

# Chinese Diet and Cultural Conservatism in Nineteenth-Century Southern New Zealand

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*The few written records concerning the early Chinese goldminers in New Zealand tell us little about the material culture, diet, social organisation, or the degree of acculturation of this group. This paper examines the results of faunal analysis from site S133/453 ('The Rapids'), a Chinese goldminer's site located in the Kawarau Gorge, Otago. The results of this analysis are combined with a variety of archaeological and ethnohistorical information. It is concluded that the Chinese miner had a highly varied diet; retained the customs of his homeland, relying on food imported from China; expended considerable effort in trying to maintain his traditional diet; and, that there was only minimal acculturation up to 1900. The author is a postgraduate student in the Department of Archaeology and Palaeoanthropology, at the University of New England.*

## INTRODUCTION

The nineteenth-century Chinese migrants to New Zealand were almost without exception goldminers. Their history in New Zealand effectively began in 1865. The Otago business community, based in Dunedin, fearing a major business slump following the departure of more than half the miners in Otago to the newly discovered goldfields in Marlborough and Westland, invited the Chinese working on the Victorian goldfields in Australia, to work the Otago goldfields.<sup>1</sup> To begin with, the Chinese came overwhelmingly from the Victorian goldfields, though there is a possibility that a few may have come from California.<sup>2</sup> As gold went back to China from New Zealand, the news of the Otago and Westland fields must have spread, because from 1871 onwards the vast majority of immigrants came directly from China and not via the Australian fields.<sup>3</sup>

Almost all the Chinese migrants originated from Kwangtung Province in south China.<sup>4</sup> They came from the counties surrounding the city of Canton (now Guangzhou), with the majority of the Chinese goldminers in Otago coming from the Upper Poon Yue district to the north of Canton.<sup>5</sup> Most of these migrants were descended from peasant farmers and rural artisans. The main exceptions were members of relatively wealthy merchant families, who established merchant businesses in Dunedin, with outlying stores on the goldfields.

Those Chinese that had come to New Zealand via Australia and who may also have been in the Californian rush, had had, relative to later Chinese migrants, considerable contact with Europeans. Many had experienced ill-treatment, totally unveiled hatred, and physical violence, in the Australian and Californian fields.<sup>6</sup> The later migrants direct from China also shared strong anti-European feelings, as a result of contacts in Kwangtung. These prejudices, in combination with European prejudices and the fact that these early migrants had at first no intention of establishing a permanent residence in New Zealand but merely a desire to accumulate enough money to return to China in wealth, mean that these Chinese miners lacked the incentive to adapt to a new style of life.

## WHY CHOOSE DIET TO ASSESS ACCULTURATION?

Changes in diet reflect changes in other aspects of culture, diet being an important way in which a people identify themselves culturally. This is particularly true for the Chinese, who have throughout their

long history 'demonstrated an almost obsessive interest in matters gastronomic'.<sup>7</sup> In China you are not greeted with 'Good morning/day — how are you?' but rather with 'Have you eaten?'.<sup>8</sup> This greeting etiquette continued in New Zealand. From the various references in the Reverend Don's diaries, the greeting appears to have been 'Have you had rice yet?'.<sup>9</sup> The Reverend Alexander Don was an early missionary to the Chinese miners, and his diaries are one of the major (and few) ethnohistoric documents concerning the Chinese miners in Otago.

## THE CHINESE MINERS' DIET IN CHINA

The only way of assessing acculturation in diet and its converse, cultural conservatism, is to compare the diet of the Chinese miners in New Zealand with that of members of their socio-economic class who remained in China.

In the following discussion on nineteenth-century Chinese diet, twentieth-century sources have been used. The use of these sources is justified, because the writers had first-hand experience of life in a Cantonese village before the Revolution began to make significant inroads into the subsistence base of rural villages. Furthermore, the mode of subsistence (which is directly linked to diet) in those twentieth-century accounts, does not appear to vary from that described by King<sup>10</sup> for the early 1900s, and by extrapolation, probably varies little from that of the period 1860–1900.

The diet of Kwangtung was based on an almost infinite variety of rice dishes. Rice was the staple. Rice would normally have been served with a dish, or more likely a series of dishes, containing vegetables in a rich and spicy sauce. The class that the miners came from was unlikely to have had meat regularly with their meals. Only the wealthy would have had pork, fowl or aquatic animals with their rice on a regular basis.<sup>11</sup>

Thus the meals that the miners would have been used to would have consisted of rice and vegetables. South China grows a wide variety of vegetables, some of them semi-tropical. Due to a lack of fuel in this region, the peasants devised means whereby food could be cooked as quickly and efficiently as possible. For vegetables, this was achieved by cutting them very fine with a cleaver and then cooking them very quickly in a hot wok. This produces that

characteristic of Cantonese cooking, the stir-fried dish.<sup>12</sup> It is customary and preferred to cook vegetables in vegetable oil rather than in lard.<sup>13</sup> This explains the numbers of culinary oil bottles recovered from Chinese sites in Central Otago.<sup>14</sup> Cooking without the use of vegetable oils or water is very uncommon in China. Roasting is done by specialist merchants<sup>15</sup> and 'roast meats are traditionally bought ready-cooked at the market along with the few baked goods that exist'.<sup>16</sup>

When the Portuguese started to arrive in Canton in 1516, they brought with them vegetables from South America. Some of these vegetables have been taken up by the Cantonese and have become very important in their diet. Those to make most impact were white and sweet potato, capsicum and maize/sweet corn. In fact, the potatoes have become staples in some parts of south China.<sup>17</sup> Other Western imports to have been absorbed into Cantonese cooking are Ketchup and Worcestershire sauce.<sup>18</sup> These are often mixed together to make a combination sauce. It is highly likely that Worcestershire sauce had already been introduced from Britain and was used by villagers last century before the miners left. This is suggested by the relatively large number of Worcestershire sauce bottles, especially the 'Lea and Perrins' brand, recovered from Chinese sites in New Zealand. It is not really surprising that this sauce was so popular with the Chinese, as it is primarily a mixture of vinegar and soya bean sauce.<sup>19</sup>

The breakfasts that the miners would have had in China would have been ones that had strong and contrasting flavours. The usual Cantonese village breakfast was rice with steamed salted fish or preserved sour vegetables, or jock (a thick rice soup served with salted eggs on the side).<sup>20</sup> Eggs were an important source of protein for the peasant farmer, for although he probably owned a few chickens and possibly some ducks, these were only consumed at special festive times of the year. However, most peasants had a ready and constant supply of eggs.<sup>21</sup>

Lunch was taken at about 11 o'clock and would have consisted of rice and one or two steamed meat or fish dishes, for those who could afford to purchase a small quantity of these commodities. For those who lived close to a town or for those that journeyed to town to replenish household supplies, lunch would have been taken in a tea house. Prices in the tea houses were affordable by all classes. These 'cafes' served a variety of marinated meats, braised in various sauces. But they specialised in 'dim sum', which are minced meat wrapped in rice flour dough and either steamed or deep fried. These were only to be found in the tea houses.<sup>22</sup> Apart from those items purchased on trips to town, the Chinese peasant farmer raised chickens, sometimes a pig, and provided all his own vegetables. This last point means that those miners coming to New Zealand were experienced in the growing of vegetables.

Dinner was normally eaten relatively early in the Cantonese village, around 4.30 or 5.00 p.m.<sup>23</sup> It would normally have begun with soup, which would have been drunk hot.<sup>24</sup> Because all water had to be boiled for health reasons, all liquids tended to be drunk hot, whether soup, water or tea.<sup>25</sup> Tea was drunk at all times of the day and was always served by the host when guests called.<sup>26</sup>

Soups were made from chicken, or chicken and pork stock. Beef would not have been used by the Chinese miner's family. This was because beef was a luxury item in south China. Since all land was used for growing rice or other vegetables, stock-raising was not practised.<sup>27</sup> Likewise, pastoral animals like sheep and goats were not raised in south China. Meat in this region was synonymous with pork.<sup>28</sup> The Chinese pig can be kept in the house yard, eats just about anything, reaches maturity in a year, and is a prolific breeder. Chickens and ducks were also popular for the same reasons.<sup>29</sup> For

those that did not raise their own pigs, fresh pork could be purchased from door-to-door salesmen.<sup>30</sup>

Pork was a much more important source of meat than chickens and other birds.<sup>31</sup> However, chickens were a must for festive occasions and were popular due to their versatility in cooking; since all of the chicken was used, there was no wastage.<sup>32</sup> The preferred chicken to cook was a freshly killed pullet, that had not laid an egg.<sup>33</sup> Nevertheless, birds made up only a fraction of the meat intake. In those areas away from water, pork was more important than all other animal foods combined,<sup>34</sup> but near any large body of water, fish outranked pork in importance.<sup>35</sup>

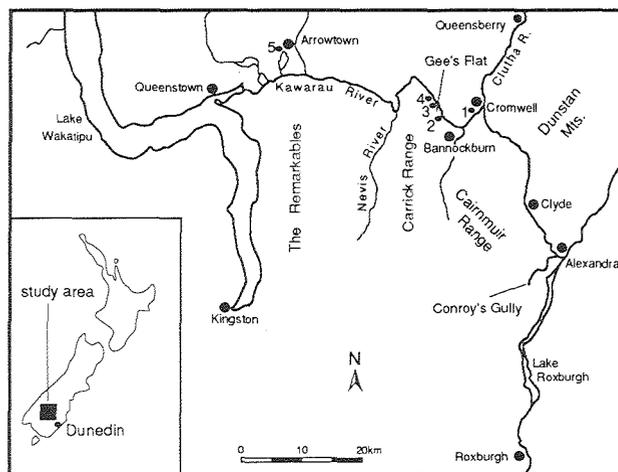
Chinese prefer fish to be fresh and that they be freshwater varieties.<sup>36</sup> In south China fish are one of the main sources of animal protein. There are thousands of wild fish and shellfish that are caught or collected for the dinner table, although some fish are pond reared.<sup>37</sup> Prawns, shrimps, crayfish and eels were also part of the Cantonese village diet.<sup>38</sup>

## THE FAUNAL REMAINS FROM A CHINESE MINER'S SITE

### Background

The faunal assemblage used in this study comes from a Chinese miner's site, S133/453, named 'The Rapids'. This site is located at the eastern end of Gee's Flat (Fig. 1). The evidence of Chinese occupation at Gee's Flat is restricted to four Chinese rockshelters (S133/452, 456, 474, 791) and The Rapids site. Two of the rockshelters, S133/474 and S133/791, have been excavated and are known as 'Hanging Rock' and 'Riverside', respectively.<sup>39</sup> Little is known about Chinese mining at Gee's Flat. This is one of the reasons why excavations have taken place there, so that a better understanding of the Chinese in this area could be achieved.

The Rapids site is set amongst poplar trees, about 8 m above the Kawarau River, at the downstream end of a rapid, hence its name. The site consists of the remains of a structure (almost certainly a dwelling): a rectangular area approximately 9 x 6 m, demarcated on the western and northern sides by large boulders and a rocky outcrop (Fig. 2). The enclosed area is divided into two by a single row of stones running through the centre. There is a dense midden area, consisting of those squares beginning with the letters L, M and N. This midden consists of a concentration of bone, glass, tin wax vesta matchboxes and



**SITE KEY** 1. Cromwell's Chinatown 2. The Rapids 3. Riverside  
4. Hanging Rock 5. Arrowtown Chinese Settlement

Fig. 1: Location map of Gee's Flat and surrounding settlements.

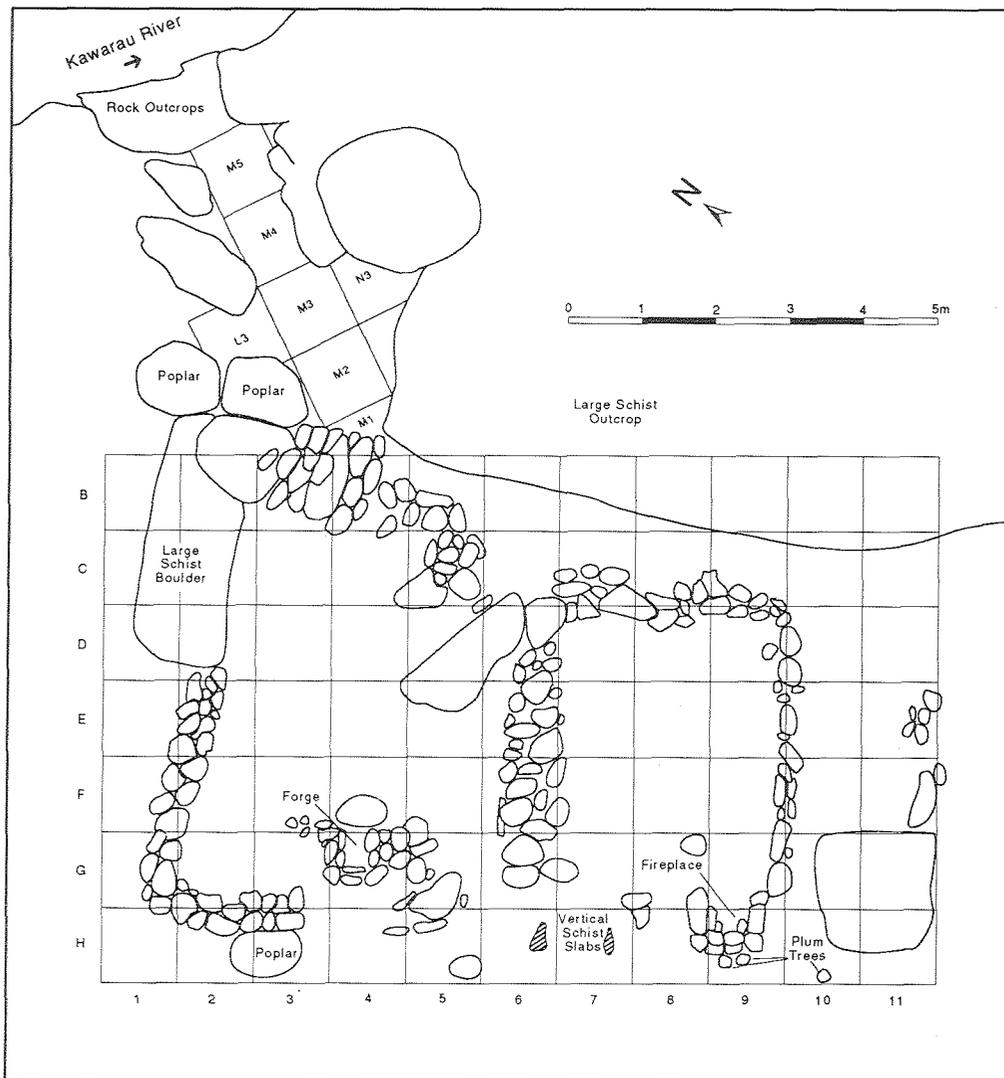


Fig. 2: Site plan of The Rapids.

Chinese ceramic remains. It appears to have accumulated as a result of the occupant/occupants throwing their rubbish into the Kawarau River, the midden being formed by those items which fell short and ended up in a slight depression.

An analysis of the bottle glass and tin wax vesta matchboxes has given some indication of the chronology of the site. The bottle glass from this site was analysed by Stuart Bedford and myself. Virtually all the fragmented remains came from a variety of alcoholic beverages. These remains indicate that there has been a double occupancy at this site and this is supported by the tin wax vesta matchbox analysis conducted by Stuart Bedford.<sup>40</sup> The evidence indicates that the site's main occupation period fell sometime between 1880 and 1899 and that this was a Chinese occupation of some duration. Subsequently, there was a temporary secondary occupation by a European/s sometime in the 1920s or early 1930s. However, the overwhelming artefact evidence is Chinese.

#### Results of analysis of the faunal remains

Faunal remains are an indicator of diet. From the analysis of the faunal remains from The Rapids, it was hoped to gain an insight into the meat component of the Chinese miners' diet. Historical faunal remains can tell us what animals were being consumed and indicate more precisely which parts of the animals were being consumed.

The analysis of The Rapids faunal assemblage<sup>41</sup> supports the conclusions reached by Ritchie<sup>42</sup> in his examination of the meat component of the Chinese diet. The results of this analysis indicate that sheep and pigs were the most important sources of meat in the diet of the occupant/occupants of The Rapids site. Evidence from this site and others<sup>43</sup> indicates that meat had become an important and regular component of the diet. This is quite different from the situation of these miners in their youth in China, when meat would have been a treat, at least not a regular component of the diet.

Both mutton and lamb were present in The Rapids assemblage. These meats would not have been familiar to the Chinese. However, the supply of pork in Central Otago a hundred years ago and its price, would have meant that those Chinese miners who could afford to eat meat, would have been forced in many cases to replace pork with the cheaper and far more readily available mutton. Indeed, the consumption of mutton by the Chinese is one of the few areas of substantial change in diet.

Ritchie<sup>44</sup> has stated that the importance of sheep meat, particularly mutton, in the diet is 'evidenced by the substantial faunal remains' of sheep which are found on Chinese sites. Butler has stated that: 'It is simply a mistake to suppose that the Chinese lived on rice ... when getting gold ... they lived as extravagantly as the barbarian digger,



Fig. 3: Typical Chinese dwelling at Macetown (Arrow River), with the Reverend Don and occupants. Note peach tree at right of dwelling.

consuming sardines, bread, bottled fruits, pork and even the plebeian mutton chops, with Old Tom (brandy) to wash it down'.<sup>45</sup> Don listed mutton among a number of foods which were used by the Chinese miners.<sup>46</sup>

The Rapids assemblage indicates an increase in the amount of cattle meats (chiefly beef) in the diet of the Chinese. This is also a change from the situation in China but this is at least a type of meat with which the Chinese held cultural ties. It is difficult to calculate how much beef was consumed at The Rapids (for reasons discussed below), but it is evident that it was, along with pork, a significant part of the diet at The Rapids and other Chinese sites.<sup>47</sup> As for sheep meat, the importance of beef was due to its price relative to pork and also to factors of supply. Beef and mutton were by far the dominant meats sold by European butchers at this time.<sup>48</sup>

The equating of cattle bones (especially beef bones) to meat weights, which is common in many overseas analyses of historical fauna,<sup>49</sup> is in my opinion dubious. Cattle remains pose problems which generally are not as evident in sheep and pig remains. The fact is that when beef and veal carcasses are butchered, they are these days, and were to varying degrees in the past, boned out. The bones are later sawn up in a random manner and sold as beef bones for stocks and broths, and as marrow bones. This makes the calculation of meat weight figures for beef inaccurate, and meaningless for intra- and inter-site comparisons. The major problem is not knowing how many boneless meat cuts arrived on the site and just how much meat was adhering to those bones which did arrive.

It would appear that much of the cattle bone at The Rapids fits the category of bones sold for soups, broths and marrow extraction. Some bones are more indicative of soup bones than others. These are those bones that are usually removed when a carcass is cut up and

boned out into joints and cuts. It is these bones which are present in The Rapids assemblage<sup>50</sup> and the butchery marks associated with these bones support this argument. Those bones which can be associated with specific cuts of meat, are also indicative of cattle meats being purchased for soups, broths and stewing. The bones from The Rapids which indicate this, are bones associated with the shin, knuckle and brisket cuts of meat. Some beef bones were in all likelihood purchased for the extraction of marrow. The extraction of marrow is indicated at The Rapids by a number of long bones which have had their 'heads' removed, a practice indicative of marrow extraction. This is particularly the case for the tibiae of cattle.

Cattle, sheep and pig meats from The Rapids appear to have been obtained in the form of traditional European (English) cuts. These cuts indicate a preference for lean and cheap meats. They also indicate that less of the butchering marks can be attributed to the Chinese than previously suspected. Those that can, indicate that some cuts were deboned, some cuts had meat sliced off, while others were chopped into traditional bite-sized pieces for ease in cooking in small containers and for ease in picking up with chopsticks.

Two bones, a right and left scapula, from a kid-sized goat were recovered from The Rapids. The right scapula was damaged at the anterior end, but it does have two cut marks on the ventral thoracic margin, which may have resulted from slicing meat off the bone.

The source of this goat meat is unlikely to have been from a European butcher. There are two possible sources, wild or domestic goats. It is impossible to say which, but if it were from a wild source it would indicate either European or Chinese hunting or trapping. Unfortunately, very little is known about the 'early spread of wild goats in this country [New Zealand]'.<sup>51</sup> It is, however, possible that the Chinese purchased a goat or two from European miners. Wodzicki

states that goats were frequently kept by prospectors and goldminers in their camps. When these wandered they led to the establishment of wild herds.<sup>52</sup> Wodzicki's statement is supported by Mr Graham Bell, who informed me that European miners would often keep milking goats.<sup>53</sup>

Chinese miners used to keep cats as pets<sup>54</sup> and this might explain the presence of the remains of a kitten at The Rapids. However, I doubt if this explains two mature cat bones which both exhibit cleaver shear-faces. It appears as if an individual cat was butchered into bite-sized portions, not unlike the manner in which Chinese butcher fowl. Butchered cat bone has also been recovered from the Arrowtown Chinese Settlement.<sup>55</sup>

I believe that this butchered cat bone represents trapping by the Chinese. This does not necessarily imply trapping for cats, but that wild cats were occasionally caught in traps set for rabbits. According to Wodzicki, wild cats would have been particularly abundant in this region during the period in which the Chinese were resident.<sup>56</sup> This is because, before the introduction of mustelids (weasles, stoats and ferrets) to Central Otago, sheep farmers purchased large numbers of cats for liberation as a means of controlling the rabbit problem.<sup>57</sup>

Rabbits were introduced to Otago shortly after the commencement of the Otago settlement in 1848. At this time liberations were made at Queenstown.<sup>58</sup> Apparently gold prospectors contributed to their spread, often taking rabbits with them.<sup>59</sup> Certainly the Otago Acclimatisation Society helped by liberating more rabbits in the late 1860s. By 1876 North and Central Otago were rapidly approaching a situation of massive infestation.<sup>60</sup> Clearly this indicates that rabbits would have been available to the Chinese miner. There is documentary evidence that the Chinese did take advantage of this resource.<sup>61</sup> However, the rabbit bones from The Rapids provide very little evidence that the Chinese miner or miners was or were systematically trapping rabbits for food. Only one rabbit bone out of 102 mature<sup>62</sup> rabbit bones (and a considerable number of immature<sup>63</sup> rabbit bones) has any positive butchery marks (in this case two cleaver shear-faces), which would have resulted when the meat was prepared in much the same way as Chinese dice up a chicken. It is possible that other bones, especially femora, tibiae, radii and ulnae, had been broken deliberately in the act of skinning, either for skins or meat. Unfortunately, I could not distinguish these types of fractures from those resulting from weathering, so it is possible that more than one rabbit was consumed. With the abundance of rabbits in the area today, it is likely that rabbits represented an important source of meat in lean times.

All the chicken remains from The Rapids came from mature<sup>64</sup> chickens. In addition to the chicken bones there was one possible duck (species unknown) right tibiotarsus, and fowl eggshell (most probably chicken eggshell) was recovered from Squares F4 and M1. Not all the chicken bones had butchery marks but twelve did, and these are representative of the Chinese practice of chopping up chicken into bite-sized portions. The number of bones which had received cleaver blows may be more than the above-mentioned twelve, because, as with rabbit bone, it is very difficult to determine a fracture resulting from weathering from a cleaver blow. Another difficulty is that Chinese often break bones in the process of deboning a chicken.<sup>65</sup> As far as I am aware, there is no way of distinguishing these types of fractures from those resulting from deposition in a site. The Rapids assemblage had a minimum number of only three chickens. This low minimum number is something of an enigma, considering the chicken's importance in the diet in China, and the ethnohistorical accounts by the Reverend Don that chicken was a relatively regular component of the diet.

There were only three fish bones recovered from The Rapids. Considering the importance of fish in the Cantonese diet, this

suggests a substantial change in diet. However, the archaeological representation of fish bone is probably artificially low. This is because a supply of fresh fish to this area was difficult. The Chinese, therefore, substituted canned fish for fresh fish, a practice represented by the numbers of sardine and other fish cans (to be discussed later) recovered from Chinese sites. The canning process softens fish bone, resulting in the bone having a very poor chance of surviving to be recovered today, and furthermore, this softened bone is often eaten.

According to Spence, the drying and distribution of seafoods, including cuttlefish, was a big business within China during the Qing Dynasty.<sup>66</sup> Ritchie has stated that 'although dried cuttlefish could not be described as a staple, it was a commonly consumed food'.<sup>67</sup> A piece of cuttle bone was recovered from square B4 at The Rapids. As the species (*Sepia* sp?) does not frequent New Zealand waters, the excavated specimen represents the remains of an imported fish.<sup>68</sup> According to the Reverend Don, it sold for three shillings a pound.<sup>69</sup> In one instance he noted cuttlefish was on the menu of a festival feast.<sup>70</sup>

### OTHER ASPECTS OF THE CHINESE MINERS' DIET IN NEW ZEALAND

The historical information available suggests that the Chinese miners' diet consisted of rice and vegetables, supplemented with meat: primarily beef, pork, mutton and chicken, with the occasional duck. To this can be added a list of luxury European goods, items imported from China, and the use of European canned foods. What these miners must have missed most from the diet of their childhood, would have been a plentiful supply of fresh fruit and fresh fish.<sup>71</sup> As mentioned earlier, the fresh fish component of their traditional diet was replaced, to some extent, by canned fish. This will be discussed in greater detail later in this section.

During the later decades of last century, Central Otago was not the 'fruit bowl' that it is today. To compensate for the lack of fresh fruit, Chinese miners would plant fruit trees wherever they were to be resident for some time (Fig. 3). Small plum orchards which were planted by the Chinese still exist near the settlements at Cromwell and Arrowtown.<sup>72</sup> The Rapids had a plum tree in very close association with the structural remains. Many Chinese sites have fruit trees associated with them. In addition to plums, the Arrowtown Chinese Settlement had a pear tree growing next to Hut 6. Apples were also grown by the Chinese at Cromwell's Chinatown and the 'Apple Tree site'.<sup>73</sup> There are numerous references in the diaries of the Reverend Don to the Chinese maintaining fruit trees. For example, Don describes one meeting with a Chinese miner which took place 'under his fruit trees'.<sup>74</sup> He also mentions that there were orchards run by Chinese at Speargrass Flat and at Conroy's Gully.<sup>75</sup> Plum and peach stones have been recovered from a number of sites.<sup>76</sup> Three peach stones were recovered from Squares G5, M1 and L3 at The Rapids site. Strawberries and European gooseberries were also fruits which were grown by the Chinese.<sup>77</sup>

The Chinese miner continued to rely on 'food and other products imported from China'.<sup>78</sup> Rice was imported from China and Java. It was imported in sacks, which were often used as roofing in the miners' crude dwellings,<sup>79</sup> and sometimes as a door.<sup>80</sup> That rice formed the major component of the diet, as it did in south China, is evidenced by the constant emphasis that the Reverend Don places on it throughout all his diaries. With all the Chinese he visited, there is always a reference to having had either morning rice or noon rice or evening rice. The number of references to the eating of rice, relative to all other foodstuffs eaten, is simply staggering. Very rarely is anything else other than rice mentioned, giving the impression that many miners, especially in the later days when the gold ran out,

subsisted solely on rice. That this is unlikely is shown by the archaeological evidence and other historical sources. It is possible that the Reverend Don has used the Chinese notion that a meal and rice are the same thing. Anyway, his diaries indicate that rice was an extremely important component of the Chinese miners' diet.

The Reverend Don's references to rice are also important in that they tell us when the Chinese took their meals. Because these men worked claims that were relatively poor in gold, the hours of daylight were all used for searching and toiling after gold. This means that breakfast was eaten before first light and could be as early as 4 a.m., and that the evening meal was generally not prepared until after dusk, which means that it was sometimes not eaten until as late as 11 p.m. at night. Obviously these times altered depending on what time of the year it was. The hours given here are for peak summer and are at one extreme. The hour of the day at which lunch was taken appears to have always been noon.

Rice was not the only plant food in the Chinese diet. As in China, vegetables were also important. The keeping of vegetable gardens by Chinese miners appears to have been much more common than among their European counterparts.<sup>81</sup> A photograph of the Reverend Don with a lone Waikaia miner clearly shows a small vegetable garden.<sup>82</sup> An 1887 photograph of the Arrowtown Chinese Settlement shows that the Chinese had established an extensive gardening area.<sup>83</sup> In the early days of Chinese immigration, some Chinese stayed behind in Dunedin to grow vegetables for Chinese miners on the goldfields.<sup>84</sup> *The Otago Witness* in late 1867 reported that 'an area of swampy land contiguous to the school house, Great King Street, was let to five Chinese who mean to cultivate it as a garden'.

The Reverend Don's diaries give some impression of the type of fresh vegetables which were eaten. Describing an evening meal at Mareburn in 1901, he states that: 'the evening meal was leisurely prepared, and at 11 p.m. we all supped, enjoying thoroughly the rice, bacon, peas, Shantung cabbage, and eggs'.<sup>85</sup> He describes another evening meal that year as having 'an abundance of pancakes, pork, and potatoes'.<sup>86</sup> The two vegetables that recur most in the Reverend Don's descriptions of those that were grown and consumed, are Chinese cabbage and potatoes. It would appear that seed for the former was brought direct from Canton.<sup>87</sup> Unlike Europeans who normally did not eat potatoes for breakfast, the Chinese appear to have had no reservations about this.<sup>88</sup> Like Europeans, they often boiled their potatoes<sup>89</sup> but potato fritters, made out of grated potato and flour, also seem to have been popular.<sup>90</sup>

Items made out of flour, such as damper<sup>91</sup> and pancakes, appear on available evidence to have been an addition to the traditional diet of the Chinese goldminer. In the early days of Chinese mining, pancakes and other similar items, such as fritters, must have been popular amongst some Chinese miners. As evidence of this, one miner carried his supply of flour, a 45 kg sack, 90 km to new diggings.<sup>92</sup> These pancakes were very simple affairs, usually just flour and water.<sup>93</sup> However, they were made appetising with fillings such as roasted peanuts and sugar,<sup>94</sup> or else they were consumed with other components of the meal, such as pork.<sup>95</sup> Other traditionally European foodstuffs made out of flour, that were eaten by the Chinese, were bread and biscuits.<sup>96</sup> The evidence for biscuits comes from the recovery of biscuit tins from Chinese sites. However, the presence of biscuit tins does not necessarily mean biscuits were being eaten. Empty biscuit tins could be purchased from most grocers and were useful for keeping a variety of items (such as rice) free of damp and rats.

If Moore is correct and the Chinese did consume bread, then it is possible that they spread jam on it.<sup>97</sup> The Reverend Don specifically mentions jam-tins as part of the rubbish belonging to a Chinese

resident at the Arrowtown settlement<sup>98</sup> and use of a jam-tin as an opium lamp in the Nevis Valley.<sup>99</sup> The results of the tin-can analysis for those cans recovered from The Rapids was not available at the time of writing this paper. However, the results for other Chinese sites were available, and these give a good indication of the types of canned foodstuffs the Chinese were using.<sup>100</sup>

General food cans are one of the most common can types recovered from Chinese sites. This can type is 'likely to have contained products such as preserved vegetables (beans and tomatoes?), soups, and condensed milk'.<sup>101</sup> A related can type which has been recovered from Chinese sites, a squat cylindrical form, is believed to have contained meat products 'such as corned beef or sheep tongues'.<sup>102</sup> Another meat tin which has been recovered is the tapered meat can, and this most likely contained 'bully beef'.<sup>103</sup> Also recovered from Chinese sites are fish cans. There are two types of fish can, the rectangular 'sardine box' type, examples of which have also been recovered from an American Chinese site,<sup>104</sup> and the oval fish can, which was used to preserve larger fish, such as herrings.<sup>105</sup> The other important can type recovered from Chinese sites is the circular flange-lid tin. This was used 'for the packing of dry powder products such as coffee, spices, chocolate and cocoa beverages and baking and custard powders'.<sup>106</sup> Langenwalter also notes the use of tinned baking powder by the Chinese in America.<sup>107</sup>

Canned foodstuffs seem to have been adopted by the Chinese mining community in New Zealand because of their convenience. Canned foods appealed to both the Chinese and European miner because they represented a 'ready supply of rodent-proof provisions which also required minimal cooking time and effort'.<sup>108</sup> Canned foods also represented stored provisions at a time when there was no refrigeration. It may be for this last reason that general food cans are found in higher numbers than other can types in those sites most distant from service towns, such as Cromwell and Arrowtown.<sup>109</sup> Compared to European sites, Chinese ones have considerably less condensed milk cans. This evidence, and that of 'contemporary observations suggest that the Chinese were not great consumers of milk products'.<sup>110</sup>

Other archaeological evidence which adds to our knowledge of Chinese miners' diet, has come from the analysis of European bottle remains and Chinese ceramic remains. The range of bottles from Chinese sites is typified by those recovered from Cromwell's Chinatown. These indicate that almost immediately upon arrival in New Zealand, the Chinese adopted a number of European foodstuffs packaged in glass.<sup>111</sup> The glass containers that stand out as being particularly important are pickle jars, jam jars, Worcestershire sauce bottles (especially the Lea and Perrins brand), culinary oil bottles, and vinegar bottles (especially the Champions brand).<sup>112</sup> Analysis of Chinese ceramic remains indicate a continued reliance on dried vegetable foodstuffs, soy sauce, preserved ginger, and other preserved items such as salted garlic, salted radish, pickled lemon and shrimp sauce.<sup>113</sup>

Apart from the above-mentioned items, the Chinese also imported tea. Next to rice, tea is the item of the Chinese diet most frequently mentioned by the Reverend Don. As in China, it was drunk black on all social occasions, it being considered extremely rude not to offer a guest or visitor a cup of tea.<sup>114</sup> Apparently not only were tea leaves used to make a brew but roasted rice was also sometimes used.<sup>115</sup>

The archaeological record indicates that traditional cooking methods were maintained in New Zealand. This is indicated by the recovery of a wok and a cleaver from the Arrowtown Chinese Settlement. Don also records the presence of cleavers amongst the Chinese miners.<sup>116</sup> In addition, it would appear from historical documents that the Chinese tea house was imported into the large Chinese mining settlements.<sup>117</sup> Like its counterpart in China, it

specialised in the preparation, cooking and sale of dim sums. Also, as in China, when living in groups, food was eaten from a common dish.<sup>118</sup>

While the fish bones recovered from Cromwell's Chinatown appear to have derived from canned fish, there is evidence that the Chinese were either fishing for or trapping eels.<sup>119</sup> It is interesting to note that the Reverend Don<sup>120</sup> observed eel being cooked at Roxburgh, and that it was fried. As stated earlier, the fish component of the diet would usually have been derived from cans. There were exceptions though, such as the use of cuttlefish, which were imported from China. Fresh fish were also consumed on some occasions, as evidenced by a snapper bone (left premaxilla of *Chryphrys aviatius*) in The Rapids assemblage, and from an account by the Reverend Don of an evening meal given in his honour in the Upper Nevis, which consisted of 'a tender young chicken and two sweet fish accompanying the bowl of "pearly grains"'.<sup>121</sup>

Although Moore states that the Chinese could 'live by means of a very slight expenditure of money on a frugal and inexpensive diet',<sup>122</sup> this seems to have been the case only when they could not win enough gold for food, or for those who were opium addicts, when 'they could not win enough gold to buy both food and opium'.<sup>123</sup> Hard times when the diet was frugal, were offset by feasts held during the various Chinese festivals, of which the Chinese New Year was the most important, followed by Summer Solstice (in China Winter Solstice). Two other important festivals were the Moon Festival and All Souls Festival. These festivals and the feasting that went with them were very important events on the social calendar.

Certain festivals were associated with specific foods, such as the Moon Festival. This would be celebrated by eating moon-cakes imported from China. These were shaped like meat pies and filled with either fatty pork or candied fruits.<sup>124</sup> According to Don, the Summer Solstice Festival was always associated with fresh pork.<sup>125</sup> To have feasted without fresh pork was like 'Christmas without plum pudding'.<sup>126</sup> The festivals were all marked by general feasting, in which the following would be consumed: chickens, ducks, pork, ginger, and other Chinese delicacies such as candied sweets and preserved lychees. During these festivals large amounts of Chinese wine and European whisky and brandy would be consumed.

Chickens and ducks appear to have had a very special and integral position in these feasts.<sup>127</sup> As in China, the Reverend Don notes that chickens and ducks were not killed until immediately prior to cooking, 'for the Chinese like no interval between killing and cooking'.<sup>128</sup> It is interesting to note that the Reverend Don<sup>129</sup> and Moore<sup>130</sup> state that the Chinese roasted the chickens and ducks for their festive feasts. Chickens and ducks were also eaten at other times of the year but there is evidence that these other times were related to the visit of someone important, such as the Reverend Don.<sup>131</sup> Although there are indications<sup>132</sup> that the Chinese purchased poultry from Europeans, there is also evidence that they raised their own fowls. No doubt it would be from these birds that eggs would have been collected, given the position of eggs in the diet of south China.

Much of what has been said in this section was confirmed by an interview with Mr Graham Bell, a retired butcher, who sold meat to the last of the Chinese miners from the Lawrence Chinatown and had regular contact with these elderly men in their camp during his childhood. He states that rice formed the major component of their diet, with vegetables, especially Chinese cabbage, also being important. These vegetables were grown by the Chinese in plots next to their camp. Apart from vegetables, they raised their own chickens and had the odd pig. They did not own any cows and he states that they did not drink milk, that their tea was always drunk black. From him they purchased pork and lean beef. He maintains that their diet was one of rice, vegetables, pork and lean beef.

The cut of pork they purchased most frequently was the belly, however they did not appear to be too fussy about which pork cuts they purchased, providing that they were lean. The beef cuts purchased were most often those related to the brisket, such as a corn roll or flat rib of boiling beef. Stewing steak was however the most popular form in which they purchased their beef. Unfortunately this would leave no record archaeologically. The point stressed throughout the interview by Mr Bell was that they only purchased lean meats.

Because of the way in which they cooked their meat, the Chinese never went in for big joints. Mr Bell states that they chopped their meat into bite-sized pieces and then stewed it. He states that they cooked in small cast-iron billies and that this was why they never purchased large joints. Their method of cooking was to slowly stew or simmer their meat until it could be 'mushed up' into what Mr Bell calls a 'stoup', a cross between a stew and a soup. The Reverend Don records Chinese stewing their meats.<sup>133</sup> Mr Bell categorically states that the Lawrence Chinese never roasted their pork or beef. An interesting point that he makes, which is supported by the historical literature,<sup>134</sup> is that upon doing well on the goldfields, the Chinese did not save more but tended to spend their extra earnings in living it up. When a Chinese miner was doing well, Mr Bell states that he always ate pork.

## CONCLUSION

The archaeological and historical evidence presented in this paper indicates that the Chinese miners' dietary pattern was very similar to that of south China. There was a continued reliance on rice and vegetables as the major components of the diet. The miner relied on articles of food imported from Chinese merchants in order to maintain the dietary pattern of south China. The success of the Chinese store clearly points to a desire by Chinese miners to maintain their traditional lifestyle. The number of items imported from China and the quantity of vessels which contained those items that are found on archaeological sites, indicate that considerable effort was expended in trying to maintain their traditional diet. Not only does it appear that there was minimal acculturation in terms of diet but that there was also a high degree of cultural conservatism in the type of culinary wares used, in the implements used in cooking, and in the mode of cooking.

Where items could not be imported or were not locally available, the Chinese made substitutions, such as canned fish. The use of canned fish does not reflect acculturation but cultural conservatism. Here the Chinese were not altering their traditional diet but maintaining it as best they could, with the closest possible substitute, in this case, canned fish for fresh fish. If items could not be imported or were not locally available and substitution was not a viable alternative, the Chinese attempted to recreate the Cantonese situation in New Zealand. For example, they planted fruit trees around their dwellings in order to compensate for a local shortage of fresh fruit.

With the exception of mutton, which appears to be the only major area where some acculturation took place, the meats the Chinese purchased can all be explained in terms of an attempt to maintain their traditional diet. The archaeological record indicates the importance of pork and beef. These are the same two meats that formed the domestic animal component of the Cantonese diet. Admittedly, much more meat was eaten in New Zealand than China but this is not really a divergence from the Cantonese pattern. The increased amount of pork and beef eaten in New Zealand merely reflects that which was desired in China but which could not be purchased due to expense.

The archaeological and ethnohistorical evidence overwhelmingly points to there being only minimal acculturation of Chinese miners, as evidenced through their dietary habits, for the period of time from

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## NOTES

1. Ritchie 1984: 5.
2. Greif 1974: 15.
3. Fyfe 1948: 24.
4. Ritchie 1984: 5.
5. Greif 1974: 4; Fyfe 1948: 8.
6. Greif 1974: 15.
7. Lee & Lee 1979: 11.
8. *ibid.*
9. Don 1895: 50.
10. King 1911.
11. Anderson & Anderson 1977: 319.
12. *ibid.*
13. *ibid.*
14. Ritchie & Bedford 1983a.
15. Anderson & Anderson 1977: 319.
16. Lee & Lee 1979: 27.
17. *ibid.*: 23; Anderson & Anderson 1977: 328.
18. Lee & Lee 1979: 179.
19. *ibid.*
20. Yee 1975: 12.
21. *ibid.*: 58.
22. *ibid.*: 14.
23. *ibid.*: 22.
24. *ibid.*: 23.
25. *ibid.*
26. Lee & Lee 1979: 272.
27. Yee 1975: 23.
28. Lee & Lee 1979: 25.
29. *ibid.*
30. Yee 1975: 29.
31. Anderson & Anderson 1977: 336.
32. Yee 1975: 30.
33. Lee & Lee 1979: 285.
34. Anderson & Anderson 1977: 336.
35. *ibid.*
36. Yee 1975: 45.
37. Anderson & Anderson 1977: 334–5.
38. *ibid.*
39. Ritchie 1983b: 64.
40. Mr Stuart Bedford 1984: pers. comm.
41. See Piper 1984 and Piper 1988 for a detailed report on the analysis of The Rapids faunal assemblage.
42. Ritchie 1986.
43. *ibid.*
44. *ibid.*: 611.
45. Butler 1977: 17.
46. Don 1884: 104.
47. Ritchie 1986.
48. Mr Graham Bell: pers. comm.
49. Lyman 1979.
50. Piper 1988.
51. Wodzicki 1950: 155.
52. *ibid.*: 154.
53. Mr Graham Bell 1984: pers. comm.
54. Don 1901: 18.
55. Dr Neville Ritchie 1984: pers. comm.
56. Wodzicki 1950: 82–3.
57. *ibid.*
58. *ibid.*: 107.
59. *ibid.*
60. *ibid.*: 109.
61. Don 1911: 38.
62. Adult-sized rabbits.
63. Less than adult-sized rabbits.
64. Adult-sized chickens.
65. Lee & Lee 1979: 189–90.
66. Spence 1977: 228.
67. Ritchie 1986: 637.
68. *ibid.*
69. Don 1895: 59.
70. Don 1885: 204.
71. Moore 1930: 40.
72. Ritchie 1986: 642.
73. *ibid.*
74. Don 1911: 13.
75. Don 1891: 16.
76. Ritchie 1986: 642.
77. *ibid.*: 643.
78. Ritchie 1983a: 9.
79. Don 1911: 2.
80. Don 1901: 26.
81. Butler 1977: 33.
82. *ibid.*: 48.
83. Ritchie 1984: 9.
84. Greif 1974: 29.
85. Don 1901: 55.
86. *ibid.*: 29.
87. Don 1911: 26.
88. Don 1895: 17.
89. *ibid.*
90. Don 1906: 31.
91. Don 1897: 21.
92. Don 1911: 30.
93. Don 1908: 21.
94. *ibid.*
95. Don 1891: 11.
96. Moore 1930: 40.
97. *ibid.*
98. Don 1891: 9.

99. Ritchie & Bedford 1983b: 19.
100. *ibid.*
101. *ibid.*: 14.
102. *ibid.*
103. *ibid.*
104. Langenwalter 1980: 105–6.
105. Ritchie & Bedford 1983b: 6.
106. *ibid.*: 15.
107. Langenwalter 1980: 106.
108. Ritchie & Bedford 1983b: 18.
109. *ibid.*: 17.
110. *ibid.*: 18.
111. Ritchie & Bedford 1983a: 246.
112. *ibid.*: 250.
113. Evans 1980: 89.
114. Don 1895: 50; 1911: 18.
115. Don 1906: 36.
116. Don 1895: 18.
117. Butler 1977: 31.
118. Don 1895: 70.
119. Ritchie 1983a: 10.
120. Don 1891: 15.
121. Don 1897: 38.
122. Moore 1930: 27.
123. Don 1908: 16.
124. Moore 1930: 36.
125. Don 1908: 16.
126. *ibid.*
127. Cree 1960.
128. Don 1894: 17.
129. Don 1895: 28–9.
130. Moore 1930: 33.
131. Don 1895: 70; 1906: 42.
132. Don 1906: 42; Cree 1960.
133. Don 1891: 5.
134. Butler 1977: 13–14.

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