

2 History of nutrition in Australia

Summary

Australia's current nutritional needs and problems are best understood by a consideration of the nation's history. Aboriginals lived successfully as hunter-gatherers in Australia for thousands of years. European settlers, principally Anglo-Saxons, struggled to retain the food culture they knew best with its agricultural and growing food technological base. In the latter part of the twentieth century a rapidly changing multi-cultural food intake pattern has emerged, which by adding variety increases the safety of the food supply system. There is at the same time a trend towards convenience, which may restrict variety. A changing food culture, with its implications for nutritional study by scientists, health workers, sociologists and others is apparent.

The Aboriginals

The original inhabitants of Australia, the Aboriginals, had what may well have been the longest continuous food culture, without external influence, known. The discovery of fragments of Aboriginal skeletons at Lake Mungo in southern New South Wales indicates that Aboriginal culture goes back at least 36000 and possibly 40000 years.

The Aboriginals were hunter-gatherers (table 2.1). Despite harsh climatic conditions, it seems that they remained in a state of optimal nutrition. Even as late as the 1960s, some Aboriginals in the Rawlinson Range were found, after several years of drought, sustaining themselves through hunting and gathering. In similar circumstances Europeans have perished. One member of the Burke and Wills expedition, which attempted to cross Australia from Melbourne to the Gulf of Carpentaria, survived when aided by Aboriginals and fed with gruel made from the nardoo plant and fish. There is, therefore, much to be learned about the nature of Australia's indigenous food supply from the first Australians. In hunter-gatherer societies, a variety of foods make up the diet. When energy needs are met from a wide variety of foods, nutrient needs will generally be met.

It is a sad fact that these same people now constitute one of the nutritionally vulnerable groups in this country. An enquiry into

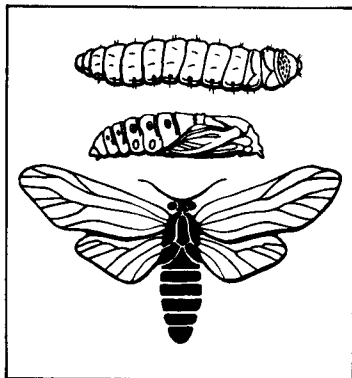


Figure 2.1 The larvae of insects known as witchetty grubs were eaten by Aboriginal Australians

this apparent paradox tells us much about the interplay between sociological factors, nutritional status, and well-being.

The women and children gathered and sometimes caught small animals (table 2.1). The men did most of the hunting. A host of diverse food items was thereby obtained.

Table 2.1 Traditional Aboriginal foods

Gathered (Women and children)	Hunted (Men)
<ol style="list-style-type: none"> 1. PLANTS <ol style="list-style-type: none"> (a) Leaves and stalks: portulaca, lily (b) Roots: yam, lily (c) Corms: cyperus (d) Seeds: nardoo (clover fern), wild rice, panicum (native millet), wattle (acacia), portulaca, lily 2. FUNGI 3. FRUITS: quandons, berries, wild fig, pandanus, bread fruit 4. NUTS: cycad, macadamia 5. INSECTS: caterpillars, termites, honey ants, larvae (witchetty grubs: cossidae larvae), ants, bogong moth (Snowy Mountains) 6. BIRDS 7. NECTARS: flowering gum, banksia, melaleuca 8. HONEY 9. FILLERS: clay 10. GUMS: wattles 	<ol style="list-style-type: none"> 1. FISH: fresh water and sea water: dugong, porpoises, shell fish, crayfish 2. REPTILES: turtles, snakes, lizards 3. RODENTS 4. MONOTREMES: echidna 5. BIRDS, including emus 6. MARSUPIALS: kangaroo, wallaby, possums 7. FLYING FOXES

Aboriginals sometimes used fillers (for thickening or bulking foods), chiefly clay, in food preparation and this is a feature of some other food patterns, for example, in the Middle East. Excessive use of clay can lead to deficiency of the mineral zinc.

Aboriginals had most ingenious ways of obtaining water and sometimes they sweetened it, but they had no alcoholic beverage.

Cooking was usually in a ground oven or open fire. Cooking the intact animal in its skin in a ground oven led to the retention of juices and water-soluble nutrients. Flour for dough was obtained from many seeds including the nardoo, acacia, cycad, and lily.

The function of food in Aboriginal society was not only nutritional: it also had an important social function. It facilitated human relationships as it does in contemporary Australian society. A formalized system of sharing existed, which minimized the chances of malnutrition in any one individual.

Food taboos illustrate further the social function of food in Aboriginal society. Taboos were related to age, sex and pregnancy.

Table 2.2 Aboriginal beverages

<i>Beverage</i>	<i>Source</i>
<i>Water</i>	<i>Waterholes</i> <i>Dew</i> <i>Pandanus trees</i> <i>Wells</i> <i>Roots</i> <i>Distended frogs</i>
<i>Sweet Drinks</i>	<i>Hakea flowers in water</i> <i>Honey ants in water</i>
<i>Fermented</i>	<i>No fermented beverages were prepared. The sweet slightly intoxicating sap of a Tasmanian cider eucalypt was used.</i>

Males at initiation, and for periods thereafter, directed certain foodstuffs towards older members of the group, and pregnant women were expected to eat different foods. An understanding of these roles of food in Aboriginal society may well be necessary to overcome some of the present nutritional problems found in this group.

The first European settlement

The first fleet of convicts and overseers arrived in Sydney Cove on 26 January 1788. It brought with it provisions of flour, biscuit, oatmeal, rice, peas, cheese, butter, salted beef, pork and vinegar. These items reflected the restricted character of the English diet of the time.

Although plants, trees, and livestock were taken on board at Rio de Janeiro and Cape Town during the voyage from England to Sydney, the settlers had difficulty in establishing agriculture and maintaining the animals in the first two to three years of settlement. The provisions brought in the First Fleet, supplemented minimally from Cape Town and Batavia, had to be rationed out for two years or more.

Food supply problems encountered in the settlement of the First Fleet at Sydney Cove 1788 included:

1. failure to learn about the indigenous food supply from Aboriginals;
2. delay in establishing vegetable gardens and crops;
3. insufficient livestock and inadequate care;
4. inability of settlers to work effectively, partly because of malnutrition, especially scurvy; and
5. dependence on imported foodstuffs.

It is not surprising that malnutrition existed in the early days of the colony and that it impaired the ability of the people to work. This, in turn, reduced the likelihood of successful food production.

The most evident nutritional problem was scurvy, due to the lack of foods containing vitamin C (ascorbic acid). It was known

Figure 2.2 The development of a meat industry meant Australians had one of the highest per caput meat consumptions by the turn of the twentieth century



that fruit and vegetables prevented scurvy, but it was difficult to cultivate them. One of the reasons for the inclusion of vinegar was a belief that its 'acidity' neutralized the 'alkalinity' of meat and that, thereby, a 'balanced diet' was achieved. Some sources of vitamin C in indigenous plants were identified. These included the sarsparilla, a berry (*Leptomeria acida*), wild parsley, and wild spinach. But these were not enough to deal effectively with the problem of scurvy in the early days of settlement.

Development of food production

The outlook for the new settlement grew brighter as agriculture, animal production, and horticulture became established.

Firstly, the easier cultivation possible in fertile soils at Parramatta to the west of Sydney and, later, a route to the west over the Blue Mountains, allowed sufficient food production to avoid famine. Wheat, barley, oats, rice, fruit, sugar, grapes (for wine), sorghum and oilseeds would all eventually be grown. This required development of suitable strains and the definition of soil problems. The successes have been strong determinants of what we eat and what we drink. There continues to be interplay between primary industry, the economy, and the nutritional characteristics of our affluent society.

Cooking and food styles

An anonymous nineteenth-century ballad about the Kelly gang includes this verse:

They spent the day most pleasantly,
 Had plenty of good cheer
 Fried beefsteak and onions
 Tomato sauce and beer.

There was by no means a uniform food style in the early days of Australia and this is exemplified in the illustration, which indicates the relationships between three different socio-economic



Figure 2.3 Socio-economic factors affected food preparation and intake in early Australian life

circumstances—the rural wealthy, the merchants and the itinerant workers—and food patterns that reflected way of life, facilities available (for storage, cooking) and economic circumstances. In all groups, however, the emphasis on meat was already becoming apparent.

For the early household the woodstove and its oven was the way to cook and all sorts of improvements were made on it over the years. From 1875, however, gas cookers were available and the kitchen became progressively a more simplified and streamlined room. Public electric power became available first in Sydney in 1904.

Refrigeration and ice production were developed in the middle of the nineteenth century. Domestic refrigeration arrived in 1912. It had major implications for food preservation, and probably constitutes the single most important technological innovation with respect to our food supply. It meant, for example, that many of the traditional ways of food preservation, such as salting of meat, were no longer necessary.

The most dramatic change to food patterns in Australia came about as a consequence of migration after World War II. Countless new food items and numerous dishes became, within twenty years or so, an integral part of the Australian way of eating, as the song quoted below suggests. Southern European cuisines illustrate this point rather well: pasta, pizza, moussaka, a variety of salads and gelati all found a place in the Australian diet. Then, too, the

presence of numbers of Asian students in Australia in the 1950s and 1960s meant that Australians became familiar with Asian foods and, by now, there is scarcely a suburb without a Chinese restaurant.

Economic depression in the 1890s and 1930s left its firm impression on the eating habits of the Australians. The idea of not wasting food and eating everything that is on the plate derives partly from these times. The memory of famine often encourages excessive food consumption.

The media and the advertising industry, particularly through women's magazines since 1933 and television since 1955, have been increasingly important in shaping Australian food patterns. When vitamins were discovered in the early twentieth century and when supplements became available, industrialized societies assumed that most of their nutritional problems were over. However, in this century the nutritionally related disorders of affluent society have emerged. Human nutrition has been taken seriously by government, researchers, and educational institutions only in recent years, despite the fact that animal nutrition has received much attention over a long period.

I'm an Aussie

We've come from every corner
of the world to build this land
And I know that we can make it
If we lend a helping hand
We'll live and love and learn together
Every single day
'Til every young Australian
Can be really proud to say—

Chorus

I'm as Greek as a souvlaki,
I'm as Irish as a stew
I'm Italian as chianti,
I'm as Danish as a blue,
I'm as German as a dumpling,
I'm as Pom as strawberry jam,
And I'm an Aussie, yes I'm an Aussie
Yes I am.

Oh!

I'm as Greek as a souvlaki,
I'm as Swiss as cheese with holes,
I'm as Yugoslav as raki,
I'm as French as crusty rolls,
I'm as Dutch as any gouda,
Middle Eastern as a lamb,
And I'm an Aussie, yes I'm an Aussie
Yes I am.

Lyrics by P. Best

Table 2.3 Principal dates in Australia's history of food and nutrition

<i>Date</i>	<i>Events</i>
40 000 BP (before present)–1788 AD	<i>Aboriginal period, hunting-gathering.</i>
1788–90	<i>First European settlement at Sydney Cove. Dependence on imported food. Difficulties with livestock and agriculture.</i>
1796	<i>Threatened with famine. Beer brewed for the first time from maize and the Cape gooseberry.</i>
1840	<i>Chinese labourers brought in to supplement the decline in convict labour for agricultural and other purposes.</i>
1847	<i>Kanakas (South Pacific Islanders) indentured to develop sugar cane in Queensland.</i>
Before 1850	<i>The Australian meat pie invented.</i>
1852	<i>Wave of Chinese Immigration, related to goldrush. Later associated with development of vegetable gardens.</i>
1859	<i>Introduction of twelve wild rabbits at Winchelsea, near Geelong, by Thomas Austin with subsequent colonization of Australia by rabbits. Initially a source of food, but later a threat to agriculture.</i>
1868	<i>Convict transportation to Australia (Western Australia) from Britain ends.</i>
1875	<i>Gas cookers available.</i>
1891	<i>Bank crash and depression.</i>
1904	<i>First public electric power supply in Sydney.</i>
1912	<i>First domestic refrigerators.</i>
1914–18	<i>World War I. 6pm closing introduced for Australian hotels.</i>
1921	<i>Soda fountains commence operation.</i>
1929	<i>The great depression with unemployment, poverty and hunger.</i>
1933	<i>First publication of Women's Weekly made new information about food and its preparation available to public. Milkbars introduced.</i>
1935	<i>Burt Sachse invents 'pavlova'.</i>
1939–45	<i>World War II. Stimulus of the war years to human nutrition research and to convenience-food production, e.g. canned vegetables, soups and fruit, custard powder, pastry mix and condensed milk.</i>

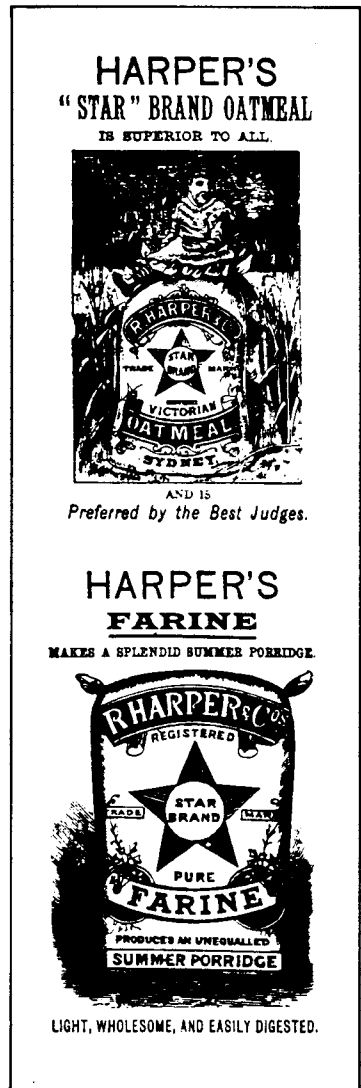


Figure 2.4 Porridge at breakfast used to be more common in Australia

<i>Date</i>	<i>Events</i>
1947	<i>CSIRO Division of Food Research founded.</i>
1945-50	<i>Post-war rationing of foods such as tea, sugar, butter, meat.</i>
1946-70	<i>Post-war migration, and introduction of a variety of new food patterns.</i>
1950-54	<i>Establishment of Colombo plan. Asian student influx with greater awareness by Australians of Chinese and other Asian foods. Progressive increase in the numbers of Chinese restaurants.</i>
1956	<i>Introduction of television with its shaping of attitudes to foods, especially among children.</i>
1967	<i>The last of 6 pm closing of hotels (South Australia).</i>
1968-72	<i>Fast food chains (e.g. Kentucky Fried Chicken, Pizza Hut, McDonald's) became established.</i>
1976	<i>CSIRO Division of Human Nutrition established for research into human nutrition.</i>
1978	<i>Two Australian universities established chairs of Human Nutrition to develop teaching and research in the area at the tertiary level.</i>



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Questions

1. To what extent could Aboriginal food culture have aided European settlers in Australia?
2. In Australia today how many different food cultural influences can you identify?
3. How have agriculture and food technology shaped Australian eating habits?
4. List as many foods or dishes (e.g. meat pie and pavlova) that you would regard as 'markers' or traditional Australian foods. Then list what you think are the marker foods and dishes for non Anglo-Saxon groups in Australia (e.g. spaghetti for Italians). Find out what foods these groups consider to be their marker foods. How do the lists compare?
5. If you were stranded in the Australian bush, what would your nutritional survival strategy be? Refer to chapter 25, Food composition tables and dietary allowances.

FOOD & NUTRITION IN AUSTRALIA

Edited by Mark L. Wahlqvist

Contributors: David R. Briggs, Jill B. Carey,
Patricia A. Crotty, Delia M. Flint, Gwyn P. Jones,
Richard S. D. Read, Ingrid H. E. Rutishauser,
Boyd J. Strauss

Illustrations by Neville Todd

Methuen Australia

Methuen Australia Limited
44 Waterloo Road, North Ryde, New South Wales, 2113
Melbourne Adelaide Brisbane Perth

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Patricia A. Crotty, Delia M. Flint, Gwyn P. Jones, Richard S. D. Read,
Ingrid H. E. Rutishauser, Boyd J. Strauss, 1981

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Methuen Australia Pty Ltd.

First published 1981
Revised edition 1982
Reprinted 1983
Cover design by Kim Falkenmire
Illustrated by Neville Todd
Set in 10/11 Garamond by B & D Modgraphic, Adelaide
Printed and bound by Koon Wah, Singapore

National Library of Australia
Cataloguing-in-Publication Data
Food and nutrition in Australia.

Rev. ed.
Previous ed.: North Ryde, N.S.W.:
Cassell, 1981
For senior secondary school students.
Bibliography.
Includes index.
ISBN 0 454 00414 1.

1. Food. 2. Food—Composition. 3. Nutrition.
I. Wahlqvist, Mark L.

641.3'00994

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