began. One resident, B. Caporn, Secretary of the Wembley Park Progress Association, wrote to the Council on behalf of the Association, requesting that Delamere's licence not be renewed as the 'dust nuisance' caused by Delamere's herd led to 'the discomfort of the household and the wife in particular', and more generally retarded the district's progress. It was also said that residents could no longer bear 'the eyesore in their midst forever and a day'. The desires of Caporn and others to see the dairy ordered out were frustrated by Chief Inspector Higgs, who gave Delamere's dairy a clean bill of health, and pointed out that the Council could not ban the dairy, as the authority to conduct a dairy was given by the *Health Act*. Upon hearing this, the Town Clerk pushed for an amendment to the Act which would give Councils the right to order the removal of any dairy where they deemed it advisable to do so. The amending *Act* was introduced into the Legislative Council in 1932 but it was defeated by one vote, primarily as the question of compensation could not be resolved. When this obstacle was encountered, Chief Inspector Higgs was asked to comment. He concluded that:

So far as I have been able to discover the only reason why the people of Wembley desire the closing of this dairy is that the buildings etc. are not in keeping with the more modern houses erected in the vicinity of same.

In 1934, the president of the Wembley Park Progress Association again complained about the dairy. Inspector Higgs again investigated, and again found nothing to object to. Over the next 11 years, more complaints followed, with residents being unhappy about dust and garden damage, but also concerned that the 'dilapidated and neglected' appearance of the dairy detracted from 'the pleasing appearance of the surrounding structures with their nicely kept lawns and gardens'.

The complaints included a petition signed by 38 residents, seeking to draw the Council's attention

to the fact that this Dairy is in the centre of a very large and progressive suburb; it is surrounded by villa residences, whilst its retention is seriously militating against the advancement of the district.

The Council explored every option with the aim of removing the dairy: in 1937 the potential of evicting the dairy under new zoning by-laws was investigated, but pre-existing non-conforming uses were allowed. The Milk Board was approached to deny Delamere a licence, but so long as the by-laws were not breached, they had no right to do so. The land had been valued with a view to resumption, but the Council couldn't afford to buy it, let alone compensate Delamere for loss of business. In 1947, Delamere was still there. This kind of conflict was replicated around the same time in other areas.⁴²

Suburban dairies had their defenders: apart from the municipal health inspectors, with their narrow, technical brief, many suburban residents valued the freshness of locally produced milk. In Sydney, the relative decline of suburban dairies was bemoaned by those who believed that 'suburban milk' was superior to 'country milk' due to the closer supervision of metropolitan dairies, and minimal transport and handling involved.⁴³ Even so, the presence of a real independent man, and his snorting, stamping, bellowing herd, was unsettling in more ways than one. Suburban dairy herds were congruent with ideas about independence and the virtues of rural life and labour, but they came into conflict with urban middle-class values on two main fronts: firstly, in the context of the continuing popularity of environmentalist ideology, they disrupted attempts at beautification of the environment, and in doing so represented a potential threat to both health and morality. Dairies were also seen, on at least one occasion, as a direct threat to morality: in 1925 one M.J. Kirk complained of a North Perth dairy: 'There is a bull kept, and children from the school which is close by can see him with the cows which is disgraceful.'⁴⁴ (The less delicate Chief Inspector considered the complaint to be 'without foundation'.) Secondly, they were an affront to

acceptable standards of cleanliness and order: as well as distributing dust and dirt, dairies threatened the broader efforts to impose order through the creation of homogenous communities via instruments such as zoning.⁴⁵ In doing so, they disrupted the attempt to create suburbs which were uniformly private, if not completely feminised, ‘havens’ from the world of work.

At this time, the middle class were, if anything, more concerned than ever to show that the virtuous recreations of vegetable gardening and poultry-keeping were just that—leisure—rather than a (purely) economic activity, or ‘real work’. For example, in 1926, that arbiter of middle-class taste in things domestic, the *Australian Home Beautiful*, was equivocal on the subject of whether backyard poultry were a paying proposition:

Does it pay to keep your own fowls? This is a question that nearly every young home builder asks, and the answer is Yes. That is if you take other things than mere money into account—such things, for instance, as the joy of hearing the hens cawking about what they are going to do and then cackling about what they have done; the pleasure of lifting the new-laid eggs from the nest, and the satisfaction of knowing that the eggs on the table are absolutely above suspicion—to say nothing of the pride of remarking to your neighbour, ‘I’m getting nine a day now and I’ve only got twelve birds’. But even from the financial point of view the small poultry run can be made to support itself if one likes to be methodical, take trouble and follow the rules: GOOD BUYING, GOOD HOUSING AND GOOD FEEDING.⁴⁶

Wishing also to dispel for their middle-class readership the whiff of poverty which might have clung to self-provisioning activities (especially those involving animals), the editors of the magazine ensured that discussion of food production appeared in the context of middle-class concerns with healthy eating and quality of produce, as well as distinctly non-economic ‘intangibles’ such as cawking hens, purity, and triumph over ‘the Joneses’. However, given the persistence of the virtue of thrift, it was also made clear that through the discipline of

methodical management and ‘taking trouble’, the enterprise could still be made to pay its way.

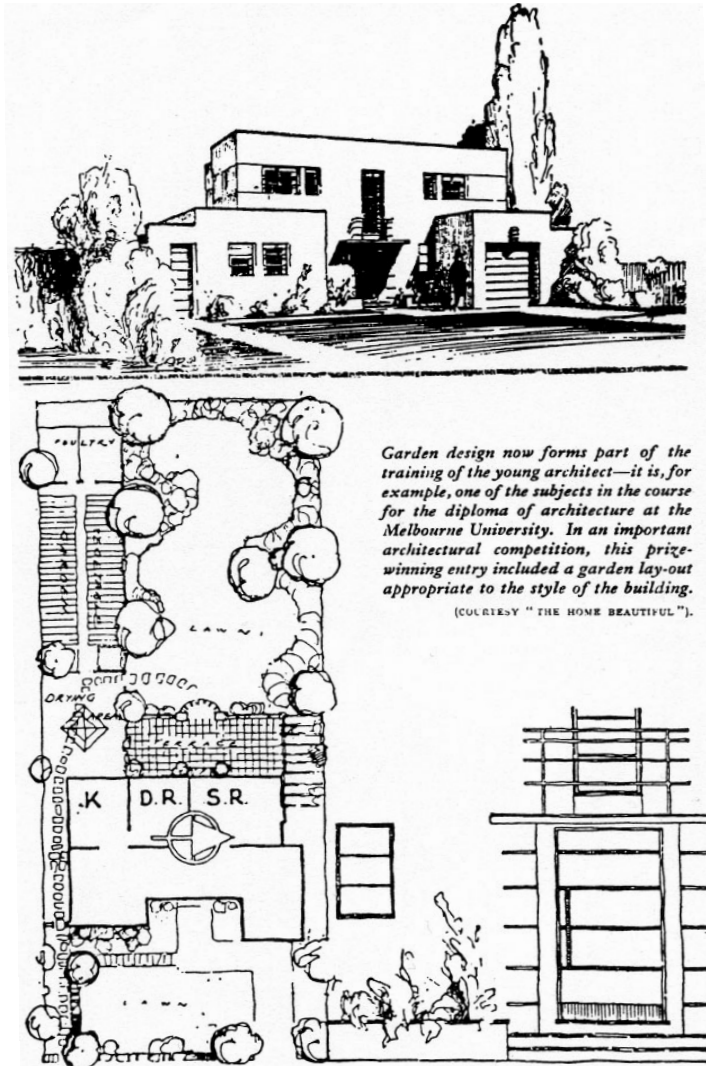
Many of the contemporary gardening publications included some discussion of diet, and in particular stressed the importance of a diet incorporating plenty of fresh fruit and vegetables. This was due, at least in part, to the increasing recognition of the importance of ‘vitamines’. Although Frederick Hopkins, Professor of Physiologic Chemistry at Cambridge, discovered what he termed ‘accessory factors’ in 1906, it was 1912 before he published a complete exposition on the subject. In the same year, a paper by Polish chemist Casimir Funk, resulting from his independent research, introduced the term ‘vitamine’.⁴⁷ The process of technocratic intervention in the private sphere which gathered momentum from the First World War saw an increasing number of middle-class health professionals urging the population to consume more milk, fruit, vegetables and eggs. In the 1920s, the concept of vitamins was employed to strengthen these calls.

One of the first Australian discussions of vitamins appeared in a 1923 article by Phyllis Cilento on ‘The question of diet in the tropics’.⁴⁸ The new language of nutrition was taken up enthusiastically by middle-class gardening magazines. In 1925, for example, the *Australian Garden Lover* published a series of articles on ‘Vegetables and Vitamines’, beginning with the declaration that:

It is impossible to over-estimate the value of a properly regulated diet...The vital importance of vegetables is well known in a general sort of way, but it is infinitely better to know precisely the particular virtues stored up in each particular vegetable.⁴⁹

It was soon realised, furthermore, that storage and processing tended to destroy the vitamin content of foods. The middle-class preference for freshness, for vegetables cut in the evening and eaten at night, now also had a sound nutritional basis.

Richard White has argued that from the 1930s, as the pace of industrial development accelerated, manufacturers encouraged both a culture of consumption and a national outlook within which commercial and industrial progress were linked with cultural maturity



Poultry and vegetables in an 'appropriate' garden layout for this ultra-modern design. (Source: W.A. Shum (ed.), *Australian Gardening of To-day*, The Advertiser, Adelaide, c. 1940, p. 21. Reprinted courtesy of *Australian Home Beautiful*.)

and urban sophistication.⁵⁰ A 'modern outlook' comprising an urban, cosmopolitan, modish set of tastes thus arose as the cultural accompaniment to changing forms of economic development.⁵¹ In valuing the 'up-to-date', the 'modern outlook' intrinsically encouraged higher levels of consumption (as the 'up-to-date' readily becomes 'out-of-date'). It also appears to have influenced those groups seeking to exclude large productive animals from the suburbs, as evidenced by the terminology employed in the conflict over Delamere's dairy. In the 1950s, the 'modern outlook' would become even more important as a force shaping both the ways in which food production was carried out, and ideas about which types of suburban food production were acceptable. The 'modern outlook' was not incompatible with all types of food production, however: well into the 1930s, designs for ultra-modern houses and gardens could incorporate vegetable plots and poultry runs.

In spite of a general enthusiasm for 'the modern', some associated it with degeneration of individual bodies and the social body. As early as 1925, the *Garden Lover* magazine declared that 'The march of civilization is leading us farther and farther away from the foods our Creator intended us to eat', going on to predict that 'humanity, sick and miserable with the affliction of a multitude of mysterious diseases, will at last turn for cure and the establishment of a disease-resistant vitality to the vegetable garden'.⁵² By the late 1930s, Billy Hughes, then Minister for Health in the Lyons government, reported to parliament that Australia faced a future of degeneration: 'we, the descendants of one of the most vigorous, active and adventurous races, lead sedentary lives, take little corrective exercise and live on devitalized food'.⁵³ Raphael Cilento, Director-General of Health and Medical Services in Queensland from 1934 to 1945, also expressed concerns about the effects of a 'devitalised diet' on the productivity and efficiency of the Australian community, and the future of the white 'race' in Australia.⁵⁴

Cilento was an admirer of Mussolini, and concern that urbanisation and modern living more generally were leading to degeneration of individual bodies, and the social body, comprised a central theme of fascist ideology. Indeed, National Socialism had a strong 'green' or ecological strand, most closely associated with Walther Darré, Nazi Minister for Agriculture from 1933 to 1942. Darré's advocacy of

‘blood and soil’ encompassed a critique of nomadism or ‘unrootedness’ (associated with European Jews), and expressed a unity of race and land. Organic agriculture was part of his vision for an authentic, healthy, vital, prosperous, self-sufficient peasant society, which would form the wellspring of German racial rejuvenation.⁵⁵

In the face of an increasingly pervasive and occasionally threatening modernity, Australians too turned to food production, with the productive spaces of their backyards serving as refuges for traditional ‘yeoman’ values. Their gardening was not infused with the Nazi sense of racial connection to homeland, though independence from the commercial food system could ensure that the perils of ‘devitalised’ food were avoided. A home vegetable garden provided good, honest exercise, and (along with the poultry and fruit trees) wholesome ‘vital’ food. With this combination, the middle and respectable working classes could avoid bodily degeneration, and its associated fall into dependence.

Vegetable gardening, fruit culture and animal-keeping wove a rich array of meanings relating to class status, gender, food, health and bodies into the suburban landscape, in a pattern determined also in part by technological and ecological contexts. Some of the greatest changes to the ecology of food production in the interwar period were wrought through the rise of the automobile. One of the first gardening books written for Western Australian conditions commented on the changes in the form of a lecture delivered in a cauliflower plot, set ‘around the time motor cars were becoming common’:

A canny old market gardener and his son were manuring the plot. ‘What’ll I do with this, Dad?’ asked the boy, holding up on his fork the dilapidated remains of a pair of trousers. ‘Fork it in, Joe, fork it in; it all makes ‘manoor’ [manure]. Everything makes ‘manoor’ except glass bottles, but them dam [*sic*] things ain’t no good at all; they only jag a man’s fingers and spile his temper.’ While the makings of ‘manoor’ were being dug in, a car laboured noisily by. The boy asked: ‘Why don’t you buy one of them things, Dad?’ The old man leant on his fork, silently watching the car till it clattered out of sight, then, turning to Joe and jerking his thumb over his shoulder, drawled sarcastically: ‘Buy one of them things! Not me! Them things

don't make manoor, they'd only get a man into debt. Never get into debt, Joe, but if you do get into debt let it be for manoor. When one of them things'll take a full load of caulis to market by 4 o'clock, and be home before breakfast with a load of good manoor, I'll buy two, a waggon [*sic*] one to make the money, and a buggy one for mother to bank it. And we'll keep the horses for useful pets. Gosh!⁵⁶

The moral of the story? 'Full supplies of manure are of such paramount importance that the producing of them must be precedent to every other consideration.'

Indeed, in the interwar period, organic manures were sought, in a context of declining availability, with an almost religious zeal. Gil Muling, who moved to Camberwell in 1932, recalled that the rubbish contractor, the milkman and the baker all made deliveries with horses and carts, 'And, of course, anyone who was garden-conscious was the first one in the street with their little shovel and broom to pick up the manure.'⁵⁷ However, horses were beginning to be replaced by cars and trucks, and numbers of cows were declining. Brunning's *Home Gardener* of 1930 recommended that given the scarcity of good manure, home gardeners should take advantage of buying a few loads of it when available.⁵⁸ The shortage of manure also saw gardeners seeking other sources of fertiliser. Blood and bone was a readily available by-product of the meat industry, and many gardeners either crushed bones and dug them into the soil, or saved them for putting in the hole when planting a tree. Wood and coal ashes from household fireplaces were known to be rich in potassium, and were reserved for use on vegetables such as peas, beans and potatoes; residents of coastal districts were advised to use seaweed.⁵⁹

Other types of manure were also keenly sought. James Conarty was so convinced of the value of poultry manure to vegetable production that he included in his gardening book a section on keeping poultry.⁶⁰ Others proposed that when fed on a morning mash of table scraps, bran and pollard, a midday meal of green feed, and an evening feed of scattered grain, poultry could prove an economical and convenient source of manure, with eggs an attractive bonus!⁶¹ Nightsoil remained another source of nutrients produced on-site.

Although an increasing number of houses were connected to the expanding deep sewer systems, many areas were still serviced by the night-cart. As a young man, Brian Watson started growing vegetables at his grandparents' home in the Melbourne suburb of Alphington. In the 1920s, they were in the fortunate position of having a supply of horse manure, as Brian's grandfather painted carts, drays and coaches. They also made liquid manures from pig and cow manure, and collected the soot from the chimney to mix with blood and bone. Brian says:

I would also use night soil deodorized by adding sulphate of iron so the neighbourhood couldn't complain at all. Night carter used to carry our empty pan each time, it was against the law but he never said a word.⁶²

In the relentless pursuit of 'manures', wastage of organic material of any kind was deplored. The catch-word was humus:

Humus or Vegetable mould is formed by decayed vegetable matter, such as leaves, roots, stems, etc. Humus is the most important constituent of all soils for the gardener; it has a great influence on the capacity of soils for retaining moisture, renders their cultivation easier and encourages the activity of soil bacteria.⁶³

Humus could not be provided by artificial fertilisers, so the necessity of securing a source of organic matter—manure or compost—was stressed. One gardening guide, convinced of the necessity of a plentiful supply of humus for gardening on Perth sands, declared: 'Everything convertible into manure should be saved. The habit of throwing bones into the rubbish bin, and tossing straw, twigs, leaves, weeds and other refuse over the fence is pernicious.'⁶⁴ Another Western Australian author saw the increasing replacement of horses with motor vehicles as a 'grave concern', and lamented the wastage of paper:

In most homes the wastage in paper, old bags etc. is very great, whilst the loss continually taking place in large cities through the waste paper baskets of offices, schools and business papers

generally is enormous. This paper should be conserved to enrich the garden soils of Australia, instead of being destroyed, as is the case at present.⁶⁵

At this time, approaches to composting were becoming slightly more sophisticated, with the addition of lime and regular turning recommended, to speed up the process.⁶⁶

Although the majority of publications acknowledged that some amount of organic manure or compost was essential for successful vegetable production, it was often argued that scientifically, the importance of organic matter lay in its contribution to soil structure: 'Delving further into the Science of Soil, the *Physical* condition is everything...and *without this*, all other additions are *so much waste of time and money*.'⁶⁷ Several publications therefore maintained that once the addition of organic matter had taken care of the soil structure, the three main plant nutrients—phosphorus, nitrogen and potassium—could be supplied in the form of artificial manures such as Thomas's phosphate or superphosphate, nitrate of soda or sulphate of ammonia and sulphate of potash, muriate of potash or kainite.⁶⁸ This 'scientific' approach to plant nutrition was increasingly seen as the way to achieve greater efficiency in the vegetable garden and orchard, and to escape the inconvenient and occasionally unpleasant necessity of dealing with 'natural' manure.

The turn to science in the home garden may be seen as part of the middle-class reform movement which sought to create a better society through the application of technical rationality to all spheres of life, from the management of children to the zoning of suburbs. In the interwar years, faith in the advantages of the application of modern, rational knowledges blossomed in the home garden context, and organisations such as the Horticultural Council of Western Australia declared their commitment to the pursuit of higher standards through modernisation, and the application of science. In 1932, when the *West Australian Gardener* was in its eighteenth month of publication, the editor was pleased to announce: 'It can certainly be declared that the higher scientific standards of Botany and Horticulture are better understood than ever before in this State, and even the amateur is beginning to think, not guess.'⁶⁹ The effect of

the increasing orientation toward scientific, rational garden management can be clearly seen in the area of pest control, where the idea of achieving total independence from disease and the depredations of pests was seen as particularly attractive, and increasingly attainable.

From the First World War, pest control was increasingly portrayed as a battle which could be won through the use of various chemicals. In Europe and the US, metaphoric, technological and institutional links developed between war on people and war on insects, with insecticides/chemical weapons as the common link between the two.⁷⁰ In Australia, the technological and institutional links were less concrete, but the rhetoric of warfare was freely employed in gardening publications. Western Australian Government entomologist L.J. Newman advised gardeners that ‘Chemicals used in insect warfare are applied as sprays, dusts and fumigants’.⁷¹ In 1922, *Searl’s Key to Australian Gardening* described the situation thus: ‘Every gardener has his own battle to fight against these minute but extremely troublesome marauders, and the enthusiastic and practical tiller recognises the importance of spraying.’⁷²

Searl’s, however, was one of the few guides to recommend the use of botanicals, including white hellebore and pyrethrum. In general, the heavy reliance upon lead arsenate was maintained. In Western Australia, Newman informed home gardeners that lead arsenate had ‘a wider range of usefulness than has any other internal poison now available’, and was ‘safe to use on the foliage of most plants’.⁷³ Paris green was still recommended as an ingredient in poison baits, and occasionally also as a spray or dust.⁷⁴

Although lead arsenate remained popular, the problems with reliance on it were starting to become apparent. The possibility of insect resistance to insecticides was recognised by 1914, and soon after the First World War, it was found that codlin moth was in fact becoming increasingly resistant to lead arsenate. Most growers simply sprayed more frequently.⁷⁵ As levels of lead arsenate residue on apples increased, a public outcry over the dangers of arsenic poisoning arose. In 1933, Americans Arthur Kallet and F.J. Schlink published their wildly popular book *100,000,000 Guinea Pigs*, which included a chapter on the hazards of lead arsenate residues on food. The following year, a scientific symposium on the ‘spray residue problem’

was organised in the US.⁷⁶ In Britain, the controversy over arsenic residues was a factor in the rise of the organic farming movement. Britain also threatened to ban imports of Australian apples if the trend towards increasing residues was not reversed.⁷⁷ The response in Australia was to trial different combinations of pesticide, with some attention also given to timing of sprays. Home gardeners were simply advised not to use lead arsenate on mature crops, and to wash all vegetables before use.⁷⁸

Given that an awareness of the risks involved with the use of arsenical compounds had existed at least since the mid-nineteenth century and had been examined at length by the British Royal Commission of 1903, why then were they taken up with such enthusiasm? The high cost of labour for cultural control of insects, as compared with the relatively low labour and capital cost incurred in spraying, was one reason why Australian farmers valued pesticides as 'simple, convenient and immediate solutions'. The idea of a battle between 'man' and insects—with chemicals as the weaponry—was also influential as was the attraction of the perceived rational and scientific nature of chemical pest control measures, in an era where 'progress' and technical rationality—underpinned by science—were discursively inseparable.

Another cause lay in the failure of other methods of pest control to meet public demands, particularly in the context of an influx of introduced pests, and an increasing tendency towards monocultural commercial production methods which favoured the development of large pest populations. Biological control was one such alternative. George Compere, Western Australian Government Entomologist from 1900 to 1911, was a biological control enthusiast who, under contract to the governments of both Western Australia and California, spent a great deal of time travelling the world in search of predatory and parasitic species, and successfully introduced several.⁷⁹ However, attempts at biological control, at least in Western Australia, appear to have declined after 1907. Furthermore, although there were some spectacular successes, such as the eradication of prickly pear in the brigalow by the cactoblastis moth during 1926–30, not all introductions were as successful as had been hoped. As a vegetable pathologist with the Victorian Department of Agriculture put it:

There is no doubt that the method of pitting nature against itself is a most economical one, and that most satisfactory results might be expected from it, but it would appear we have not yet learned how to apply these remedies to best advantage.⁸⁰

Certainly few biological controls had the same visible impact as lead arsenate spray, and they generally required more costly research.

Furthermore, in the early years of the twentieth century, there was little apart from medical science to counsel caution in the use of toxic sprays, and the issue of residues on fruit was seen as having been dealt with legislatively. The British Ecological Society was founded by (Sir) Arthur Tansley and others in 1913. But ecology, as a science which viewed nature as a 'set of intricately connected systems that could only be viewed through quantitative studies of complex interactions among species and with the land', only coalesced in the late 1920s in the United States.⁸¹ Ecological ideas were by no means unknown prior to that time, with precursors in various ideas of a 'natural economy' found in biblical and classical sources, in the work of Enlightenment thinkers (notably Linnaeus), and the theories of eighteenth- and nineteenth-century naturalists and geologists, including Charles Lyell, Alexander von Humboldt, Alfred Wallace and Charles Darwin. The term 'Oecology' (precursor of the word 'ecology') itself was first coined in 1866 by German biologist (and inveterate neologist) Ernst Haeckel, though he made little use of it.⁸²

Understandings of a 'natural economy' were also apparent in Australia. For example, in an article published in the *Journal of the Department of Agriculture of Western Australia* in 1900, Robert Hall urged 'yeomen' to encourage and protect the various insectivorous birds, as part of a natural system of keeping insects in check: 'So wonderfully arranged and dependent upon each other are bird-life, insect-life and plant-life, that, to disturb the balance of nature to any great extent is inviting personal trouble.'⁸³ However, such ideas had not achieved the sophistication, or methodological backing, of a distinct science.

Ecology may be characterised as a science of caution because it was imbued with an appreciation of the complexity of natural

systems, and drew conclusions about relationships and processes in nature, rather than restricting its focus to yields of meat, milk, wool and other produce.⁸⁴ It was used instrumentally, for example in Francis Ratcliffe's work on flying foxes as an orchard pest in eastern Australia. However, its commitment to detailed observation and attention to multiple broader connections within and between species and land produced a conservative approach to human interference with nature. Ratcliffe, for example, found that rather than the widespread extermination of flying foxes which had been sought by the fruit growers, it was only necessary to control small sub-sections of the population.

In the early years of the twentieth century, ecological science had not yet become a force to be reckoned with. Industrial chemistry, on the other hand, was striding ahead, particularly in Britain and Europe. A theory of chemistry able to serve the needs of industry by modifying old processes and creating new ones developed during the eighteenth century. By the mid-nineteenth century, industrial chemists were employing their knowledge of the principles of organic and inorganic chemistry in the creation of an increasing array of chemical products. Carried out largely in the context of research and development programmes of private firms, industrial chemistry aimed to produce new or improved products for manufacture and sale by the company, to produce profit for the company.⁸⁵ In this context, it may be seen as a science of capitalism. In 1924, all of the major German chemical manufacturers combined to form a massive chemical combine, I.G. Farben. By 1927 I.G. Farben was employing in the order of 1000 research chemists and spending £7.5 million on research and development activities. The combine, which produced and licensed several pesticides (including Zyklon B), rapidly became a major exporter of chemicals to Australia. The British responded by forming their own chemical combine—Imperial Chemical Industries (ICI).⁸⁶ ICI Australia, founded shortly afterwards, had privileged links with the ICI group overseas, and was thereby able to import not only products, but also technology, from the imperial centre. Within these organisations, industrial chemists used their scientific knowledge to make pesticides that were effective, and profitable. And in the 1920s, as 'Old Bill' from Sydney's *Evening News* put it: 'Anxious

eyes are looking to the scientists to cope with [the] increasing menace to the production of our fruit.⁸⁷

By the time ecological science was in its infancy, chemical methods of pest control had become a first, rather than last, resort. The Commonwealth Prickly Pear Board, for example, was formed in 1920 to investigate biological control only when attempts to eradicate the weed with arsenic pentoxide and arsenious chloride had largely failed.⁸⁸ As chemical controls became more entrenched, biological control tactics were not abandoned entirely: in December 1933, for example, an Egyptian wasp was successfully introduced to control the green vegetable bug. However, such pest control strategies were less common than in the prewar period, and they were rarely mentioned in the gardening literature. Furthermore, as contact poisons such as nicotine destroy both pest and predator, it is likely that the emphasis in the literature on spraying rather than biological control in fact worked to undermine biological control efforts.⁸⁹

The language of dirt and cleanliness was often employed in discussions of spraying for insect control. ‘Dirty’ gardens encouraged insects: ‘It is no exaggeration to state that half the injuries caused by insect pests in the fruit garden are due to dirty trees and bushes, and an annual spraying in Winter should be regarded as an imperative duty.’⁹⁰ ‘Clean’ gardens, on the other hand, were insect free. Gardeners were advised, for example, that spraying young cabbages with nicotine sulphate and arsenate of lead would ‘keep them clean and healthy’. Lowe’s Benzole emulsion was similarly said to keep roses and fruit trees ‘clean and healthy’.⁹¹ To many, the notion of cleanliness translated into the desirability of a garden devoid of invertebrate life: when questioned at a Western Australian Horticultural Society meeting in 1932, a representative of the Department of Agriculture provided advice on how to kill earthworms where they were ‘not appreciated’.⁹² In advertising their sprays, manufacturers also relied on imagery which suggested the indiscriminate killing—cleansing—nature of the products.

This notion of the ‘clean garden’ was congruent with a dominant worldview in which cleanliness was bound up with the virtues of thrift and moral propriety. It was also important to the new middle-class technical rationality which encompassed approaches to reform



The superior cleansing power of Somner's Reliable Sprays. (Source: J.V. Schenk, *For Better Gardens: The 'Somner' Book of General Gardening Information*, H.J.C. Boyd for Law Somner Pty Ltd, Melbourne, c. 1930, p. 61. Reprinted courtesy of Arthur Yates & Co.)

based on environmental determinism: as well as reducing crop yields, insect pests were seen to threaten attempts to create ideal citizens by posing a threat to 'the development of good, clean, beautiful and healthful surroundings'.⁹³ The roots of modern environmentalism have been traced in part to those middle-class urban reformers who sought to create clean and healthy environments for themselves and 'the masses'.⁹⁴ However, it seems that the environmental intentions of middle-class horticulturalists between the wars were very different from those of today's environmentalists: with an anthropocentrism untempered by the insights of ecology, they contributed to the invisible, yet very real, pollution of ecosystems for both humans and wildlife.

Allan Pred has described how around the turn of the twentieth century, men and women visiting world fairs and exhibitions were confronted with new goods and industrial technology displayed in such a way that there was no mistaking their meaning: here was conclusive proof of the triumph of 'men' over nature.⁹⁵ Those working in the gardens of Perth and Melbourne, however, understood that such 'triumph', though perhaps an attractive idea, was by no means

complete. With diligence and hard work, one could make a garden bountiful. But the constant struggle against pests, hot weather, dry soils, floods and frost led Mrs Arthur Tuckett to declare in 1905:

Gardening is now, and ever shall be a constant warfare against the forces of nature. Should the puny efforts of man falter for ever so short a time, nature, always vigilant, triumphs, and the garden returns to its primeval state of wildness.⁹⁶

The domination of nature—the winning of the battle—has often been seen by historians as a critical aspect of relationships between humans and nature.⁹⁷ However, perhaps from another perspective—a gardener’s perspective—what was sought was not so much domination as an ability to engage with nature, but on their own terms. Gardens were regarded as essentially the products of nature, shaped and ordered by human hand. Romantic understandings of the environment were common among gardeners, and nature in her benign guise was revered. The *Westralla Gardener*, for example, waxed lyrical about ‘Nature, in her cultivated trim’, and the *Western Australian Gardening Guide*, employing judicious amounts of hyperbole, described the fruits of the gardener’s labour as

the goods which we in this delectable climate can coax in abundance from Dame Nature, who, in her beneficence, lavishes upon all who make and maintain the slight necessary effort her unlimited treasures of beauty sublime.⁹⁸

Gardeners sought to be close to nature, but not too close. Rather than seeking to become part of nature in the garden, as many would in the 1970s, they wanted to retain a sense of separateness, and the freedom to carry on gardening on their own terms, in their preferred way: they sought to partake of the ‘exquisite beauties of Nature’ whilst remaining independent of the *necessity* she was liable to impose.

In the interwar years, technical rationality in the form of chemical pesticides and fertilisers offered the illusion of independence from the necessity imposed by nature. Although it was still deemed

necessary to find or make suitable organic matter, and thus involve oneself to some extent with natural processes of nutrient cycling, it was believed by many that nature's methods of plant nutrition could be improved upon through the use of artificial fertilisers. Many people also believed that natural cycles of pestilence and predation could be ignored, in favour of carrying out warfare against all insects with poisonous sprays. Gardening for food was, indeed, a curious kind of dance with nature.

CHAPTER 5

Fear and pride: 1938–54

IT is 1941. A 56-year-old woman who runs a haberdashery and confectionery store in Essendon, a suburb of Melbourne, has seen her takings decline since Coles opened a branch nearby, five years previously. She and her sister live on only 45s a week, but get by fairly well by growing all of their own vegetables and eating eggs from their four bantam hens. Around the corner, the wife of a slaughterman intends to plant vegetables in the front garden when she has time, though with eight children at home and another on the way, she has no idea when that will happen. Across the city to the south-east, in Richmond, a retired couple have been trying to grow vegetables, but recently gave up on account of their ‘sunless yard’. Around the corner from them is one of the few food-producing households in Richmond. The father is a bank clerk, and with a son on military service and a daughter in sales at Myer, the family earns over £10 per week. Still, the ground is cultivated ‘where possible’ around their ‘superior modern home—for this locality’. Further to the south-east is a Malvern doctor with a weekly income of over £10, who lives with his wife and two children in a ‘Prosperous home on corner of streets...Tennis court at

side, grass and flowers in front, vegetables at the back.’ The family is ‘self-supporting’ in vegetables. To the south and back towards the coast we reach Brighton, where an accountant—also on over £10 per week—and his wife, keep ‘A very comfortable home—gardens and lawns. Extensive vegetable garden & fruit trees—enough to supply neighbours.’

These snapshots of home food production were captured by the Melbourne University Social Survey, a project following in the tradition of British welfare-oriented social surveys conducted by the Webbs, Seeböhm Rowntree and Charles Booth.¹ One of the rare bodies of hard data relating to home food production, the Survey provides insights into which types of households were growing their own food, and how many households were doing so. In all, Wilfred Prest’s band of interviewers spoke to the occupants of 6435 Melbourne dwellings during 1941. The interviewers, who were mostly female graduates or senior undergraduates of the University of Melbourne, visited approximately 1 in 36 dwellings in the central, western, northern and southern suburbs and 1 in 68 in the eastern and south-eastern suburbs.² The survey aimed to probe deeply into the living arrangements of Melbourne households, and the interviewers were faced with the difficult task of asking complete strangers for detailed information relating to employment and income, family, tenure, travel between home and work, number of rooms, and domestic cooking, washing and storage facilities. They also asked whether there was any cultivated garden and, being interested in the significance of productive activities carried on in suburban homes, the interviewers requested an estimate of the weekly value of any fruit or vegetables grown (and sold, if any), as well as details of any commercial activities conducted on the premises. Information was taken from completed forms and coded numerically, then punched onto Hollerith machine cards for processing. A few academic papers were published out of the survey’s data, but military service and teaching and administrative pressures at the end of the Second World War frustrated more substantial timely analysis.

In 1980–81, two-thirds of the forms were re-coded and punched onto cards by researchers at the University of Melbourne. Analysis of this data revealed that 48% of all sampled households produced food of some kind. Home food production was most prevalent in a band

of middle suburbs from the north to south-east. Camberwell and Oakleigh topped the list, both with 88% of households producing some food. On the other end of the scale were higher density inner areas such as Port Melbourne (9%) and South Melbourne (6%). Only 6% of all sampled households were recorded as keeping poultry for eggs, though it is hard to say whether this reflects a significant decline in poultry-keeping from 1933, or the lack of a defined space to record egg production on the interview forms.

The Social Survey forms also provide an indication of the scale of food production in individual backyards, suggesting—unsurprisingly—that in suburbs characterised by large block sizes, the productive potential was higher and more households produced a greater proportion of their own requirements. Another strong link existed between tenure status and food production: 71% of purchasing owners and 62% of outright owners grew some of their own food, as opposed to only 35% of tenants.

The survey results also confirm that food production was most prevalent among the middle class and skilled working class, rather than the poor and marginalised. Researchers used survey data to assess the proportion of households in Greater Melbourne with incomes falling short of a ‘human needs’ standard: the results are tabulated alongside the proportion of food-producing households in each area in the table on page 102.³

The data reveal strong linkages between poverty, space and food production. The most obvious relationships are inverse ones: in the high-density, predominantly working-class inner urban areas in which poverty was concentrated, few households produced their own food, whilst the low-density, predominantly middle-class areas of lowest poverty were home to the highest proportion of food producers. In the mixed or middle-density, but still predominantly working-class and lower middle-class areas, food production bears more of a direct relationship to poverty levels. These are the areas where low-income households could take advantage of the ready availability of suitable land for food production, at least in part to make ends meet. Of course, simple correlations do not tell us about causality, although the data does confirm that a large proportion of households were producing their own food not out of economic necessity, but for other reasons.

Food Production by Suburb Type, Melbourne, 1941

Area	Number of households*	% in poverty	% producing some food
High-density, predominantly working-class:			
Melbourne	351	10.3%	12%
Port Melbourne and South Melbourne	245	9.0%	7%
Collingwood, Richmond, Fitzroy	508	8.5%	13%
St Kilda, Prahran	489	7.2%	21%
Low-density, predominantly middle class:			
Caulfield, Malvern, Oakleigh	346	3.2%	76%
Camberwell, Kew, Hawthorn, Box Hill, Heidelberg	525	2.5%	79%
Mixed/medium-density working/lower middle class:			
Footscray, Williamstown, Braybrook	467	3.2%	42%
Essendon	211	5.2%	59%
Coburg, Brunswick	546	7.5%	54%
Northcote, Preston	522	5.9%	67%

* Surveyed and for which income information was available (i.e. excluding those households who had no knowledge of, or refused to provide, income details).

It also shows that food production was not an effective, or perhaps even available, response to poverty for a substantial proportion of households in high-density areas. This is in spite of the fact that at this time, money spent on food accounted for over 40% of total expenditure in low-income households.⁴

The Social Survey data re-encoded by University of Melbourne researchers in the 1980s also included an item relating to the occupational status of household members (see the following table). The middle class is represented by occupational groups 1 through to 6, encompassing professionals such as lawyers and doctors, as well as managers, clerks, and workers in science, religion and education. The fraction of the working class in 'skilled', probably stable, employment is represented largely by occupational group 12, which includes bakers, tailors, blacksmiths, lathe operators and fitters and turners. The 'unskilled' working class, more likely to be on basic wages and

subject to intermittent employment, is represented by occupational group 14, including cleaners, packers, process workers, boot examiners, charwomen and wharf labourers. The data highlight the clear class contours of food production, being concentrated in the middle class, and to a slightly lesser extent the ‘skilled’ working class.⁵

Occupation and Home Food Production, Melbourne, 1941

Occupational group of breadwinner	% of households producing own food
1–6 (middle class)	65%
12 (‘skilled’ working class)	55%
14 (‘unskilled’ working class)	38%

The data further confirmed that working-class households, and particularly those with an ‘unskilled’ breadwinner, were more likely than middle-class households to keep poultry.⁶ At the same time, the Social Survey forms also expose the dubious profitability of small-scale poultry operations. One household in Northcote spent 5s per week on fowl feed to produce 5s worth of eggs. Another Northcote household had a small poultry farm which, with 24 laying fowls, was generating more expenses than income. Many ‘backyarders’ struggled to make a profit after 1938, when all poultry-keepers with flocks of greater than 20 fowls were required to sell their eggs to Egg Board agents at a centrally determined rate, with the Board deducting a percentage from the payment to support its marketing work. One woman living in a ‘terrible galvanised iron shack’ in Braybrook told the interviewer that her husband (since enlisted) used to be a poultry farmer, ‘But we couldn’t make a go of it. The Egg Board finished him.’⁷ Most of the remaining ‘backyarders and side-liners’ were forced out of the industry in the late 1950s, as diminishing profit margins required greater economies of scale.⁸

Of course, the Social Survey figures should be regarded as broadly indicative rather than precise, involving as they do fallible estimates and observations, varying levels of cooperation from the households visited, and potential errors of encoding or interpretation. They nonetheless serve to broadly substantiate the image of a city in which the middle class, and to a lesser extent the ‘skilled’ working

class, had the best access to the land and other resources necessary for the production of food—an advantage which was utilised to a large extent even when it was not essential to the household economy. On the other hand, the poor who were crowded in the inner city and other rental accommodation were often denied access to resources such as space and stability, when such access might have enabled them to improve their financial position. The Social Survey further found that of the households in poverty, 45% were elderly people living on pensions, superannuation or savings.⁹ Some of these people would have been too frail to produce much, if any, of their own food.

Beyond this survey, the stories of people who produced food during the Second World War and immediate postwar years confirm a continuation of mixed motivations for food production, including thrift, leisure and food quality. One family for whom the profit motive was critical, but for whom quality was still an important factor, were the Grahams, who lived in the coastal Perth suburb of Cottesloe. In 1998, Jim Graham recalled:

The chooks were started by my older brother when Dad died in 1939 as a result of injuries received during WWI. I took over a few years later. We were fully responsible for looking after them, and for all expenses. We were not paid for the eggs or poultry we used ourselves, and tended to make do with old hens (boilers) past their efficient laying age. The paying customers got the young roosters... We bought about 1 or 2 dozen chicks twice a year, 7–8 months before Christmas and Easter. The vegie garden was a joint responsibility, and was an attempt to save money as well as to provide very fresh produce. From 1939, Mum was on a Repatriation War Widow's Pension, and we had to make every post a winner.¹⁰

From the late 1940s, with a run of poor seasons and subdivision of suburban market gardens for housing lots, vegetables often commanded high prices. Magazines began to stress the economic dimensions of the activity, and even speak of it literally in terms of necessity. *The Home Gardener*, in 1948 and again in 1951, advised readers that: 'Home vegetable growing has become such an important economic

necessity that all available time should be put into the job.’ The *Australian Garden Lover* in the early 1950s similarly mobilised the terminology of necessity in discussing the advantages of home-grown produce:

Sheer necessity demands that people get on with that vegetable garden they have planned in the back-yard. High prices mean that we get only a handful of greens for the 10/- or 12/- we have to pay; also the quality of the battered produce is just terrible compared with the fresh and tempting vegetables we can raise at negligible cost right on the spot.¹¹

Resentment at paying high prices for poor quality produce was not the same as necessity, though the cost and scarcity of fresh produce no doubt increased the esteem in which home-grown food was held. At the same time, satisfaction was also gained from food production as a safe and relaxing leisure activity that achieved tangible results. Both ideas emerged in an interview with Tim and Tot White, who moved to their house in the inner Melbourne suburb of Fairfield when they were first married in the early 1940s. Tim worked in textiles, first in engineering and then managing a factory in Braybrook. He started growing vegetables because he likes to garden. He didn’t think it saved much money, but did it because ‘it’s nice to see it growing’. Tim and Tot bought chooks when they were first married, and after a short hiatus, they kept 10–15 chooks for around the same number of years. Tim took on the chooks as a hobby, because he ‘just liked them’. However, Tim and Tot were also anxious to highlight the economic aspect of their food production:

Tot: People didn’t have the money, didn’t have much money. Like you had your chooks, well you had your eggs, and you’d kill your chook and have a chicken: chicken is so cheap now, but chicken was a delicacy, you were lucky to have a chicken. It was a big thing for Christmas or a birthday...But now it’s cheaper to buy a chicken than it is other meat.

Tim: Many a chicken I killed and plucked!

Tot: So that was another thing; there wasn’t a lot of money around.

We managed, everyone managed. But the chook was a source of food for us.

Tim: We didn't have it every week...

Tot: No, but it was a source of food, and as you say eggs...but the shops, if you had to buy a chicken in the shops it was quite expensive...But of course now, a lot of them [people] just keep them for the eggs or pets or whatever, you don't hear of many people killing the chooks to eat them...We had a big black rooster...

Tim: He used to bail us up, he used to.

Tot: We had chickens laid on...it's fairly interesting, it's fascinating, we really enjoyed it.¹²

During the war, the spectre of food shortages was an additional motivator for home food production.

For the first few years of the Second World War, the problem for commercial food producers, however, was not one of shortages, but rather surplus. The reduction in export markets, due to contraction in the amount of available shipping space, led primary producers to fear industry collapse. Surplus food was a concern for around two years. However, after Japan entered the war and American food supplies were diverted to Russia, Australia began to change its own food production and consumption patterns in order to supply other countries (primarily the UK) and the increasing number of Allied personnel in the region.¹³ From 1942, farm labour decreased due to enlistment in the services, meat rationing reduced the availability of that important article of the Australian diet, and the influx of servicemen into Australia and New Guinea led to the diversion of civilian food supplies to the military. When the demands of Allied services, Australian civilians, British civilians (the Australian leadership felt obliged to maintain food exports to Britain 'at the highest possible level'), and some British Service units were taken into account, significant shortfalls were expected for milk (a shortfall of 180 million gallons), meat (150 000 tons, with civilian rationing), eggs (29 million dozen with civilian rationing), and canned fruit (1.22 million cases).¹⁴ Sizable deficiencies were anticipated in Victoria, and serious shortages were expected in New South Wales. The nation's larders were looking altogether too bare for comfort.

One response lay in the expansion and mechanisation of market gardens. Established growers were encouraged to increase their areas under cultivation, efforts were made to interest growers in areas where vegetables had not previously been grown to any great extent, and government contracts for vegetables grown to meet service requirements saw growers receive guaranteed prices for the first time. The Commonwealth Directorate of Agriculture looked to the United States in seeking to improve the efficiency of Australian vegetable production, and both machinery and expertise were imported. As a result of the changes, areas devoted to vegetable cultivation expanded dramatically: in Victoria, for example, the area under vegetables for human consumption (excluding potatoes and onions) more than tripled from 21 059 acres in 1938–39 to 66 471 acres in 1943–44. In Western Australia there was a lesser, though still substantial, expansion in the area under vegetables, from 10 064 acres in 1938–39 to 18 785 acres in 1943–44.¹⁵ By mid-1944, around 40 canneries and over 30 dehydration plants were operating throughout Australia.¹⁶

The war also stimulated the development of a domestic seed industry in Australia. Prior to the war, most of Australia's vegetable seeds were imported from the UK. When this source of supply was cut off, seed wholesalers turned to the US and New Zealand for supplies. However, it readily became apparent that the best solution would be to aim for national self-sufficiency in seed. Production was stepped up, and *Yates' Seed Book of What and When to Sow* proudly proclaimed that:

The total acreage under seed crop in Australia for our 1944 supplies of Beet, Cabbage, Carrot, Cauliflower, Cucumber, Lettuce, Melons, Onion, Parsnip, Pumpkin, Squash, Tomato, Swede and Garden Turnips, and many other smaller crops, shows an increase of more than 700 per cent on the corresponding acreage for 1939.¹⁷

In spite of the increased production, however, shortages were still expected. In a context of increasing demand, the problems of a food-supply system which relied on external inputs had become obvious when the nation was faced with shortages of fuel and essentials such as rubber. By 1942, some insecticides were also in short supply,

and the extent to which commercial food production in particular relied on them became apparent. Nicotine sulphate posed the greatest problem, as it was deemed ‘absolutely essential in Vegetable Culture as a means of controlling Insects of the Aphis type’ and only small quantities were made in Australia.¹⁸ N.N. McLean Pty Ltd, who claimed to supply 99% of insecticides used by Victorian growers, wrote to the Controller of Defence Foodstuffs in August 1942 to state the seriousness of the position: ‘our stock of nicotine sulphate is being rapidly depleted and may become exhausted before November’.¹⁹ Estimates of annual Australian requirements ranged from 90 to 145 tons. However, only 70 tons could be imported from the US in 1942, and only about 25 000 lbs was made in Australia per annum (an amount expected to decline due to the high cost of tobacco leaf). The state response was to direct distributors to supply growers with only around two-thirds of their usual order, while stocks lasted, and to order that nicotine sulphate be packed only in 1 lb tins, so as to put it beyond the reach of backyard producers. Still there was not enough to go around, and the consequences were beginning to be felt. In late September 1942, the Victorian Director of Agriculture sent a telegram to the Controller of Defence Foodstuffs warning him that the ‘vegetable position [was] becoming serious on account of losses due to lack of supplies of the pesticide’.²⁰ Caterpillars were causing serious damage in the Dookie and Yarrawonga areas, and it was anticipated that only 100 acres of the 600 acres of vegetables sown would be harvested. As the extent of the shortage became fully apparent, the bureaucrats became increasingly agitated. Other sources of nicotine sulphate were sought, but none could be obtained from Canada, the UK or India. In late 1942, some supplies were obtained from the US through lend-lease (a wartime programme of mutual aid between the Allies); these were made into a 3% nicotine sulphate dust and distributed among the states for use by contract growers, market gardeners, and home gardeners, in that order. Supplies remained, however, ‘very unsatisfactory’.²¹ As well as nicotine sulphate, Metaldehyde (used as a snail bait), Paris green, pyrethrum dust and derris dust were in short supply, as was arsenate of lead.²² Artificial fertilisers, too, were hard to obtain.

As commercial producers struggled with shortages, efforts to improve the health and efficiency of the population were stepped

up: war required citizens not only fit enough to step up the rate of production, but also, should it come to that, to defend the nation. Drawing on the increasingly commonplace language of nutritional science, manufacturers placed advertisements declaring that ‘Never in the history of this free land has a well-balanced diet been so vitally important to all of us’, and urging people to ‘Eat foods that help make Australia strong’.²³

Britain, facing serious food shortages, had begun using the ‘Dig for Victory’ slogan as early as 1939. In Australia, sporadic, informal efforts at encouraging home food production began in 1941. By 1943, however, the position was looking sufficiently serious for the Commonwealth Department of Commerce and Agriculture (working with state Departments of Agriculture) to devise a large-scale ‘Grow Your Own’ campaign, which was launched in Canberra in August 1943 by W.J. Scully, Commonwealth Minister for Commerce and Agriculture. Although it was not generally expected that civilians would be able to make up the shortfall in milk or meat, it was recognised that they could be asked to grow their own vegetables and keep poultry for eggs, and to eat more of these than the foods in greater demand. Civilian production was also seen as insurance against a ‘change in the season, onset of pests, unexpected interruptions to transport, manpower difficulties and other interventions’.²⁴ It was clear to the government that home food production could help conserve scarce resources, and also that oversupply was preferable to undersupply.

The ‘Grow Your Own’ campaign strenuously and frequently encouraged home gardeners to grow their own vegetables as a patriotic duty, constantly reminding civilians that large amounts of commercial produce were required for the armed services, that there could be shortages, and that their health and bank balances would both benefit from home food production. In a film produced as part of the ‘Grow Your Own’ campaign, viewers were informed of the implications of the non-renewable, often imported, resource requirements of the contemporary food-supply system:

The average citizen imagines that when he grows some vegetables in his back garden it is only a saving in manpower—but it is much more than that.

If a farmer has to produce more foodstuffs it means he has to have more petrol to carry the foodstuffs to the railhead or the city, and he is using valuable rubber so difficult to replace now the Dutch East Indies are in Japanese hands.

More coal has to be consumed in freight trains, more men engaged on servicing freight engines and trucks, more men to handle the distribution and selling of the produce, more man and womanpower to retail the produce to the public.²⁵

In addition to movies, radio broadcasts, public demonstrations, school and local government competitions, posters, newspaper advertisements, brochures, and even stickers on correspondence from gas and power companies, were used to get the 'Grow Your Own' message across.

Although the 'Grow Your Own' Campaign doubtless motivated many, it also encountered resistance, particularly as it failed to take regional variations into account. Citing the difficulty that Perth gardeners faced in producing vegetables during the harsh summers, in addition to shortages of gardening necessities, Western Australian Minister for Agriculture, F.J.S. Wise and Under-Secretary for Agriculture G.K. Baron-Hay asked W.J. Scully, Commonwealth Minister for Commerce and Agriculture, to delay the start of the campaign in Perth until the following April. The Fremantle City Council refused to support the campaign, on similar grounds.²⁶ A wave of complaints from within the Victorian Department of Agriculture followed the publication of newspaper advertisements in September 1943, which advised readers to use derris dust and dust guns—both unobtainable at the time—and gave inappropriate planting times and varieties for Victorian conditions.²⁷ In Perth, Claude L. Piesse of Bassendean wrote to the Ministry of Agriculture to point out that the sulphate of ammonia and derris dust recommended in the advertisements were unavailable, and furthermore, that as 'the advt. also tells us to use

Opposite: 'Grow Your Own' advertisement. (Source: PROV, Department of Agriculture, VPRS 10163/P2, Central Admin. Correspondence files, Box 98, Vegetables War-time Supply (Publicity) 1943–1946. Copyright Commonwealth of Australia — reproduced by permission.)

Why you should **GROW** YOUR OWN **VEGETABLES**



The fighting forces . . . the fighting men, both our own and our Allies, are given the finest food this country can produce, including all the fresh vegetables they need to maintain their high standard of fighting fitness. Their needs **must** be met **first** and this means that often vegetable supplies remaining for civilians are short. You can overcome these shortages by turning part of your garden into a vegetable plot. Start growing your own now!



. . . so that you can supplement your weekly vegetable requirements

And remember! By growing your own, you help your country as well as yourself!



. . . so you can have plenty of fresh food

Doctors say that vegetables direct from the garden contain an abundance of health-giving vitamins.



. . so you can save

Yes, it's sound economy to "grow your own." You save money and benefit in health!

START DIGGING NOW

sandy loam in some cases while the metropolitan area...is sand—one wonders if the whole thing is a joke'.²⁸ Piesse also observed that in Perth it was necessary to water artificially for 'about 8 months', and asked how it was going to be possible to replace his hose.

As well as promoting the new patriotic aspects of the activity, the 'Grow Your Own' campaign material contained images of vegetable gardening and fruit production that still predominantly reflected and reinforced the notion of 'manly independence'. The idea that food production should be carried out by the independent, breadwinning male was clearly conveyed, for example, in a billboard advertisement depicting a man offering up freshly harvested vegetables to his grateful wife while his son looks on, shovel in hand, awaiting his turn to be the provider. This understanding was also reflected in non-official material produced at the time. For example, in Murray Tonkin's novel *Mr Dimblebury Digs for Victory*—a practical guide to 'Victory Gardening' and patriotic wartime romance rolled into one—the middle-aged, middle-class Mr Dimblebury decides to do his patriotic

Below: 'Grow your own' campaign billboard. (Source: NAA, CA 6483, War Effort Publicity Board, C2829/1, 'Poster — Grow Your Own Vegetables'.)

Opposite: 'Help your neighbour.' (Source: PROV, Department of Agriculture, VPRS 10163/P2, Box 98, Vegetables wartime supply (publicity) 1943–1946. Copyright Commonwealth of Australia — reproduced by permission.)



*"Call on me
anytime, George,
I'll be glad to
help you!"*

**GROW
YOUR OWN
VEGETABLES**



*"This is
my first
crack at
it—I'll
need your
help."*

Help your neighbour

to get the best out of his garden

If you are an experienced home vegetable gardener, help the fellow who is just starting out. Remember! Those hints of yours will be more than welcome and may well make the difference between the success or failure of his vegetable garden! In times like these, it amounts to National Duty to help each other. And what better way is there than to help your neighbour help himself and his country, by showing him the way to become a successful "grow your own" vegetable gardener!

WHY YOU SHOULD "GROW YOUR OWN"

To win this war much will depend on the strength and vigour of our forces. To keep this standard, large quantities of fresh vegetables are given to our own fighting men and our Allies. Because of this, adequate supplies of

vegetables are not always available for civilians. Supplement your own needs by growing your own. Vegetables direct from your garden are full of health-giving vitamins. It PAYS, too, to grow your own!

duty and plant a Victory Garden. Mrs Dimblebury observes her husband ‘digging...so manfully at his new project’ and Mr Dimblebury, apart from providing the household with fresh vegetables, gains the respect of his office colleagues as the ‘Victory Garden’ expert.

The exigencies of war, however, also served to broaden the range of ‘legitimate’ meanings of food production. For example, although food production generally served as a durable symbol of self-reliance, interdependent approaches to the activity were more widely acknowledged. Mr Dimblebury is given detailed advice by his war hero neighbour, and a ‘Grow Your Own’ advertisement directed experienced gardeners to help their neighbours. The dominant association of the activity with masculine independence was also challenged by an increasing acknowledgement, and indeed encouragement, of women’s involvement. The Australian Women’s Land Army recruited ‘girls’ to carry out rural agricultural labour, though not without some disruption to the ‘fabric of “femininity”’.²⁹ In the suburbs, women remained actively involved in home food production, and their ranks probably swelled as more went to work on the ‘garden front’. The Young Women’s Christian Association (YWCA) established a ‘Garden Army’ of women who established and worked ‘community gardens’ on land set aside by private householders, as part of the war effort. Vegetables grown by the Garden Army were given to military hospitals and services hostels and sold to civilians, with profits donated to the Red Cross and Australian Comforts Fund.³⁰

Other women’s involvement in productive gardening during the war was firmly linked to their roles as wives and mothers. For example, in 1942, *Women’s Weekly* readers were advised that ‘Every woman who owns a garden plot and can use a spade or wield a hoe *should* cultivate a vegetable patch for the sake of her family.’³¹ Similarly, in the ABC’s *Women Talking* radio series, the women broadcasting a segment entitled ‘Make your Garden do War Work’ continually linked vegetable gardening with their primary responsibility as mothers: one presenter, for example, explained that she grew vegetables because ‘Prices are prohibitive, and yet I must have some fresh vegetables to give my young baby. He is just weaned and the clinic says he must have three kinds of vegetables every day.’³² During the war, vegetable gardening was thus seen as tolerably acceptable work for women in a patriotic context

when portrayed as either a national service, or an extension of the work of cooking and a commendable duty to family. However, the linkage of food production with ‘the feminine sphere’ remained a marginal discourse, which did not compete on even terms with the public masculine claim to the activity as ‘independent’ and productive.

In the war and postwar years, produce continued to be exchanged among family and neighbours, although the satisfactions of this concession to interdependence did not topple the ideal of independence from its dominant position. Gifts of home-grown produce were made of a genuine willingness to share, although it is difficult to assess the extent to which they also acted to increase the status of the giver, particularly where the recipients were not in a position to reciprocate. For example, growing up in Port Melbourne during the war, Barbara Gardiner clearly held in high esteem her Uncle Phil and Aunt Myrt, who would come down to Port Melbourne from Box Hill ‘laden up with beans and tomatoes of course, the beautiful tomatoes’. However, Barbara’s aunt and mother would make pickles, which ‘went around, you know, it was all shared, and that was the lovely part of it, wasn’t it’.³³ Some exchange was also motivated by abhorrence of waste in an era before refrigeration was commonplace. Tot White, for example, remarked that: ‘You couldn’t keep the vegies, so what you had you shared around.’³⁴ In the Whites’ case, at least, these interdependent exchange networks appear to have been limited to next-door neighbours and family.

When building materials became available after the war, construction of housing proceeded apace, as many of those who had been sharing accommodation or renting sought space, privacy, and independence in their own suburban homes.³⁵ Construction labour, however, was scarce, whilst incomes were relatively high, building blocks fairly cheap, and building regulations not difficult to satisfy. As a result, many couples built their own homes. Although a substantial amount of finance for owner-built housing was raised by cooperative building societies, and there were a few formal cooperative building ventures (as well as widespread informal cooperation between friends, family and neighbours), the building of a home was seen largely as the triumph of the (usually male) household head.³⁶ The ubiquity of this experience can only serve to have reinforced the high esteem in

which the ideal of masculine self-reliance was held. At this time, the links between vegetable gardening and the male role of independent provider, in opposition to women's dependence, were reasserted. Statements such as 'the man of to-day, with the ordinary allotment of land, can easily provide his family with vegetables of first quality through the greater part of the year', were common fare in popular gardening magazines.³⁷ In this climate, the vegetable garden remained an important site for the enactment of masculinity, an exercise in the dream of independence, as well as a form of 'manly' physical exercise:

There is nothing for the gardener to do but to don his bowyangs, sharpen up his heavy gardening tools, take a short course of Swedish drill if his muscles are soft and not inured to hard labour, and then get right down to earth.³⁸

Digging played an important part in the discursive production of gardening as an independent, masculine activity, and when alternatives were proposed, male gardeners defended the practice vigorously. Returned soldiers—those most 'masculine' of men—were, and were seen as, engaging particularly enthusiastically in backyard food production.³⁹

In a context of rising incomes and falling unemployment rates, many working-class tenants who had never quite abandoned their dreams of independence moved out to join 'middle Australia' in the spreading suburbs, where the separate identity of the 'respectable' working class was subsumed in a culture of suburban consumerism.⁴⁰ For many, however, the promise of independent home-ownership came at the price of economic dependence. In a context of high food prices and household budgets dominated by mortgage and other repayments, home food production held wide appeal on economic grounds, as well as remaining a symbolic enactment of independence: amidst a sea of consumption, production continued (though it was a form of production which, somewhat paradoxically, increasingly relied on consumption). The more populist tone of gardening magazines in the 1950s probably reflects a broadening of the readership base, to include many of those working-class families recently arrived from the inner suburbs and interested in making stable and comfortable suburban homes.⁴¹ This was the beginning of the Menzies era of middle-class hegemony.

In her book *Robert Menzies' Forgotten People*, Judith Brett argues that the appeal of Menzies and his rhetoric lay in those features of the dominant middle-class disposition which we have seen were important in assuring the popularity of home food production. Brett recognises the centrality of the idea of independence, claiming that in Menzies' famous 'Forgotten People' speech 'the main psychological issue is the opposition between independence and dependence and the emotions embraced and excluded by the choice of one rather than the other'.⁴² Menzies' "'independent virtues" of thrift, self-provision and independence from the state' appealed precisely because these were the values perceived to be vulnerable in the face of mass society: the enthusiasm for 'modern' homes and appliances in the 1950s was accompanied by a deep unease with the anomie and 'depersonalised rationalisation' of postwar modernity.⁴³ As 'the modern' permeated everyday life and occasionally presented an uncomfortable vision of society, home vegetable gardens and orchards—even more so than in the 1930s—became a sanctuary for rurality as the site of traditional values. Even in the 1950s, Brett argues, the 'dream of an independent yeoman farmer underlay many an Australian suburban home'.⁴⁴

Menzies' view of the ideal citizen was deeply appealing to the many thousands of families who were absorbed in self-contained suburban domestic life:

The best people in the world are...those who by thrift and self-sacrifice establish homes and bring up families and add to the national pool of savings and hope one day to sit down under their own vine and fig tree, owing nothing to anybody.⁴⁵

Although Menzies' 'vine and fig tree' reference was biblical, in many Australian minds—and backyards—they appeared as 'passionfruit vine and lemon tree', the enduring local symbols of productive self-reliance. Once again, freedom was primarily sought in self-containment, rather than in Labor Prime Minister Ben Chifley's 'light on the hill':

...the duty and responsibility of the community and particularly those more fortunately placed to see that our less

fortunate fellow citizens are protected from those shafts of fate which leave them helpless and without hope.⁴⁶

In their celebration of individualism, Menzies' virtues neglect the 'compassion, sympathy, generosity, trust, gratitude' involved in the acknowledgement and appreciation of human interdependence.⁴⁷ As we will see, the pursuit of independence with regard to nature, at the expense of interdependence, also damaged human relationships with the environment.



How then did Australian suburbanites go about growing their own produce in the 1940s and 50s? Shortages of manure were still keenly felt—even more so as artificial fertilisers also became unavailable during the war. In 1944, R.T. Patton, then senior lecturer in Botany at the University of Melbourne, described the situation thus:

In the past, the careful tiller of the soil has prevented its impoverishment by adding to it animal manure and to a lesser degree plant compost. We live, however, in a motorised age, a day of mechanical transport, and the supply, therefore, of stable manure is almost non-existent.⁴⁸

Competition for animal manure became fierce. Tot White recalled that in the 1940s in Fairfield, the baker came around a little later than the milkman, and several people in the street had 'a little shovel and a bucket at the ready for when the horse came by'. Her husband, Tim, remembered that 'people used to be really savage if they'd miss out on the droppings of the horse'. Harold Oakford, who moved to Alamein in 1944, also used to 'follow horses', as well as buying manure from the local dairy.⁴⁹

Local businesses began to realise that a huge potential market existed for animal manure. In 1941, the Acme Garden Mulch Company in Burnley Street, Richmond, was selling pulverised sheep manure by the 28 lb bag or hundredweight. Significantly, the advertisement mobilised the terminology of the 'natural' in promoting the product:

...from the Stone Age...to the Bomb age
 Nature has maintained soil fertility in her own inimitable way
 The ACME way is Nature's Way.⁵⁰

This was not, however, nature 'red in tooth and claw', for the manure was also 'odourless and clean to handle'. The new processed manures allowed gardeners to experience nature 'in her cultivated trim', without getting their boots very dirty.

The usual answer to the problem of manure shortage—reuse of household and garden waste—was also heavily promoted. The Department of Commerce and Agriculture cancelled a proposed advertisement on fertilisers and manures because of the shortage of artificial fertilisers, but ran one that advised gardeners to

Bury the kitchen rubbish. Never burn a leaf. Anything that will decay readily will add to the humus content of your average garden soil. The average family sends over a ton of good manure to the garbage tip each year. You should save this by burying it daily.⁵¹

Composting was also proposed as a replacement for manure, and as demand for it increased, methods were devised to speed up its production. Proprietary compost accelerators were becoming available as early as 1941.⁵² Fowls—chiefly White Leghorns and Australorps—were still recommended as an on-site manure source.⁵³ Where they were kept in orchards, they also kept down weeds and insect pests, and like compost heaps and waste pits, helped to minimise the amount of organic waste leaving residential properties. In doing so, they contributed to the sustainability of the city. Perhaps some gardeners also achieved a degree of on-site nutrient recycling by following the Department of Agriculture's down-to-earth recommendation that 'Urine at the rate of 1 pint to the gallon of water is also a good liquid manure'.⁵⁴

As the war ended, and supplies of artificial fertilisers again became available to home gardeners, they were embraced wholeheartedly by many. In September 1947, the *Home Gardener's* regular vegetable gardening segment included the observation that 'Years ago stable manure was considered the most desirable, but of late

years it has been substituted with artificial fertilisers such as market garden manure, superphosphate and sulphate of ammonia'. By 1948, it was noted that many gardeners looked upon lawn clippings as a problem, rather than valuable organic matter.⁵⁵ Artificial fertilisers such as 'Gro-plus' were marketed as 'complete plant food', which would restore 'full productivity to the soil' and guarantee 'bigger and better vegetables'. The artificial fertilisers were deemed a scientific improvement on nature; their effectiveness and ease of use cemented their popularity.

However, the new artificial fertilisers also had their detractors, who felt that 'Too often soil fertility is interpreted in terms of percentages of plant food, and the remedy for the lack of fertility is looked for in the fertiliser bag.'⁵⁶ These writers saw the soil as alive, teeming with worms and micro-organisms, rather than an inert mass which merely served to hold nutrients and roots. They disputed the omnipotence of industrial science, scorning 'man's' meddling in nature: 'Once he comes into the picture, and particularly when he commences to cultivate the land, the beautiful work of Nature in building up the soils suffers from his interference.'⁵⁷ The organic idea had arrived in Australia.

Biodynamics—the application of Rudolph Steiner's anthroposophy to agriculture—had been practised on a small scale in England and Europe from the late 1920s. However, it was only in the 1940s that 'organic' ideas started to achieve wider circulation in Australia. In 1940, Albert Howard published his *Agricultural Testament*, an exposition on the agricultural philosophy he developed over the course of 40 years of research in India, the West Indies and Britain. Howard, who remained unconvinced by biodynamics, stressed the necessity of maintaining a 'healthy' soil using approaches based on observation of 'Nature's agriculture', which centred around the production of humus from organic wastes. He proposed that where a soil was not fertilised, or fertilised with artificial or poorly prepared organic fertilisers, it became 'diseased', which, in turn, led to disease in animals. Drawing on the work of Robert McCarrison with the Hunza people of India (now Pakistan), and the Cheshire Panel Committee of doctors in England (among others), Howard then went one step further, proposing that consumption of produce grown on 'diseased' soil could lead to

‘indisposition, inefficiency, and actual disease in people’.⁵⁸ These ideas were synthesised and publicised by Lady Eve Balfour in her 1943 book *The Living Soil*, which generated substantial interest in the UK and other Commonwealth countries. Three years later, Lady Eve and others formed the UK Soil Association, to research and promote organic philosophies and practices.

These organic ideas appeared very quickly in Australia. In 1943, for example, one Agnes Stops declared on national radio that ‘there is no substitute for absolutely fresh food grown on soil that is, in itself, in perfect health. The soil is a living thing and as such, is subject to sickness.’⁵⁹ Stops scorned the willingness of contemporary horticulturalists and agriculturalists to abandon the older methods, which were often congruent with natural processes. This, she claimed, had led to foods being grown on ‘unhealthy soil’, which in turn was ‘the cause of so many of the mysterious diseases of which doctors today know so little and which are increasing at the present time’. The Sydney-based Australian Organic Gardening and Farming Society was established in October 1944; its board soon included representatives from the NSW Graziers’ Association and Primary Producers’ Union. By 1946 similar groups had also formed in other states. They included the Living Soil Association of Tasmania and the Kew-based Victorian Compost Society, who began publishing their journal, *Victorian Compost News*, in 1947. Sir Cedric Stanton Hicks, a nutritionist and physiologist who had advised the Australian Army Catering Corps during the war, was a prominent believer in the ‘organic idea’, declaring in a public lecture in 1945 (later published by the Royal Australasian College of Physicians) that he fully supported

the contention of McCarrison that health largely depends upon the consumption of whole food grown as part of a natural biological cycle, and of Howard that plant health is a direct result of maintaining intact the biological cycle and that animal health follows naturally from consumption of healthy plants.⁶⁰

The Australian Organic Gardening and Farming Society were sufficiently well-connected that they were able to secure a foreword

from William McKell, then Labor Premier of NSW, and soon-to-be Governor-General, for the first edition of their journal. (It was, however, somewhat more conventional than many of the other contributions.)

In an age of accelerating, and often frightening, technological development—exemplified by the atomic bomb—the ideas of those who sought to reassert the limits of nature and the wisdom of ‘fitting in’ rather than trying to conquer nature, had some appeal. In 1951, *Your Garden* published a series of four articles by Englishman Mr A. Guest, author of *Gardening Without Digging*. Guest promoted the use of compost and sawdust in the vegetable garden and orchard, although his directions also included small quantities of artificial fertilisers. His approach relied on earthworms, rather than digging, as the means by which good soil structure and fertility could be maintained. A small controversy soon raged in the pages of the magazine. One Thomas Kay—who preferred ‘to keep on digging and getting lumbago’—wrote a series of two articles ridiculing the adherents of ‘no-dig’ approaches, and arguing that their interest in worms was an ‘aberration’, which had reduced them to a ‘peculiar mental state’.⁶¹ The suburban ‘diggers’ were apparently nervous at the prospect that this most physical expression of their role as independent providers could be usurped by a lowly worm. The Compost Society of Victoria responded with an article in defence of Mr Guest, including a lengthy exposition on the habits and usefulness of the earthworm.

In September 1951, *Your Garden* magazine published the first of a series of two articles by the Compost Society on making compost, although the atypical insertion of a disclaimer at the top of the article suggests that the content was seen, at least by the editorial board, as somewhat controversial. In this article, humus was described as both mysterious—‘its full nature remains as yet unsolved by science’—and essential—‘the key substance to life as a whole’. Would-be composters were urged to ‘Observe what Nature has been doing for centuries on the forest floor, and then copy her example’, albeit with some modifications to speed up the process. In December 1951, *Your Garden* published—also with a disclaimer—an even more challenging article by one F.C. King of Westmoreland, England, described by the editor as ‘a pioneer of the “No Digging” cult’. King discussed the decline

of both yields and quality of produce in the Clyde Valley, England, which he ascribed to the use of ‘lethal’ pesticides, ‘scientific breeding’, and chemical fertilisers:

It is not without significance that the Clyde Valley produced a wide variety of fruits of excellent quality for 1,000 years without calling upon this form of scientific aid, but in half a century of scientific manuring, the land, by comparison, is well on the way to sterility.⁶²

The appeal of ‘organic’ philosophies was limited, however, in that they challenged the dominant faith that industrial science possessed complete (or at least adequate) knowledge of garden matters, and was able to provide safe and effective ways of making gardening easier and more productive. Organic advocates also challenged the dominant ideal of independence from the vagaries of nature, by instead stressing the necessity of achieving a more balanced interdependence with the non-human world. For many gardeners, however, ‘the new idea [was] to mix the chemicals plants need without troubling the cow’.⁶³ Some of those who did keep a compost pit may have tried to keep up the appearance of this kind of independence, by following the advice of one 1951 writer: ‘Make a compost pit somewhere, but wait a while before deciding on the site so as to make sure you can hide it from view—even to people having a look over the vegetable plot’.⁶⁴ Others took advantage of the new ‘manufactured’ organic manures, which were increasingly offered in similar forms to their artificial counterparts: odourless and ‘dried to powder form...spread like fertilisers’.⁶⁵ The increasingly popular artificial and processed organic fertilisers thus offered the illusion of independence from natural nutrient cycles, which involved dealing with smelly, bulky animal faeces, or rotting food and garden waste. Perhaps nowhere, however, was the attraction of the idea of independence from natural constraints more clearly displayed than in the area of pest control.

In 1939, Western Australian Government Entomologist C.F.H. Jenkins observed that ‘The use of chemicals as a means of insect control is practically universal’.⁶⁶ In the early years of the war, nicotine sulphate remained the poison of choice for sucking insects,

whilst arsenate of lead was still generally accepted as the best way of dealing with chewing insects. In Yates' gardening book for children, *The Garden Year with Mr Bear*, published around 1939, the advice for November was as follows:

Happy we should be indeed
If the snails ate only weed,
But they seek expensive fare,
Not like Mr. Koala Bear.

Don't put salt upon their tails,
Try a spray that never fails.
Arsenate of lead will do,
Yates' advise and sell it too.⁶⁷

As demand for lead arsenate rose due to increased backyard and commercial production, it was also employed in the fight against a new pest. The cabbage white butterfly was first found in Melbourne in 1939, and quickly spread along the east coast. Four years later, the first specimen in Perth was caught in a backyard vegetable garden in Bassendean.⁶⁸ The damage wrought by the butterfly (in its caterpillar phase) was devastating. Ben Cook, who grew vegetables as a child in Northam and an adult in Nedlands, recalled:

I always used to like growing cabbages until in the last 50 years of course this white cabbage moth has invaded the gardens and you couldn't stop the cabbage moth getting into the cabbages and cauliflowers so I haven't grown them for years.⁶⁹

Similarly, in 1940s Northcote, Tim and Tot White didn't grow a lot of cabbage—'you couldn't. The moth'd get to that in no time'.

In the context of conflict between nations, the imagery of warfare was even more frequently deployed in relation to pest control. Gardeners were told that 'now comes the battle with the insects and diseases which like the enemy are waiting for the chance of an easy victory'.⁷⁰ With the introduction of the new organochlorine and



‘War against plant pests and diseases.’ (Source: Arthur Yates & Co., *Yates’ Seed Book of What and When to Sow*, Arthur Yates & Co., Sydney, c. 1945.

Reprinted courtesy of Arthur Yates & Co.)

organophosphate insecticides in the immediate postwar period, it seemed that victory over insects was finally assured. The organochlorine compound DDT (dichloro-diphenyl-trichloroethane) was first synthesised in 1873 by Othmar Zeidler, a graduate student in chemistry, but its insecticidal properties were only recognised in 1939 by Dr Paul Müller, a Swiss entomologist, who was later (1948) awarded the Nobel Prize in Medicine for his discovery.⁷¹ The chemical was tested by the United States Bureau of Entomology and Plant Quarantine against body lice and mosquitoes. Following its use in the dramatic suppression of a typhus outbreak in Naples, and control of malarial mosquitoes in the Pacific, it came to be regarded as a miracle chemical.⁷² The manufacture of DDT began in Australia in 1947, after the patent rights had expired. Alexander Boden (later AO), as director of Hardman Chemicals Pty Ltd, established a small DDT factory in Marrickville, Sydney, and by the mid-1950s, DDT was also being manufactured locally by Union Carbide and ICI Australia.⁷³

In 1947, large advertisements for products such as Horto-kix, ‘supercharged with DDT’, began to appear in gardening magazines:

Just dust HORTO-KIX on your growing vegetables and let it work its miracles. HORTO-KIX is deadly to leaf-destroying insects, and the miracle is that one dusting keeps on killing for weeks...there has never been a garden dust like it.⁷⁴

The new products worked spectacularly, for a while, to keep produce ‘nice and clean’. The vision was one of complete eradication of insect pests: in 1948, egg producers were told to spray ‘DDeaTh’ on pens and poultry, for the ‘eradication and extermination’ of parasites.⁷⁵ It became reasonable to suggest that ‘The aim of the home gardener should be to control all pests occurring in his garden.’⁷⁶ In one advertisement for Horto-kix DDT spray, which dubbed it ‘a real 1950 spray’, the ambit was widened to include all insects: ‘one spraying keeps right on killing for weeks, giving you definite control over garden insects.’

The new sprays were, for a while, able to achieve close to the ‘100 per cent insect control’ claimed in the advertising. However, this meant that whilst they killed pests, they also killed predators. It was often recommended that spraying should be carried out regularly as a preventative measure, without waiting for infestation, but such regular regimes left little opportunity for predator species to build up their numbers. Entomologists identified destruction of insect predators as a problem associated with the new organic insecticides as early as 1949.⁷⁷ By the late 1960s, populations of two-spotted mite in Australian orchards were annually causing major leaf damage to fruit trees, as spraying of DDT and other broad-spectrum insecticides killed off the predatory *Stethorus* beetle. Experiments carried out in 1971 found that where no broad-spectrum insecticides were used, the predatory beetle kept the mite population at very low levels. A similar problem occurred with the spraying of DDT for Oriental fruit moth: the insecticide killed many of the ladybird and lacewing species that contributed to control of the pest, which then became more difficult to control.⁷⁸ Furthermore, insect pests rapidly built up a resistance to the new sprays: the first instance of insect resistance to DDT was reported in 1946, even before DDT was in common usage in Australia. The world’s first recorded case of codlin moth resistance to DDT came from South Australia in 1953.⁷⁹ Of course, not all gardeners used the new sprays. Tim and Tot White relied on the old nineteenth-century standby of soapy water, and accepted some losses. However, Neil Durstan admitted that he had ‘poisons out there in the garage but they’re probably no good—I haven’t used them for years’.⁸⁰ The very fact that the pesticides were commercially viable for many years also indicates that they were bought—and presumably used—by home gardeners in not insignificant quantities.



DEATH
Spelt **DDEATH**
**SPELLS DEATH TO
EVERY PARASITE**

*There is
No Substitute for*
**ECONOMICAL
DDEATH**

for the
**EXTERMINATION and ERADICATION of
POULTRY PARASITES**
DURABLE DESTRUCTION OF TICK
EFFICACIOUS FOR SIX MONTHS

Spray DDeaTh on your pens and
poultry with your Egg Board Spray
Pump.
Agents in Victoria, New South
Wales, Queensland, and Sth. Australia.

**CONTAINS
CORRECT
PERCENTAGE
OF D.D.T.**

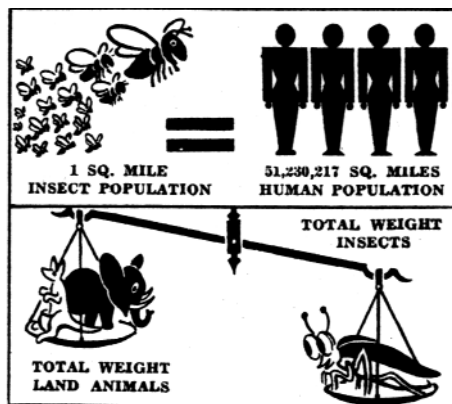
EFFICACIOUS FOR SIX MONTHS

**PRODUCT OF
J.D.HARMSWORTH & CO. PTY. LTD.
CHEMICAL DIVISION
185 WILLIAM ST. MELBOURNE MU 3363**

Enthusiasm for the superior killing power of DDT. (Source: *The Egg Producer*,
28 January 1948. Reprinted courtesy of Farm Pride Foods.)

Although safer for humans than the arsenical insecticides commonly in use prior to the war, the new insecticides were by no means benign. The chemical DDT can be taken into the body by inhalation, ingestion or through the skin. In the short term, it irritates mucous membranes, and, in high enough doses, may cause convulsions, respiratory failure, and death. Long-term exposure may affect the central nervous system and liver. There is much debate over whether DDT is a human carcinogen, and it is classified by the World Health Organization and others as ‘possibly carcinogenic to humans’, as well as possibly having toxic effects on human reproduction.⁸¹ It is known to be highly toxic to several fish species, and to cause eggshell thinning in some bird species, especially predators.⁸² Its indiscriminate use in the garden context was therefore not without repercussions.

Another pesticide which was taken up with enthusiasm by at least one gardening writer was the organophosphate pesticide parathion. The insecticidal properties of organophosphates were discovered by I.G. Farben chemist Gerhard Schrader, as part of the Nazi chemical



The diagrams above show graphically the immense problem faced by mankind in the insect pest — insects outweighing the world's animals, and far outnumbering the human population.

‘The immense insect pest’. (Source: ‘Let’s get on with the “Clean-up” Now’,

Your Garden, May 1951, p. 43. Reprinted courtesy of *Your Garden*.)

warfare programme. They were later employed in the formulation of the nerve gases tarbun and sarin.⁸³ By 1951, parathion was available to home gardeners as E605 Folidol, recommended for making a ‘clean sweep’ of the garden. Again, the vision here is one of a garden devoid of insect life, attached to a broader aim of tackling the ‘immense problem’ which insect enemies were felt to pose to humankind. At 9s for a 2-oz bottle, parathion was described as ‘really a cheap form of protection’, and ‘useful against any insect at all times’.⁸⁴ Whereas DDT has a low acute mammalian toxicity (that is, low doses do not immediately lead to poisoning), that of parathion is extremely high: human fatalities have been caused by inhalation, ingestion, and absorption of the poison through the skin. It is also highly toxic to birds and non-target insects (including honeybees), and moderately toxic to fish.⁸⁵ The wisdom of using such toxic sprays as parathion was soon questioned by people such as F.C. King, who in 1951 wrote in *Your Garden*:

From the days when a simple lime wash was used on the trunks of apple trees, or a mixture of clay, cow dung and soot was plastered on them, we have reached the stage when operators, applying modern spraying fluids, need protective clothing lest skin be seared, scalded or disfigured, and even so, death may claim a victim before the day ends. Only if the results obtained under such systems of management are immeasurably better than they were before the evolution and use of lethal compounds, and if good wholesome fruit can only be produced thus, can modern methods be justified?⁸⁶

Although organochlorines have a lower acute toxicity than organophosphates such as parathion, they persist for a longer time in the environment. It has been reported that DDT, for example, has a half-life of between two and 15 years, and is fairly immobile in most soils, particularly those containing much organic matter.⁸⁷ One of the greatest concerns about DDT and other organochlorines—particularly for a species at the top of the food chain—is the fact that they accumulate in fats, including body fats, milk (including human breast milk) and eggs. In the US, naturalists expressed concern over the potential

environmental effects of DDT in 1944, before its general release to the public.⁸⁸ Ecological and medical research carried out in the United States, Europe, and even Australia, between 1944 and 1961 also identified a wide range of problems with the organochlorines and organophosphates.⁸⁹ In late 1946 the NSW Departments of Health and Agriculture were ‘diffident about recommending use of the preparation on edible portions of plants’, and manufacturers were warned not to label DDT as ‘harmless’ or ‘non-toxic’.⁹⁰ But it was not until after 1962, when Rachel Carson published her dramatic synthesis of research into the health and ecological effects of the new pesticides in *Silent Spring*, that many members of the public seriously began to question the wisdom of using such persistent and toxic chemicals. In the 1950s, the chemicals were widely promoted by the industrial chemical industry—and generally regarded by the public—as a cheap, effective and unproblematic means by which to ‘defeat’ insect pests. More generally, independence from nature remained the prevalent ideal, finding an outlet in a growing array of garden sprays, dusts and fertilisers which promised flourishing gardens free from insects of virtually all descriptions, and without the need for either animal manures or compost. It would be the 1970s before the wisdom of this approach to nature would begin to be widely questioned in Australia.

CHAPTER 6

The contemporary and the cautious: 1955–73

THE seeds of a bright modern future, smothered in a climate of wartime austerity, gradually emerged in the 1950s and 60s dazzling in neon and chrome. In this environment, consumerism and an increasingly pervasive ‘modern outlook’ rose to prominence among the forces shaping animal husbandry and gardening for food. Consumer culture expanded, as the mass media successfully promoted a wide array of consumer goods as means by which aspects of one’s identity, including ‘independence’, could be expressed. Material simplicity—the ‘art of living’—lost some of its attraction for a burgeoning and increasingly wealthy middle class, and the importance of practising self-help through thrift was diminished. People could—and did—buy more, with private consumption expenditure rising by approximately 4.9% per year throughout the 1960s.¹

One important consumer item that took time and interest away from home-centred pursuits, including food production, was the car. In 1945, only about one in 11 Melburnians had a car. By 1968, more than one in three were so equipped.² Since early in the twentieth century, the automobile had been a powerful symbol of independence.

As cars increasingly came within reach, they (along with home-ownership) became the most important symbols of independence for many suburban residents. Cars also extended the range of possibilities for leisure. Backyard food production was thrown into competition with the freedom to go. As Tot White put it:

...when you got a car you didn't stay home and do your gardening, you went to the beach or the country, or somewhere...that was your recreation—instead of pottering around doing the garden, you went for a drive...And I think that was another reason why we gave the chooks and the vegie garden away, because we didn't have the time, we spent it driving around.³

The expansion of leisure opportunities was reflected in the gardening literature, where gardening was promoted as a modern leisure activity which was satisfying, yet not too time-consuming. This was the essence of the 'modern' garden. As Nerine Chisholm put it in 1956: 'Modern garden planning means labor-saving [*sic*] ideas, leaving time to enjoy the beauty you create.'⁴ However, Chisholm's 'modern' garden still contained vegetable beds and a composting area, albeit on a smaller scale than many prewar designs. Other plans for 'low-maintenance' gardens published during the 1950s also included fruit trees and vegetable gardens.

In the 1950s and 60s, attempts to remove large animals from suburban areas intensified, with the rhetoric of 'modernity' often enlisted to aid the cause. Thus in 1959, the Perth Road Board member for Scarborough, A.C. Hepworth, attempted to amend the Board's by-laws to prohibit the keeping of horses within 100 feet of a dwelling, instead of the 20 feet allowed at that time. He told the meeting that 'keeping horses ought to be discouraged in a modern community', and that 'If we stop people from stabling a horse 100ft away from a house, we may stop them from keeping them altogether.'⁵ Hepworth's motion lapsed but the issue was considered serious enough to refer to the Western Australian Health Department, which ultimately secured a 1962 by-law amendment greatly increasing allowable distances between large animals and dwellings. Horses and modern communities

were indeed, it seemed, mutually exclusive. In the same amendment, the regulations relating to the keeping of poultry were also significantly altered, requiring higher standards of poultry housing and providing for the registration of all poultry-keepers (at a cost of 5s). The Commissioner of Public Health, W.S. Davidson, was quoted in the *West Australian* as saying:

It is thought that the expense of making poultry pens comply with the new by-laws will discourage people from keeping poultry in their backyards...A second reason is the noise nuisance. Local authorities may want to specify areas where poultry may not be kept so there will be no disturbance.⁶

The model by-laws were clearly produced with the intent of reducing the number of suburban poultry-keepers, at a time when it was estimated that between 1 in 4 and 1 in 6 Perth households kept poultry.⁷ Rather than attempting to regulate the risk posed by poultry to health or amenity, the Health Department attempted to impose a non-productive conformity—at least with respect to animals—on the residential suburbs. Similarly, in Melbourne, new model poultry-keeping regulations were drafted under the *Health Act* in 1969. Although allowing for the keeping of 25 poultry with no fee, the regulations were very strict when it came to housing, stipulating that all poultry were to be kept in ‘rat-proof’ poultry houses complete with guttering and spouting leading to stormwater drains. Such houses were to be 40 feet from any dwelling, and only two turkeys, ducks or geese were permitted on any premises in a residential zone.⁸

In the 1960s it appears that, as Andrew Brown-May has suggested, ‘the increasing restriction on the keeping of productive animals was based as much on the abandonment of a perceived outdated rural era in favour of a progressive urban ideology’ as it was on concerns for health and the obviation of nuisances.⁹ This ‘urban ideology’—part of the ‘modern outlook’—included an element which lauded consumption and disparaged at least some types of production. Margo Huxley has proposed that such ‘by-laws can be seen to support consumerist trends in domestic life by regulating the amount of (non-horticultural) food production which can be undertaken on

suburban blocks',¹⁰ but they can also be seen as participating in the creation of those trends. In other words, the exclusion of productive animals from residential areas was one way in which various state instrumentalities—generally operated by middle-class technocrats—sought to produce clean, modern communities peopled with cosmopolitan commuters and consumers. Although vegetable gardening and fruit production remained acceptable suburban pastimes, in the ideal modern suburb, the whine of the Victa motor mower would no longer have to compete with clucking and cackling, bleating and stamping. This period has since been cemented in the public consciousness as the time when 'the council got strict about keeping farm animals in suburbia',¹¹ though as we have seen, large animals had been heavily regulated in many suburbs for decades.

According to Tot White in Melbourne, the new approach had a substantial impact on residents' ability to keep poultry:

Everyone seemed to have chooks, but I think they all got to that [elderly] stage, and then I think the Council put a stopper on it, because they said you could only have so many chooks, and you had to have better pens and all that for them, so I think that stopped a lot of it too.¹²

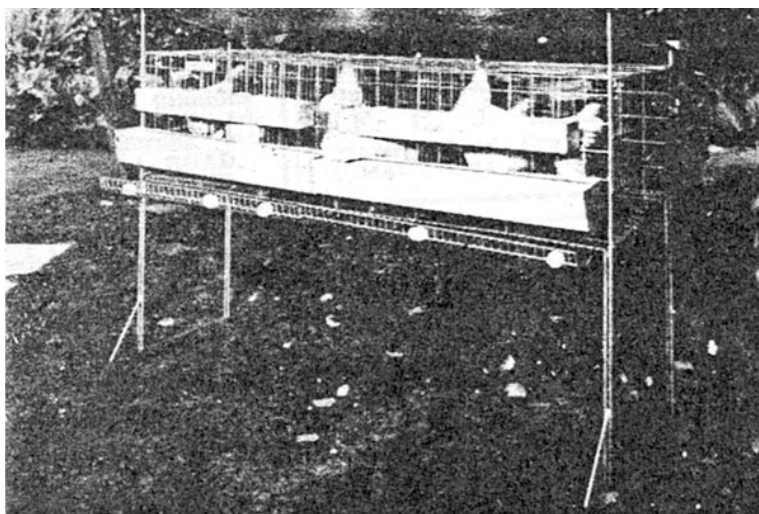
Charlie Wilson, then living in Wembley, got rid of his fowls in the mid-1960s, when the new Council requirements meant that he would have had to put 'an enclosure in the middle of the yard'.¹³ The location of the fowl shed against a side or back fence had been a cultural norm; Council regulations that stipulated minimum distances between poultry and fences were incompatible with the traditional spatial organisation of the backyard. This made poultry-keeping according to the specifications even less attractive. Thus Linda Brown, Nancy Fitzpatrick and their mother Theresa Blakers recalled that the number of households keeping chooks in the middle-class suburb of Nedlands appeared to decline after the 1960s.¹⁴ Similarly, in 1998 the chairman of Perth's Altona Hatchery, Mr Bell, claimed that domestic poultry-keeping started to decline noticeably in the 1970s—a trend which he attributed to a combination of council restrictions and shrinking block sizes.¹⁵ Whilst the 'ideal suburb' of conformity in consumption has

never come into being, it appears that throughout the 1960s and 1970s, the number of productive animals in the suburbs fell quite dramatically.

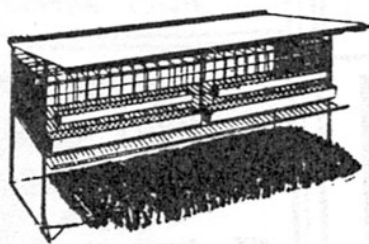
Where productive animals were kept, the literature was concerned to show that they could be kept in modern ways that were congruent with a more consumption-oriented lifestyle (and which themselves often involved greater consumption). In the mid-1950s, poultry-keeping still held a prominent position in magazines such as *Your Garden*, which featured monthly ‘poultry notes’ by Charles W. Smith. These articles often carried an emphasis on convenience and leisure in a busy, modern world:

There’s pleasure and profit in Muscovy ducks. Muscovies are the busy man’s bird. They are intelligent, handsome to look at, and make delightful pets...The Muscovy is easy to breed, easy to keep, and as tough as an ostrich...One of the nicest things about Muscovies—when you have a lot of things to do around the house—is that they will practically take care of themselves...When a gardener hasn’t time to attend to ordinary fowls, or raise chickens, he can keep and rear Muscovies and get a lot of pleasure from them.¹⁶

Readers were further advised that ‘Poultry experts tell us there is a common belief now that to be successful with fowls—to keep them in the modern way—you must have an ultra-modern fowlhouse’. Small-scale, backyard battery cages were billed as one of the two types of ‘ultra-modern fowlhouse’, being ‘not only a machine in which to keep fowls, but...a machine which practically takes care of them. With cages constant daily attention is unnecessary.’¹⁷ A similar article announced that these ‘home garden units’ would allow keepers to have ‘every bird under control’. Furthermore, as prosperity began to return to (some of) the suburbs and holidays became more common, backyard battery cages solved ‘the problem of what to do with the fowls when you go away for a weekend—or how to take care of them when you go to work in the city’.¹⁸ As suburban life became oriented more towards consumption, and the demands of a boom economy meant that more of people’s time was spent in the paid workplace, the forms and meanings of food production also changed.



EGGS APLENTY! when eggs are SCARCE!



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Unlike productive animals, vegetable gardening and fruit trees did not usually constitute a challenge to suburban order, except where they were planted in front gardens by immigrants from southern Europe. In Carlton (Melbourne) in the early 1970s, most Anglo-Australians ‘didn’t approve, [and] some would voice their displeasure’ at the productive front gardens which appeared in the suburbs with the postwar European migrants.¹⁹ Italian migration to Australia began in earnest following the Second World War. In 1947 there were 33 632 Italian-born people in Australia; by 1971 there were 289 476. Most of the migrants were from small towns and villages in rural areas of southern Italian regions—Sicily, Calabria, Abruzzo and Campania.²⁰ Many had thus grown up in situations where domestic food production was a practice arising out of a *contadini* (peasant farmer) background, as both a strategy designed to increase (or at least maintain) economic capital, a set of tastes held in common with other *contadini*.

Emma Ciccotosto, who was born in Abruzzo in 1926, migrated with her family to Western Australia when she was 13. Emma’s father was lucky in that he owned their small piece of land, but realising that he had ‘too little land to make a decent living’, he sought a better life overseas. Although she arrived in Australia before the postwar wave of migration which peaked in the early 1950s, Emma’s description of her life at home in Casalbordino provides an insight into the background shared by many postwar Italian migrants:

We used everything we grew. Our diet would have been poor but for the vegetable garden, for we never had a lot of meat. My mother grew tomatoes, eggplant, zucchini, peas and beans, spinach, chillies, garlic, parsley and celery. She preserved as much as she could for the winter months by drying or pickling them. We grew so hungry for meat then that we built little traps for wild birds...My mother would cook them for us but they only gave us a mouthful of meat apiece.²⁰

Opposite: Really modern poultry-keeping. (Source: *Your Garden*, October 1956, p. 70.)

Reprinted courtesy of *Your Garden*.)

Most of the postwar migrants settled in metropolitan areas, in suburbs such as North Perth, Carlton, Leichhardt and Norwood, where work was accessible, housing cheap, and compatriots already established.

Although they were often able to eat more meat in Australia, many migrants continued to produce food, planting olive trees and grape vines, but also plums, apples, pears, lemons, figs and apricots, as well as fennel, peppers, basil, eggplants, beans on conspicuous poles and above all, tomatoes. In Fremantle in the 1950s, Emma's father-in-law (who hailed from a town not far from Casalbordino) planted herbs and vegetables and kept six chooks at the house he shared with Emma and his son.²² Further evidence for a connection between postwar migrant food production and *contadini* roots comes from two interviews I carried out in 1999. Paolo Ricci grew up in Carlton in the 1970s. His parents both grew up, or at least lived for most of the time before coming to Australia, in Rome. When they came to Australia, they had little inclination to grow much food—just some tomatoes, herbs, peach trees and a couple of fig trees. Most of their neighbours, however, 'were not city people, they were from rural backgrounds, and they just knew how to produce products and foodstuffs and that's what they had grown up with'.²³ They had very productive vegetable gardens—including cultivation of the front yard—and usually poultry as well. Similarly, Antoinette Celotti's mother grew up in rural Italy, and when she came to Australia, she continued to grow her own food on a substantial scale. Antoinette felt that her own passion for productive gardening was inherently related to her family's rural Italian heritage, though clearly not all second-generation Italian-Australians share her enthusiasm.²⁴

Many Italian migrants were thus experienced at producing food and accustomed to a diet rich in fresh vegetables, which on the whole they wished to retain. That vegetables remained a particularly significant part of the diet is evident in the importance attributed to obtaining traditional varieties. The migrants brought their seeds with them and saved them each season. In Australian cities in the 1950s and 60s, Italian herbs and bitter salad greens were not otherwise available, nor were regional varieties of more common vegetables.²⁵ Vicki Swinbank has also argued that food production, and consumption of home-grown food, played an important part in 'reinforcing

a strong sense of cultural identity and a sense of belonging', thus enabling migrants to feel more secure, if not actually at home, in the context of a different, and sometimes hostile, new environment.²⁶ For the wives of Molfettese fishers living in Fremantle, the garden was a comforting place to pass the lonely hours in a 'foreigner's town' while their husbands were at sea.²⁷ Others employed food production in an attempt to generate, or reinforce, a sense of community, perhaps similar to that which they had known in villages in Italy. Thus vegetables and fruit trees were planted in front yards not only to save space, but also to 'excite curiosity and conversation from passers-by'.²⁸ This strategy may well have been successful in neighbourhoods with significant Italian populations, though the Anglo-Australian attitude to this kind of food production was often less than neighbourly. It took time for migrant food habits to make their way into middle-class Anglo-Australian tastes, but eventually a predilection for the 'gourmet' would re-configure productive migrant gardens as Arcadian, and to be emulated rather than scorned.

There is also another side to Italian migrant food production. In rural southern Italy, owning land was highly desirable—if not always within reach—as landless *contadini* were 'at the mercy of the *baroni*'. In Australia, the migrants likewise strove to buy their own homes. Many succeeded: in 1986, 70% of households with a head born in Italy owned their own homes, while a further 19% were still paying off their housing loan.²⁹ Such high rates of owner-occupation among migrants may be indicative of a broader disposition towards independence, instilled by the *contadini* experience. Charles Price, and later Jock Collins, have also recognised the strength of the 'dream of independence' among Italian migrants, tracing it to their *contadini* roots and showing how it was pursued through small business development in Australia.³⁰ In a culture where non-British migrants were often denied access to well-paid work, ownership of a home and/or small business was rarely achieved without sacrifice.³¹ For low-income migrant households with vegetable-rich diets and horticultural knowledge, the potential for saving money is likely to have influenced food production decisions.

The tendency for rural people to maintain productive gardens once settled in urban areas was also strong amongst the Australian-born.

Whilst the yeoman formed part of the urban middle-class imaginary, many suburban food-producers had, in fact, lived on or around farms before coming to the city. Of the 50 people I interviewed about their food production, 12 grew up (or lived for some time) on farms or large blocks in country towns in Victoria and Western Australia. Others had ex-rural relatives who also grew their own food. Although Australia does not have a tradition of ‘peasant’ agriculture, for much of the century it was convenient for rural people to grow their own vegetables, as space and manure were readily available, and an alternate supply of fruit and vegetables could be several miles away (and then often of dubious quality). Country people also took pride in their ‘yeoman’ status. It comes as no surprise then to find that ex-rural people have often continued to find satisfaction in food production once settled in suburban areas.

Among suburban Anglo-Australians in the postwar era, vegetable gardening and fruit trees remained popular as an expression of self-reliance. For example, Peter Watson and his wife moved to a house in Sandringham, Melbourne, in February 1961, from their rooms in a mansion in Elwood. From a wealthy family, Peter turned his back on family expectations and became a fireman. The main reason he chose to move to Sandringham was because he wanted a big block—space which he ultimately filled with squabbling pigeons, rabbits, ducks, chooks, fruit and vegetables. He was almost self-sufficient, an ambition which he says ‘was just born in me. On either side of the family there were people who were good at handling money, and I think I inherited some of that.’³² The virtue of this thrifty, prudent orientation—part of the durable middle-class independent disposition—was also reflected in gardening publications. For example, in September 1961, the *Australian Garden Lover* counselled that:

Apart from the monetary gain, there is something to be said in favour of people who are careful and who endeavour to put everything about them to the best possible use. In the latter case we find gardeners, businessmen, farmers, and many others who realise the advantages derived from having a portion of the home garden set aside for the production of fresh vegetables.³³

In the 1950s and 60s, the accepted association of food production with ‘manly independence’ was protected in popular representation, with articles and advertisements consistently depicting independent men with the vegetables, and dependent women passively ‘consuming’ the surroundings, or at most working with flowers. At the same time, however, an increasing number of married women were entering paid employment, with the female workforce rising from 22.8% of the total workforce in 1954 to 36.0% in 1976, and the proportion of the female workforce who were married rising from 30.8% to 64.0% over the same period.³⁴ Women who were working in both the home and the paid workplace had less time for the daily maintenance of food production, for which many had previously been responsible. Along with increasing regulation, this was probably a factor in the diminution of the number of households with productive animals, which generally require more daily maintenance than fruit trees and (to a lesser extent) vegetable gardens. In some cases, vegetable gardens may well have been scaled back, if not abandoned altogether, when a wife went out to work.

Earlier concerns with freshness and quality of food also remained evident in many gardening magazines and books. In the mid-1950s, poor nutrition was sometimes still described in terms of the potential for racial deterioration, though more often, detailed information was provided about the vitamin content of vegetables, and householders were urged to grow food in order to obtain good health for themselves and their families.³⁵ For some, home-grown fruit and vegetables also remained an item of class distinction which was superior to the mass-produced, mass-consumed item. Reuben Patton, ex-Melbourne University lecturer and Mayor of the City of Caulfield, bemoaned the decline in the quality of vegetables available in Melbourne in the mid-1950s:

...food was then produced around Melbourne itself and came fresh into the home. But today it is frequently no longer fresh...Tomatoes were grown and ripened on the bush but today they are picked green and often sold green or they may be artificially ripened.³⁶

Similarly, in 1961 the *Australian Garden Lover* explained, in some detail, the advantage that home gardeners had in being able to leave fruit on the tree to ripen properly and develop its full flavour.³⁷

However, this distinction had to compete with the convenience and modern novelty represented by new forms of processed food, and new ways of shopping. Conversion to self-service grocery shopping occurred rapidly in the mid to late 1950s in Australia, and the ‘new world’ of supermarket shopping was highly attractive to many. Frozen vegetables were introduced to the Australian market in 1953, as the result of cooperation between the US-based Bird’s Eye corporation and Australian Edgell company. By the early 1960s, the range of frozen food available to shoppers included fish fingers and ‘T.V. dinners’, whose attraction was magnified by increasingly intensive advertising: in 1949–50 advertising expenditure was in the order of £30 million, but by 1960–61 this had risen to £123 million.³⁸

By the 1970s, environmentalism in its more recent form was beginning to appear in gardening literature, translating the conservation focus of the Australian environment movement into a concern with pollution of local environments, and bodies:

Contaminating smog affects our lungs, eyes and capacities.
Poisoned water not only kills our seafood but affects our
health as well. We turn to plants as our purifier for help. Grow
our own vegetables if space permits.³⁹

It was still believed that ‘pure’ plants could be grown with the aid of insecticides, if the directions were carefully followed. But at the same time, a rather different view was becoming discernible—one which invited readers to focus on the existence of ecological interdependence, rather than the illusion of independence offered by insecticides such as DDT. One 1971 article, reprinted from the *Australian Medical Journal*, suggested that even though the toxicity of DDT for humans is very low, ‘this does not mean we can pollute our environment with impunity’. It also posed the broader question of the extent to which humanity should sacrifice short-term gains for long-term benefits. The solution—perhaps unsurprising in a piece originally written for doctors—was believed to lie in the old middle-class virtue of frugality:

Comfort may perhaps be found in the consideration that, mankind being by nature, prodigal, careful scrutiny may often reveal that a great deal of pollution is due to wasteful and unnecessary use of harmful substances.⁴⁰

From the mid-1970s, the new environmentalism was to have a significant influence on suburban food production practices.

There is a perception that home food production diminished rapidly during the postwar economic boom. However, although suburban livestock numbers decreased during the immediate postwar decades, and home fruit and vegetable production may have experienced a lull, a study carried out in Adelaide in 1973 by Ian Halkett showed that fruit and vegetable production remained a popular activity. The study involved both the taking of aerial photographs and administration of a questionnaire on garden use to 430 households throughout the Adelaide metropolitan area. Characteristics of sampled households closely matched those of the overall population as recorded in census data from 1971, except insofar as households without gardens were excluded from the survey, which meant that the sample was biased towards traditional nuclear families.

Halkett found that 61% of households produced more than 1% of their own fruit and/or vegetables, with the proportion of a household's requirements being supplied by home production as indicated in the table overleaf.⁴¹

The majority of households produced little or nothing of their own requirements, with 68% of households producing from zero to 5%. However, a significant number—11%—produced over a quarter of their requirements. Furthermore, 44% of households grew vegetables, so even in many cases where only small amounts of food were being grown, active involvement in production was taking place, rather than just the harvesting of crops from established trees. Halkett also found that 8% of households kept chickens and an additional 13% kept 'small pets' such as rabbits, although there is no indication as to how many of these were kept for food. Only two households kept 'large animals' such as horses.

As with the Melbourne University Social Survey (see chapter 5), Halkett found that food production was concentrated among

**Proportion of Household Fruit and Vegetable Requirements
Obtained from Home Gardens, Adelaide, 1973**

Percentage of household requirements	Number of households	Percentage of sample
None	96	22%
Less than 1%	72	17%
1–5%	126	29%
6–25%	91	21%
26–50%	25	6%
51–75%	8	2%
76–100%	12	3%

home-owners or buyers—only 30% of people renting grew vegetables, whereas 58% of home-owners, and 36% of home-buyers did so. Immigrants from southern Europe were likely to produce more food than their Australian-born counterparts, and whereas only 7% of households with an Australian-born head kept chickens, they were kept by 34% of households with an Italian-born head. Cultivation of vegetables also increased with age, reaching a peak among the households with a head born between 1912 and 1921, 55% of whom grew vegetables. The cultivation of vegetables was most common among households with a head in administrative or service employment, or not working. The keeping of poultry, on the other hand, was dominated by households with a head in service or manual occupations, or not working.⁴² This suggests, again, a division along class lines in the type of foods produced at home, with working-class households well-represented among poultry-keepers, and middle-class households dominating vegetable-growing.



Meanwhile, the structure of the food system that supplied commercial produce to suburban areas had been changing. Increasingly from the 1950s, vegetable production centres with large, mechanised farms specialising in particular crops were established in non-metropolitan regions, and produce for metropolitan consumption was

transported from these areas and interstate. In the context of the post-war economic boom, there was an increased demand for out-of-season fruit and vegetables, even if they were a bit more expensive. Developments in refrigeration also made long-distance transportation more cost-effective. In 1964, supplies of tomatoes were transported to Melbourne from far and wide:

During mid-winter supplies are drawn from the Geraldton district in Western Australia. The next source of supply is from Rockhampton and the coastal areas of southern Queensland. Later on Adelaide tomatoes appear, and from November and December supplies come from the middle Murray and the Riverina. The irrigation districts near Shepparton are producing large quantities in January, while later crops (February to April) are grown near Melbourne itself or in areas of good rainfall near the coast.⁴³

In spite of the shifts, metropolitan hinterlands remained important: in the mid-1970s more than half the vegetables grown in Victoria (by value) were produced within 100km of Melbourne.⁴⁴

Commercial food production within metropolitan areas, however, was dwindling in significance. The number of dairies in Perth suburbs declined from 203 in 1934 to 101 in 1945, before falling dramatically to only 22 in 1957 and 8 in 1968.⁴⁵ From a high of over 2500 acres of 1945–46, the extent of market gardens in Perth declined to around the 2000 acre mark between 1950 and 1960. A similar trend was recorded in other cities. By 1958 there were only 52 rural holdings within the Greater Melbourne area, with only 70 horses, 315 dairy cattle, 398 other cattle, 2798 sheep and 322 pigs between them.⁴⁶ Some suburban farmers no doubt welcomed the opportunity to gain a sizable lump sum for retirement by subdividing and selling their land. Others were pushed out by the rapidly increasing land taxes and rates which accompanied suburbanisation: in postwar Nunawading, for example, one orchardist's land taxes jumped from £249 to £6250 over a twelve-month period.⁴⁷ Urban problems of dogs and pollution convinced other farmers to sell. Although pre-existing uses were generally allowed under zoning legislation, commercial agricultural

enterprises in areas zoned residential could experience harassment from authorities until they moved on. In the northern Perth suburb of Bayswater, Gobba's dairy was fortunate enough to end up in an area zoned industrial, so was able to operate in relative freedom until it was wound up in the early 1970s.⁴⁸

The metropolitan farmers who remained were forced to increase profitability. One of the ways this was done was by minimising labour costs and increasing yields through the use of new plant varieties, irrigation technology and chemical pesticides and fertilisers. Home gardeners and poultry-keepers also continued to deploy the increasing range of organochlorine and organophosphate insecticides in the quest for a clean and productive garden. In the context of a booming economy, when many gardeners found themselves with more money and less time for gardening, and a thriving consumer culture hailed the pleasures of 'the new and up-to-date', the burgeoning garden products industry supported 'modern gardening' with a range of dusts, sprays and gadgets, which were advertised as effective, quick, and simple to use:

BUG GETA. The only pest killer containing D.D.T., D.D.D. and the amazing new MALATHION. Now kill every garden pest in one simple spraying with BUG GETA. The three powerful ingredients quickly and surely kill garden bugs, mites, aphids, beetles, moths, fruit fly, grubs, thrips etc.—even the very difficult hairy and woolly type insects.⁴⁹

Home gardeners could 'simply mix Bug Geta with water and spray'. They were also absolved of the necessity of learning to identify insects, let alone study their habits and life-cycles: in 1971, *Yates Garden Guide* recommended the use of 'complete pestkillers', containing a mixture of chemicals to 'deal effectively' with any pest, as 'the home gardener, in most cases, would be doubtful of the species'.⁵⁰

Charles W. Smith, writing for *Your Garden*, also did away with the old methods of dealing with poultry parasites, which involved painting oil or smearing Vaseline on stickfast fleas and scaly leg mites. Instead, he recommended keeping poultry sheds free from pests by 'spraying the walls, litter and nesting-boxes' with a 20% DDT

solution, and painting the perches with benzene hexachloride.⁵¹ Other preparations on offer in the early 1960s included dieldrin and lindane, an ICI UK invention for which the production process was refined by ICI Australia.⁵²

Older preparations, including derris dust, nicotine sulphate, lime sulphur, arsenate of lead, red oil and Bordeaux mixture were still offered; however, it was the new insecticides, herbicides and fungicides that were most often recommended, and most heavily advertised. Right up to the early 1970s, the idea of independence from the depredations of insect pests was discursively inseparable from the new insecticides. Although it is probable that some home gardeners still used older remedies such as hand-picking, which were labour-intensive and low-impact but not entirely effective, there was certainly sufficient demand for the new pesticides, for their sale to home gardeners to be commercially viable. The pursuit of ecological independence continued.

The metropolitan pesticide burden—especially in Perth—was substantially added to by Argentine ant eradication programmes. The ant was first discovered in Victoria in 1939, and by 1941 it had spread to Western Australia.⁵³ It was first reported in NSW in 1950, when it was found in the Sydney suburb of North Auburn. The ants became an acute household and garden pest, infesting pantries, dining rooms, even refrigerators. They were also known to overrun chicken pens, sometimes killing birds. The ants were particularly troublesome in the dry heat of Perth summers, as they invaded houses in their relentless pursuit of moisture. In severely infested houses, in order to get any sleep, it was necessary to place bed legs on Vaseline-smeared plates or tins of water with a kerosene film, to stop the ants climbing onto the beds.⁵⁴ In Western Australia, the response was legislative, with the *Health Act* being amended in 1949 to include Argentine ant control regulations, and the *Argentine Ant Act* passed in 1954. The regulations, and then the Act, gave sweeping powers to ‘authorised persons’ to enter and inspect properties, and to spray, or require owners to spray, prescribed chemicals to kill the ant.⁵⁵ Spraying with DDT was carried out in Perth between 1949 and 1951, and in 1954 a large-scale spraying campaign began under the Argentine Ant Act, with the aim of eradicating the pest within 5 years.⁵⁶ The campaign was based on the use of dieldrin, with chlordane being used in ‘sensitive areas’

such as around fishponds and aviaries. The chemicals were sprayed around the perimeter of an infestation, and in grid lines spread three metres apart within the infested area. Later, when heptachlor replaced dieldrin, it was applied in grid lines spaced one metre apart, and chlorpyrifos was used for 'sensitive areas' in place of chlordane.⁵⁷ From the commencement of the campaign in 1954 until its suspension in 1988, between 234 and 4857 hectares were treated every year. Some areas were treated repeatedly. Most of the spraying was carried out in the inner and middle suburbs of Perth, though the campaign also extended to some country towns. During the campaign, a total of 31 093.4 hectares were sprayed with 35 188 846.5 litres of chemicals, at a cost of \$4 963 230. Although its spread was controlled, the ant was not eradicated.⁵⁸

In Melbourne, there was no campaign directed at eradication of the ant, and spraying was carried out by householders, private pest control operators, or where required, by the council. The insecticides DDT, chlordane and dieldrin were used until the 1970s, when chlorpyrifos became the control agent of choice.⁵⁹ One past president of the Pest and Weed Control Association of Victoria was very concerned about the lack of training of council workers: 'dieldrin could be sprayed by council workers without any training...In Caulfield, they did not appear to know what they were doing, and sprayed it all over the place.'⁶⁰

Dieldrin, chlordane and heptachlor are all cyclodiene insecticides, a type of organochlorine compound. Like that other organochlorine, DDT, they are very persistent in the environment, and are subject to concentration within food chains. Dieldrin, the most persistent of the cyclodienes, moves extremely slowly in soil, and has a reported half-life range of 2–39 years. The cyclodienes are toxic to birds, bees and fish, as well as to humans. Some have been shown to cause cancer in mice, and are regarded as potential human carcinogens.⁶¹

The use of organochlorine insecticides in the urban environment, by market gardeners and those attempting to eradicate Argentine ants, as well as by home gardeners and poultry-keepers themselves, had two main impacts on suburban food producers. Firstly, there is evidence pointing to a large decline in the insectivorous bird population in Perth following the 1950s spraying programme.⁶² Richard Beckett,

food columnist for *Nation Review*, noted similar effects in the inner suburbs of Melbourne: ‘The passage of the spray unit was noted for weeks after by the bodies of blackbirds lying in the gutters.’⁶³ A decline in bird populations is likely to have been responsible for increases in other pest insects normally eaten by birds (possibly resulting in the use of more garden insecticides). A wide range of other wildlife also suffered ill-effects due to pesticide exposure.⁶⁴ Secondly, cyclodienes accumulate in human foodstuffs such as meat and eggs, where they may pose a threat to the health of consumers. In 1981, it was found that the average level of dieldrin detected in eggs from fowlyards sprayed with Aldrin and dieldrin was greater than 5 mg/kg—fifty times the Maximum Residue Limit (MRL) for eggs.⁶⁵ The persistence of the cyclodienes and other organochlorines in soil also means that they continue to accumulate in eggs long after spraying has ceased. A Western Australian study of backyard fowl eggs conducted in 1989 detected organochlorine levels that were ten times the relevant MRLs in 5% of samples tested.⁶⁶ In an earlier test of ten egg samples from Perth backyards, seven exceeded the MRL, with one sample containing 80 times the MRL.⁶⁷ Furthermore, even where residue levels are below the MRL, they can exceed the limits regarded as safe for health, represented in Australia by ADIs, or Acceptable Daily Intakes.⁶⁸ Another example of organochlorine contamination comes from Werribee (Victoria), where the flesh of cattle fed on pasture irrigated with treated sewage was found to have accumulated high levels of organochlorines.⁶⁹ Organochlorine contamination of sewage sludge remains a barrier to its increased use for agricultural purposes today.

Hazards abound even at the top of the food chain, and pesticides that accumulate in living tissues are one of them. Organochlorines were first detected in human breast milk in the US in 1951.⁷⁰ A 1973 study of 40 breast milk samples in Queensland found that all were contaminated with DDT, dieldrin and HCB (an organochlorine of which lindane is a purified form) at levels which exceeded the World Health Organization recommendations. Twenty years later, a Western Australian study detected dieldrin, DDT and HCB in all breast milk samples, and heptachlor in most. The ADI for dieldrin was exceeded in 90% of the samples.⁷¹ The impact on infants of such high levels of pesticide consumption remains unclear.

At the same time, public awareness of the possible impacts of such persistent and harmful chemicals was increasing. From its beginnings in the interwar period as a more or less independent science, ecology had been slowly taking shape. In 1935, British ecologist Arthur Tansley (Sir) first applied the term ‘ecosystem’, which he took to mean

the whole system (in the sense of physics) including not only the organism-complex, but also the whole complex of physical factors forming what we call the environment of the biome—the habitat factors in the widest sense.⁷²

But the word only found its way into widespread public usage with the publication of Rachel Carson’s *Silent Spring* in 1962. With her vivid prose and meticulous research, Carson reached a wide audience indeed: *Silent Spring* made the *New York Times* bestseller list for 31 weeks and generated public debate on pesticides throughout the world.⁷³ The book sparked an environmental consciousness in millions of Americans, and ultimately Australians. Of course, popular ecology did not arise out of a vacuum in Australia. As we have seen, proponents of organic approaches had previously questioned the omnipotence of science and the wisdom of large-scale deployment of the new insecticides. But as a result of the movement which coalesced in the US in the wake of Carson’s work, ecology received a boost as a professional science, as well as a popular way of understanding the environment and our place in it. Many people became more aware, in particular, of the problems associated with organochlorine pesticides. The ‘cautious’ science of ecology was at last catching up with the capitalist science of industrial chemistry.

In 1963, an advertisement for ‘Mortein Plus’, a pyrethrum-based flyspray, attempted to capitalise on these new-found fears:

Mortein is so different from other sprays, most of which contain dangerous ingredients such as lindane, benzene hexachloride or dieldrin—many such sprays are so harmful to humans that they would not be permitted to be sold in the United States of America.⁷⁴

Eventually, some Perth residents began to have doubts about the wisdom of allowing their properties to be sprayed for Argentine ants, and occasionally police gained entry by force where residents had refused to allow ant control personnel onto their properties. In other cases, residents were restrained by police while their properties were sprayed.⁷⁵

Public concern over the use of heptachlor for Argentine ant treatment had reached substantial levels in Western Australia by the mid-1980s. In the US DDT had been deregistered in 1972, and it was finally deregistered in Australia in 1987.⁷⁶ The cyclodienes were deregistered for agricultural use in Australia in the same year, after a well-publicised incident in which the United States rejected Australian beef containing high levels of organochlorine residues (especially dieldrin). In 1988, the residents of Denmark, a town in the south-west of Western Australia, referred the Argentine ant spraying programme to the Environmental Protection Authority (EPA). The programme was consequently suspended and, as a result of the EPA enquiry, it was never resumed. Cyclodienes were still, however, commonly used for termite control on suburban properties and were only deregistered for all uses in 1995 (1997 in the Northern Territory), after a long campaign by community groups, especially the Perth-based Householders for Safe Pesticide Use. Significantly, protests in the early 1990s calling for a total ban on all uses of organochlorine pesticides played up the risks of contamination of home-grown food. At one such gathering, protesters brought their hens along and presented a basket of contaminated eggs to Health Department officials. Some activists, dressed in chicken costumes, waved placards reading 'Organochlorine omlettes: No thanks' and 'Chickens against chemicals'.⁷⁷

The Argentine ant control campaign in Perth highlights the way in which political, economic and cultural contexts of pesticide use in the postwar decades combined to permit the application of persistent and toxic chemicals over large tracts of suburban land in spite of doubts, from the 1960s, about their long-term safety. Industrial chemists may have believed (in spite of mounting evidence to the contrary) that they were placing the fruits of scientific progress at the service of the public in the interest of creating a better world. But ultimately industrial chemistry, as a servant of capitalism, was more

concerned with profit than questions of long-term health or safety, and was operating within a social and regulatory context which permitted this approach. Indeed, at first, this campaign in the war against insects received substantial public support.⁷⁸ In the absence of a strong voice for ecological science, at a professional or popular level, to counsel caution in the use of pesticides, they were applied over large areas for long periods, with at least potentially harmful effects, and the goal of eradication was still not achieved. The challenges to the chemical paradigm by a popularised ecological science were ultimately successful in ending the campaign, though the legacy of a less cautious age remains in the soil.



In the field of home garden fertilisation, the pattern established in the early 1950s continued more or less unchanged, with gardeners buying an increasing variety of artificial fertilisers, as well as pulverised, bagged animal manures. It seems that many gardeners had been over-enthusiastic in their application of the new artificial fertilisers, and ‘the results of unbalanced feeding’⁷⁹ were increasingly seen in both home garden and commercial crops. However, it was said that such problems could be avoided with the use of ‘complete’ fertiliser mixtures such as market gardener’s manure—a blend of blood and bone, the ammonia form of nitrogen and phosphate, and sulphate of potash.

Another addition to the available range of manures was ‘Canterbury compost’. An initiative of the Canterbury Municipal Council in Sydney, ‘Canterbury compost’ resulted from the large-scale municipal composting of organic household and trade wastes collected in the area. The City of Canterbury thus used, and exported, nutrients that would otherwise have gone to waste. Unfortunately for urban sustainability, however, the vendors of Canterbury compost were mistaken in their belief that ‘the time cannot be far distant when many of such plants are operating, especially in the densely populated areas where garbage disposal is an urgent problem.’

A 1956 advertisement for Canterbury compost mobilised many of the ideas of the growing organic movement, including the notion that soil fertility relies on the activity of fungi, bacteria, earthworms

and other soil organisms; that vegetables grown in compost-enriched soil are both more succulent and more prolific than those grown ‘with the aid of artificial fertilisers’; and that plants become ‘addicted’ to artificial fertilisers:

Inorganic fertilisers are made available to the plant in the form of chemicals which feed them in one stimulating deluge which in any form of life is inevitably followed by a reaction unless greater and more frequent doses are given.⁸⁰

It was only really in the 1970s, however, that the debate over whether artificial fertilisers were helpful or harmful resurfaced with any vigour. By 1971, it was accepted by at least one author that they were a necessary evil:

...only a minority can command sufficient supplies of natural manure to bring and keep their garden up to the desired standard of fertility and, despite all the advocacy of composting the surplus vegetable matter available as being the complete and safe means of maintaining a healthy fertility in the soil, we have not yet discovered a garden which produces enough suitable material for the purpose.

It is likely to be only a small minority who will find it possible, without some sacrifice of results, to abandon the supplementary use of concentrated fertilisers to make up deficiencies in available supplies of natural organic soil foods.⁸¹

Nevertheless, there was a substantial, and growing, body of people who claimed that vegetables grown using only compost were nutritionally superior. This claim was disputed by the staff of *Your Garden*, who cited a United States Department of Agriculture bulletin asserting that analyses of food grown hydroponically and in compost showed little difference in nutritional value. The advocates of compost were deemed irrational, as they were not convinced by the claims of industrial science: ‘our compost enthusiasts won’t listen to this, although it comes from a true scientific source’.⁸²

It is likely that most home gardeners used a combination of fertilisers: artificial, compost, and animal manure. Some gardeners may have arranged to obtain a supply of horse manure from one of the declining number of urban stables. In 1959, there were 406 stables known to local government authorities in the Perth metropolitan area, with most of these being clustered in the City of Perth, City of Fremantle and the horse-racing district of Belmont Park. In the same survey that located the stables, four municipal councils mentioned backyard compost heaps as potential sources of fly breeding, with East Fremantle Council wringing its hands over 'Home Gardeners with their numerous compost heaps'.⁸³ Composting ostensibly continued to be popular among residents of Perth, at least, although plenty of artificial fertilisers, including soluble ones, were sold and presumably used.

Although the use of chemicals increased the economic viability of market gardens and orchards, and the appeal of gardening to busy workers, the chemicals are likely to have also had detrimental effects on urban wildlife, environmental quality, and possibly people. Excess nutrients from fertilisers leached through soils—especially sandy soils—and were carried off with stormwater, playing a major role in eutrophication of urban waterways, and contamination of groundwater. Under some circumstances nutrients also leached from animal manures, but as highly concentrated sources of soluble nutrients the chemical fertilisers increased the risk of environmental harm.

By the 1970s it was becoming increasingly apparent that the human independence from environmental imperatives which horticultural chemicals appeared to deliver was in fact illusory: the approaches to food production which were devised by industrial science, and appeared convenient, effective and rational, had effects that were not predicted and in an urban setting could be far-reaching.



And what of economic concerns? Did the postwar boom see the disappearance of food production as a thrifty, or even necessary, activity? Certainly in the mid-1950s, gardening magazines continued to emphasise the high cost of shop-bought produce, and the cheapness with which food could be produced in one's backyard. Charles

W. Smith, poultry writer for *Your Garden*, was particularly enthusiastic, penning several articles in which he stressed the cost-effectiveness of poultry-keeping in times of high commodity prices.⁸⁴ In May 1956 he proclaimed that ‘Properly managed, the back garden can be a self-contained food factory’. ‘Backyarders’, he suggested, should start with early hatched chicks, keeping them for one laying season only, by which time ‘the hens will have paid for themselves with the eggs they have produced and you can figure on getting your annual profit by cashing them for meat’. With egg consumption in the 1950s still above 200 eggs per capita per annum, it is probable that some households would have regarded the potential for saving money through egg production as sufficient incentive to ‘go in for poultry’.

In another *Your Garden* article published in 1956, first of a series on ‘The Kitchen Garden’, Reuben T. Patton portrayed the land around the home as capital which families could employ in order to afford to eat the amount of vegetables required for good health:

In other days and in other lands the quantity of vegetables, excluding potatoes, considered necessary per person per day was about one pound but now it is impossible for the housewife to buy that amount for the family and at the same time meet all the commitments of the house, including rates, taxes and upkeep...To meet the present high costs, at least in part, the land around the house must be regarded as an asset and put to use in the raising of vegetables and fruit.⁸⁵

Patton’s article was directed at the swelling ranks of largely working-class home-buyers who escaped their shared accommodation and inner-city rentals for detached suburban houses of their own, and found themselves with mortgages to pay, houses to furnish, and a wealth of goods—from cars to lawnmowers—to purchase, for full participation in postwar suburban life. It is somewhat ironic that food production was called upon to support a culture of consumerism. Gardening magazines, of course, were not innocent of these trends, but performed a critical role in linking mass production with mass consumption.⁸⁶ Full-page advertisements for Bug Geta and the Hortico range of fertilisers and pesticides appeared alongside articles on ‘starting a home orchard’,

and monthly vegetable guides. Articles on keeping poultry were accompanied by advertisements for the ‘Greenburn home garden unit’—a kind of backyard battery cage.⁸⁷ Readers were informed that the expanding range of gardening consumables and accoutrements were essential for efficient gardening, which saved time, and saved money. In such a climate, home food production was often less an economic necessity than a novel way of spending money which could, if successful, reap economic rewards. Where food production was carried out prudently, using more labour and waste materials and fewer gadgets and chemicals, it could at least potentially help to stretch budgets straining under the weight of various repayments, and perhaps it also acted as a kind of safety blanket, allowing a people used to the threat of unemployment to put a little more aside for a rainy day. Its ability to assist the very poor, however, was as constrained as ever.

In the 1960s, references to the economic side of orchards, vegie patches and chook coops all but vanished from gardening magazines. The new prosperity was, it seemed, thoroughly entrenched. Although *Your Garden* still had ‘kitchen garden’ and ‘home orchard’ sections, the emphasis was on ‘how to’ rather than ‘why’, and no mention was made of perceived economic advantages of home production. *Your Garden*’s senior rival, *Australian Garden Lover*, sometimes maintained the economic motivation for food production when introducing its vegetable gardening sections, though not always as a priority. The background murmurings on the economic aspects of home food production became more prominent when food prices rose. In 1971, for example, those with little land at their disposal (more likely to be those on lower incomes) were said to be attempting to beat high vegetable prices:

With prices of vegetables soaring higher and higher, until they vie with those of precious stones, there’s little to wonder at when we hear of people who have only pocket-handkerchief sized allotments of ground, trying to grow as much vegetable food as possible under the conditions they have to endure. Even people living in flats are pressing into service window boxes, flower pots, boxes and cases in the back yard, and lots of other means thought at one time to be almost impossible for the purpose in view.⁸⁸

Economic motivations for food production would perhaps be unexpected in the context of a postwar boom which brought prosperity to many Australians, as the growth rate of GDP averaged 3.9% per annum and the unemployment rate exceeded 3% only twice between 1940 and 1970.⁸⁹ However, it must be remembered that in the mid-1960s, John Stubbs found an estimated 500 000 Australians living in poverty, and the Commission of Inquiry into Poverty in Australia found 10.2% of Australian households living below the poverty line in 1973, with a further 7.7% just above it.⁹⁰ That same year, Ian Halkett found that 48% of his sample households in Adelaide with a head who was ‘not working’ (i.e. unemployed or retired), grew vegetables—a slightly higher-than-average proportion.⁹¹

Oral evidence fleshes out a picture of people producing their own food for a variety of reasons, including broadly economic ones. Jefferey Contessa, for example, started growing his own vegetables in 1968 when he was unemployed. He had access to a big block, which made it easier to provide worthwhile quantities of vegetables, and he grew crops such as silverbeet, which ‘were easy to maintain because you didn’t have to spend money to renew them, because they kept renewing themselves’.⁹² Ross Bishop, living in Preston with a young family to support, established a vegetable garden ‘to give the kids some fresh food, and we enjoyed it...[it was] a way of saving a bit of money, and getting good food into the bargain’.⁹³ The late Larry Blakers, who was for many years Professor of Mathematics at The University of Western Australia, started growing his own vegetables when he arrived in Australia with his wife Theresa in 1952. Larry, who could well afford to buy vegetables for the family, looked upon his gardening mainly as ‘a challenging hobby’, though he also gardened for ‘the enjoyment of eating, of having lovely fresh produce, and things that you couldn’t buy’.⁹⁴ His avocados and sweet corn were a tasty reminder of the benefits of independence from the commercial food system: freshness, diversity, taste. These distinctions would become even more significant in subsequent decades.

CHAPTER 7

Circles and cycles: 1974–2000

IN the mind's eye of many Australians at the end of the twentieth century, the productive backyard, with its chooks and vegies, formed part of a bygone era, the same golden age of suburbia when children were free to roam the neighbourhood and home security was unknown. But home food production in the 1990s was more common than it seemed. From the 1970s, environmental ideas combined with the impact of rolling recessions to produce an apparent 'renaissance' of productive gardening and backyard animal-keeping. In the early 1980s, vegetable seedling nurseries and seed merchants responded to an apparent increase in demand, almost trebling their output of 1976.¹ The trend was apparently not a short-lived one: in Western Australia in 1998, enquiries made to Agriculture WA's Garden Advisory Centre indicated that there was still a high level of interest in backyard vegetable growing.² Backyard poultry also appeared to make a limited comeback. In 1997, *Gardening Australia* TV personality Jane Edmanson declared that 'The days of suburban chooks disappeared for a time but they are now back, riding a new wave of popularity'; the following year, Altona Hatchery in Perth reported a 5% increase in the previous five

years in the number of people buying chickens.³ Throughout the late 1990s the popular *Burke's Backyard* TV series and magazine featured regular segments on breeds of poultry, including an appraisal of their suitability for backyards, and a proliferation of new books advocated the keeping of poultry or livestock for suburban self-sufficiency.

A clear—if incomplete—picture of the prevalence of home food production emerged in the wake of a survey conducted by the Australian Bureau of Statistics in April 1992.⁴ The most pertinent results for Victoria and Western Australia are presented in the table below.

Home Food Production in Victoria and Western Australia, 1991–92

For each state, year ended April 1992	Victoria	WA
Vegetables		
Estimated % of metropolitan households producing veg.	30–40%	23–33%
% of all households producing vegetables	41.4%	34.2%
Quantity of home-grown vegetables produced (whole state)	43 819.7 tonnes	11 831.6 tonnes
% of total vegetables produced by metropolitan households	42.7%	44.8%
Fruit		
Estimated % of metropolitan households producing fruit	30–40%	30–38%
Quantity of home-grown fruit produced (whole state)	26 377 tonnes	9681.9 tonnes
% of total home-grown fruit produced by metropolitan households	47.3%	50.9%
Eggs		
Estimated % of metropolitan households producing eggs	2.5–4.5%	4.5–6%
% of all households producing eggs	6.1%	8.3%
Quantity of home-produced eggs (whole state)	5 491 800 doz	3 440 300 doz
% of total home-produced eggs produced by metropolitan households	29.1%	34.2%
Poultry		
% of all households producing poultry (meat)	0.9%	1.5%
Quantity of home-produced poultry (whole state)	461.1 tonnes	322.7 tonnes
% of total poultry produced by metropolitan households	2.9%	16.4%
Nuts		
% of all households producing nuts	2.8%	3.6%
Quantity of home-grown nuts produced (whole state)	309.4 tonnes	128.6 tonnes
% of total nuts produced by metropolitan households	43.1%	49.2%

Unfortunately, there is no way of determining from the 1992 ABS data the average proportion of metropolitan households producing food of any kind, whether fruit, vegetables, eggs, poultry, or various combinations thereof. However, in Melbourne, it is likely to have been around the 50–60% mark and possibly, as in Adelaide in 1973, even higher. For Perth, it is likely to have been in the vicinity of 40–50%.⁵ The proportion of households growing fruit was highest in South Australia, at 48.2%, and in the ACT and Tasmania, 49% and 50.2% respectively of households grew vegetables. Canberra, Hobart and Adelaide are likely to have had proportionately more productive households than Melbourne, whereas Sydney, Brisbane and Darwin are likely to have had proportionately fewer productive households than Perth. Comparing the 1992 ABS figures with Australia-wide home food production estimates for 1946–47 and 1970–71, the estimated proportion of the total Australian fruit and vegetable crop produced by self-suppliers increased. Such figures—even as estimates—trouble the widespread belief that Australian backyards are no longer productive: that ‘display’ has displaced ‘utility’, and in the process made the vegetable patch and fruit trees a thing of the past. The proportion of self-supplied eggs, however, did decline: in 1946–47 it was estimated that 41.1% of all eggs in Australia were produced by self-suppliers. In 1970–71 this estimate had fallen to 29.8%, and the 1992 ABS survey placed it around 16.2%—though still a significant contribution, it supports other evidence that household poultry-keeping has not been maintained to the same extent as fruit and vegetable production.

In 1992 home food production was dominated by older, Australian-born people: households with a reference person over 55 were overrepresented amongst food-producing households, and were, as a group, the most productive. The enthusiasm for food production among older people is not particular to one cohort: in Halkett’s survey, the largest percentage of vegetable-growing households was among those born between 1912 and 1921. In 1992, we see that vegetable-growing is dominated by those born between 1923 and 1937: as the older cohort pass away or become more frail and less able to take care of a garden, the activity is taken up by those with sufficient time and energy. As the proportion of retired people in Australian society

continues to grow, it is likely that home food production may well also increase, provided sufficient land is available. The Australian-born constituted the vast majority of vegetable-growing households (70.8%), but were slightly underrepresented in proportion to the total population (of which they comprised 77.1% in 1991). They did, however, grow a greater proportion of the total home-grown vegetable crop than expected, producing 74.0% of all vegetables. Those of Italian, Greek and UK/Irish origin were overrepresented among the vegetable-growers, as were the foreign-born from countries other than Viet Nam. Households with an Italian-born reference person grew slightly more than expected (4.1% of vegetable-growing households producing 4.8% of vegetables), and all other households grew slightly less than expected. This is perhaps a reflection of the geography of ethnicity, as migrants are more likely to be located in capital cities, where there is generally less available room for vegetable-growing.⁶ The figures also give the lie to the notion that southern European migrants were predominantly responsible for suburban food production at the end of the twentieth century: although their food production was often highly visible, with cultivation in front yards and tall beanpoles and fruit trees out the back, in 1992 they comprised only 6.1% of vegetable-producing households, producing 6.2% of all home-grown vegetables.



What, then, drove these productive gardeners in the closing decades of the twentieth century? What was the significance of fruit trees, poultry and vegetables for household economies, systems of meaning-making, and urban ecologies? One of the few sources relating to economic motivations for food-growing at the end of the 1970s is Paddy Percival's study of plotholders at the Nunawading Community Gardens.⁷ Established in 1977, the Nunawading Community Gardens were the first such gardens in Melbourne. Nunawading is a predominantly middle-class area, described in 1985 as 'a microcosm of "Middle Australia."' The main suburbs are...middle class in flavour with variations on a theme of bush, chooks and clean air.⁸ The majority of male plotholders at the gardens were engaged in professional or para-professional occupations; most women were engaged in full-time or part-time household

duties, with those in paid employment working in para-professional or clerical occupations. Perhaps surprisingly, only 10% of respondents to Percival's survey were retired. The majority of respondents also grew vegetables at home, suggesting that for most, community gardening was an extension of an existing interest.

Of all Percival's respondents, 4.5% were self-sufficient in vegetables, 31% avoided buying vegetables most of the time, 58% still bought a fair amount, and 6.5% were new to the gardens and thus 'uncertain'. When asked to give their reasons for becoming plottolders (more than one reason could be given), only 16% of respondents mentioned a desire to save money. Conversely, many members insisted that they were not interested in saving money. When asked whether they had, in fact, saved any money by growing vegetables during the previous year, 63% indicated that they had—most less than \$100. Percival rightly speculated that:

The money saved by working even the most productive plots is a small percentage of the annual income of most Nunawading plottolders, even of their disposable income. The economic role of community gardening as an alternative to more expensive forms of recreation, such as a drive in the car, may be more significant.⁹

Around this time *Your Garden* Editor Allan Balhorn, too, recognised the value of productive gardening as an enjoyable, low-cost recreation:

...all the signs point to us doing more in the garden in 1981 than ever before. Two good reasons are clear: Petrol's become such a luxury that many of us just cannot afford to go tripping about at the weekends, and home owners suffering from inflation and unemployment of necessity are 'growing more of their own'. And what's more, listening to all the current boasting about vegetable crops, we're really enjoying it.¹⁰

As the 'long boom' (c. 1940–70) yielded to oil shocks and spiralling inflation, gardening for food appeared to be experiencing a revival around the globe. In Britain in 1965, one-fifth of all garden allotments

were unused; by 1975, demand for allotments was 20% greater than the number of tenants. A resurgence of interest in food gardening also occurred in the US, with Gallup surveys finding that the proportion of vegetable-growing households rose to ‘a record’ 49% in 1975, before falling to 41% in 1978, and rising again in 1979.¹¹ In the American context, there appeared to be a fairly direct relationship between the number of households gardening and increased food prices (where these were not offset by rises in real wages). Unfortunately, no such detailed ‘hard data’ is available for Australia, though given the frequent exhortations from magazine-writers, it is probable that Australian gardening followed a similar pattern. In October 1974, for example, *Your Garden* suggested that Australians were following the international example and growing their own vegetables for economy:

Around the world, just like in war time, people have gone back to growing vegetables to fight high food prices. In Britain, sales of vegetable seeds have increased by 300 per cent. The magazine ‘Horticulture’ reports that half of all British gardens now contain vegetables and says that 40 000 community allotments are also being used for vegetable growing. It is the same in Germany, Holland, Belgium and France. In the U.S., almost half the words written on horticulture today are on home-growing of vegetables and fruit. Here in Australia, more and more people are looking for a sunny spot to grow their own to help beat astronomical prices.¹²

By 1983, there were at least seven community gardens in Melbourne, and two urban farms (which also included community gardens).¹³ The North Richmond gardens were initiated and run by residents of a high-rise public housing estate. The gardens represented much more than a way to save money, being valued rather for a variety of reasons: because migrant people from small rural communities could thereby maintain links with the land, because they provided a means of social adjustment to unfamiliar surroundings, because they provided the potential for growing vegetables and herbs not available locally, and also because they provided a way of potentially reducing food expenses.¹⁴ Members of the Greek and Turkish communities living in high-rise

public housing took up allotments at the Collingwood Children's Farm for similar reasons.¹⁵ More recently, the North Richmond gardens have been revamped, and community gardens have been established on public housing estates at Collingwood and Fitzroy. Again, it is too easy to assume that because these gardens are on public housing estates, the primary motivations of the gardeners are economic. One Fitzroy community gardener, who arrived in Australia from Turkey in 1990, described his interest in this way:

Living in a small flat is not easy with children but now we have this space to get out and grow vegies. I had a car accident two years ago and had to stop work. The garden gives me a focus, it's another kind of therapy. It gives you a great feeling to grow fresh produce from your own garden and learn from different cultures.¹⁶

Community gardens were also established in other cities. The first in Sydney, Glover's Community Garden, was established in the grounds of Rozelle Hospital in 1985 as a fully communal garden. A spate of other gardens followed in the early 1990s—some communal, but most with individual allotments. For the allotment gardeners, at least, community gardening could be an economic activity: one gardener at the Raglan St gardens in Waterloo used her plot to grow herbs for her catering business.¹⁷ In communal gardens, uncertainty surrounding distribution of produce generally discourages strictly economic gardeners.

Writing in 1993, Jackie French recalled:

For a while my son and I were almost completely self-sufficient in food and a few staples. This was from necessity, not from choice. My income paid for petrol and preschool, but not much else. We lived and ate quite well. But I was glad when it was over.¹⁸

In a somewhat dissonant way, French also saw great potential for home-grown food in alleviating poverty: 'If every person in Australia planted at least one lemon, three apples, two avocado, one plum and

four nut trees in their lives, we'd have a very different idea of social security.'¹⁹ But what potential really existed for 'free food' to alleviate poverty, or even supplement household incomes, in the 1980s and 90s? From the beginning of the twentieth century to its end, the average proportion of household expenditure devoted to food—even among the low-income categories—fell. In the 1910s, the average proportion of household expenditure devoted to food was in the order of 30–40%. By 1994, this proportion had fallen to 18.7% (approximately 20% for low-income households).²⁰ However, after decades of being harangued by doctors, nutritionists, school teachers and others, the Australian population as a whole finally started to eat more fruit and vegetables, and less meat. These changes increased the proportion of the average diet which it was possible to produce in a suburban backyard. Even so, the amount spent by low-income households on fruit, vegetables and eggs by 1994 accounted for only 3–5% of income, representing, on average, between \$7 and \$10 per week.²¹

Low-cost gardening was also becoming more challenging. Unless a gardener kept goats or poultry, or had access to stables (near urban racecourses, for example), some form of fertiliser or manure had to be bought from one of the growing number of nurseries and garden supply outlets. Charges for water could be substantial, especially in those suburbs built on free-draining sand. In 1991, Kevin Heinze once again asked that perennial question, 'Is it Really Worth Growing Your Own?' After analysing the costs of inputs (excluding the capital cost of equipment), Heinze concluded that a lettuce which would retail for 80–90c would cost at least 42c to grow at home. It would therefore be difficult to save much money by growing your own.²² In the interviews I conducted in 1998–99, there were conflicting opinions as to whether it was possible to save money in this way. Kathy Blakers identified the costs involved in productive gardening as a barrier to the production of more food:

Every week I say, 'right, this is the week I'm going to go and buy those worms', but it's about \$15 for a small box and \$25 for a big box and I just can't justify it. It has to wait. I've got so many ideas for the garden, but they just have to wait because I don't have enough money.

Similarly, Alison and Ken Chapman identified the cost of manure as one of the greatest difficulties in producing their own food. Although they could afford the manure, having to buy it undermined their attempts to produce fresh vegetables very cheaply. Brian Pell, on the other hand, was satisfied with 'the cheapness of it'. For households 'on the edge', with low incomes and high commitments, the capacity for self-supply may have been economically important, especially where garden resources could be accessed for nothing and diets changed to achieve greater savings. For others, savings could be less critical, but still in a sense significant.

Overall, although economic motivations for food production were likely to have been more common in the first half of the twentieth century than subsequently, there is little evidence for the hypothesis that home food production was a child of economic necessity before the Second World War, and a mere leisure activity thereafter. To assume this to be the case is to unreasonably 'other' the past, peopling it with two-dimensional characters whose circumstances and motivations are simple, in comparison to the diversity and complexity of the present. Some level of generalisation is always necessary when trying to make sense of the past, but it appears that here, there has been a tendency to over-generalise. Questions of economy are clearly influential with regard to people's interactions with the environment, but extrapolating from general economic circumstances to individual household actions is apt to produce a distorted picture.

In discussing the likely motivations for the food production of his Italian neighbours in Carlton in the 1970s, Paolo Ricci pointed to the distinction between economic necessity and thrift:

I suppose there is a component of economic necessity too, or economic desire. It probably isn't a necessity in the truest sense of necessity, but it's something which sort of is between a hobby and a mechanism that helps you stretch your dollar.

Throughout the twentieth century, much home food production in Perth and Melbourne was motivated by a mixture of thrift and satisfactions tied to the various meanings with which the activity of food production, and the food produced, have been inscribed. What comprised, then the

content of these meanings, especially among the middle and ‘skilled’ working classes, in the closing decades of the twentieth century?



In the 1980s, the ABC screened *The Good Life*, a BBC comedy series about English suburban middle-class couple Tom and Barbara Good, who opt out of conventional consumer existence in favour of a life of suburban self-sufficiency. The motivations behind Tom and Barbara’s lifestyle choice were familiar to many Australians in this period. Among the rising generation in the industrialised nations there was a general shift towards new ‘postmaterialist’ values, emphasising self-expression, belonging, and intellectual satisfaction. Ronald Inglehart has ascribed the rise of these values to the conditions of relative affluence in which postwar generations were raised: having not experienced deprivation in war and depression, like their parents, they were less likely to emphasise material values. As they re-thought the relationships between self and ‘other’, the ‘postmaterialists’ took up a variety of issues: the first big one was peace; the second, environmentalism.²³ The new environmentalism began to take hold in the United States in the late 1960s, with Earth Day 1970 attracting the involvement of an estimated 20 million Americans. Subsequently, a growing number of Americans—and later Australians—started to pursue what Samuel Hays has described as ‘ecological life-styles’.²⁴

Revolving around concerns of food, health and shelter, ecological lifestyles represented an attempt to reclaim an authenticity of experience seen as lacking in modern consumer society, in which people were alienated from nature, and from each other. They were labour-intensive, cooperative, local in orientation, and almost always included food production.²⁵ People pursued ecological lifestyles in a variety of ways, from owner-building and total self-sufficiency in a rural context on the one hand, to producing their own mung bean sprouts in a city apartment on the other. They organised and attended ‘alternative lifestyle’ talks, fairs and festivals, as well as establishing and patronising stores such as Melbourne’s *Going Solar*, which from 1978 offered a range of self-sufficiency paraphernalia and publications.²⁶ Also in Melbourne, Percival recognised the allure of ecological

lifestyles for the Nunawading Community Gardens Co-operative when he characterised the gardens as

...an additional option for people's spare time; or a rehearsal for some personal dreams of self-sufficiency; or an essay in the enhancement of community attitudes; or just as a vegetable-grower's association. From my own favourite perspective, the Community Gardens are a cautious exercise in the alternative lifestyle.²⁷

The turn toward ecological lifestyles was also reflected in the launch of magazines such as *Earth Garden* and *Grass Roots*, whose editors declared in the first issue, of January 1973:

Today everyone is looking for an alternative to the life that big business forces on us. More people are concerned about the chemicals they consume with their food and the pollution all around them. You don't have to bow to the dragging monotony of set hours, set jobs, set transport and set wages. Throw your clocks away—the time for change has come.²⁸

Grass Roots was targeted at both the exponents of rural ecological lifestyles—the 'back to the land' movement—and their urban equivalents. In the first issue, editors David and Megg Miller were careful to point out that 'If you're in the city you don't have to shift house to break free, you can achieve that now.' The first page of early issues announced that the magazine was 'produced for those who wish to regain control over their lifestyle by exploring the alternatives to modern mass consumption'. These alternatives could be rural or urban (and didn't necessarily rely on participants abandoning their jobs!); in each of the early issues, some articles were targeted at rural-dwellers, though others relating to crafts, vegetable-growing and poultry-keeping were equally applicable in rural or urban settings. The focus of *Grass Roots* and similar publications has remained relatively unchanged since the 1970s; one significant development was the inclusion, throughout the 1980s and 90s, of articles on permaculture.

Permaculture, the brainchild of Bill Mollison and David Holmgren, was a variation on the basic ecological lifestyle theme. By 1974 the concept was taking shape and *Permaculture 1: A Perennial Agricultural System for Human Settlements*, which appeared in 1978, was its first published elaboration.²⁹ Influenced by a wide range of sources, from anarchist Peter Kropotkin to ecologist Eugene Odum, as well as the burgeoning counterculture and the 1973–74 oil crisis, permaculture included a critique of the food system in both industrialised and developing countries: the former was deemed unsustainable due to its high fossil fuel and chemical inputs, and the latter condemned for its human drudgery. Instead, permaculture offered a vision of an agricultural system in which the primary source of energy was neither human nor fossil fuel, but the sun. Productivity was maintained not through high energy inputs, but through the careful choice and placement of system elements such that each had several functions and supported the functions of others. Permaculture thus produced ‘an integrated, evolving system of perennial or self-perpetuating plant and animal species useful to man [*sic*]’.³⁰ Pests were not only controlled, but converted into useful products, for example via pigs and poultry. In 1978, permaculture was aimed at alternative communities living on marginal rural land, although its potential for urban use was also recognised. By 1989, it had developed into a complete social and environmental philosophy, based around the ethical principles of care of the earth, care of people and setting limits to population and consumption. For many people, however, permaculture was primarily a set of techniques which could be employed to achieve some degree of ‘green’ urban self-sufficiency.

Another organisation that attracted those in pursuit of ecological lifestyles was the Henry Doubleday Research Association. Founded in the 1950s in Britain by journalist Lawrence Hills, the Association was comprised of gardeners committed to experimenting with and improving organic gardening methods. It attracted a small but dedicated following until the 1970s, when its ranks were swelled by environmentalists concerned with both contamination of food and environmental degradation. An Australian branch was founded in 1970.

The new environmentalism in Australia was located principally among the well-educated, the reasonably affluent, and the young—

who were often one and the same. Although beginning as a radical movement concerned primarily with nature preservation, environmentalism was extended from a middle-class ‘niche’ cause to a broader social concern as media coverage of global environmental issues intensified dramatically in the late 1980s. However, although environmental concerns became widespread, environmental activism—including the adoption of ecological lifestyles—remained more strongly located among the middle class.³¹

With their abhorrence of waste and focus on self-reliance, the ecological lifestyles associated with the new environmentalism shared some ground with older middle-class values which had, in a sense, come full circle: although the ‘modern outlook’ partly displaced the yeoman for a time, in the 1970s and 80s, when the extent of the ecological damage wrought by industrial capitalism was becoming clear, and ‘quality of life’ was being emphasised over more narrow, material-security concerns, many people turned once again to self-help, material simplicity and minimum consumption, as well as a belief in the healthy influence of rural land and work. The similarity in language used in the early and late twentieth century is evident in publications such as Bill Connor’s 1980 *Toward Self-Sufficiency: Country Skills for City Dwellers*, which is anti-modern, dedicated to a lifestyle displaying an ‘art of living’ similar to that expounded by Samuel Smiles, and featuring a clear independence/dependence dichotomy. All that is missing is the distinct moral tone of earlier works, and a direct reference to the yeoman, who hovers outside the text as the independent rural counterpoint to the dependent city dweller:

The urban dweller is perhaps the most vulnerable member of our society. Essentially a wage and salary earner, he [*sic*] tends to live from pay day to pay day. He is ever dependent upon the supermarket, the corner shop, the milkman and the other service groups to supply his weekly needs.

Coupled with an ever increasing dependence on the ready availability of essential commodities is the increasing trend to build into the urban lifestyle a dependence upon ‘fast food’ organisations...The urban dweller must learn to do as much as possible for himself. He must move toward a simpler

lifestyle; one more compatible with the environment...
 Moving toward a simpler lifestyle means putting aside the
 unnecessary things that clutter our lives and cause waste.³²

As postmaterialists sought a sense of ‘belonging’, and some experimented with more communal forms of living, tensions between the pursuit of independence and interdependence surfaced. Whilst interdependence was demonstrated in the establishment of alternative communities and, for example, the ‘Feedback-Linkup’ section of *Grass Roots*, autonomy and self-help remained goals dear to many. Thus a content analysis of advertisements for alternative communities appearing in *Grass Roots* between 1973 and 1981 revealed that fully a third of key words or phrases related to self-reliance.³³ In many rural alternative communities, this tension between interdependence and independence was resolved in favour of the latter, with a creeping individualism degrading both the shared vision of the community, and the land itself.³⁴

In urban areas, similar tensions surfaced within the permaculture movement. The Permaculture Association of Western Australia (PAWA) in the mid-1990s was dominated by well-educated, middle-class managers, professionals and para-professionals, who explained their enthusiasm for productive gardening largely in terms of sustainability, economy, and in some cases spirituality. Around one-fifth of respondents to a 1994 survey by Heather Lamont sought greater interdependence, indicating that their main reason for joining PAWA was that they wanted to ‘share with others the goal of a sustainable life’. For many, however, the practice of permaculture was less revolutionary, being focused primarily on home gardening techniques and ‘useful’ species. After joining PAWA, over half of the 210 people who responded to the survey had established permaculture systems (predominantly suburban) including efficient water use, fruit trees, compost, worms, mulched vegetables, and herbs. Around 38% had poultry, and 33% had a pond. Significantly fewer—around 21%—were members of a LETS (Local Exchange Trading System) network, and only around 7% were involved in community gardens.³⁵ The relative lack of interest in the community development aspects indicates that for many, permaculture was no more than a specialised variant

of organic gardening. As such, it contained elements of older, middle-class concerns with simplicity, thrift and pure food, as well as a clearly discernible orientation towards independence. One of my interviewees, Sarah, remarked that she was attracted to permaculture because it represented ‘a way out of that total dependence...I hate being dependent on anyone.’³⁶ A discernible tension between independence and interdependence, which may have been partly inter-generational, developed within the movement—a tension to which permaculturalists were by no means oblivious. Gayle Russell, for example, remarked in a letter to the editor of the *Permaculture International Journal* in 2000:

I agree with Martin Oliver (Letters, *PIJ* 74) on the ‘pioneering hangover which values self-reliance over interdependence’ as being a focus of the permaculture movement.

I believe that the more prominent message for our communities is that of interdependence—and not just for the alternative people.³⁷

From the other side of the fence, a disgruntled PAWA member wrote to the *Permaculture West* newsletter in May 1998 to complain that too much space was being devoted to ‘the “people care” ethic’. He continued: ‘I have been an enthusiastic member of the Permaculture ethic, the maintenance of sustainable agriculture, not pandering to the community, which invariable [*sic*] means the haves wet nursing the have nots.’³⁸ Although the pursuit of ecological interdependence was reflected in some different approaches to food production (such as use of organic techniques), clearly there was no necessary link between viewpoints favouring ecological interdependence and those favouring a similar approach to questions of social organisation. The independence/interdependence tension may well have damaged the movement itself. By 2000, permaculture projects and enthusiasts could be found the world over. But interest generally appeared to be waning: 22 years from its beginnings as a photocopied ‘national journal’, the last issue of the *Permaculture International Journal* was published in June 2000.

Community gardens provide a trenchant example of the interplay between ‘self-sufficiency’ and more communal orientations.

Insofar as allotment gardens are run by cooperatives, and involve shared resources and plots in close proximity (which are liable to contamination or infestation from neighbouring plots), they are based on some degree of trust and cooperation. However, they may also be seen as transplanted patches of backyard which are more open (thus often more suitable for vegetable production), as well as being more visible, providing greater opportunities for people to display their interest and skill, and perhaps even ‘perform’ their independence in a public space. Most of Perth’s community gardens were established in the 1990s as communal gardens, planted and maintained cooperatively without individual plots. This arrangement signifies a more interdependent orientation, but the durability of a disposition towards self-contained independence could be one reason why such gardens have not attracted such consistently high levels of support as has the (allotment-style) Nunawading Community Gardens: once established, most have been maintained by very small groups of committed staff and volunteers.³⁹ This pattern of diverging levels of interest in communal and allotment gardens is perhaps most clearly observed at the Brunswick community gardens and food forest, where in the late 1990s there was substantial demand for plots in the allotment-style community gardens, and a reluctance to take responsibility for the unfenced, communally managed orchard.⁴⁰

An interdependent side to food production was, of course, also found outside of community gardens. Take, for example, Paul Healey, in the eastern Perth suburb of Ashfield, who told me that:

... corn, it keeps us going all over summer, and ok, I don’t eat corn myself, personally I don’t like the damn stuff, but a few people in the house eat corn, and I get on quite well with the neighbours over the summer, because I’m forever rocking into houses in the area: ‘do you want some, because we’ve got too much?’...Yeah, right at the time when there’s too much of it, I quite often have hit the people next door and the first ones around the corner...we got to know her, and I drop in on them as well—a dozen eggs, a couple of corn, some cucumbers, lettuce—just take them! Use them! Give them to other people if you don’t use them yourself!

Asked whether the neighbours gave him anything in return, Paul said:

I just go up and give, like that. I do get some things in return, I get the peaceful lifestyle, I get the opportunity to drop over their fence and just go and get the ball regardless, because I've got young kids, and I'm forever jumping fences to go and get balls. I make the kids go and knock on doors and everything and they've got the permission. So I've got a sense of well-being in my neighbourhood, which comes out of it, and that's all that I ask for, I don't ask for anything more, because it's surplus to me, I'm only going to chuck it out, and I don't like chucking stuff out if I can get away with it.⁴¹

Similarly, as well as giving vegetables away to his next-door neighbour, 'a single mum with four kids', and the residents of the nearby pensioners' flats, Jefferey Contessa of Reservoir, in northern Melbourne, exchanged produce with 'an Italian gentleman' who lived down the road, and was 'always after fresh garlic'.⁴²

Exchange networks are not necessarily local, either: Peter Choo's ties with his Singaporean friends are strengthened by their praise—and requests—for honey from his hives in the inner Perth suburb of Leederville.⁴³ Although these exchange networks do not actually create interdependence as such, they certainly point in that direction—towards the 'compassion, sympathy, generosity, trust, gratitude' that comprise Judith Brett's 'virtues of charity',⁴⁴ and away from the tendency of independence towards a narrow self-containment.

Just as other meanings of food production diverged in the late twentieth century, with some moving away from the old opposition between dependence and independence and some reinforcing it, so too with gendered meanings. In the 1970s, the contemporary women's movement was flourishing in Australia, with activists demanding equality and justice, and making headway in areas such as equal pay, childcare, and women's services. The notion of the dependent wife began to crumble as more and more women—and especially married women—entered or re-entered the paid workforce. Simultaneously, and not coincidentally, women's work in suburban vegetable gardening began to be acknowledged. The independent masculine breadwinner/

gardener began to disappear from the pages of the gardening books and magazines, to be replaced by the non-gendered individual: ‘The person who has an area of 40 feet by 20 feet of land can be almost self-supporting, provided he or she plans the sowings and plantings intelligently.’⁴⁵ In 1975, after gardening for 11 years, Esther Deans won the Championship Ribbon for vegetables at the Ku-Ring-Gai Horticultural Society Show, which prompted her to open her garden to the public. Her ‘no-dig’ gardening technique attracted intense interest, and she gave talks for horticultural societies, Senior Citizens’ Clubs and Ladies’ Auxiliaries, as well as appearing in gardening segments on radio and television, in magazines and newspapers. By 1977, when she published a popular book on the subject, her garden had attracted over 4500 visitors.⁴⁶

Esther Deans’ approach and its chief exponent—a petite, grey-haired woman prone to waxing lyrical about the wonders of nature—hastened the unravelling of the ties between masculinity and vegetable gardening by showing in a very public way that there was no necessary connection between physical strength and bumper crops. At the same time, popular gardening magazines began to abandon the previously strict distinction made between women’s and men’s bodies with respect to strength, increasingly showing women pushing mowers and wielding various types of garden machinery.

At the end of the twentieth century, many women were involved, and seen to be involved, in productive gardening, and the contradiction between women’s productive backyard work and the dependent, unproductive femininity reproduced in gardening and other literature was breaking down. However, not everyone viewed these developments as positive. In 1976, Leonore Davidoff, Jean L’Esperance and Howard Newby suggested that the move in England towards self-sufficient organic gardening in the 1970s was based on a long-standing vision of home and rural village which was implicated in the normalisation of gender exploitation—similar to Australian yeoman ideology—and thus amounted only to ‘more work for mother’ rather than increased independence for women.⁴⁷ Whilst this was no doubt true in some instances, some of the women I interviewed accounted for their food production in terms of a symbolic or actual independence.⁴⁸ The very fact that the ‘independent female’ became available as a public and

private subject position also points to the disengagement of gender from the dichotomous relationships, embedded in meanings of suburban food production, between independent/producer/male and dependent/consumer/female.

Toward the end of the twentieth century, consumers—and producers—were increasingly focused on quality and choice of food, and home food production was the answer for many. Concerns over food were of three major types: firstly, concern over the environmental consequences of pollution arising from conventional agriculture; secondly, anxiety over the possible effects of conventionally produced food on health and appearance; and finally, a concern with food as a primary marker of class taste. The first of these was held (usually in conjunction with one or more of the others) by those pursuing some form of ‘ecological lifestyle’. The other two were continuations of older, middle-class concerns, although it seems that they became more widespread and prominent from the 1980s.

In the 1980s, interest in ‘natural’ or ‘organic’ diets remained concentrated in the middle class, being particularly favoured by para-professionals.⁴⁹ As in the 1930s, the language used to describe these diets often carried distinctly anti-modern overtones, with ‘natural’ food being constructed in terms of a ‘nostalgic discourse around the healthiness and wholesomeness of rural life’.⁵⁰ ‘Natural’ diets were often employed as people sought to mould their bodies according to particular class conceptions of its functions and ideal form. Older concerns with maintaining a body form which reflected the self-discipline of the owner remained; however from the 1980s, the body was increasingly commodified, and strict regimes of bodily care linked to the production of a body which could itself have a high capital value. As Alex Callinicos puts it, the body was seen ‘less as an object of desire than—when disciplined by diet and exercise into a certain shape—as an index of youth, health, energy, mobility’.⁵¹ This commodification generated a huge cosmetics and body care industry, but also gave rise to an interest in ‘natural’ or ‘pure’ food, via the popular belief that internal health is reflected in outward appearance, or ‘you are what you eat’. The concern with ‘pure’ food also entered middle-class gourmet discourses, which valued the ‘authenticity’ of fresh ingredients free from the petrochemical taint of ‘civilisation’. In this context, the

products of home vegetable gardens and fruit trees remained distinct from their commercial counterparts, often being regarded as the only type of food whose freshness and ‘purity’ were above suspicion.

By 1990, a health-based concern with ‘pure’ food was apparent across all classes, centred around understandings of the danger of pesticide residues (discussed in detail later in this chapter). In a survey of 276 customers at a western Sydney shopping centre in that year, 73% of all those surveyed, and 82% of women surveyed, thought that there may be risks associated with consuming vegetables treated with pesticides and herbicides.⁵² As these issues of ‘purity’ became routinised, and combined with a cross-class concern for health, the middle-class ‘gourmet’ had to seek distinction elsewhere. Two trends became apparent in the literature in the 1980s and 90s. The first was an interest in ‘gourmet gardening’, featuring unusual and exotic edibles, from Argentinean garlic to ‘Black Gnome’ eggplants, Thai basil, jujubes, strawberry guavas and more.⁵³ The second was a revived concern with quality. Gardening magazines featured species which were liable to lose most quality in commercial production, storage and distribution processes. Commercial tomatoes were described as ‘cricket balls bred to withstand the supermarket gauntlet’, and contrasted with the ‘real tomatoes’ one could produce for oneself at home.⁵⁴ Several of the gardeners whom I interviewed in 1998–99 compared commercial produce with the home-grown article, and concluded that the latter always came out on top. Paolo Ricci summed up the feelings of many: ‘it tastes better’. Environmental and health concerns were not abandoned, however, in the pursuit for distinction in food. Instead, they were bundled up with gourmet concerns: ‘Conventional farming systems can produce cheap beans, but by using poisons, drudgery and mined resources—and they taste like it!’⁵⁵ The pursuit of food plant varieties which were unusual and superior to supermarket offerings saw attention turning to seed saving clubs and small seed companies such as Diggers, Eden and Phoenix, which offered unusual ‘heritage’, ‘old’ and non-hybrid varieties.

Those producing their own fruit, vegetables and eggs also gained satisfaction from identifying with production, rather than consumption. As part of a study of supermarkets and the changing culture of consumption in Australia, Kim Humphrey interviewed

several shoppers about their experience of shopping. One interviewee, Sue, was clear that she wished to be ‘independent of the consumer circle’, ‘to stand outside it’. Furthermore, few of the other people interviewed by Humphrey were happy to think of themselves as ‘consumers’: although they acknowledged that they were involved in consumption on a daily basis, they generally felt it ‘to be inadequate as a means of self-expression and as an intrinsically valuable terrain of human agency’.⁵⁶ Similarly, those I interviewed about their gardens and poultry in 1998–99 often framed their responses in terms of independence from the ‘consumer circle’. Sam MacAdam spoke of ‘not having to rely on stuff coming from the supermarkets’. Alison and Ken Chapman maintained: ‘We just want to know what we’re eating, and not be dependent on everybody else for what we eat.’ For Pat Keady, the distinction between garden and supermarket was more pragmatic:

...all you’ve got to do at tea-time is run down the garden and pick your vegetables, you haven’t got to go to the supermarket and think in advance what you want for the week...I don’t enjoy going around shops, but I really enjoy walking down the garden.

For Betty France, on the other hand, satisfaction was gained from looking at produce in shops, and knowing that she didn’t have to buy it, as she already had it in her backyard: ‘I love going to the vegetable shop and going “I’ve got that, got that, got that, got that!”’

Although productive home gardens allowed some degree of independence from commercial interests by providing a greater choice of food, the alternative attempt at self-sufficient independence from ‘big business’, as defiantly proclaimed in the first edition of *Grass Roots*, was undermined by both the limited access to resources for self-sufficiency in urban areas, and the commercial appropriation of alternative language and ideals which, ironically, stressed ecological interdependence. Although ‘nature’ has long been employed for advertising purposes, in the 1990s ‘environmental friendliness’ became a marketing tool used to promote ‘green’ corporate images and a wide variety of products, some with few or no environmental benefits

whatsoever.⁵⁷ In a 1991 study of nursery industry opportunities, all but 6% of nursery shoppers were concerned about the environment, and 28% of those who had visited a nursery in the last year had changed their gardening behaviour as a result of environmentalism. However, rather than buying fewer items and consuming less, gardeners were switching to ‘organic’ alternatives. Around 1 in 4 households bought plants at least once a month, spending an average of \$11–20 each. Around 1 in 3 ‘active environmentalists’ bought plants at least once a month. Nursery managers appreciated that environmentalism was good for business—as one put it: ‘It’s good for us...we should make it work to our advantage.’⁵⁸

The new environmentalism, at least in the US, had gathered pace around issues of pesticide contamination. By the mid-1970s, it was evident that the new synthetic pesticides were associated with four main problems: firstly, the hazard to horticultural workers, local people, consumers, domestic animals, wildlife and fish arising from pesticide toxicity; secondly, the threat to the health of people and local ecosystems arising from the persistence in the environment of some pesticides; thirdly, the increase in pests due to reduction in numbers of non-target predator and parasite species; and finally, the problem of pest resistance to pesticides.⁵⁹ The possibility of pests developing resistance to insecticides was recognised in 1914, and resistance to lead arsenate became a problem in the 1920s. By 1976, 203 species of insects and mites had developed resistance to DDT and its relatives; cyclodiene resistance had been recorded in 225 species; organophosphate resistance in 147 species and carbamate resistance in 36 species.⁶⁰ The chemical companies’ response to insecticide resistance was to search for new chemical insecticides. One new development was the pyrethrins, insecticides which were chemically similar to natural pyrethrum. However, an increasing number of scientists, and horticulturalists, were turning towards a new model for pest control which involved less use of chemicals: Integrated Pest Management (IPM).

Integrated Pest Management was partly a return to an older approach to the problem of insect pests, in that it sought not to create ‘clean’ insect-free orchards or gardens, but to keep insect pests and plant diseases down to a reasonable level. However, it also had the explicit aim of maintaining ecosystem integrity. Under a system of

IPM, growers rely on selective pesticides (used in combination with a knowledge of pest life-cycles and monitoring of pest numbers), as well as predators (endemic or introduced), cultural methods, and low- or zero-pollution methods such as traps and pheromone lures. From the 1970s, increasing numbers of commercial orchardists and vegetable-growers in Australia started to adopt IPM strategies, though at the end of the twentieth century, commercial agriculture remained largely reliant on chemical pesticides.⁶¹ Leaching of nitrates and phosphates from fertilisers used by commercial growers also continued to present a problem, contributing to eutrophication of waterways. But whereas some agricultural operations may have had negative impacts on urban environmental quality for residents, suburban life also affected agriculture. For example, a 1977 study of agriculture in the Melbourne metropolitan region found that near-urban farmers suffered from air pollution generated by urban traffic, vandalism and the dumping of rubbish, petty theft and packs of marauding dogs from fringe farmlets and suburban streets.⁶²

Suburban residents were also contributing to the pesticide and herbicide burden of their immediate environment. Although there appears to be little relevant research into the issue of household pesticide use in Australia, in the mid-1970s, 20% of total consumer expenditure in a major Victorian nursery group was on pesticides, and it was estimated that home garden use of pesticides accounted for up to 10% of total pesticide use for all purposes, including agriculture.⁶³ It is unclear, however, what proportion of home garden pesticides were used on vegetable gardens and fruit trees: even if home gardeners were content to follow the advice of the 1971 *Yates Garden Guide*, and control black beetle in lawn by ‘thoroughly “watering” the affected areas with dieldrin’, it is possible that some may have had reservations about similarly treating vegetables for human consumption. Although the organochlorines continued to be recommended for home vegetable garden and orchard use in the early 1970s, the tide was beginning to turn against the use of the more dangerous pesticides, at least by home gardeners. In 1971, the *Australian Garden Lover* pointed out that the persistence of DDT had led to its contamination of the environment on a global scale, and had caused a significant decline in numbers of some birds of prey. In the same year, *Your Garden*

vegetable expert Norman de Vaus still endorsed the use of sprays, but only those which were ‘safe to use and will not pollute the environment like some chemicals’.⁶⁴

In a 1972 study in the US, most suburban gardeners regarded organic gardening methods ‘too cumbersome and time-consuming’, requiring more patience and a greater degree of biological knowledge than they possessed.⁶⁵ Although many Australian gardeners were similarly unwilling to abandon chemical control of insects, as the 1970s wore on they were beginning to turn from the persistent organochlorines and the most toxic of the organophosphates to less dangerous pesticides such as malathion and carbaryl, as well as to botanical insecticides. It also became more common to think of pesticides as a last, rather than a first, resort. In 1980, for example, readers of the *Australian Garden Lover* were told that:

Mother Nature has her own methods of pest control.

Practically every insect has one or more natural predators which hunt them for their existence.

Therefore there is no need to panic when a few bugs attack some of your plants, as it is unlikely that nature will allow these pests to threaten your entire garden.

Admittedly there are times when man or some other factor upsets this natural balance between pest and predator, or where nature seems too slow to act and needs a little help.

Even then there are safe insecticides which your garden centre or retail nurseryman can recommend.⁶⁶

Some gardening writers went even further, extending the organic philosophy to include a total rejection of insecticides. Like the proponents of the ‘no-digging cult’ of the 1950s, these writers generally spurned artificial fertilisers in favour of compost and manures, but they began to lay more stress on alternatives to synthetic pesticides. In 1977, readers of *Esther Deans’ Gardening Book* were assured that ‘Bounteous Nature had provided us with many safe and effective ways’ to deal with insect and other pests. Deans relied on companion planting, native ‘cannibal’ snails, and strategies such as leaving hollowed-out, half-orange peels out overnight to trap slugs. An increasing number

of Australian organic gardening publications followed suit, advising gardeners about the ecology of plants, pests, predators and soil fauna, including earthworms. Gardeners were encouraged to use compost and manures for healthy soil and plants, and to tolerate some pest damage if need be. Non-toxic sprays or botanical insecticides such as derris dust were suggested for use where absolutely necessary. The catch-phrase was ‘work with nature rather than against it’, and the main aim was no longer to achieve independence from environmental constraints, but to take a more interdependent approach, which relied on greater understanding of, and respect for, non-human elements of environmental systems.

Organic approaches are based on a set of assumptions about the relationship between people and the environment that are different to those behind chemical control methods. Organics places people *within* complex ecosystems, rather than in an external position of power. In acknowledging human ignorance about environmental complexity, organics points to the limits of human technologies, counselling caution even if it should mean that gardeners will sometimes be ‘beaten by a slug, a louse, a beetle or a fungus’. It seeks to reassert human interdependence with the environment, as a reaction against the damage wrought by attempts at independence. As Robert van den Bosch, an American pioneer of IPM, declared in 1978:

...matters have progressed to the point where we attempt to operate independently of nature, challenging her dominance of the biosphere. This is a game we cannot win, and in trying we have set in train a series of events that have brought increasing chaos to the planet.⁶⁷

The revived organic approach appears to have been taken up enthusiastically in Australia, at least by some sectors of the gardening community. In Paddy Percival’s 1979–80 study of ploholders at the Nunawading Community Gardens, many mentioned the desire to grow organic vegetables and avoid pesticide residues as a major reason for taking up a plot: ‘grubs better than “Silent Spring”’, declared one.⁶⁸ Concern for nature, the local environment and human health led 86% of ploholders to agree that some controls should be placed

on which pesticides were permitted at the gardens. The varied nature of the crops grown over the whole of the site appeared, at least in Percival's opinion, to reduce the risk of serious pest attack invited by more monocultural crop production. The plotholders were also fortunate in that animal manure was made available at the gardens at a minimal price, along with compost produced on-site. However, 42% of plotholders surveyed still used some artificial fertiliser.

The attraction of organic gardening was increased further in 1987 when shipments of Australian beef were rejected by the US because they contained higher than permitted levels of organochlorines, especially dieldrin. The publicity this attracted, and subsequent quarantine of at least 1500 grazing properties, raised public awareness of the issue of pesticide residues.⁶⁹ As well as increasing the demand for organic food, the scandal engendered a generalised anxiety about pesticide residues which translated into an increased interest in home food production (in the late 1990s, the debate over genetically engineered food probably had a similar effect). The reluctance to use pesticides appears to have been predominantly linked to concern over the health effects of residues in food rather than broader environmental concerns: whereas in 1998 only around 26% of fruit- or vegetable-growing households in Victoria and Western Australia used pesticides on food plants, a substantially greater proportion of gardeners—37% in Victoria and 42% in WA—used them on non-food plants.⁷⁰

An emphasis on organic food production was confirmed in the interviews I carried out in 1998–99: the most commonly given reason for maintaining food production was a view of commercial production methods as 'suspect', particularly in relation to the use of agricultural chemicals.⁷¹ Pat Keady, for example, remarked that 'at least if you grow your own vegetables you know what hasn't been sprayed on them'. At the community gardens on Melbourne's inner-city public housing estates, there was also 'a very strong push to try and have food and produce food that's not affected in any way by sprays or chemicals'.⁷² Interestingly, this desire sometimes found expression in the same terminology of 'cleanliness' as in the interwar period: 'You're pretty sure when you're growing your own food that it's going to be clean.'⁷³ In the late 1990s, however, cleanliness was achieved through a refusal to use sprays, rather than their rigorous employment.

Ironically, perhaps tragically, many people with backyard poultry did not in fact realise that their eggs could be contaminated with relatively high levels of organochlorine pesticides: ‘cleanliness’ was, once again, a mirage.

Gardeners using organic methods in the late 1990s employed much the same tactics as their counterparts of the 1880s. Most of my interviewees claimed to do nothing about pests, tolerating a bit of damage, or occasionally hand-picking and destroying snails or caterpillars. Greg Milne and Maya Ward were happy to leave the snail control to a resident blue-tongue lizard, and wait for birds to eat insect pests. Margi Jackson’s hens kept her garden largely free from insect pests—including codlin moth—and the Keadys’ ducks were efficient snail destroyers. Robert Still made calico bags to protect his fruit from fruit fly. Companion planting was another popular strategy, with a couple of gardeners also using garlic sprays or derris dust, and Bordeaux mixture on fruit trees. However, by no means all gardening was organic. Seven of the 50 people interviewed used snail pellets, and four sprayed their trees for fruit fly. One also used snail pellets and vegetable dust, and on discovering that his apricots were infested with fly maggots:

...we went out and bought...malathion, and white oil. And I sprayed the tree quite liberally with that and we still got bugs so I went out and sprayed the bloody thing again. And we chucked away all the fruit. The next year, I got right up in the middle of the tree with it and I’m getting covered by this stuff, y’know, against all health regulations, and I’m thinking ‘Jeez, it’s a wonder I don’t grow two heads or something’, but I gave it the best dosing I could, and I thought ‘poor chickens, they’re getting covered by all this stuff’, and I still got the bug, I still got the fruit fly. So this year I might try something stronger, see how I go.⁷⁴

The prevailing organic sensibility is not shared by all, and home gardeners—who are after all not trained horticulturalists—may not always heed application rates or health warnings, and fail to act in the best interests of themselves or their local environment.

Organic sensibilities were also reflected in interviewees' choices of fertilising materials. From the 1970s, gardening magazines such as *Your Garden* featured advertisements for a variety of garden mulchers and shredders, and compost tumblers and bins. In the 1990s these were joined by various implementations of the 'worm farm' concept.⁷⁵ Seven of the gardeners I interviewed had worm farms, and most of those who were still gardening turned food scraps into fertiliser via poultry, worms, composting or burial. Most interviewees also used animal manure on their gardens, with bagged sheep and poultry manure being the most common. In this respect they were similar to food-growing households in Australia generally, of which 78.5% used manure or compost on fruit trees or vegetables.⁷⁶ A couple of people interviewed found reasonably local sources of manure: Vern Oliver took a short drive north from his Reservoir home in Melbourne and collected horse manure from paddocks; Maria Lewis obtained horse manure from a riding school a few kilometres away from her home, as did Maureen McCrae. Sarah obtained horse manure from nearby showgrounds, and seaweed from the beach. Donelle Toussaint found a local source of guinea-pig manure. As always, those with poultry had a convenient on-site manure source. At the community gardens in Richmond, Fitzroy and Collingwood, Basil Natoli maintained links with a poultry farmer, who supplied the gardens with cheap sheep, chicken or cow manure, or mushroom compost. Sometimes farmers who had read about the gardens donated manure, and the Melbourne Zoo had also provided compost. Worm farms and composting enclosures on site enabled residents to turn their kitchen scraps and biodegradable waste into garden fertiliser. Eight interviewees also used artificial fertilisers of some description on their vegetables—a reminder of the diversity of food production practices. Ross Bishop used only organic fertilisers on the vegetable garden, but admitted to using artificial fertiliser on the azaleas, another indication that the fact that the products will be eaten sometimes motivates a more organic approach to fruit and vegetable than ornamental gardening.

Whilst most interviewees adopted approaches that could more or less be described as organic, 13 specifically identified with the permaculture movement, which encourages a systems-based approach to food production, that considers how resources are produced and

transported, and how wastes are disposed of. A few interviewees mentioned this aspect, with Stuart McQuire commenting that in a ‘food hierarchy’ developed according to criteria of environmental sustainability, the backyard was the best place to obtain food, ‘as opposed to on a semi-trailer from Queensland or whatever, or from a greenhouse that’s taken a whole lot of energy in the outskirts of Melbourne’. One gardener, Laurel, mobilised the terminology of independence in asserting that backyard food production systems were sound: ‘You’re contributing to being not quite as dependent on external industries and production processes.’ However, another gardener, Samson MacAdam, acknowledged that:

...we’re supposed to be about doing this sustainably, but if we’re having to bring in truckloads of mulch and truckloads of manure and truckloads of this and that from elsewhere, we’re not really doing it sustainably. So from a garden point of view particularly with our sandy soils, that’s a real problem. And if it’s a rental property, you’re not going to have the time or the money to invest in creating so much compost that you can get yourselves from garbage to something decent, so you’ve got to go for organic fertilisers, which isn’t really sustainable. And in terms of the animals, on a suburban block it’s very difficult to supply all of your own needs for feeding your animals, so you’re having to rely on the commercial system, where the food for your animals isn’t being produced sustainably.

Many organic gardeners and permaculturalists were contributing to urban sustainability in the late twentieth century by using primarily human energy in the actual growing of food crops, recycling their organic waste on site, and using low-pollution, or zero-pollution, methods of pest control to produce food that would otherwise have been produced and transported using greater fossil fuel and chemical inputs. This effect was magnified where gardeners were recycling other local wastes: some interviewees mentioned that they (or their neighbours) fed poultry on waste leaves and spoiled vegetables from the local greengrocer, or stale bread from the local bakery; others used local waste paper for worm food and mulch. However, as Samson

pointed out, many inputs also had to be imported (using fossil fuels, for transport) from areas where their production was perhaps not sustainable: wheat for feeding chickens, straw for mulch, manures produced by animals reared in high-energy intensive operations or transported long distances to abattoir holding yards. Bagged, pulverised manures also required energy in transport and processing, and petrochemical resources to make the plastic bags which, when the manure was used, added to the urban waste heap.⁷⁷ Home gardeners also sustained a large nursery industry. Most food producers would have contributed to the \$400 million that Australian home gardeners spent on fertilisers, pesticides, seed and lawn care products in 1998.⁷⁸ Nursery plants in the 1980s and 90s were generally grown in situations and using methods which depleted resources in the form of water, fertiliser, plastics for pots and punnets, and fossil fuels for transportation and heating, and at least potentially contributed to the pollution of air and groundwater (through use of insecticides, fungicides and fertilisers).⁷⁹ In the 1990s, research was conducted into potentials for reduced nutrient leaching, water recycling, and IPM in the nursery industry, though much remained to be done.⁸⁰

One way of beginning to quantify the environmental place of home food production in suburban areas is to consider it in relation to the energy used in commercial food production. In the late 1970s, Muriel Watt examined four sectors of the food system (agriculture, processing, wholesaling/retailing, and household) and found that overall, getting food to the table in Australia in 1974–75 required over seven times more energy than embodied in the food itself.⁸¹ Using Watt's figures, the average energy cost of home-grown fruit, vegetables and eggs would represent a saving of around 55% to 65% of the energy required to provide the commercial item. However, in 1974–75, eggs, vegetables and fruit made up only around 10% of the energy value of the average Australian diet. Thus, if everyone produced their own eggs, fruit and vegetables (and clearly they did not), the expected energy saving over the entire food system in 1974–75 would only have been in the order of 5–6%. Other savings, however, would have been achieved in terms of the externalities of commercial food production and transportation, including pollution due to agricultural chemicals and transport emissions.

Since 1974–75, the stakes have been raised. It has been estimated that between 1967 and 1992, the energy consumed per capita by the Australian food system increased by more than 70%. Furthermore, solid waste generation remained a problem in 1996, with the Australian average of 681kg of solid waste produced per capita per annum comparing unfavourably with the OECD average of 513kg.⁸² These factors would have increased the relative environmental benefits of home food production in the suburbs. At the same time, however, the capacity for home food production was decreasing, as average housing block sizes shrank, and average house sizes grew.⁸³ This trend was recognised within the gardening literature as far back as 1971, when *Your Garden* ran a feature on a 10 feet by 20 feet ‘mini vegetable patch’:

Suburban gardens are getting smaller. While this is a feature many may regret, it must be faced. *Your Garden*, therefore, decided to grow a mini vegetable patch, small enough to fit into most gardens and yet capable of producing worthwhile results.⁸⁴

In the 1980s and 90s, lot sizes fell further as state governments began to pursue policies of urban consolidation, with support from the market, and often—if not always—from local government. In 1991, urban consolidation also became a central plank of the Commonwealth government’s ‘Better Cities’ program, which until 1996 invested over \$1 billion in urban sustainability, including environmentally efficient subdivision and redevelopment.

The nursery industry has responded to shrinking outdoor spaces by offering miniature fruit trees and multigrafts, as well as trees such as the ‘ballerina’ apple, bred with a tall, thin habit to save space. Still, in 1987, long-time Perth nurseryman Bill Dawson remarked that customers were saying: ‘Our house occupies almost all the ground. We’d love to put a lemon [*sic*]. We’d love to have an orange. We’d love to try a pomelo. But we haven’t got the room.’⁸⁵ Apart from simple questions of area available for cultivation, small blocks present other difficulties. For one, they are less likely to present suitable opportunities for vegetable and fruit production, due to shading and

competition from neighbours' (or one's own) trees. Households with a small amount of available outdoor space also have diminished opportunities for composting, as bins or heaps, and storage areas for materials all require space. In some cases, compost heaps were being replaced in the 1990s with compact worm farms of various descriptions, although these are usually able to produce only enough fertiliser for a tiny patch of gross-feeding vegetables. Finally, in many areas, as noted in earlier chapters, local government regulations precluded the keeping of poultry and animals on smaller blocks, by specifying that poultry must be located a certain distance from fences and dwellings (even if these regulations are routinely ignored).⁸⁶ Although food production is possible in many small backyards, the opportunities for producing substantial amounts of food in a sustainable fashion are more limited than in larger areas.

In addition to space constraints, time constraints also became an important factor in food production in the late twentieth century. One important factor in the lack of time for gardening was the rise and rise of the dual-income household: in July 1999, women's work-force participation rate was 55.1%, and the participation rate of married women with dependents was even higher, at 62.9%.⁸⁷ Women's participation in food production has been important in many households. However, with many women carrying on the dual role of paid worker and unpaid household worker, and men in full-time employment working 43 hours per week on average, many families are 'time-poor', with no-one free to carry on the daily tending of vegetables and poultry.⁸⁸ Other households—notably retirees and the unemployed—are more 'time-rich'.

Whilst many households have less spare time, where organic methods are used it now takes more time, per unit area, to grow vegetables and fruit than it did in the 1950s and 60s. Due to the fact that productive gardens are usually either dug or mulched, they are usually poor candidates for the reticulation technology which has been a time-saver in gardens that consist of lawns and perennial shrubs. Although *Choice* magazine claimed in 1990 that 'gardening becomes easy when you use nature's principles—a sort of go-with-the-flow approach', the people I spoke to did not always agree.⁸⁹ Several of my interviewees mentioned that time, or lack thereof, was one of

the greatest difficulties they faced in trying to grow their own food, particularly where they were attempting to do it organically.

In the early years of the twentieth century some degree of food production which did not rely on outside suppliers could be achieved through recycling of locally available material inputs. In the late twentieth century, however, even as gardeners remained committed to the production of food regarded as distinct from, and superior to, its mass-produced equivalent, they increasingly relied on mass consumption systems in growing that food. The apparent 'independence' from consumer capitalism gained via home food production was largely illusory, as few suburban dwellers had access to sufficient recyclable resources to be able to create 'closed' systems in their local areas, and sufficient space or time to run extensive organic gardens. Many came instead to depend on a nursery and garden supply industry conducted in a less than sustainable fashion.

CHAPTER 8

Conclusion: a diverse harvest

THE food-producing spaces in Australian cities have been diverse and complex, springing from a wide range of motivations and contained by varied and shifting contexts—cultural, economic, legal and environmental. They have produced food valued for its taste, freshness, variety, healthiness, and distinction from the commercial product. They have represented a way of making ends meet, a virtuous form of recreation, a patriotic duty, an integral part of an ecological lifestyle, and a canvas on which people have projected their dreams of independence.

In an interview I conducted in 1998, Andrea Vis contemplated the reasons for growing her own food:

...looking down at your meal at night and going 'yeah, wow, we grew the salad, and the eggs have come from here', it's a great feeling. I really like that; it's an independence that you can't really explain.¹

Among the disparate kinds of significance attached to food production, the ideal of independence looms large. It has fuelled thrift and the

pursuit of health, and been remade in various guises from respectable, working-class self-reliance to earth-wise self-sufficiency. It has been a crucial component in the making of gender identities, having been reserved for men and constructed in opposition to the dependence of women. The figure of the rural yeoman was, for many years, seen as a symbol of manly independence, although the traditional, rural orientation was progressively challenged by a technical rationality employed for purposes of reform, and later a 'modern outlook' aligned with increased consumption. As cars became more accessible, they provided an alternative symbol and means of accessing independence, displacing time and attention from the backyard to the bush and the beach as they did so. In a world tumbling rapidly towards an uncertain future, however, many sought comfort and security in chooks and vegies: an encounter with nature over which they could exercise some control. Independence was traditionally opposed to dependence, although exchange of backyard produce could, on occasion, threaten to break down that dichotomy by reaffirming the advantages of community ties or interdependence. Near the end of the twentieth century, this trend became stronger, as a generation oriented towards postmaterial values sought to overcome their alienation from nature, and looked on the threat of environmental deterioration—or indeed collapse—as an incentive for more interdependent attitudes. Never-theless, at the end of the twentieth century, many people still pursued some measure of independence in one of its manifold guises.

A focus on food production highlights the importance of diversity to human–environment interactions in Australian cities, particularly in terms of gender and class. Class has influenced not only levels of access to land and other resources, but also ideas about ways in which certain kinds of land should be used, and by whom. The relative power held by the middle class over the working class, particularly through the institution of local government, has allowed the middle class to pursue their notions of the ideal suburban community at the expense of alternatives. The patriarchal nature of Australian society allowed male appropriation—at least in the realm of representation—of an activity which reinforced their claims to independence and productivity, in opposition to a dependent and non-productive femininity. In private, many women most likely gained much satisfaction from

the activity, though their participation was often understood in terms of their role as wives and mothers, rather than as independent and productive women. Discourses of feminine food production remained marginal until feminist agitation and the increasing involvement of women in paid employment and public life generally in the 1970s legitimated women's claims to 'independence'. The changing class- and gender-based meanings of the activity help to explain patterns of involvement in suburban food production, as well as the prevalence of particular forms and practices.

Within the wider milieu of ideals and values, the practice of suburban food production has also been shaped by economic contexts, climate and soil type, availability of materials (such as animal manure and chemical pesticides), scientific developments and perceptions of science, as well as understandings of the relationship between people and the environment. Depending on its prevalence and how it has been carried out, animal husbandry and gardening for food have affected the suburban environment as activities that potentially create pollution, for example through the use of toxic and persistent pesticides; that ameliorate pollution, for example where waste organic matter is used for fertilising crops; and that are affected by urban pollution, for example where organochlorine residues in suburban backyard soils contaminate the eggs of domestic poultry. The impacts of suburban home food production also reach outside the suburban environment, as gardeners demand artificial fertilisers which are mined or manufactured, or indeed manures which may or may not be produced sustainably. However, particularly in the early and late decades of the twentieth century—the former more so than the latter—gardeners have also contributed to a more cyclical, sustainable, urban metabolism. In reducing pressure on the commercial food system—if only in a small way—various resources (often non-renewable) used in the production and transportation of food have been conserved.

At present, home food production is often viewed through the lens of environmentalism, and carried out in a more or less organic fashion. Most suburban home food production therefore results in environmental benefits for the community as a whole, as food-growers tend to reuse local waste materials, use fewer or no pesticides, and reduce demand on an energy-inefficient and sometimes polluting

commercial food system. However, even most organic gardeners rely to some extent on gardening materials which have been manufactured (or at least packaged) and transported. Insofar as there is space on private land for any form of gardening, food production is in general a very worthwhile and beneficial form, particularly when compared with lawn, which has a high environmental cost in terms of water, fertiliser, pesticide and mechanical upkeep requirements. However, not all home food production is associated with environmental benefits, and it is possible that the current context of environmental awareness could change. Furthermore, some aspects of more sustainable food production, such as IPM, require the cooperation of all growers in an area. With food production spread around individual backyards, this cooperation is, as we have seen in the case of fruit fly, unlikely to be achieved without centralised control. In general, whilst backyard vegetable patches, orchards and chook runs have some potential to make our cities more liveable, that potential is, it seems, perhaps even greater for community gardens.



Stephen Dovers and John Handmer have noted that the problem of individual versus collective interests is one of the contradictions at the heart of the concept of sustainability.² Ecological problems arise out of a multitude of individual decisions. However, sustainability is ultimately a collective issue, as everyone is affected by, for example, air pollution on a local scale, and the enhanced greenhouse effect on a global scale. As such, many propose that sustainability—in terms of both intergenerational and intragenerational equity—requires solutions which rely on collective and cooperative approaches.

In terms of providing a general historical perspective on the issue of urban sustainability, this study points to the high value placed on independence. Indeed, the popularity of the residential suburbs has been underpinned by ideals of independence, reflected in high levels of ownership of detached houses (and, in the twentieth century, cars), as well as widespread home food production. However, although suburban Australians have valued the apparent independence they have found in the suburbs, actual independence in a suburban setting

has, since early in the twentieth century, been more or less mythical: most supposedly ‘self-contained’ suburban homes have been supported by a network of collectively provided services, including roads, water, waste disposal, power and (most recently) communications.³ Even food production has relied to some extent on diverse external inputs. What constitutes ‘independence’ is thus at least partly a matter of interpretation, or at least ‘selective blindness’. It is likely that Australians will continue to seek some sense of independence—a fair aim which should be respected. In looking to the future, however, it is worth considering that not only may attitudes towards independence change, but so may the urban forms in which it is found. Further-more, just as we must not cut off opportunities for living with some degree of independence, so too must we sustain and nurture opportunities for deeply comprehending the value—indeed necessity—of interdependence. Perhaps it is too great a leap to suggest that the widespread public indifference shown in Australia to the claims of Indigenous peoples and the plight of refugees is an indication of the bitter harvest reaped when independence is cultivated at the expense of a respect for the ties of common humanity that bind us together. Perhaps it is not.

What place, then, might home food production play in the sustainable city of the future? The main forum in which urban sustainability has been discussed is in the debate over urban consolidation. An important aspect of this debate has centred on uses of public and private space, and whether sustainability is more likely to be achieved through providing people with private space within which to carry out decentralised ‘environmental’ work, or through reducing private space in order to facilitate the provision of effective public transport and minimise the expansion of cities onto horticultural and bush land at their fringes. More radical ‘rural commons’ visions for sustainable settlements have instead proposed the establishment of communities in which space is cooperatively managed and low-impact environmental technologies are employed in order to provide food, energy and other resources for the community.

Each approach rests on different ideas about the relationship between people. The radical green ‘rural commons’ vision requires a highly cooperative society which values interdependence above individual independence. It is unlikely that many Australians, at least

in the foreseeable future, will readily abandon on a grand scale the apparent freedom of independence and autonomy for the more contingent satisfactions of interdependence upon which the vision rests. The urban consolidation approach assumes the existence of an outward-looking public who recognise the virtues of interdependence, at least insofar as there must be a shared commitment to patronise and support public facilities, from parks to theatres to libraries, rather than to vandalise, steal from them, or let them run down. However, there is a perception that higher density living restricts opportunities for independent activity, for example because of limitations imposed by strata by-laws.

Privatised environmentalism, on the other hand, implies either that a sufficient sense of interdependence can be cultivated for people to carry out work in the public interest in private surroundings, or that the interests of the individual will coincide with the public interest in environmental work. However, householders' ability to undertake environmental work, including food production, is limited by their available time, knowledge and access to other resources. One significant problem here is the significant mismatch between household time and land resources: people with more working time, and higher, stable incomes, are likely to have less leisure time—although they may be able to afford houses with larger gardens, they have less time to manage them.⁴ On the other hand, time-rich people are more likely to have lower incomes, and thus have less secure access to large plots of land.

Patrick Troy has suggested that with 'appropriate encouragement' more people would grow their own food, with proposed measures including removal of regulatory barriers, 'encouraging or promoting local seed exchanges and the local exchange, marketing or bartering of surplus production', as well as imposing on non-gardeners (whether producing food or not) 'the full costs of their use of water and the drainage problem they impose on the community'.⁵ Removal of regulatory barriers to animal-keeping, if appropriately publicised, would most likely see the proportion of households with poultry increase, but it is difficult to see how the other means would be effective in increasing food production, as many gardeners at the end of the twentieth century found it difficult to grow vegetables from

seed, and already had informal produce-exchange networks. Penalties applied to non-gardeners would not necessarily encourage food production rather than ornamental gardening. Finally, none of these measures would ensure that food production was carried out in a sustainable fashion; as we have seen, there are many ways in which home food production can detract from, rather than support, urban sustainability. Such difficulties in ensuring that food production is carried out sustainably—or indeed at all—lead to the conclusion that the potential for food production is no reason to maintain the low-density residential urban structure of Australian cities, though other arguments may well be more persuasive.

However, food production does have a place in promoting urban sustainability: by providing a means for recycling organic wastes into a useful product (even if in a small way), it can help to create a more sustainable urban metabolism. If, as seems to be the case, we are proceeding (albeit incrementally) in the direction of consolidated cities, then the wider provision of allotment gardens, which have successfully operated in Melbourne for many years, would represent a happy medium between provision of private land for food gardening and productive spaces which are worked cooperatively. They overcome some of the difficulties associated with backyard food production, whilst retaining its advantages. Allotment-style community gardens can be accessed by time-rich people without secure land resources, and transferred to other time-rich people as their circumstances change and free time or interest in gardening declines. They can be located in areas not subject to competition from trees, or shade from buildings. Furthermore, because allotments are assigned to individuals (or families) for their sole management, they do not overly challenge the symbolic independence which remains one of productive gardening's chief satisfactions. Indeed, in a consolidating city, food production in allotment gardens could provide an important medium for the expression of independence and self-reliance, where other avenues appear to be under threat.

Yet at the same time, community allotment gardens offer opportunities for community interaction and involvement, and can perhaps be a step towards a greater recognition of the satisfactions to be gained from interdependence. They offer a convenient means for exchange

of knowledge and resources such as surplus seedlings produced by more experienced growers. They also offer community decision-making on issues such as whether pests must be controlled, and by what means. Given the near-ubiquity of environmental concerns and widespread aversion to pesticide residues in food, it is likely that most allotments would be run on a more-or-less organic basis, as they are in Melbourne. Unlike the system of scattered backyard production, community allotment gardens also increase the potential for adoption of IPM strategies requiring the cooperation of all growers in an area.

On a more concrete level, community allotment gardens could also help to achieve safe and efficient recycling of organic wastes, from local food/hospitality industries and other sources, by providing a centralised point for collection and composting. Carried out by (or with the guidance of) experienced people, the potential for recycling of organic wastes to give rise to health hazards, as it has at times in the past, would be reduced. The economy of scale would also mean that manure and other inputs could be delivered in bulk rather than bagged, reducing resource use and waste. Some larger sites could also cater for those who wish to keep poultry or perhaps larger animals, thus re-introducing a means of locally converting green waste into food and manure. Provision of local allotment gardens would also provide a spare capacity (albeit limited) for food production, which would be useful in a scenario similar to that encountered during the Second World War, where the commercial food system was placed under stress and shortages appeared likely. The current low cost of basic food relies on a high-energy system of cheap pest control, cheap fossil fuel for transport, and cheap nutrient inputs. Were any of these to become substantially more expensive (as, for instance, in the inevitable case of fossil fuel scarcity, or as a result of the increasing levels of insect resistance to pesticides), the present system might be unable to provide affordable food to all of the population, and local productive capacity, managed for equity, would be one way of ensuring local availability of lower cost, quality produce.

At present, community gardens are usually developed as a result of *ad hoc* negotiations between community groups and local councils, although arrangements may be made with other bodies such as hospitals, churches, schools, universities, bodies corporate, and government

departments or agencies responsible for public housing or railway reserve land.⁶ There is no legislation in Australia as there is in Britain, where the *Small Holdings and Allotments Act* of 1908 required local governments to provide ‘sufficient’ allotment plots for the local community. The British *Allotments Act* of 1925 further required that provision of allotment sites be considered in every town planning scheme, and established a class of statutory allotment land, with freehold vested in the local authority. Popularity of allotments in Britain has waxed and waned, though in 1997 there were a total of 296 923 plots in England, of which 43 000 were vacant, and 12 950 people were on waiting lists for plots.⁷

In 1998, the Environment, Transport and Regional Affairs Select Committee conducted a detailed study of allotments in the United Kingdom. They found evidence for an ‘emerging renaissance’ in allotment demand, which was presumed to be a result of shrinking private garden areas and increasing numbers of retirees—trends which are also observable in Australia. Demand for plots was also linked to conditions on the sites:

...sites with a secure future which are well run, maintained to a high standard, free of vandalism, well publicised and with facilities such as toilets, water and seed shops tend to be fully occupied. Similarly, poorly equipped, managed and maintained sites with an uncertain future and problems of vandalism tend to suffer from higher rates of vacancies which ultimately result in an ‘abandonment and dereliction cycle’.⁸

The report stressed the important role of local government authorities in determining the fate of allotments, with some successfully pursuing ‘an active approach to maintaining vibrant and fully-occupied allotment sites’, whilst others appeared to be ‘instrumental in encouraging the decline of interest in allotments’.

Ultimately, central government and parliament, local government authorities and their representative organisations, local community organisations and individual gardeners in the UK supported the idea that allotment gardening should be included within the Local Agenda 21 (LA21) process.⁹ Local Agenda 21 was one outcome of

the United Nations Conference on Environment and Development in 1992, which recognised the need for action towards sustainability at a local level. Participating governments agreed that each local government area should develop and adopt an LA21 as a programme for local sustainability.¹⁰ In Australia, however, LA21 has not been taken up with a great deal of enthusiasm. With no federal requirement for councils to be involved, and very little specific funding available, it is perhaps little wonder that in November 2000, community and council awareness of LA21 remained patchy.¹¹ Unless LA21 is revitalised in Australia, it would appear that the successful establishment of allotment gardens would best be achieved through a statutory requirement for allotments to be considered in planning schemes or development proposals in suburban areas (perhaps as part of 'open space' requirements), with facilities, publicity and ongoing support provided by local government.¹²



The 'harvest of the suburbs' has to date been sometimes divisive, and occasionally bitter. It has not generally made for a more equitable city, has historically contributed to suburban pollution, and on occasion produced polluted food. However, it has also at times contributed to material well-being, satisfying neighbourhood relations, and personal fulfilment, whilst also helping to produce a more liveable suburban environment. Australians will probably always seek some degree of independence, and forms of distinction which identify them as holding particular values or group membership. In Australian cities of the future, places used for the private production of food may well continue to play an important part in allowing for the expression of independence and distinction in an environmentally beneficial (or at least benign) way, and grow in importance as places in which to reap the manifold rewards of interdependence.

NOTES

ABBREVIATIONS: The following abbreviations are used in the Notes and the Select Bibliography:

Battye—Battye Library, Alexander Library Building, Perth

CPP—Commonwealth Parliamentary Papers

NAA—National Archives of Australia

NSWPP—New South Wales Parliamentary Papers

PROV—Public Records Office of Victoria

SROWA—State Records Office of Western Australia

UMA—University of Melbourne Archives

VPP—Victorian Parliamentary Papers

WAPD—Western Australian Parliamentary Debates.

Chapter 1: Into the suburbs...

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Chapter 2: Fecund and fetid: 1880–1918

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Chapter 3: ‘His own vine and fig tree’

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Chapter 4: Prudence and preference: 1919–37

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- 45 See Margo Huxley, 'Planning as a Framework of Power: Utilitarian Reform, Enlightenment Logic and the Control of Urban Space', in Sarah Ferber, Chris Healy and Chris McAuliffe (eds), *Beasts of Suburbia: Reinterpreting Culture in Australian Suburbs*, Melbourne University Press, Melbourne, 1994, pp. 148–69.
- 46 'T.T.T.', 'Poultry for the Cottager: How to Select and Feed a Few Fowls in the Back Yard', *Australian Home Beautiful*, 12 March 1926, p. 53.
- 47 Barbara Santich, *What the Doctors Ordered: 150 Years of Dietary Advice in Australia*, Hyland House, South Melbourne, 1995, p. 68.
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- 49 Anon, 'Vegetables and Vitamines', *Australian Garden Lover*, May 1925, p. 64. The other 'Vegetables and Vitamines' articles followed in June 1925, p. 76, and July 1925, p. 108.
- 50 Richard White, *Inventing Australia: Images and Identity 1688–1980*, George Allen & Unwin, Sydney, 1981, pp. 148–51. Don Slater has also argued that at this time, 'consumer culture itself was dominated by the idea that everyday life could and should be modern, and that to a great

- extent it already was'. (Don Slater, *Consumer Culture and Modernity*, Polity Press, Cambridge, 1997, p. 12.)
- 51 Connell and Irving, *Class Structure in Australian History*, p. 200. (I use the terminology of 'modern outlook' here to distinguish what may be seen as a form of more-or-less popular modernism from the various other uses of the term. It was an outlook which included forms of modernism in design, including architectural and interior design, but was not limited (and indeed did not always extend to) those spheres, being found also in changing tastes in clothing, appliances, leisure, and food.)
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 - 53 Quoted in Bill Gammage and Peter Spearitt (eds), *Australians 1938*, Fairfax, Syme & Weldon Associates, Broadway, 1987, p. 227.
 - 54 R.W. Cilento, *Nutrition and Numbers*, The Livingstone Lectures, Camden College, Sydney, 1936, p. 44.
 - 55 Anna Bramwell, *Blood and Soil: Richard Walther Darré and Hitler's 'Green Party'*, Kensal, Bourne End, 1985.
 - 56 *The Western Australian Gardening Guide: Methods Simplified and Condensed*, Wilson & Johns, Perth, 1924, p. 14.
 - 57 Geraldine McFarlane (ed.), *Voices of Camberwell: Alamein to North Balwyn*, City of Boroondara Library Service, Camberwell, 1999, p. 25.
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 - 65 Conarty, *Australian Intense Vegetable Culture*. These observations were contained in a section on 'increasing the humus content of soil' on pp. 28–9.
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- 67 'Weeds and Soil', *West Australian Gardener*, August 1932, pp. 10–11. Emphasis retained from original.
- 68 See, for example, Brunning, *The 19th Edition Australian Gardener*, p. 16; *The Western Australian Gardening Guide*, pp. 14–15; 'How Plants Feed and Function: Being the First of a Series of Popular Articles on Garden Science', *Australian Home Beautiful*, December 1931, p. 41.
- 69 'Editorial', *West Australian Gardener*, December 1933, p. 101. *The West Australian Gardener* was the 'Official Organ of the Horticultural Council and Affiliated Societies of the State'.
- 70 These links are elaborated by Edmund P. Russell, "Speaking of Annihilation": Mobilizing for War against Human and Insect Enemies, 1914–1945', *Journal of American History*, vol. 82, 1996, pp. 1505–29.
- 71 L.J. Newman, 'Important Insect Enemies of the Garden', *West Australian Gardener*, September 1932, p. 10.
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- 73 L.J. Newman, 'Garden Pests', *West Australian Gardener*, July 1933, p. 30.
- 74 For example, Newman, 'Garden Pests', p. 30; Brunning, *The 19th Edition Australian Gardener*, p. 130; *The Western Australian Gardening Guide*, p. 126; 'Round the Vegetable Garden', *Home Gardener*, May 1921, p. 96.
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Chapter 5: Fear and pride: 1938–54

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- 2 UMA, Melbourne University Social Survey, 'Prest Social Survey' box, Wilfred Prest, 'University of Melbourne Social Survey', unpublished paper, n.d., p. 1.
- 3 Details of cost-of-living calculation are given in UMA, Melbourne University Social Survey, 'Subsistence needs' box, various loose sheets and 'Incomes and Occupants' box, 'Income and Poverty in Melbourne, 1941–42', typescript, n.d.
- 4 The minimum cost of food for a husband and wife was set at 21s 2½d, where the total minimum for subsistence (including rent) was valued at 48s 8½d: UMA, Melbourne University Social Survey, 'Subsistence needs' box, 'Preliminary estimate of subsistence needs', c. 1942
- 5 The 'occgroup' categories 1–6 plus 12 and 14 together accounted for just over 70% of all households. The remaining 30% were distributed among occupations in sample sizes too small for any degree of statistical accuracy. The table includes all relevant households with an identifiable breadwinner whose occupation was recorded and could be classified.
- 6 'Occgroup 14', the unskilled working class, was most likely to keep poultry (16% of all productive households), with the skilled working class less likely (at 12% of all productive households), and the middle class less likely again (9% of productive households).
- 7 Prest Social Survey form, Box 14, Municipality 18 (Northcote) and Box 21, Municipality 28 (Braybrook).
- 8 PROV, VPRS 10163/P3, Box 197, Poultry—Industry, Part 3, 1956–1964. In the late 1950s, British subsidisation of their poultry industry led to the loss of that market for Australian producers, and a subsequent crisis of overproduction. More money was spent by egg boards on grading and

- marketing of eggs, and their deductions increased accordingly, which is why greater economies of scale were required.
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 - 12 Tim and Tot White, interviewed by the author, 20 July 1999.
 - 13 *Commonwealth Year Book*, 1942–43, pp. 921–3.
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 - 15 *Victorian Year Book*, 1952–53 and 1953–54; *Statistical Register of Western Australia*, 1938–39 and 1942–43.
 - 16 NAA (Vic.), Dept of Commerce and Agriculture, MP 48/1, FP217/1/5, Commonwealth Food Control, 'War-time Organisation of Vegetable Production in Australia' (typescript), 13 July 1944.
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 - 19 *ibid.*, letter from N.N. McLean Pty Ltd to the Controller Defence Foodstuffs, 21 August 1942.
 - 20 *ibid.*, telegram to the Controller of Foodstuffs from Director of Agriculture (Victoria), 26 September 1942.
 - 21 NAA (Vic.), Dept of Commerce and Agriculture, MP 48/1, FP1/3/3, Minutes of Special Committee Meeting called by direction of the executive of the Food Council to survey the position of vegetable production throughout Australia, 22 December 1942.
 - 22 C.F.H. Jenkins, *Some West Australian Insect Pests*, n.p., c. 1943, pp. 2, 3, 45; NAA (Vic.), Dept of Commerce and Agriculture, MP 48/1, FP 217/5/1; PROV, VPRS 10163/P2, Box 98, Vegetables Wartime Supply (Publicity) 1943–1946.
 - 23 Kraft advertisement, *Australian Women's Weekly*, 5 September 1942, p. 12.
 - 24 NAA (Vic.), Dept of Commerce and Agriculture, MP 48/1, FP217/1/5, Speech by Food Controller J.F. Murphy, 13 January 1944.
 - 25 NAA (Vic.), Dept of Commerce and Agriculture, MP 48/1, FP 217/5/1, 'The Farmer Comes to Town' [film script], April 1943, p. 4.
 - 26 'Home Garden Drive Attacked', *Daily News*, 24 September 1943, p. 5. Their request was not acceded to. Other than its timing, Wise and Baron-Hay supported the campaign, considering it particularly important that Western Australia be self-sufficient in food, given its isolation. Opposition

- from Fremantle, see: 'Council Opposes Home Garden Drive', *Daily News*, 28 September 1943, p. 5.
- 27 PROV, VPRS 10163/P2, Box 98, Vegetables Wartime Supply (Publicity) 1943–1946.
 - 28 NAA (Vic.), Dept of Commerce and Agriculture, MP 48/1, FP 217/5/1, letter from Piesse to the Ministry of Agriculture, 16 September 1943.
 - 29 Sara Buttsworth, 'Women Colouring the Wartime Landscape', in Jenny Gregory (ed.), *On the Homefront: Western Australia and World War II*, University of Western Australia Press, Nedlands, 1996, p. 67.
 - 30 W.A. Somerset, 'The Garden Army Marches On—Also', *Australian Home Beautiful*, May 1943, pp. 12–13. (Many thanks to John McKinley for bringing this article to my attention.)
 - 31 'Our Home Gardener', 'It's up to you to Grow Them!', *Australian Women's Weekly*, 18 April 1942, p. 28. [My emphasis.]
 - 32 NAA (NSW), Australian Broadcasting Commission, SP 300/1, B Scripts 1942, 'Women Talking: Make your Garden do War Work', p. 1.
 - 33 Barbara Gardiner, interviewed by the author, 12 July 1999.
 - 34 Tim and Tot White, interviewed by the author, 20 July 1999. Tot was quite clear about the role of storage technology in the exchange of produce: 'when you had the vegetables, you couldn't keep them. Now you can freeze them or whatever.'
 - 35 Graeme Davison and Tony Dingle, 'Introduction: The View from the Ming Wing', in Graeme Davison, Tony Dingle and Seamus O'Hanlon (eds), *The Cream Brick Frontier: Histories of Australian Suburbia*, Monash Publications in History no. 19, Monash University, Melbourne, 1995, p. 5.
 - 36 Tony Dingle, 'Necessity the Mother of Invention, or Do-It-Yourself', in Patrick Troy (ed.), *A History of European Housing in Australia*, Cambridge University Press, Cambridge, 2000, especially pp. 66–73.
 - 37 'Vegetable Growing for Home Use', *Home Gardener*, 1 June 1951, p. 16.
 - 38 R.G. Edwards, *The Australian Garden Book: With Practical Hints on the Culture of all the Principal Flowers, Bulbs, Shrubs, Trees, Fruits, and Vegetables*, Angus & Robertson, Sydney, 1950, p. 13.
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 - 40 Terry Irving, 'Society and the Language of Class', in Neville Meaney (ed.), *Under New Heavens: Cultural Transmission and the Making of Australia*, Heinemann Educational, Port Melbourne, 1989, p. 64.
 - 41 Alastair Greig, *Home Magazines and Modernist Dreams: Designing the 1950s House*, Urban Research Program, Research School of Social Sciences, Australian National University, Canberra, 1995, pp. 16–18.

- 42 Judith Brett, *Robert Menzies' Forgotten People*, Macmillan, Chippendale, 1992, p. 38.
- 43 John Murphy, 'Shaping the Cold War Family: Politics, Domesticity and Policy Interventions in the 1950s', *Historical Studies*, 1995, vol. 26, no. 5, p. 549.
- 44 Brett, *Robert Menzies' Forgotten People*, p. 51.
- 45 R.G. Menzies, Policy Speech, *Sydney Morning Herald*, 11 November 1949, quoted in Graeme Davison and Tony Dingle, 'Introduction: The View from the Ming Wing', in G. Davison, T. Dingle and S. O'Hanlon (eds), *The Cream Brick Frontier: Histories of Australian Suburbia*, Monash Publications in History, no. 19, Monash University, Melbourne, 1995, p. 5.
- 46 Joseph Benedict Chifley, election speech broadcast, 14 November 1949, and later published in J. B. Chifley, *Things Worth Fighting For: Speeches by J.B. Chifley*, Melbourne University Press, Carlton, 1952, p. 85.
- 47 Brett, *Robert Menzies' Forgotten People*, p. 72. This is not to suggest that the 'virtues of interdependence' were entirely neglected, but that they were generally subordinated to those of independence.
- 48 R.T. Patton, *Garden Farming*, Melbourne University Press, Melbourne, 1944, p. 37.
- 49 Tim and Tot White, interviewed by the author, 20 July 1999; Geraldine McFarlane (ed.), *Voices of Camberwell: Alamein to North Balwyn*, City of Boroondara Library Service, Camberwell, 1999, p. 32.
- 50 Advertisement, *Australian Garden Lover*, February 1941, p. 22.
- 51 Cancellation of fertiliser/manure ad.: NAA (Vic.), Dept of Commerce and Agriculture, MP 48/1, FP217/1/5, letter from Mitchell to Bulcock, 29 September 1943. Advertisement on burying waste: PROV, VPRS 10163/P2, Box 98, Vegetables Wartime Supply (Publicity) 1943–1946.
- 52 See, for example, Patton, *Garden Farming*, pp. 44–5, 58; advertisements for ADCO compost accelerator, *Australian Garden Lover*, August 1941, p. 26; other compost accelerators available by the early 1950s included Fertosan and Q.R. 'The famous English herbal compost maker'.
- 53 Patton, *Garden Farming*, pp. 44, 102; 'Poultry Manure', *Home Gardener*, April 1949, p. 7.
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- 62 F.C. King, 'When Fruit Trees Really Bore', *Your Garden*, December 1951, p. 26.
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- 64 'Grow Your Own Vegetables', *Australian Garden Lover*, November 1951, p. 17.
- 65 Victorian Department of Agriculture, *Vegetable Growing in the Home Garden*, 4th edn, p. 58.
- 66 C.F.H. Jenkins, A Review of Economic Entomology in Western Australia, MA thesis, The University of Western Australia, 1939, p. 4.
- 67 *The Garden Year with Mr Bear*, Arthur Yates & Co., Sydney, c. 1939, n.p.
- 68 Jenkins, *Some West Australian Insect Pests*, n.p., c. 1943, p. 22.
- 69 Ben Cook, interviewed by the author, 7 October 1998. Although Ben refers to the 'cabbage moth', it is clear from his use of the description 'white' that he is referring to the cabbage white butterfly, rather than the diamondback moth, which is usually referred to as the cabbage moth.
- 70 NAA (NSW), Australian Broadcasting Commission, SP 300/1, ABC Talks Scripts—General, A.R. Hilton, 'Vegetable Growing as a Wartime Project', broadcast on 5AN, 14 April 1942.
- 71 George W. Ware, *An Introduction to Insecticides*, 3rd edn, University of Minnesota, 1999. The prize was awarded because of DDT's usefulness for controlling insect disease vectors.
- 72 Edmund P. Russell, '"Speaking of Annihilation": Mobilizing for War against Human and Insect Enemies', 1914–1945', *Journal of American History*, vol. 82, 1996, pp. 1523–4.
- 73 J.E. Kolm, 'The Chemical Industry—Australian Contributions to Chemical Technology', in Frank Eyre (ed.), *Technology in Australia 1788–1988*,

- Australian Academy of Technological Sciences and Engineering, Parkville, 1988, p. 692; I.G. Ross, 'Alexander Boden 1913–1993', *Historical Records of Australian Science*, vol. 11, no. 4, December 1997, pp. 523–40.
- 74 Advertisement for Horto-Kix, *Home Gardener*, August 1947, p. 18.
- 75 *The Egg Producer*, 28 January 1948, p. 17.
- 76 'Vegetable Growing in the Home Garden', *Home Gardener*, September, 1947, p. 14. This statement was repeated verbatim in Victorian Department of Agriculture, *Vegetable Growing in the Home Garden*, 4th edn, p. 53, where regular preventative spraying was also recommended.
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- 78 J.L. Readshaw, 'An Ecological Approach to the Control of Mites in Australian Orchards', *Journal of the Australian Institute of Agricultural Science*, vol. 42, 1971, pp. 226–30; Graeme J.T. Frith, 'The Contribution of Science to Australian Intensive Agriculture 4. Temperate Fruit Research: 1935–85', *Journal of the Australian Institute of Agricultural Science*, vol. 51, no. 2, 1985, p. 104.
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- 82 Cooperative Extension Offices of Cornell University, Oregon State University, the University of Idaho, and the University of California at Davis and the Institute for Environmental Toxicology, Michigan State University, 'Extotoxnet Pesticide Information Profile: DDT', (Extotoxnet), < <http://www.ace.orst.edu/info/extoxnet/pips/ddt.htm>>, June 1996.
- 83 Russell, 'Speaking of Annihilation', pp. 1519–20.
- 84 'Let's get on with the "Clean-up" Now', *Your Garden*, May 1951, p. 42. Barr and Cary, in *Greening a Brown Land*, state that parathion 'was judged to be safe enough for orchard use, but not for use by home gardeners. The less toxic malathion and rogor were released for home and orchard use.' (p. 190) However, it is clear from the advertisements that parathion was released for home garden use in Victoria in the early 1950s.
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- 86 King, 'When Fruit Trees Really Bore', p. 26.
- 87 'Extotoxnet Pesticide Information Profile: DDT'.
- 88 John H. Perkins, 'The Quest for Innovation in Agricultural Entomology, 1945–1978', in David Pimentel and John H. Perkins (eds), *Pest Control: Cultural and Environmental Aspects*, AAAS Selected Symposium 43, Westview Press for the American Association for the Advancement of Science, Boulder, 1980, p. 27.

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Chapter 6: The contemporary and the cautious: 1955–73

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- 2 Graeme Davison and Tony Dingle, ‘Introduction: The View from the Ming Wing’, in Graeme Davison, Tony Dingle and Seamus O’Hanlon (eds), *The Cream Brick Frontier: Histories of Australian Suburbia*, Monash Publications in History, no. 19, 1995, p. 14.
- 3 Tim and Tot White, interviewed by the author, 20 July 1999.
- 4 Nerine Chisholm, ‘Landscape Gardening’, *Your Garden*, February 1956, p. 9. For other garden plans see Olive Mellor, ‘Garden Off the Square’, *Australian Home Beautiful*, January 1951, pp. 66–7; Olive Mellor, ‘Planned to Lessen Garden Upkeep’, *Australian Home Beautiful*, April 1951, pp. 66–7, 69.
- 5 ‘Prohibition of Horses Advocated’, *West Australian*, 22 July 1959, p. 2.
- 6 ‘Registration for Poultry, Pigeons’, *West Australian: West Suburban Section*, 21 February 1963, p. 1
- 7 *ibid.*
- 8 PROV, VPRS 10430, Unit 58, no. 3324, Poultry Keeping.
- 9 Andrew Brown-May, ‘Good Fences Make Good Neighbours?: Ordering Landscape and the Tractable Paraphernalia of Suburbia’, *Urban History Planning History Conference: Urban Research Program, Presentation Copy, Vol. 1*, Urban Research Program, Research School of Social Sciences, Australian National University, Canberra, 1995, pp. 1–24. Other factors which suggest that regulation of poultry was not only linked to health or nuisance concerns are the fact that regulations still relied heavily on specifying distances between fowl housing and fences, dwellings and roads long after the miasma theory of disease had been abandoned, and the fact that other sources of noise and odour, such as dogs and lawnmowers, were not subject to such stringent regulations.
- 10 Margo Huxley, ‘In Search of “The Good Life”: Being a Political Economy of Certain Local Government By-laws Within the Metropolitan Area of Melbourne, Victoria’, *Urban Policy and Research*, vol. 3, no. 1, 1985, p. 22.
- 11 Jean Urquhart, ‘Yarden Culture’, *The West Australian* ‘Habitat’ liftout, 9 January 1998, p. 3.

- 12 Tim and Tot White, interviewed by the author, 20 July 1999.
- 13 Charlie Wilson, interviewed by the author, 22 September 1998.
- 14 Linda Brown, Nancy Fitzpatrick and Theresa Blakers, interviewed by the author, 14 January 1999.
- 15 Gay McNamara, 'Chooks Scratch Their Way Back', *The West Australian*, 30 November 1998, p. 5.
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Chapter 7: Circles and cycles: 1974–2000

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Chapter 8: Conclusion: a diverse harvest

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Who has grown their own food in Australian suburbs? And why have they grown it? How have they gone about keeping animals and growing fruit and vegetables, and with what impacts? What can the history of food-producing spaces tell us about the diverse cultures, and values, of suburban Australia? Drawing on sources ranging from gardening books and magazines, to statistics and oral history, *Harvest of the Suburbs* challenges some of the widespread myths about food production in Australian cities, and traces the reasons for its enduring popularity.

In focusing on the meanings of food production for gardeners and animal-keepers, *Harvest* illuminates a range of contemporary ideas relating to work, social organization such as traditional gender roles, health and the body, and relationships between people and nature. In particular, it provides new insights into the tension between the quest for independence and the desire for *interdependence* in suburban Australia. This book is a valuable resource for scholars of environmental, urban and cultural history and is essential reading for the modern-day gardener interested in learning from more than one hundred years of keeping poultry, goats and cows, and growing fruit and vegetables, in Australian suburbs.

ANDREA GAYNOR's interest in suburban food production began when she was eight, with a failed attempt at growing okra in her parents' backyard in the Perth suburb of Woodlands. With her enthusiasm undampened by this inauspicious start, Andrea went on to study permaculture, breed traditional varieties of poultry and occasionally grow a decent tomato. Andrea is co-editor of *Country: Visions of Land and People in Western Australia* and has published articles on topics ranging from food to feral cats. She currently lectures in Australian History at The University of Western Australia.