Domestic expenditure of the Hector family in the early 1870s

Simon Nathan,* Judith Nathan* and Rowan Burns

*2a Moir Street, Mt Victoria, Wellington 6011 (s.nathan@xtra.co.nz)

ABSTRACT: Analysis of a large bundle of family accounts has yielded information on the lifestyle of James and Georgiana Hector in the early 1870s, when they lived in Museum House next door to the Colonial Museum in Wellington. James Hector was director of the Geological Survey and Colonial Museum. With a salary of £800 a year, as well as income from a marriage settlement, the Hectors were able to live well as part of the colonial social elite. Dr Hector clearly managed his money carefully, and there is no sign of high expenditure on social activities or entertaining. Mrs Hector patronised many Wellington shops, among which Kirkcaldie and Stains is the only one still in business.

KEYWORDS: Hector family, Museum House, Colonial Museum, domestic expenditure, household maintenance, servants.

Introduction

James Hector (1834–1907) was one of the leading scientific figures in late nineteenth-century New Zealand. Although there is a large amount of archival material about his official activities, we know little but the outlines of his personal life (C. Hector 2008). The Museum of New Zealand Te Papa Tongarewa (Te Papa) archives contain a collection labelled 'Personal Domestic Accounts', which includes detailed household accounts for the Hector family over the period from 1870 to 1874 (Fig. 4). An analysis of these documents provides a window into the domestic life of the Hector family, but also has wider significance as a rare example of the expenditure of a well-off New Zealand family during the 1870s.

James Hector qualified as a doctor in Edinburgh in 1856, then spent three years exploring western Canada as a geologist and surgeon to the Palliser Expedition (P. Hector 2008). He was appointed geologist to Otago Province in 1861, then moved to Wellington in 1865 to set up the New Zealand Geological Survey (now GNS Science), the Colonial

Museum (now Te Papa) and, later, the New Zealand Institute (now the Royal Society of New Zealand). He remained a dominant figure in these and other organisations until his retirement in 1903 (Nathan & Varnham 2008).

During his early years in Otago, Hector was often in the field, but when in Dunedin he lived a bachelor existence in rented accommodation. When he moved to Wellington in 1865, he was able to rent a house next to the Colonial Museum that became known as Museum House. In late 1868, he married Georgiana Monro (Fig. 1), daughter of Sir David Monro, a wealthy Nelson landowner and Speaker of the House of Representatives, and the house was extended and remodelled (Figs 2 and 3). Their first child, Barclay, was born in late 1869, and they had four children by 1874.

Newspaper reports from 1869 onwards show that the Hectors attended many social functions, including regular attendance at Government House, and they were clearly part of an elite group of perhaps 30 or 40 families that made up Wellington society.

From his arrival in New Zealand in 1862 until his retirement in 1903, James Hector was paid a fixed salary of



Fig. 1 James Hector (left) and Georgiana holding baby Barclay, photographed in early 1870 (photographer unknown. Alexander Turnbull Library PA-0-434-22 & 23).

£800 a year – one of the highest salaries in government service apart from judges. Our experience today is that a fixed salary gradually decreases in value because of the effect of inflation. The late nineteenth century was, however, a period of falling prices, so that the purchasing power of Hector's salary gradually increased over the years:

£800 in 1862 was worth \$87,720 in 2013 £800 in 1873 was worth \$107,397 in 2013 £800 in 1903 was worth \$133,163 in 2013

This paper deals with the period from 1870 to 1874, for which expenditure records have survived. To assist comparisons, £1 during this time was worth approximately \$125 in 2013, and a shilling was worth approximately \$6. No income tax was levied in the 1870s.

In addition to his salary, Hector may have had some savings from the years he worked in Canada and Otago. Being one child among many in a large Scottish family, it is unlikely he had much, if any, inherited wealth. On his

marriage to Georgiana in 1868, her father signed a financial settlement to assist the young couple (Wright-St Clair 1971: 224), but the size of that settlement is unknown.

Hector's staff

It is interesting to compare the salary of James Hector with those of his staff in 1873, taken from the *Appendices to the Journals of the House of Representatives (AJHR* 1873):

J. Hector	Director	£800
F.W. Hutton	Assistant geologist	£350
R.B. Gore	Clerk & Met. Assistant	£340
J. Buchanan	Draftsman	£300
W. Skey	Analyst	£300
I. Raver	Museum Assistant	£150

Hutton, Gore, Buchanan and Skey were all in jobs that would be considered professional, requiring skills and training, and their salaries reflect that status in comparison with the salaries of others employed in the public service in 1873

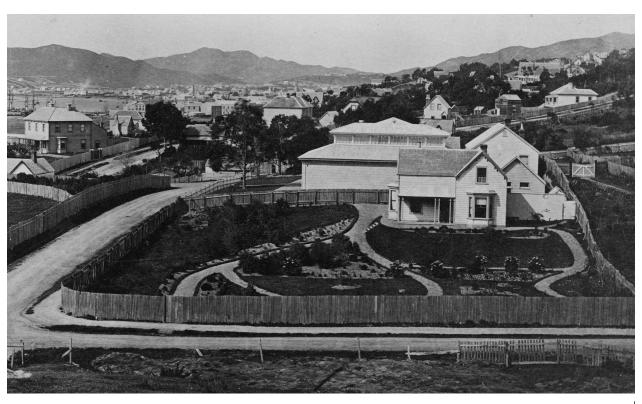




Fig. 2 (above) Museum House (centre right), with the Colonial Museum behind, photographed in 1868. Museum Street is on the left, with Sydney Street in the foreground. This photograph was taken soon after Hector had rented the house, but before he had altered and extended it (photo: D.L. Mundy. Alexander Turnbull Library 020099).

Fig. 3 (below) View of Museum House (upper right) and Colonial Museum (upper left) from Museum Street. The date is uncertain, but it is probably late 1870s as the two-storey frontage of the Colonial Museum was not completed until early 1876. Museum House was considerably enlarged in late 1868, with the addition of chimneys (photographer unknown. Alexander Turnbull Library 005154).



Fig. 4 Hector's 'Personal Domestic Accounts' held in Te Papa archives (Te Papa CA000294), consisting of four bundles of folded bills. Each of the bills is neatly labelled on the outside in James Hector's handwriting (inset, lower left) (photo: Simon Nathan).

– but they all earned less than half the salary Hector was paid. In fact, £300 seems to be the typical salary paid to a senior clerk with some responsibility. This salary appears to have been adequate to support a family and probably buy a house. Rayer, who had worked as a field hand for Hector in Otago, was the only unskilled working-class man employed at the Colonial Museum, and was expected to be able to live on half the salary of the clerical and professional staff.

Nature and analysis of Hector's 'Personal Domestic Accounts'

Te Papa's archival item CA000294 consists of four bundles of documents, tied with tape (Fig. 4). There are 816 bills in total, arranged in no discernible order, dating from 1861 to 1875. Almost every bill has a hole in it, so we assume that they were placed on a spike as soon as they were received, and later paid in regular (probably monthly) batches. The bills are

folded into narrow strips, labelled in Hector's handwriting, and were apparently filed after they had been paid.

Until the mid-twentieth century, most shops and other vendors provided a delivery service to the home for middle-class customers. Milk, groceries and meat were delivered daily, and shops would deliver packages. Most suppliers would keep a record of purchases and bill the householder monthly. These are the bills that make up item CA000294.

We decided that the best way to analyse this large collection was to enter all the information on an Excel spreadsheet that could be sorted in different ways (for example, date, value and supplier).² We did not attempt to re-sort the bundles, and numbered the entries so that the originals could be easily relocated. A copy of the spreadsheet has been deposited in the Te Papa archives with item CA000294.

The content of the collection became clear when we sorted the spreadsheet by date. There are two distinct groups, of which the second is the larger:

- 1. Bills from 1862 to 1865 (with a single bill dated December 1861), when Hector was employed by the Otago Provincial Council. Many of these bills are related to fieldwork, administrative items and the 1865 New Zealand Exhibition held in Dunedin, as well as Hector's living expenses. This group of bills is not considered further in this paper.
- 2. Bills from 1870 to 1875. These are mainly domestic bills, often addressed to Mrs Hector, covering the costs of running the household and of books and subscriptions. The bills start in January 1870 and are continuous up until February 1875.

It appears that the Hectors started systematically collecting their bills from the beginning of 1870, when they had been married just over a year. Five years later, in February 1875, they left on a trip to Britain, having sublet Museum House (Burns & Nathan 2012b). We infer that they bundled up the accumulated bills and left them next door in the Colonial Museum. It appears that the collection remained tucked away for many years after Hector's death, and at some stage was added to the archives.

It is hard to know how complete the 1870-75 bills are as a record of the Hectors' domestic expenditure, particularly as some payments would have been made in cash without bills being presented. It is likely that Georgiana Hector would have had a housekeeping allowance from which she paid the servants and made day-to-day cash payments.

From Table 1, it is clear that there is a general correlation between the total annual expenditure and the number of bills preserved, and that the Hectors' expenses increased as more children were born. Fluctuations in the annual totals suggest gaps, especially for 1873. By far the largest recorded expenditure (£391) - almost half of James Hector's annual salary - is for 1874. This is a minimum figure, because it does not include undated invoices or cash payments.

Summary of domestic expenditure

House maintenance

Hector leased Museum House from the government from 1866 onwards for an annual rent of £65, and negotiated the deduction of the costs of maintenance and alterations from this. Museum House was a relatively modest home when photographed in 1868 (Fig. 2), but Hector had arranged for

Table 1 Comparison of total recorded expenditure between 1870 and 1874.

Year	No. of invoices	No. of children	Total recorded expenditure
1870	101	1	£147
1871	112	2	£176
1872	131	2	£238
1873	109	3	£170
1874	140	4	£391

it to be enlarged (Fig. 3) before he and Georgiana returned from their honeymoon in January 1869. Robert Langley Holmes, working as a temporary clerk at the Colonial Museum, wrote a gossipy letter to Julius von Haast (at that time director of the Canterbury Museum) on 26 January about the Hectors' return, commenting that James looked 10 years younger and going on to say: 'His house, since the alterations were completed, looks highly respectable, neat and of course well furnished. I suppose that he will entertain a good deal after all the hospitality he enjoyed in his bachelor days. He will now have a comfortable place to accommodate you and Mrs Haast when you next pay the capital a visit' (Burns & Nathan 2012a).

During 1869, the Hectors probably purchased more furniture, but the surviving records do not start until 1870, and from that time onwards there was little expenditure on furniture or household fittings. In contrast, however, there was continuing work over the next two years on household maintenance and alterations - painting, papering, moving partitions and internal walls, remodelling the kitchen, fitting locks to cupboards and fixing leaks around the windows. The chimney was also swept regularly.

Museum House was insured for £500 in March 1871 at a cost of £65s. Hector may have decided that the house was overinsured (or that the premium was too high), because he reduced the cover to £400 in 1875.

Food

A large number of the food bills are for bread and for milk, of which the family was buying 7 pints (about 4 litres) a day

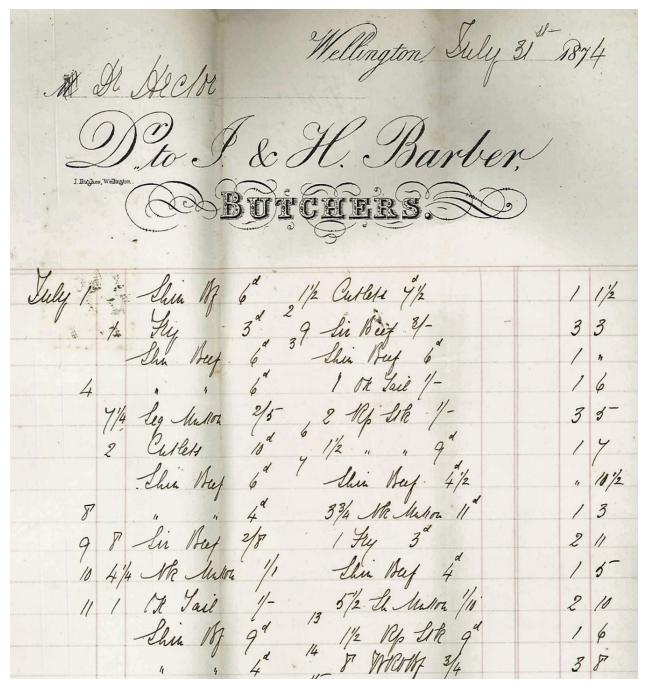


Fig. 5 Part of the Hector family's meat bill for the first part of July 1874. Because there was no refrigeration, fresh meat would have been purchased several times a week. From the amount purchased, it can be assumed that they are meat as the main course at least once every day (image scanned by Jennifer Twist).

by 1873. Other staples such as salt, tea, butter and eggs are listed, but flour is not, reminding us that there is insufficient detail to give a complete picture. Butchers' invoices indicate a diet rich in meat, including legs of mutton, chops and cutlets, and a wide variety of beef cuts, including oxtails and ox heart (Fig. 5) – but no pork. Fowls (3s. each) and

even a turkey (7s.) were bought from the butcher, and fowls also from the fruit market. There are no bills for fish, regarded by many colonists as poor man's food.

A variety of vegetables were purchased in season, including potatoes, beans, peas, cabbage, lettuce, marrows, cucumber, onions, parsley and mint (Fig. 6) – but tomatoes

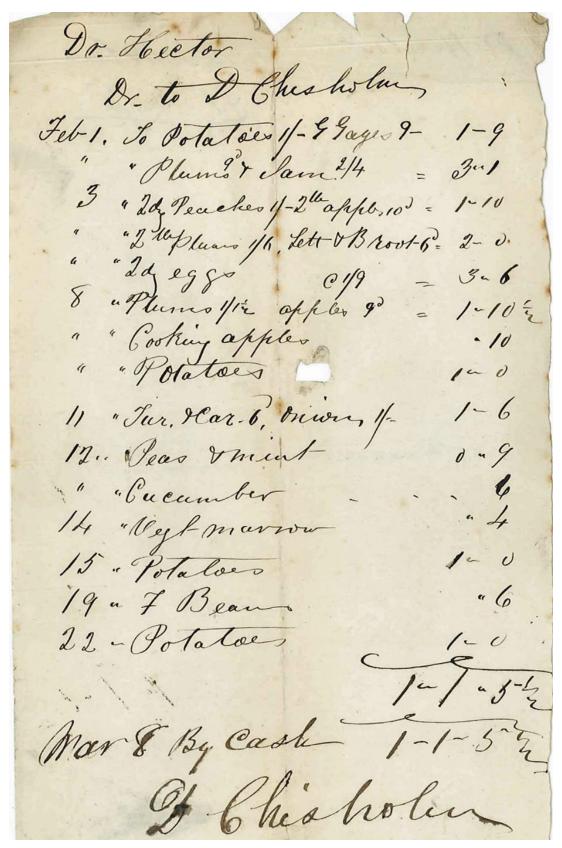


Fig. 6 Greengrocer's bill for the first three weeks of February (year uncertain), including vegetables, fruit and eggs (image scanned by Jennifer Twist).

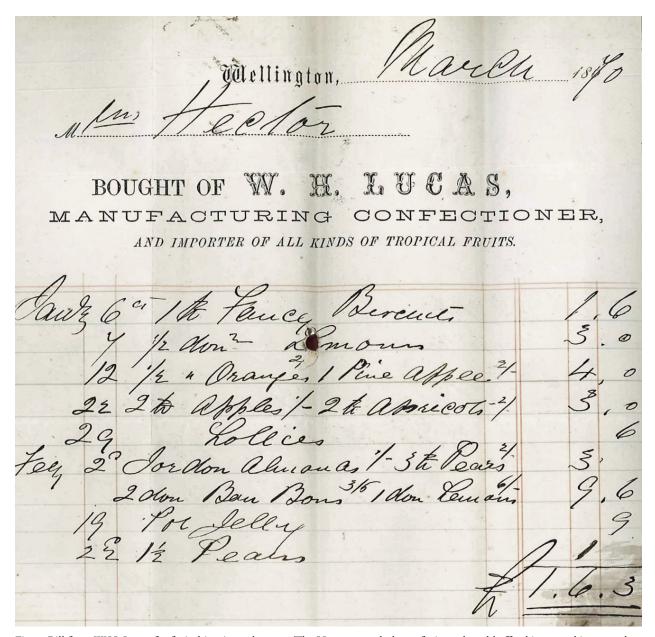


Fig. 7 Bill from W.H. Lucas for fruit, biscuits and sweets. The Hectors regularly ate fruit, and could afford imported items such as oranges and the occasional pineapple (image scanned by Jennifer Twist).

do not appear. Winter vegetables are largely confined to turnips, along with some cauliflowers and carrots. It does not appear that these were supplemented by home-grown vegetables, as there is no sign of a kitchen garden in photographs of Museum House (Figs 2 and 3).

Mrs Hector bought a wide variety of fruit (Fig. 7), including strawberries, apples, pears, oranges, lemons, apricots, peaches, plums and even pineapples (at 2s. 6d. each, the same price as a dozen oranges). Biscuits, cakes, and even bon-bons and lollies were occasionally purchased.

Clothing

It seems that most of the Hectors' clothes were custom-made. Suppliers of clothing included tailors and dressmakers, as well as established retailers such as Henry Owen General Drapery Establishment, Kirkcaldie and Stains in Lambton Quay, and James Smiths in Cuba Street. The last two shops featured their handsome two-storey wooden premises on their invoices (Fig. 8).

Kirkcaldie and Stains' quarterly invoices of up to £13 are more often for fabrics such as silk, flannel and muslin, and

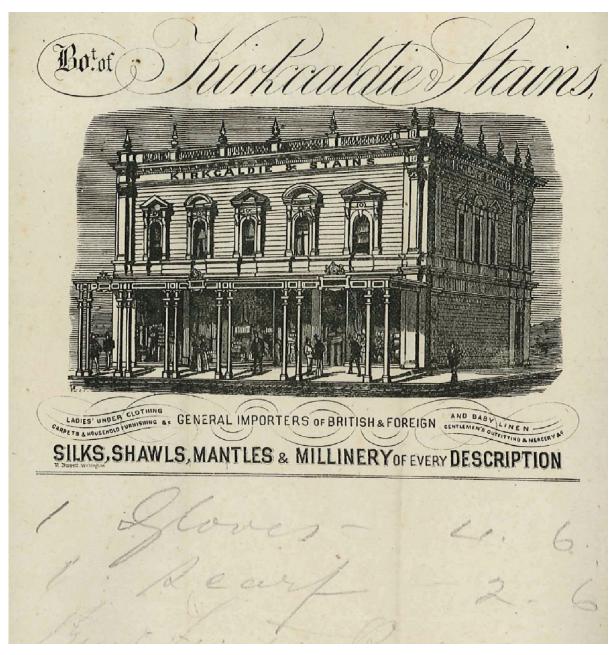


Fig. 8 Georgiana Hector regularly shopped at Kirkcaldie and Stains. Their bills feature their new, modern building in Lambton Quay (image scanned by Jennifer Twist).

for accessories such as lace, braid and tape - and that essential lady's item, a parasol - than for finished clothing, apart from hats and gloves. But they do include an evening dress for £27s. 6d. Interestingly, items for children include not only a child's pelisse, an infant's bonnet and bibs, but also diapers, a word that subsequently disappeared from New Zealand vocabulary until reimported from the USA in the late twentieth century. James Smiths' invoices also feature gloves and a variety of fabrics - cotton, velveteen and plaids.

In addition to fabric and haberdashery, purchases from Henry Owen included yards of mosquito net. A number of different dressmakers made the fabric up into dresses for Georgiana, shirts for James and a range of clothing for the children (Fig. 9).

A tailor, Mr B. Poulson, not only made suits for Dr Hector at four to five guineas³ each, but also those necessary gentlemen's items: cuffs and collars. Two of the three largest bills in the entire collection were for more than £20 to

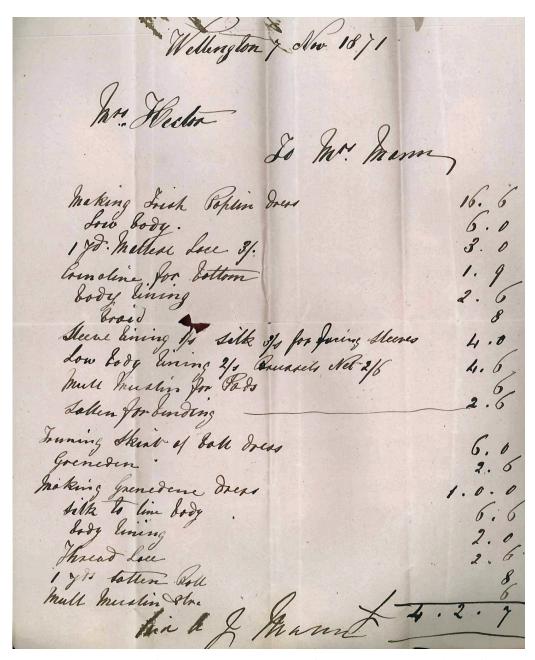


Fig. 9 Georgiana Hector used a variety of dressmakers to prepare clothes for her and the children. This bill from Mrs Mason lists the clothes made for her in late 1871 (image scanned by Jennifer Twist).

Poulson, one in 1872 for tailoring carried out in the previous year and the other in 1874. For comparison, the only other bill exceeding £20 was for plumbing over a three-year period. To modern eyes it may seem surprising that James Hector had four suits made for him in 1871 (Fig. 10), but these were the only clothes he wore, with different suits for fieldwork, the office and formal occasions.

Bootmakers provided slippers, canvas shoes and rubbersoled shoes, as well as selling and repairing a variety of boots.

Health

There are no doctors' bills or invoices relating to the three pregnancies that Georgiana had during this four-year period. It is highly likely that she was attended by a midwife, who may have been paid in cash. The lack of other recorded health expenditure apart from a few chemists' bills suggests that James Hector was looking after the medical needs of his own family. He never formally registered or practised as a doctor in New Zealand, but he did work as

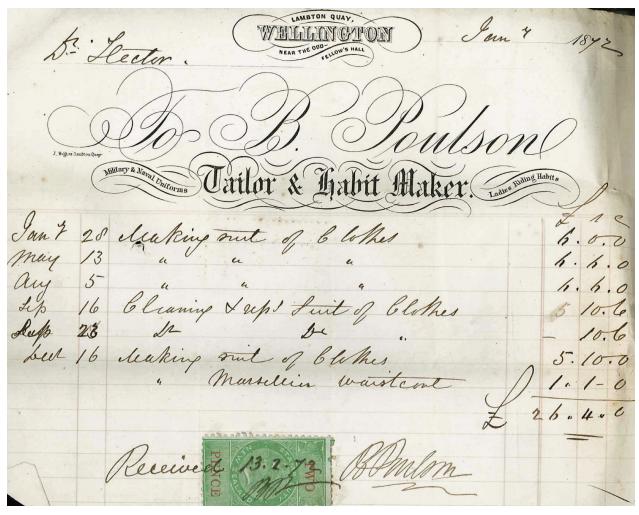


Fig. 10 James Hector had four new suits made for him in 1872 by B. Poulson, who also cleaned his suits and carried out repairs. The stamp at the bottom of the bill is evidence that stamp duty on cheques had been paid (image scanned by Jennifer Twist).

ship's doctor when he travelled overseas in 1875 (Burns & Nathan 2012b). There are two bills for medical equipment: one for a stethoscope and the other for undescribed medical instruments.

Heating and lighting

Coal appears to have been the main fuel used for heating and cooking, probably augmented by wood, with regular bills paid to J. Dransfield, Importer and Coal Merchant. The annual coal bill for 1873 was £20 9s. 6d., which appears to be similar to other years. There is a single payment to the Dun Mountain Company in Nelson of £11 12s. 6d. for firewood on 19 January 1872. Georgiana's father, Sir David Monro, was on the local management committee of the company, which was then in the throes of liquidation (Johnston 1987: 46), so it is possible that the Hectors were able to pick up a

consignment of firewood at a cheap price and have it shipped over from Nelson.

Most nineteenth-century houses were lit by candles or oil lamps. The Hectors were one of the earliest users of coal gas in Wellington when a reticulated gas supply became available in 1871. Gas was used to light the Colonial Museum from 1871 onwards, so it was probably a simple matter to extend the connection to Museum House. The monthly gas bills from the Wellington Gas Company have been preserved as an almost unbroken sequence, with an average annual cost of about £15 and with higher costs in winter.

Servants and services

Well-off families in the nineteenth century invariably had servants, and both James and Georgiana were brought up in homes with servants. Unfortunately, there is no record of ANTED, a General Servant, who can Cook. Apply to Mrs. Hector, Museum House.

WANTED, a good general Servant.
Apply to Mrs. Skey, Molesworthstreet. Reference required.

Fig. 11 Two advertisements from the *Evening Post* of 20 July 1872. Mrs Skey was the wife of Hector's analyst, William Skey, who had an annual salary of £300 a year, from which he could afford a servant (image scanned by Jennifer Twist).

how many servants were employed in the Hector household or how much they were paid, but it is likely that the couple had at least one general servant and a nursemaid when the children were babies, as well as a part-time gardener and washerwoman. The average wage (including board) for a general servant in the early 1870s was about 13s. a week (Arnold 1982), adding up to about £35 a year.

Servants were often hard to come by in colonial New Zealand (Tolerton 2012). Accounts from the *Evening Post* in 1873 show that Mrs Hector advertised for a general servant and a nursemaid between July 1872 and April 1873. The position of general servant seems to have been particularly hard to fill as it was inserted 18 times (at a cost of 1s. for each appearance) in early 1873. The advertisements in July 1872 specified 'a General Servant, who can Cook' (Fig. 11),

whereas those in 1873 did not specify cooking. As cooks were almost impossible to obtain in colonial New Zealand (Simpson 1999), it is likely that Mrs Hector admitted defeat and did most of the cooking herself.

Georgiana Hector travelled to Nelson with her young children to visit her parents a number of times, and the shipping notices invariably mention that she was accompanied by a servant. On one memorable trip, from Nelson to Wellington in July 1873, the SS *Rangitoto* hit rocks near the head of Queen Charlotte Sound, and the passengers had to take to the lifeboats – including Mrs Hector, two children and an unnamed servant (Reed 1873).

The gardens at Museum House were carefully tended (Figs 2 and 3), so it is likely that the Hectors employed a part-time gardener.

Laundry was done by a washerwoman, who presumably picked up the dirty washing regularly and returned it washed and ironed. There are several runs of bills from 1870 to 1872, as well as scattered later ones showing that the Hectors employed several different washerwomen, each lasting about a year, at an average cost of £1 10s. a month. In addition to clothing, bedding, chair covers and curtains were also regularly washed (Fig. 12).

Social and cultural life

The Hectors were involved in a number of activities and organisations, including the musical life of Wellington. They

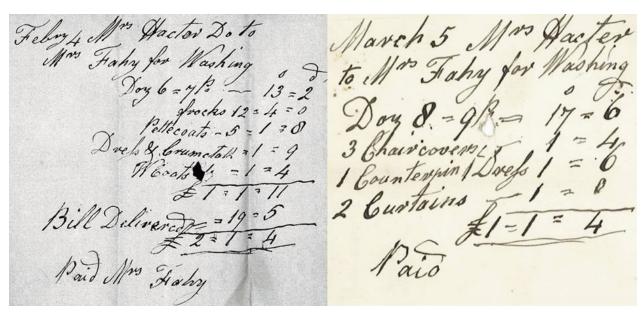


Fig. 12 Two washing bills from Mrs Fahy in 1870 and 1871, showing the variety of items that were washed by hand (image scanned by Jennifer Twist).

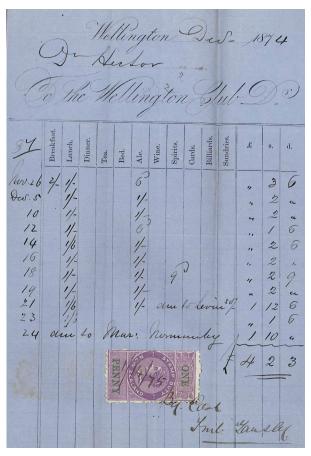


Fig. 13 Bill from the Wellington Club for lunches in November and December 1874. James Hector seems to have had his lunch at the Wellington Club at least twice a week, invariably accompanied by a glass of ale (image scanned by Jennifer Twist).

subscribed to the Wellington Choral Society, then the largest musical organisation in the town, which gave regular concerts. They owned both a violin and piano, the latter played by Georgiana. It is recorded that James sometimes sang as a tenor while he was in Dunedin. Although there is no evidence that he performed in public in Wellington, it is likely that he took part in domestic musical events with friends and family.

Book purchases were made regularly, mainly from William Lyon, and were often substantial. Hector aimed to keep up to date with modern ideas, and obtained scientific books such as Charles Darwin's Descent of Man (1871) and Thomas Huxley's Lay Sermons (1870) for his personal use. At the same time, he was building up the library of the Colonial Museum, often by sending specimens in exchange for books. Less technical material, including books for the children and stationery, was obtained from Robert Burrell, who also bound books and printed invitations for formal events.

Newspaper subscriptions included the New Zealand Times and the New Zealand Mail, as well as the Otago Daily Times to keep in touch with Dunedin activities.

Hector was a long-term member of the Wellington Club, with an annual subscription of £5, which gave him contacts with many of the leading men in Wellington. He lunched there two or three times a week, with a glass of ale for refreshment (Fig. 13). Cases of beer and spirits were sometimes purchased from the club, but the records, albeit incomplete, suggest that Hector's purchases of alcoholic drinks were quite moderate.

The Hectors attended St Paul's Church in Thorndon (now Old St Paul's), which was consecrated in 1866. They paid £1 1s. for a six-monthly rental of two seats. Although James had been christened in the Church of Scotland, Georgiana's family members were staunch Anglicans.

As the family grew, regular photographs were taken by Wrigglesworth & Binns - often a dozen photographs of the newest baby or family groups, as well as cartes de visite of James and Georgiana.

Transport

The Hectors do not appear to have owned their own horse or carriage while they lived at Museum House, although they did so in the 1880s when they moved to the Hutt Valley. There are bills for both carriage hire and horses during their time in Wellington. As they lived in the centre of the city, they probably walked or used carriages for trips around town, and most shops would have delivered packages to the house. When James wanted to travel further afield, he did so either by rail or ship and then hired a horse locally.

Overseas expenditure

Most overseas expenditure, mainly on books and subscriptions, was handled by Edward Stanford of Charing Cross, who specialised in the sale of maps and books, and acted as Hector's London agent. Hector belonged to a number of London-based societies, including the Royal Society, the Geological Society, the Zoological Society and the Linnaean Society, for which annual subscriptions were payable. After 1875, James Farmer acted as Hector's agent, and his letters included annual accounts of expenditure (Mildenhall & Nathan 2013).

Most of Hector's overseas connections were with London, and the only indication of any ongoing association with his birthplace was a regular subscription of £1 1s. to the Association for the Promotion of Fine Arts in Scotland.

Donations

Although they do not appear in the accounts, a perusal of Wellington newspapers shows that James and Georgiana made regular donations to a variety of charitable causes – usually ranging from one to five guineas. When raising money for a cause, it was normal to set up a subscription list that was printed in the papers, and the Hectors' name often appears.

Discussion

There are tantalising gaps in the information available about the expenditure of the Hector household. We do not know the wages of the servants (although it is reasonable to estimate this at under £50 a year), and we do not know how many payments were made in cash without accounts being rendered.

Despite the uncertainties, the information summarised above from the accounts does give a reasonable picture of the lifestyle of the Hector family in the early 1870s. Compared to most other families in Wellington they were well off, and able to purchase most of their food and clothing as it was needed. They ate well, with meat of different sorts on the table every day, and a varied range of fruit and vegetables, including some items that would have been regarded as luxuries – oranges, strawberries and the occasional pineapple. The photographs of Museum House (Figs 2 and 3) do not show any sign of a kitchen garden or a hen house, so unlike most families of the time it appears they did not provide food for themselves.

The household accounts are most complete for 1874, and the expenditure on different items for this year can be summarised as in Table 2.

No figures are presented for health and services, as we believe these are underestimated for the year because of incomplete records.

While it would seem surprising that the expenditure on clothing is the highest item, and almost double the amount spent on food, this appears to be similar to earlier years. It is likely, however, that the food bill is an underestimate because some items would have been paid for in cash. It appears that most of the clothing for James, Georgiana and the children was made for them by local tailors and seamstresses. As leading members of Wellington society, James and Georgiana Hector would have dressed well and regularly updated their wardrobes.

Table 2 Documented expenditure for the Hector household in 1874.

Expenditure	Cost in £
Food	62
Clothing	111
Household maintenance	60
Cultural/social	45
Heating and lighting	34
Rent	65
Health	?
Servants and services	?

In analysing the accounts, the overall impression is that there are no surprises. The Hector family lived comfortably, but there is no sign of high expenditure on social activities, entertaining or liquor. James Hector appears to have checked and paid his bills regularly, and made sure that they were carefully filed away.

Postscript – after 1874

James Hector was given leave to travel to the United Kingdom in 1875, and he subsequently represented New Zealand at the Centennial International Exhibition in Philadelphia in 1876 (Burns & Nathan 2012b). Georgiana accompanied him, but the children were left behind with her parents in Nelson. Museum House was sublet for 18 months, and the Hector family returned there in 1876.

More children were born from 1877 onwards, and Georgiana's mother came to live with them after the death of her husband in 1877. Although Museum House had been extended, it became too small for the growing Hector family, and James Hector purchased a section on the western Hutt hills (near the present Percy Scenic Reserve). A large house, called Ratanui, was built in that section and the family moved there in 1882 (C. Hector 2008). In later years, Hector purchased more land. Although now living outside Wellington, the Hector family had moved up a step on the social ladder to become part of the landed establishment.

By 1886 James Hector was supporting his wife and seven children (including the two older boys at boarding school). His salary of £800 a year, gradually increasing in value, as well as the marriage settlement, was sufficient to allow him a very comfortable lifestyle, as well as to save a surplus so that he could later buy shares and more land.

Acknowledgements

Michael Fitzgerald (Te Papa, Wellington, New Zealand) first brought collection item CA000294 from the Te Papa archives to our attention, and sparked an interest in how it could be analysed. Jennifer Twist (Te Papa) helped in many practical ways as we sorted through the bills. The manuscript was reviewed by Michael Fitzgerald, Stephanie Gibson (Te Papa), Chris Hector, Janet and Peter Hector, and Mike Johnston, and we are most grateful for their helpful suggestions.

Notes

- 1 Calculations have been made using the Reserve Bank's online inflation calculator:
 - www.reservebank.govt.nz/statistics/0135595.html
- 2 A number of issues arose when entering the data on the spreadsheet:
 - · Excel does not accept nineteenth-century dates, so we simply entered the dates in twentieth-century format so that they could be sorted by date.
 - · Excel requires a full date (day, month and year) to sort dates. Some receipts give only month and year, so these were arbitrarily dated as the first of the month.
 - · Nineteenth-century currency was pounds, shillings and pence, which Excel does not accept, so we added a column in which the currency was manually recalculated as decimal pounds (i.e. £1 12s 6d = £1.625). Although timeconsuming, this meant that we could readily add up expenditure of different kinds.
 - A total of 150 bills have incomplete dates or are not dated at all. These were entered on the spreadsheet, and in analysing the data it was usually possible to group these bills with others from the same suppliers.
- 3 One guinea = £1 1s. 0d. = \$132 in today's currency.

References

- Appendices to the Journal of the House of Representatives (1873). Section H24, Nominal roll of the civil establishment of New Zealand on the 1st July 1873: H1-38.
- Arnold, M.N. (1982). Wage rates, 1873 to 1911. Department of Economics Discussion Paper 11 (Victoria University of Wellington). 31 pp.

- Burns, R. and Nathan, S. (2012a). My dear Dr Haast: transcriptions of selected letters from Robert Langley Holmes to Julius Haast between 1864-65 and 1868-70. Geoscience Society of New Zealand Miscellaneous Publication 133C.
- Burns, R. and Nathan, S. (2012b). A quick run home: correspondence while James Hector was overseas in 1875-1876. Geoscience Society of New Zealand Miscellaneous Publication 133E. 142 pp.
- Hector, C. (2008). Settling down: husband and father. Pp. 139-148. In: Nathan, S. and Varnham, M. (eds). The amazing world of James Hector. Wellington: Awa Press. 183 pp.
- Hector, P. (2008). Surveying Canada: the Palliser Expedition. Pp. 9-25. In: Nathan, S. and Varnham, M. (eds). The amazing world of James Hector. Wellington: Awa Press. 183 pp.
- Johnston, M.R. (1987). High hopes: the history of the Nelson mineral belt and New Zealand's first railway. Nelson: Nikau Press. 152 pp.
- Mildenhall, E. and Nathan, S. (2013). Letters from James Farmer to James Hector, 1876-1891. Geoscience Society of New Zealand Miscellaneous Publication 133I. 133 pp.
- Nathan, S. and Varnham, M. (eds) (2008). The amazing world of James Hector. Wellington: Awa Press. 183 pp.
- Reed, G.M. (1873). Wreck of the Rangitoto. Passengers and mails saved. Evening Post, 31 July, p. 2.
- Simpson, T. (1999). A distant feast: the origin of New Zealand's cuisine. Auckland: Godwit Press. 184 pp.
- Tolerton, J. (2012). Household services. Te Ara the Encyclopedia of New Zealand [website]. Last modified 15 November 2012. Retrieved on 15 February 2014 from www.teara.govt.nz/en/household-services
- Wright-St Clair, R.E. (1971). Thoroughly a man of the world: a biography of Sir David Monro, M.D. Christchurch: Whitcombe & Tombs Ltd. 331 pp.