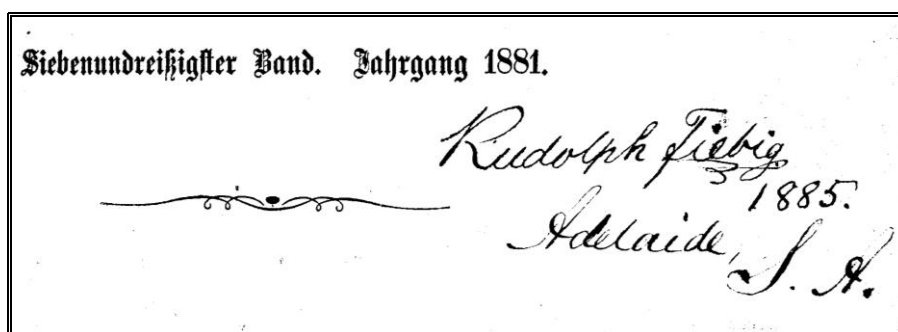


## First flights in South Australia's systematic beekeeping and honey harvesting

### First part

Bridget Jolly



The first issue for 1881 of *Bienen Zeitung. Organ des Vereins der deutschen und österreichischen Bienenwirthe* (Nördlingen) signed by beekeeper Rudolph Fiebig.

### Foreword

The early Adelaide clothier's shop, The Bee Hive, on the corner of Rundle and King William Streets, displayed a large gilt-coloured skep beehive sign on its front.<sup>1</sup> On the same site, on a later building erected in 1895-1896, is a coiled straw skep simulated in masonry. It is surmounted by a gold and black bee that wakens to the east – as is often customary for hived bees – which is a fitting mascot for one of South Australia's 'arts, manufactures, and productions' encouraged in the 1800s by organisations such as the South Australian Gardeners' Society, the South Australian Chamber of Manufactures (SA Chamber of Manufactures), the Department of Agriculture, the Government Export Produce Department, and beekeeper organisations.

In the early 1880s there were 200 or so beekeepers in the Adelaide metropolitan area, probably all employed in other vocations.<sup>2</sup> The number in outer rural areas for the same period is unknown; but eventually, these commercial beekeepers came to depend on accessible railway routes and freight reductions to increase their marketing success. In 1884 the first South Australian Beekeepers' Association (SA Beekeepers' Association) was formed. The politics of the uneven sequence to the Second World War from this and other associations of beekeepers to a union, a league, and a co-operative society of honey

producers, is not discussed here.<sup>3</sup> Important as were the beekeepers' sympathies for forest conservation, and their protests against timber-cutting for the Wallaroo and other mines and land clearance by graziers, neither are these connections discussed.

Australia is the world's fourth largest honey exporter. South Australia's late colonial progress in scientific, or 'systematic', beekeeping was the prelude to its current position as the third largest Australian honey-producing State.<sup>4</sup> It would be satisfying to weave this short history like the bee works with propolis (meaning 'before the city'), stopping the unwanted spaces and cracks in its hive that are liable to draughts and other intrusions with wattle-gum, tar, paint, or creek sand that it mixes with resin or, at one time, cart-grease, and with similar pliable gleanings.<sup>5</sup> So, unlike the good housekeeping of the bee, this paper which discusses South Australia's beekeeping to about 1912 has missing connections. Further work should close some gaps.<sup>6</sup>

### **The first exotic bees imported to South Australia**

In March 1839 two bee hives were shipped to Adelaide from Launceston on the *Henry Freeling*. The only passengers on the schooner were Mr Waddell and Mr Brown; one, or perhaps both, owned the bees. These possibly were the first hived bees to come to the colony. In September 1841 Mr Steele was the sole passenger when '2 Hives Bees' came from Launceston on the 44-ton *Vixen* (carried in the cargo with one bale of whalebone, two casks of figs, a tea chest, and flour and potatoes).<sup>7</sup> Possibly all these bees were the progeny of the European or British 'black' bees (*Apis mellifera*) first successfully introduced to Tasmania in 1831 or 1832.

To stimulate bee culture for Tasmania's benefit, the scattering of thyme seeds over the colony's idle 'desert and barren spots of land' was recommended in 1826.<sup>8</sup> This intended to satisfy an English taste preference for honey derived from the herb. By the mid 1850s the introduced bee appears to have propagated well and spread far around and out from Launceston, as noted at the Launceston branch of the Royal Society:

As an instance of the dispersion of the domestic bee ... some bees [were observed] ... at a distance of about twenty-five miles from Ringarooma Bay [north-eastern Tasmania], and at least fifteen miles from any habitation.<sup>9</sup>

Tasmania won an Honorable Mention for its beeswax at the 1851 Great Industrial Exhibition at London, an experience that showed the need for better packing for any future overseas exhibitions: 'More care might be taken ... than was the case before ... our hops were damaged and our pots of honey broken.'<sup>10</sup>

The increase of bees introduced to South Australia was sporadic and slowly gained momentum. In 1845, quite extensive notes on international beekeeping practices were published in the *Adelaide Observer*, while South Australia's climate was promoted as excellent for beekeeping.<sup>11</sup> In 1846 the letter-writer 'Rusticus' was not aware that many South Australian colonials were paying attention to the hand-maidens of floriculture, or that 'our own peasants' were thinking to supply candles and tapers through pursuit of an activity suited to the aged, weak, poor, and helpless cottagers.<sup>12</sup> In reply, 'Urbanus' blamed the scarcity of apiarists for the high prices commanded for swarms, and suggested importation of bees from neighbouring colonies, as had been done with the needed beef cattle. As 'a commencement' – which suggests he was unaware of the hives imported earlier – Urbanus had ordered five hives to be sent from Launceston to test the economy of beekeeping in South Australia.<sup>13</sup>

A 'nature lover' wrote to the *South Australian Register* in 1846, exhibiting his knowledge of influential European publications on bee culture: the work of the blind apiarist François Huber (1750-1831), who wrote *New observations on the natural history of bees* over the four years to 1791 (published in 1806); William Kirby and William Spence's *Introduction to Entomology* (1826), the four volumes of which were published over 1815-1826; and Adam Schirach's *Histoire naturelle de la reine des abeilles ...* (1771).<sup>14</sup> This last the writer doubted was available in the colony. Schirach described his method of increasing bee colonies by inducing 'artificial swarms', a modernising management practice not pursued, it seems, in early South Australia.

The Rev. William Cook's *The Bee-keeper's Manual* was advertised in 1849 in the *Sydney Morning Herald* as 'just published', but it was not devoted to Australian apiculture. Translations were made in Sydney from a leading Bavarian bee journal during 1865; and although an apiarist answered a newspaper correspondent's question in 1881 with the certainty that 'Mrs. Tupper confirms it'<sup>15</sup> – in much the same way that a cook might uphold

Mrs Beeton's injunctions – the extent of beekeeping knowledge disseminated through all the colonies during the 1880s remains uncertain but probably was most efficiently given through their newspaper columns, which included questions answered by established beekeepers and extracts from the London *Times*.<sup>16</sup>

### **The second generation of incidental beekeepers**

The Hindley Street pharmacist, James Allen (1816-1881), who bought seven acres of land in Thomas Street, Unley in 1851 established there a kitchen garden devoted to the 'useful', and noted in his diary in October 1852, 'Bees swarmed'. In April 1854 he noted, 'Have at length got some honey from the Bees, I suppose about Twenty Pounds' (nearly 10kg).<sup>17</sup> By early 1856 he had attended Horticultural Society meetings; had a thatched and limewashed bee-house built, made an 'unsatisfactory' stand for his bee hives, and also 'put [?mud] mortar on the bee shed'.<sup>18</sup> Possession of a bee-house suggests that Allen had a number of hives. He noted in his Garden Book for 1855 his vine, fig, and quince cuttings and graftings of mulberry and other fruit trees for his property Reed Garden,<sup>19</sup> for which his bees were most likely the first and ardent pollinators. Allen's daughter, Cath, married A.M. Simpson, Adelaide's tin and sheet metal manufacturer, in 1871, no doubt bringing closer both families' interests in beekeeping and its modernising tin-ware appliances.

At the 1860 Show in Adelaide's Botanic Park 'specimens of wax' in discs, and honey 'in large jars, but none in the comb' – a dietary preference for the table – were exhibited.<sup>20</sup> Honey bees will work even in the ornamental observation glass bell jars and domes, some in the form of Chinese pagodas, of human conceit, such as seen by Samuel Pepys in 1665 in Mr Evelyn's 'noble' garden: 'so as being hived in glass, you may see the bees making their honey and combs mighty pleasantly'.<sup>21</sup> Locally, the journalist Ebenezer Ward observed in 1862 at Walter Duffield's property near Gawler his garden apiary of six hives that included small 'glass cases' in 'which the bees deposit the honey, which is by that means enabled to be brought to table in its primitive state'.<sup>22</sup> Section honey boxes (such as Duffield's glass ones) are a hive body placed above the brood chamber of the hive for the storage of so-called surplus honey for harvesting for the table, or for specialist sale as a delicacy in the comb.

By the 1870s, beekeeping on a sizeable scale quite obviously was desired for the colony, and several dedicated professionals began to encourage its nurture. Further importations of bees

as well as increase of colonies bred here during the century attracted professional apiarists and apiarian suppliers until, in the 1880s South Australia believed that it was the most advanced in beekeeping of all the colonies, second only to New Zealand.

A 'Settler's Wife' recommended honey for cooks and consumers, for eating as a sweetmeat, to be drunk as mead or as a brew with light beer for home consumption, and for large casks of berry fruit wine, for cake-making, and for 'Fruits Preserved Whole for Early Use'.<sup>23</sup> More especially than for other intrinsic properties, honey was a substitute for the cane or beet sugar so rare in the colonies, and a relief from the sometimes available glucose made from rags, jute, or maize starch. In gathering nectar for these human uses, the bee's important pollination of vegetable, nut, and other crops became increasingly valued by the colonists.

The former 'Anstey's garden' at Highercombe, in the Mount Lofty Ranges, bought in 1866 by the Hon. Robert D. Ross, was renowned for its vineyard, apple, plum, cherry, and pear trees, damsons, chestnuts, citrons, shaddocks (a citrus, probably grape-fruit), cumquats, persimmons and other orchard trees, and for its kitchen garden.<sup>24</sup> At the annual general meeting of the SA Chamber of Manufactures, on 2 August 1883, Ross 'urged the importance of introducing the Ligurian bee' to South Australia, pointing out its 'superior advantages over the common black kind' (figure 1), particularly in clover fertilisation.<sup>25</sup> Ross was a member of the SA Beekeepers' Association.

### **Nests and colonies**

Feral social honey bees nest successfully in diverse places: opportunistically in human débris; and they will co-habit with rabbits in their burrows, share half burned-out termite mounds, and take cover in letter-pillars – if disturbed while swarming across the main street, as happened at Gawler in 1891.<sup>26</sup> As successful as their freely chosen settlements are to the bee, none allows the beekeeper's efficient control of swarming and production of progeny, nor disease detection, as does the now almost universally preferred hive based on that of the American, the Rev. Lorenzo Langstroth (1810-1895). Langstroth developed his truly moveable and universally interchangeable comb frame from 1851.<sup>27</sup>

Finding the queen bee, harvesting ('robbing') honey, as well as protecting bees from injury, were better achieved in Langstroth-principle hives (figure 2) which provided a space (by rule-

of-thumb, a pencil width), between the frames and hive sides and bottom board that the bees did not bridge by building comb (figure 3). The brood when affected by the bacterial disease Foul Brood – from the German *Faulbrut* – can be readily recognised in an early state, and



Figure 1. Nests of the Ligurian bee (*Apis mellifera ligustica*), Mount Taylor Caves, Kangaroo Island. Some combs hang from the deep, inner cave walls to 1½ metres (Photograph: author, May 2002. With thanks to the Kangaroo Island Beekeepers' Association).

hive-invading ants, mice, and the bee moth better seen and dealt with. The natural architecture of 'feral' bee populations shows, by contrast, how readily bees acquiesce to human interference in their building style.

### ***Wax moth and the Ligurian bee***

The historian of Queensland beekeeping, Trevor Weatherhead, asked in 1986, 'Were the Italians better house keepers or was it that they were less inclined to swarm and hence did not give the wax moth uncovered comb to lay in?'<sup>28</sup> Whichever is agreed as the main reason, the Ligurian bee (Italian) tended to keep its colonies strong, thereby deterring interference from the moth (figure 4). This degree of resistance to the moth apparently determined the Ligurian's first importation to Australia and beekeepers' continued interest in the strain, but

change from the ubiquitous empty kerosine tins and, however metaphoric, the 'old pickle-bottles, and jam tins' in which bees were hived, was necessary to combat the moth.<sup>29</sup>

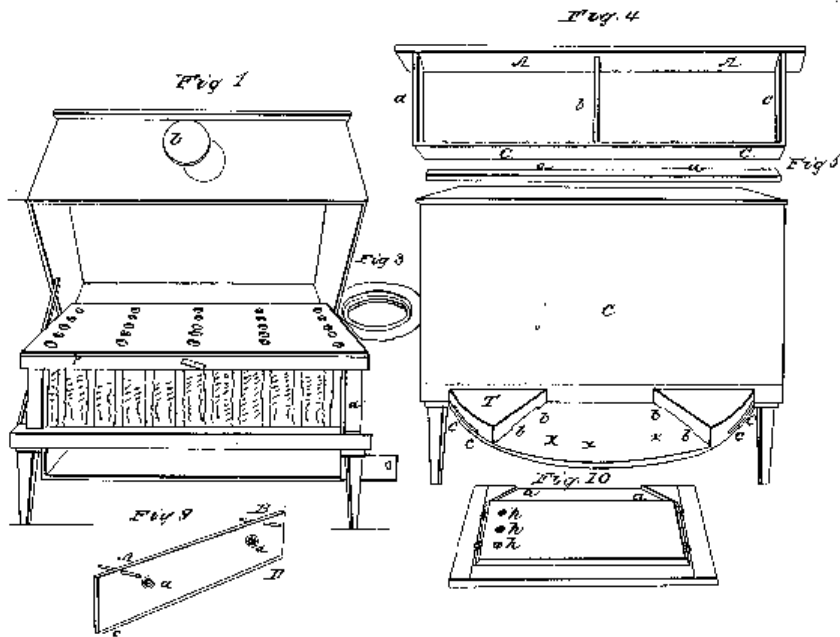


Figure 2. Two views of Langstroth's original patented hive (Lorenzo L. Langstroth of Philadelphia, Pennsylvania. Unites States Patent no. 9,300, for a 'Beehive', patented on 5 October 1852; reissued 26 May 1863, no. 1,484). Figure 4 (top right) shows the moveable comb frame, or 'compound bar'. Each frame hangs some 1-1.25cm apart in the chamber.

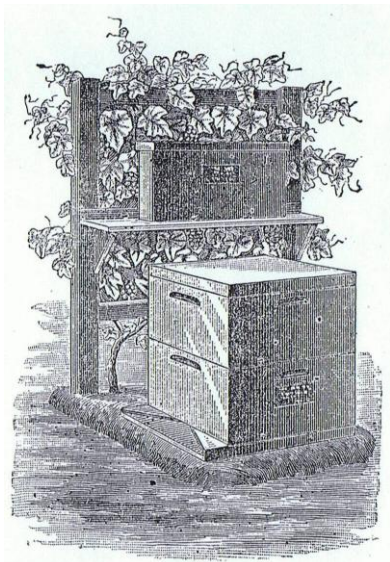


Figure 3. A standard Langstroth hive raised on a bank of sawdust, with above it a two-frame nucleus hive for queen-rearing ('The Moveable Comb Hive', *Garden and Field*, vol. 11, no. 124, September 1885, p.44).



Figure 4. States from larva to moth of the Larger Bees'-wax Moth, *Galleria mellonella* (male, 4) and the Lesser Bees'-wax Moth, *Achroia grisella* (8), and their invasion of comb cells. Natural sizes are indicated by hair lines (A. Sidney Olliff, 'Entomological Notes', *Agricultural Gazette of New South Wales*, vol. 5, pt. 4, April 1894. Reproduced with permission of Industry & Investment NSW).



Isaac Hopkins, who was Chief Apiarist to the New Zealand Government, began his bee farm in winter 1882 and soon had 100 hives. He wrote *The New Zealand Bee Manual* (first published September 1881, and republished and revised several times). Hopkins's *Manual* proved to be an influential study and handbook for South Australian beekeepers.

Hopkins noted that during attempts before 1880 to introduce 'Italian' bees to Queensland, a hive with bees landed at an apiary near Brisbane contained wax moth from its country of origin, and from there the moth probably spread quickly over the warm districts of Australia.<sup>30</sup> Hopkins republished Charles Fullwood's observation of Biblical sweep, that:

a few years ago . . . a great change came over the land. A moth, unknown previously, commenced its ravages. The bees succumbed before it, and were rapidly swept away . . . . Only a very few individuals, by dint of determined persevering watchfulness and care, managed to save a few stocks amid the general devastation. [Beekeeping came] to be viewed as a very precarious, risky, and unprofitable business.<sup>31</sup>

From about 1872 in New South Wales, bee colonies, including the native bush bees, began to diminish from the actions of the bee-moth, or wax-moth. Arthur E. Bonney, with whom Hopkins corresponded and to whom he gave 'special acknowledgement' for the information Bonney supplied on South Australian apiculture,<sup>32</sup> presented a copy of Hopkins's book to the SA Beekeepers' Association in 1886.

### **A start to 'systematic' beekeeping**

The forms and styles of hives are almost as varied as human housing. Among them, the Langstroth hive was chosen in South Australia as exemplary.<sup>33</sup> Recommended by the *Garden and Field* as early as 1878, the *Adelaide Observer* and the *Register* continued to advocate its benefits.<sup>34</sup> South Australia's then largest apiary, Coleman's Fairfield Apiary near Mylor, began with twenty-seven Langstroth-principle hives manufactured in New Zealand (shipped flat and folded), and nearly two years later, in May 1885, operated 109 of these hives – for the time, a large operation,<sup>35</sup> although by 1888 at Williamstown there were productive apiaries of 103, 95, and 84 colonies in different holdings; a couple of years later an apiary

held some 260 hives; and by about 1890 there were some 1000 hives in the wooded hills around Williamstown area.<sup>36</sup>

Modern frame hives could be bought in Adelaide in 1884 for 6/6d; the ubiquitous kerosine case modified to serve as a hive cost much less at 6 pence.<sup>37</sup> Arthur Bonney, who began beekeeping in South Australia 1881, and became its diligent spokesman,<sup>38</sup> exhibited a hive he made after the pattern of the original Quinby hive in the March 1883 Autumn Show in the north Park Lands.<sup>39</sup> The American Quaker, Moses Quinby (1810-1875), is considered to be the 'father' of commercial honey production. Bonney made his first (and long-lived) hive, that for its simplicity he preferred over the hives he imported from England and America (figure 5) – possibly it was the Quinby-type.

In 1884 Bonney noted the appliance suppliers closest to Adelaide: for hives, Bagnall Brothers & Co. of Turna, Thames, New Zealand, and John Hatch of Melbourne, who also supplied five- pound and ten-pound boxes of comb foundation made by Isaac Hopkins of Matamata Apiary, Waikata, near Auckland. The debt South Australian beekeeping owed to Tasmania was possibly equal to that owed New Zealand.

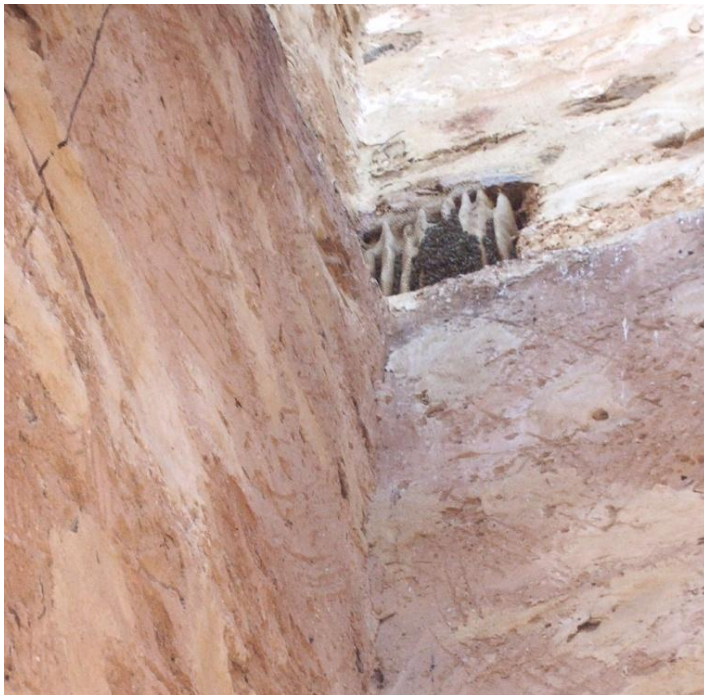
### **Signalling the industry and improving practices**

Local publication of information for the urban and rural beekeeping communities was concerted from the later 1870s and throughout the 1880s. By Autumn 1881, when beekeeping exhibits for the February Royal Agricultural and Horticultural Show had been prepared, the *Garden and the Field* announced its intention to produce a regular 'practical beekeepers' calendar for South Australian conditions;<sup>40</sup> but less was reported while the economic depression of the late 1880s deepened into the 1890s.

By the 1890s, the agricultural department of New South Wales had leaped ahead in promoting advanced beekeeping methods. The Englishman, Albert Gale, became a highly productive writer and demonstrator for the Agriculture Department.<sup>41</sup> But it took argument and demonstration in all colonies to convince some beekeepers to pitch the 'tea-chest, old case, and wooden box, the favourites of old-fashioned people', and adopt the Langstroth hive. This improvement was described by a historian of the Harbison brothers, once the biggest beekeepers of California, as 'the great revolutionary transition'.<sup>42</sup> Its major outcome was

greater quantities of more efficiently produced honey, and it led to contemporary crop pollination by bees on a mass-migratory scale.

On the matter of productivity, those in Australia who used unimproved boxes for their colonies were politely described by a professional beekeeper as 'working with a spade when they might be using a plough.'<sup>43</sup> Yet one disdainful scamp objected in the *Queenslander* to all this modernisation:



A bee nest high up in Hughes Engine House, Moonta (Photograph: author, September 2009)

just as if a calf's tail wouldn't make a bee brush; an empty fruit tin, a patent smoker; a gunny bag, a patent honey extractor; or a gin case, a patent hive.<sup>44</sup>

The newspaper's editor conceded only that modern appliances tended to be over-priced; and he must have baulked at any promotion of the older method of honey extraction by squeezing comb, larvae, dead bees, and spiders through burlap (figure 6).

In February 1864, well before systematic beekeeping was widely promoted in South Australia, William Lillecrapp was busy 'splitting firewood all day' in the Gumeracha district. In the evening he and another:

went to Nickles for a swarm of Bee's [sic]. We brought them home in a box that we intend keeping them in but although we had it tied up very securely in a sheet I was expecting every moment that some of the brutes would find their way out; and ... we should have been stung pretty freely.<sup>45</sup>

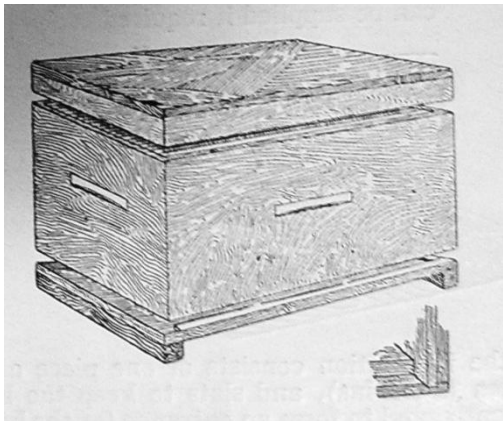


Figure 5. 'S.A. (South Australian) Hive' (Harris, Scarfe Limited, *General Catalogue*, c. 1920, p.A104). In 1917, Harris, Scarfe and Company established a retail department for beekeepers and produced an illustrated catalogue of apiary supplies. The comprehensive *General Catalogue* illustrated many beekeeping appliances, and stated that the 'S.A. (South Australian) Hive' was said to be in less demand than previously. Perhaps this was Bonney's own design.

Seventeen years after Lillecrapp seized his 'black' bees in the time-honoured custom, Thomas Robson, while on his property Ellythorp near the Adelaide area of Payneham lamented his trials in England with Woodbury bar-and-frame hives, with their 'endless bother trying to get the bees to build straight combs'. After 'trying several forms of box' he 'discarded all but the common kerosine case'. Once he was able to get affordable 'guide-comb' for his frames in South Australia affairs were more comfortable for bee and beekeeper.<sup>46</sup>

Thomas White Woodbury (1818-1871), a journalist and newspaper manager as well as beekeeper, designed moveable frame hives. Some of the earliest Ligurian bees sent from

England to Australia came at the request of Edward Wilson (1813-1878), president of the Acclimatization Society of Victoria. Four stocks of Ligurian bees left England for Melbourne in September 1862, spending seventy-nine days on steam ship,<sup>47</sup> accommodated in Woodbury hives, possibly of the form in figure 7.

Further into the century, in 1893, Leonard Chambers assured his Australian readers that bees 'will store as much honey and do as well in other respects in a nail keg or packing case as in the most expensive and elaborate hive ... ', all else being equal.<sup>48</sup> Yet the fight *was* unequal when beekeepers were unable freely to detect diseases or the predation of the

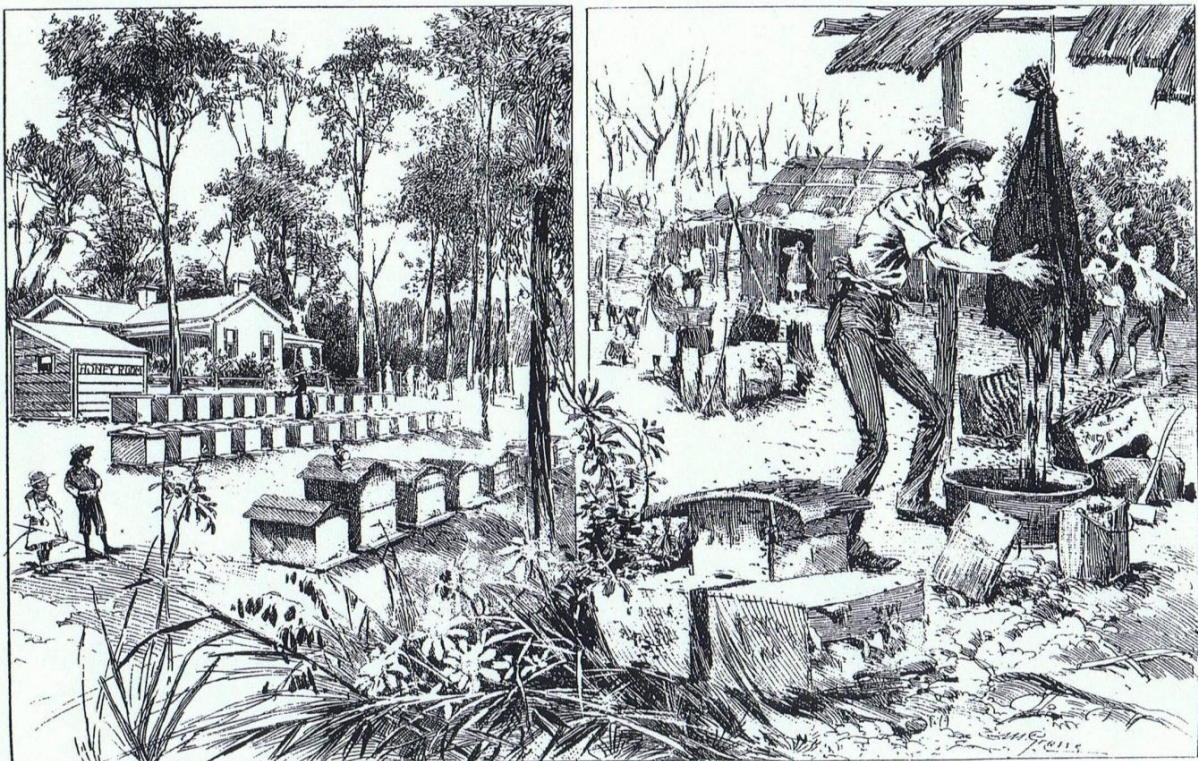


Figure 6. Moral improvement, or reap as you sow: with Langstroth hives and a honey house in 1900, and the former unsalubrious beekeeping (and child-rearing?), and extraction process ('The Evolution of Apiculture', frontispiece to Albert Gale, 'Apiculture', *Agricultural Gazette of New South Wales*, vol. 12, January 1901, opposite p.213. Reproduced with permission of Industry & Investment NSW).

bee moth within colonies. Although the 'old tea-box-and-sulphur-match beekeepers' had already past in serious beekeeping quarters,<sup>49</sup> hive improvisation remained well into the twentieth century, and with some highly effective forms that followed the principles set by inventors such as Langstroth.

One such adaptation (figure 8), perhaps modelled on the German *Läger* hive (a horizontal 'store-house' developed, like the vertical *Ständer* form, from primitive log-hives, figure 9), was one of about twelve hives scattered around the gum trees on a property at Hahndorf when it was taken in 1982; the Ash Wednesday fires burnt the remaining hives. Holding thirteen frames on each side of its metal queen excluder, this hive is roughly the capacity of a double-hive and can accommodate some 60 000 bees.<sup>50</sup>

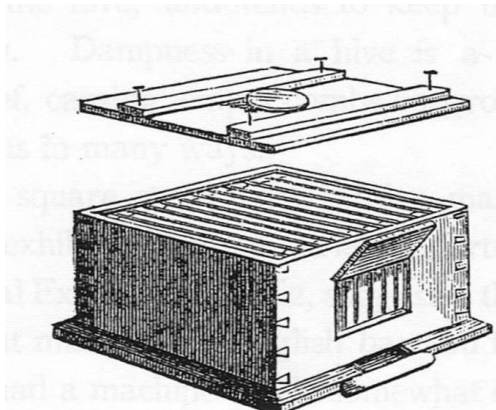


Figure 7. Woodbury's Bar and Frame Hive with the lid elevated. The original hive was 14½ inches square inside, nine inches high, and held ten comb frames (Alfred Neighbour, *The Apiary; or, Bees, Bee-hives, and Bee Culture*, 2nd edn, London, Kent & Co., 1865, p.36).

The barbarous and wasteful fire and brimstone (sulphur) method of evacuating 'logs, skips, and gin cases'<sup>51</sup> of their bees killed them in the process. How better to rob honey than by the process related by Pepys in 1663. He was told:

how they do get so much honey as they send abroad. They make hollow a great fir-tree, leaving only a small slit down straight in one place, and this they close up again, only leave a little hole, and there the bees go in and fill the bodies of those trees as full of wax and honey as they can hold; and the inhabitants at times go and open the slit, and take what they please without killing the bees, and so make them live there still and make more.<sup>52</sup>

A similar example was told much later by the South Australian Apiaries Inspector, Arnold Ophel:

an old bushman showed with pardonable pride how he had carefully made two saw-cuts about 2ft. apart into the bole of a hollow tree containing a bees' nest, then split out the intervening slab and hinged it with wire, making a kind of door. Occasionally he would prise this open, carve out some of the honeycomb, and close it up again.<sup>53</sup>

South Australia's attempts at marketing abroad its honey and beeswax was not so clear-cut as the Englishmen's endeavours, and initially, from the first decade of the 1900s, depended on growing producer co-operation with the Government Produce Export Department.

In the 1886 local market the wholesale prices for honey were 7/- to 10/- 'per dozen pound' for section boxes, and from 4 pence to 5 pence per pound for clean extracted honey. Then, the average bar frame hive of a well-managed apiary gave never less than 200 pounds (some 90kg), whereas the kerosine box gave an average 74 pounds per colony.<sup>54</sup> It was believed that South Australia then could have sold 500 tons of food honey annually were it marketed well.<sup>55</sup> Many more tons were to find their way to Britain in the decades after 1900.



Figure 8. A trunk adapted as a hive, possibly based on German heritage (Photograph: author, March 2003. Courtesy of Peter Koch).

## The year 1884 and the South Australian Beekeepers' Association

The SA Chamber of Manufactures called a meeting in early July 1884 to determine if a beekeepers' association, the first such association in Australia, would be established.<sup>56</sup> This was a decade after the British Beekeepers' Association was formed. The Adelaide businessman, James Robertson, had asked the Chamber to convene a meeting for this

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*The Practice of Bee-keeping.*

The entrances may be situated either in the doors, in the walls opposite to them, or in the sides, according as the hive may be set up. They may be most suitably placed by pairs, isolated in the garden. The log-hive may be easily adapted for moveable combs by fixing strips of wood on the right and left sides. This,



though, is only practicable when the side walls are made fairly smooth and parallel, that is, are of about the same distance from one another in front and at back. With old hives, which generally are narrower in front and wider behind, this can only be done when there is in front such a thickness of wood that the necessary breadth can be given to them, or if they can be forced with wedges to a greater width without splitting them. Those

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Figure. 9. A vertical, or standing (*Ständer*), log-hive (from *Dzierzon's rational bee-keeping: or, The theory and practice of Dr. Dzierzon ...* Jan Dzierżon, Charles Nash Abbott, H. Dieck, S. Stutterd, Houlston & Sons, 1882, <<http://books.google.com>>).

purpose. Twenty-one people at the meeting came forward to register their interest in the Association's avowed objectives, the 'improvement, encouragement, and advancement' of South Australia's bee culture; the executive committee met at the Chamber on 28 July 1884 to draft the association's rules.<sup>57</sup> The thirty-seven year old Robertson became Association secretary in 1887.<sup>58</sup>



Co-operative and instructional association was a guiding principle of the SA Beekeepers' Association, which held practical demonstrations at its monthly city meetings,<sup>59</sup> and addressed questions from a members' question-box. A year after its formation, the Association was asked if it would be 'safe to send bees in a bag per wagonette for a day's journey':

Some members had sent bees in an ordinary candle-box, with a perforated zinc cover. Another had simply turned the hives upside down, tied a branbag over, and sent them a distance of 20 miles in a spring cart.<sup>60</sup>

All evidently travelled without mishap. Another of the Association's objects was the collection of beekeeping industry statistics,<sup>61</sup> although it seems that the first statistics were recorded from 1891 by the Government Statist.



Weighing just over two tons, 104 hives were moved on this two-ton Albion motor lorry from near Angaston to Blackwood in the Adelaide Hills, perhaps for over-wintering and readiness for spring-time nectar-gathering and orchard pollination (*Chronicle*, 6 May 1912, p.30).

Protection for members was also an important objective. Bee disease, particularly Foul Brood, threatened to wipe out the young industry, and adoption either of Act of Parliament or mutual consent and a system of recompense for eradicating it was proposed. Safeguard from dishonesty in the ranks was necessary, especially of the 'peddler . . . the man who has no

reputation to lose,' who feeds sugar-water and glucose for bee storage in comb and in section box comb for sale, damaging the pocket and reputation of honest beekeepers.<sup>62</sup> The problem of bogus or adulterated honey was Australia-wide.

Arthur Bonney (born in 1851), was the son of the overlander and Commissioner of Public Lands, Charles Bonney. From the age of seventeen or eighteen he had been a draughtsman in the Drawing Office of the Engineer-in-Chief's Department, where his work was 'chiefly in supervising the preparation of plans and sections for railways, and keeping these plans up to date', making plans of land transfers, and many others connected to the railways. He also supervised the maps and diagrams for the annual Public Works Report.<sup>63</sup>

By 1884 Bonney disposed of his surplus honey to Finlayson and Company, Grocers and Italian Warehousemen of 62 King William Street, who sold honey, some in glazed section-boxes of from one to five pounds,<sup>64</sup> as well as tar, tacks, coffee – and presumably pasta and olive oil. At the Association's first annual meeting, in June 1885, when there were thirty-nine members on the books, Robert D. Ross was president, and Bonney secretary. The Association's aims remained the encouragement of better beekeeping methods, partly through legislation to control and promote the beekeeping industry and, as emphatically as ever before, the planting of nectar-yielding trees and prevention of forest destruction.

The Association's meetings were mostly held in the Chamber of Manufactures's premises, sometimes at the Agricultural and Horticultural Society's rooms in Register Chambers, Grenfell Street or at Jackman's (probably Jackman's Coffee Palace and Dining Rooms in King William Street), and at Esselbach's Coffee Rooms in King William Street. Once the Association gathered steam, beekeepers from Mount Barker, Medindie, Goodwood, Magill, Border Town, Paradise, North Adelaide, Glenelg, Prospect, Mount Lofty, Macclesfield, and other places nearer to or further from the city joined, and from 1885 regular beekeepers' advertisements began in *Garden and Field*.

### ***The Ligurian bee on Kangaroo Island***

In 1883 the SA Chamber of Manufactures began its guidance of the importation from interstate to South Australia of Ligurian bees. It gave the bees it received in December, either from Charles Fullwood in Brisbane or from James Carroll, near Brisbane, to the care of

Arthur Bonney, and the SA Beekeepers' Association was soon handed full responsibilities.<sup>65</sup> The Association and the Chamber, which sent the first Ligurian colonies to Kangaroo Island in 1884, promoted legislation to make Kangaroo Island an asylum for the Ligurian bee: *An Act to encourage the culture of Ligurian Bees on Kangaroo Island* (the *Ligurian Bee Act*) was assented to in 1885.<sup>66</sup>

### ***The larval disease Foul Brood***

Opportunities for economic improvement provided by the imminent Adelaide International Jubilee Exhibition perhaps intensified the apiculture events of 1884. In the run-up to and in the opening of the Exhibition in June 1887, government inquiries (particularly the Select Committee on 'Vegetable Products' of 1887) did not overlook beekeeping. Johann Heinrich Weidenhöfer, an auctioneer and ardent amateur floriculturist, and Edward Coleman made submissions on beekeeping to the Select Committee at a time of mounting concern about Foul Brood.<sup>67</sup>

At the special public meeting in October 1887, to which all South Australian beekeepers were invited, Arthur Bonney moved that a Bill for the prevention of Foul Brood be introduced to parliament.<sup>68</sup> The disease, an 'invidious' destroyer of bee larvae was a contagious, 'stealthy and virulent' and 'most serious evil',<sup>69</sup> against which members proposed that the government bear the expense of combining an inspector of apiaries, codlin moth, and phylloxera,<sup>70</sup> or appoint a qualified person in each local district. Yet, the very sensible motion that beekeepers be licensed was lost.<sup>71</sup> The second legislative victory of the SA Beekeepers' Association was the Bill to prevent the spread of Foul Brood among bees which became an Act in December 1887.<sup>72</sup> But the inspector's work was likely to be intermittent, far from full-time, and therefore believed by some to be undervalued by government. No Inspector was appointed for some years. The Act was itself imperfect and hornless, with no reasonable provision made for its own enforcement. So the years ahead were less than progressive than hoped.

Some beekeepers who misunderstood and opposed the Bill thought they would have to destroy their boxes and combs and expensively replace them with 'approved' hives; worse, they doubted that Foul Brood was even a problem. One of their parliamentary supporters spoke of distasteful 'inquisitorial searches into people's gardens', a comment that indicated the

mainly home-based and as yet non-migratory scale of beekeeping. In contrast, a supporter argued for the Bill because 'men were so obstinate that they stood in their own light'.<sup>73</sup>

Four petitions were noted during the Bill's reading, one from 156 beekeepers against it (probably from the Barossa-Williamstown area). Others in support of the Bill came from Mount Barker (eighty-six signatories), from twenty-five 'practical beekeepers' (location unknown), and from the committee of the SA Beekeepers' Association which numbered about thirteen, and possibly represented some forty-five members.<sup>74</sup> The Barossa-Williamstown dissident beekeepers resolved to form a Beekeepers' Association, no doubt thinking to protect their interests against the city-based Association.<sup>75</sup> By 1887 there were three, perhaps four, beekeepers' associations in the colony (notably those at Williamstown and Clare).<sup>76</sup> In January 1888 an error-ridden petition (led by Williamstown) asking for a twelve-month delay in the operation of the Act was taken to the Commissioner of Crown Lands.<sup>77</sup>

Those who had promoted the Act intended no leeway to prevent this dreadful disease. In 1892, the solicitor and member of the Beekeepers' Association, Samuel Mitchell, wrote a letter to the *Advertiser* pleading for common sense. The disease must be controlled, even as it brings great loss on the beekeeper, he wrote.

One beekeeper started two years ago with 20 hives. He is a careful, intelligent man. [Foul Brood] got among the bees. He tried carbolic acid, salicylic acid, eucalyptus extract. He used the knife freely on the combs. He doctored, physicked, and drugged the bees. He toiled, watched and struggled, but to no purpose. Today he has seven weak colonies.<sup>78</sup>

Contagion within and between apiaries had to be prevented, if not from destruction of combs, then from severe means of disinfection, including the blow-torching of frames and hives.

### ***Spurious honey***

From the later nineteenth century the fraud of adulterations to honey, including substitutions by glucose- and grape-syrup makers, was a problem to the establishment of Australian industry standards. In South Australia it hastened a marketing ethos by beekeepers, and

support for an organised exporting body. Albert Gale noted when New South Wales beekeepers were mounting an attack against adulteration, that frequently in the honey comb:

glucose, fruit-sugar, sugarcane, Swiss table-honey (a manufactured article), conifer honey, aphidian honey, etc., are to be met with, especially so in a season when flowers are yielding little or no nectar, or when bees have been artificially fed.<sup>79</sup>

Wilful falsification of honey by humans was far more aggravating to standards than this perspicacious collecting of alternative food sources by bees. Yet the craft progressed so well that in March 1892 the SA Beekeepers' Association considered the formation of a Honey Export Company.<sup>80</sup> Satisfaction of this goal appears to have been pre-empted by the founding of the State government's Produce Export Department. Oversight, if not regulation, of quality standards was introduced for exported honey in the early 1900s.

#### *A view to apiarian history?*

In 1890, at a time of diminishing attendance at its meetings (and probable anguish about its continuation), the SA Beekeepers' Association considered establishing a museum in a 'small room' obtained for the purpose.<sup>81</sup> Perhaps the financial depression brought this hope for some remembrance of a threatened history. The core of a collection came in 1893, when James Penn Boucaut presented to the Association specimens of honey from Italy, France, England and Ireland collected on his recent overseas trip,<sup>82</sup> to which the Association encouraged the addition of local samples. One objective of all Australian honey-producers was to wrest the sweet-tooth market from Golden Syrup and cheap jams, and this modelling by sample collection no doubt intended to promote beekeepers' knowledge and respect for improvements to their product. The theft from the Chamber of Manufactures's museum of anatomical models of the Ligurian bee left a vacuum; the reward offered no doubt was unproductive.<sup>83</sup>

#### *The conference of the South Australian Beekeepers' Association, 15-16 July 1909*

The first SA Beekeepers' Association conference was held in the Institute Building on North Terrace in 1909. The Attorney-General, Samuel Mitchell presided.<sup>84</sup> The Commissioner of Crown Lands, E.H. Coombe, was invited to launch the proceedings. A variety of facts and

opinions arose: Williamstown and Mount Pleasant were considered the best areas for beekeeping because of their abundance and variety of flowering gums; Port Lincoln was opening up in the field;<sup>85</sup> and once more the beekeepers raised the immediate need for forest preservation in face of increasing settlement, and for safeguards against that 'insatiable South Australian vandal, the ring-barker' (a 'vandalism as short-sighted as it was suicidal'): at the very least, if the selector's axe could not be stilled, the Association urged, roadsides and Crown lease lands should be protected and afforested.<sup>86</sup> As it stood, trees could be cut down on roads and reserves within the bounds of leased land; only Miscellaneous Lease land could be controlled by the government, but the beekeepers saw little evidence of it.

South Australia's Commercial Agent at London at this time was Major Alfred Norton. While visiting the State for several months, he addressed the conference on the importance of honey marketing. He advised against using casks for transporting honey and recommended tins packed in hardwood and pine cases tied with two wires as the best to withstand shipping, the case nails to be rusted by salt water or vinegar to give them purchase to withstand the rigours both of shipping and land distribution (Tasmania, once more in the forefront, was already practising this).

Norton advocated dumping produce at outports (such as Bristol, Avonmouth, Hull, Leith), not only at London, for the smaller wharfage charges, large manufacturing populations nearby, and canal connections to other centres. He had taken an unprecedented move in approaching the produce retailers rather than persisting with the brokers, and found greater success in distributing honey. Norton told one English retailer with some 100 branches that he could 'help weld the Empire together' by taking South Australian honey. Perhaps this formidable call to duty worked, for Norton encouraged South Australians now to send as much honey as they could produce, and to consider the advantages of co-operation and collective shipping.<sup>87</sup> At tuppence halfpenny per pound at Port Adelaide, honey returned beekeepers 28/- per hundredweight (one hundredweight=50.8kg).

The beekeeper and president of the Victorian Apiarists' Association, Frederick R. Beuhne (1859-1933), judged the honey classes at the 1909 autumn Adelaide Show. He spoke to a special meeting of the SA Beekeepers' Association and offered advice to maximise market returns. Notably, he advised that the quantity of scum (much like a lather), that would be on

the top of the honey when it arrived at distant shores could be remedied, not by straining the honey, but by heating it to 150° F when impurities risen to the top could be skimmed.<sup>88</sup> Sale of honey in South Australia in one pound jars (about 0.5kg) was recommended as better than in the usual two pound and seven pound tins. Better strategic thinking of the abundant production, to then considered in bulk terms, was recommended.

Twenty-two years after they had distrusted their licensing as an imposition, the beekeepers decided to make their registration compulsory, and ensure that framed hives became mandatory, thereby facilitating inspection. On the second day of the conference, the desirability of forming the Association into a co-operative society was on the agenda.

### **Supporters of South Australian beekeeping**

The bread-winning occupations of those amateur bee-keepers and curious natural historians who encouraged the industry included an Adelaide Hospital house surgeon; a postal clerk; a newspaper editor and proprietor and advocate of agricultural education; an accountant; a builder-carpenter; solicitors (James P. Boucaut, Frederick A. Joyner and Charles B. Hardy); and members of parliament and government ministers (Samuel Davenport, and Dr John Cockburn, MLA, a one-time secretary and a president of the Beekeepers' Association).

Other recorded contributors to the industry not mentioned elsewhere in this paper included W.B. Randell;<sup>89</sup> Mr G. Taplin (perhaps the son of the religious minister and missionary, George Taplin, of the Aboriginal Friends' Association); the manufacturing engineer and inventor, Alexander W. Dobbie of College Park (figure 10); Charles Rake, of Olive Farm, Hampstead (now Enfield);<sup>90</sup> the chemist, later Government Analyst, E.F. Turner, who was elected a member of the SA Beekeepers' Association in March 1892; R. McDonald, apiarist of Princess Street, Croydon, who at the 1909 Show exhibited a queen bee and her progeny;<sup>91</sup> and the school-teacher, W.J. Kennedy.

Kennedy, an Irishman, prominent member of Adelaide's Liedertafel, and a state school headmaster, had a 'great interest in beekeeping'.<sup>92</sup> He favoured the Hoffman moveable frame that was also self-spacing, allowing a consistent 1 $\frac{3}{8}$  inch distance (3.5cm) from frame centres (a safe bee-space), and which was made with box (or scarf) hive joints, by which, Kennedy claimed, the hive's top storey resisted being blown off. In November 1890, Kennedy gave a

paper on beekeeping appliances to the Association, first excusing the presumption of his youth to the more experienced members present.<sup>93</sup>

### *Suppliers of apiary appliances*

Those able to import the necessary modern hives and other beekeeping materials did so mainly from New Zealand and England. But the carpentering skills of some beekeepers filled a need until appliance manufacturers and retailers set up city premises. The solicitor Frederick Joyner, for example, learned of the bar-frame hive by reading the *Encyclopaedia Britannica*, which opened to him a 'veritable wonderland' of bee information. At the end of Summer 1883 his stock at Wellington Square, North Adelaide, consisted of 'a swarm of black bees in a kerosine case'; then he made a bar-frame hive to 'fit an ordinary maizena [maize starch] case'. After visiting Mr Stevens's apiary at Goodwood and talking also with Arthur Bonney of Upper Kensington, Joyner first used the Langstroth hive.<sup>94</sup> It was probably the 1875 edition of the *Britannica* that Joyner read: Langstroth is mentioned there, but his hive is not described by drawing or detailed dimensions.<sup>95</sup>

Artificial stamped or rolled sheet wax comb could be imported (expensively) from Germany, although in 1884 R. Perrers of Brown (now Morphett) Street, Adelaide, advertised his



The advertisement features two detailed illustrations of bees at the top. Below them, the text reads: 'LATEST IMPROVED BEEHIVES, FITTINGS, &c.' followed by a paragraph of text: 'Having just received my first shipment of the above for the coming Season, I beg to call attention of all interested in the Cultivation of Bees to my Stock. Those using the old-fashioned Boxes, &c., will find it greatly to their advantage to discard same and obtain the Latest Improved Hives, which are simplest and best in every way, besides adding greatly to the amount of Honey produced. IMPORTED AND COLONIAL BRED ITALIAN BEES ON SALE. Send for Catalogue or Books on Bee Culture to A. W. DOBBIE, Gawler-place, Adelaide.'

Figure 10. Alexander Dobbie's (1843-1912) advertisement (*Garden and Field*, vol. 11, no. 122, July 1885, p.ii).



winning of an Industrial Exhibition Prize for pure beeswax comb foundation;<sup>96</sup> and other local manufacturers – sheet metal workers, ironmongers (for instance, W. and T. Rhodes of Rundle Street who sold honey tins of all sizes), engineer-inventors, bellows-makers, and carpenters among them – responded to manufacturing opportunities.

### *Charles Dickins and Son*

In the 1880s, Charles Dickins advertised as a designer-maker of 'Ornamental Observatory Hives' of all descriptions; but these were of less practical interest to serious beekeepers than more productive hive forms. But hived bees can not choose location nor geography. Virgil's warning in his *Georgics* to hive-makers applies now as in the first century BC:

Remember, whether you make it  
By stitching concave bark or weaving tough withies together,  
To give it a narrow doorway: for winter grips and freezes  
The honey, and summer's melting heat runs it off to waste.<sup>97</sup>

Placement and aspect of hived colonies is a human responsibility, and manuals such as Dickins's *The Australasian Bee Keepers' Guide Book for Amateurs. Giving Plain and Practical Instruction on the Profitable Management of Bees in Moveable Comb Hives* ([Adelaide], Scrymgour and Sons, 1887), attempted to improve most of the by then orthodox beekeeping practices.

Dickins, a certificated expert of the British Beekeeper's Association, arrived in Adelaide from London in 1887, and with his son operated a Steam Hive Factory as beekeeping appliance providers on the south side of Wakefield Street, city. An importer and manufacturer of mills for making wax comb foundation (a speciality that he also supplied), he offered accurate steam carpentry hive-making, honey and beeswax merchandising, and to import 'Foreign Bees' (Italian, Carniolan, and Cyprian, at 30/- each). Dickins also sold 'guaranteed pure Ligurian queens', as well as bee feeders and smokers.

Moderate 'smoking' of bees irritates them and causes them to gorge on their honey supplies and become docile, allowing easier hive manipulation (figure 11). Dickins supplied smoker fuel at 1/- a bag – undoubtedly an extravagance for the dilettante, given the fuels easily

available to beekeepers to use in moderation: vine leaves, pipe tobacco, when stealing a piece of comb on the run (although tobacco was an irritant and not recommended, but vine leaves, almost as strong as tobacco, were acceptable to some beekeepers); dry-rotted blackwood (*Acacia melanoxylon*); the inner part of the aloe, corduroy, linen, and brown packing paper; and what must have been similar to tobacco, the 'puff-ball fungus' known as the 'Devil's snuffbox' that narcotised the bee (but perhaps not the beekeeper).<sup>98</sup> In 1869, the use of chloroform to stupefy bees was warned against as dangerous; and in 1886, over-doses of the fumes of carbolic acid were a recognised risk. The proposed use of both substances to 'smoke' bees suggests over-anxious and inexperienced beekeepers.



Figure 11. Beekeepers using a bellows smoker to inspect a Langstroth-type hive's combs, probably at Pewsey Vale Apiary in 1925 (Courtesy of the History SA, Photographic Collection, GN11548).

Dickins operated a roller skate factory,<sup>99</sup> repaired roller skates, and sold a patent lubricant for skates and bicycles.<sup>100</sup> He sold the 'Standard Langstroth Improved Simplicity Hive' (a modification designed by the American Amos Root) for 10/-. His premises included a showroom, a carpentry area (with mortising machines, planers, and steam saws run by an eight horse-power engine), a painting area, a blacksmithery, and a tin shop.<sup>101</sup> Dickins advertised his services mainly to fruit growers, claiming ability to establish apiaries 'in any part of the Colonies', and offered to estimate for the 'complete fitting up of Bee Farms up to 500 Stocks.'<sup>102</sup>

At a SA Beekeepers' Association monthly meeting in 1887 Dickins presented his *Australasian bee keepers' guide book*, that cost 1/- and was hailed as the first manual for beekeepers published in South Australia.<sup>103</sup> In January 1888 Sydney's Museum of Applied

**TO BEEKEEPERS!**

FOR ALL THE



Newest Appliances  
IN  
Modern Beekeeping

Go to the Manufacturers,  
**CHARLES DICKINS & SON**  
(From London),  
**WAKEFIELD STREET, ADELAIDE,**  
Near the Government Offices.

---

**FIRST-CLASS HIVES**, Standard Size,  
from 7s. 6d. each.

Everything connected with Beekeeping.  
Jubilee Exhibition—Western Annexe, No. 5 Court.

**HONEY and WAX MERCHANTS.**  
**ITALIAN BEES and QUEENS.**

---

C. D. & Son have the exclusive right of Sale in the colonies for Italian and Cyprian Queens and Bees for  
**MR. A. E. BONNEY.**

---

The Australasian Beekeepers' Guide Book, with numerous illustrations, giving plain and practical instructions on the profitable management of Bees. Should be read by all beekeepers. Post free, 13 stamps. Write for Price-list.

Charles Dickins and Son advertisement, from *Garden and Field*, vol. 14, no. 160, September 1888, p.iii.

Arts and Sciences bought from Dickins a capsule screw-top honey bottle (designed for tempting display on grocers' counters); a foundation comb lever fixer; screw top and jar-shaped honey bottles, one stopped with vegetable parchment;<sup>104</sup> and a solar wax extractor (prices in Adelaide for these were 4½, 12/6 pence, and 3 pence).<sup>105</sup> Yet in 1890 Dickins offered for sale his 'first class' morticing machine and lever press for metal stamping:<sup>106</sup> he may have recognised a greater commercial future in New South Wales and have moved there to access its larger population.<sup>107</sup>

### ***August Fiebig (1833-1908) and his son Rudolph***

Many people delighted in an observation beehive at the entrance to the South Australian Museum before Second World War air raid precautions made it wise to remove it. The government Apiary Inspector, Arnold Ophel, installed the hive in June 1933. By 1943 the Museum believed it was safe to reinstate it.<sup>108</sup> An earlier 'observing' hive could once be seen in eastern Pirie Street, city, where the Silesian-born bee-breeder, and one of Adelaide's earliest professional hive-makers, August Fiebig (figure 12), set up shop in 1882, on the arrival of his family eleven months after his own arrival from Peterswaldau. He leased part of the building on the Moger Lane corner that probably was built in 1880 for Walter and George



Figure 12. August Fiebig (*Observer*, 18 January 1908, p.29)

Hackett, seed merchants (figure 13). There Fiebig promoted his skill as a stringed musical instrument-maker and repairer. Like Charles Dickins, Fiebig carried on diverse crafts. He won a gold medal at the Dunedin Exhibition for a violin he made and a prize at Adelaide's

Industrial Exhibition.<sup>109</sup> As a 'band instructor [Fiebig ] could take up all the instruments in turn – brass, wood, and reed – for the edification of his pupils.'<sup>110</sup> His son, Rudolph, was a skilled carpenter and hive-maker (figure 14).

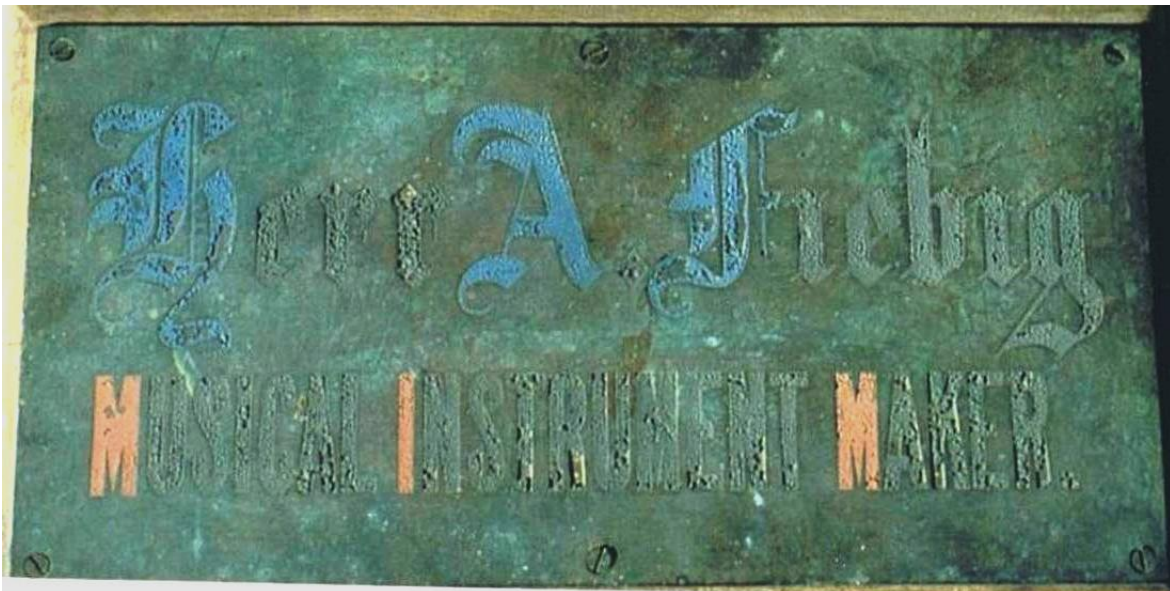


Figure 13. August Fiebig leased the Moger Lane side of this double house, Pirie Street, City. Rudolph Fiebig's daughter, Selma, recalled that her grandfather displayed a hive in his Pirie Street shop window (Ronald Fiebig, pers. comm., 2002). The corner entrance to the former Golden Rule Inn is on the right (Photo: author, 2010).

Trading as A. Fiebig & Son, August experimented with Dzierzon and other hives. The Rev. Johann Dzierzon (1811-1906) was a Prussian clergyman from Carlsmarkt, German Silesia. In 1848 he published *Theorie und Praxis des neuen Bienenfreunde . . .*, which described his improved beekeeping methods. He wrote *Rationelle Bienenzucht (Rational Bee-Keeping)* (1861), which became available in English translation. Dzierzon, who was August's teacher, introduced the Ligurian bee to Silesia in 1853.<sup>111</sup> August was invited to a presentation by Dzierzon at an apiarian conference at Breslau in 1875, which was considered a great honour;<sup>112</sup> and he won a snuff box and pipe as prizes at a Berlin show for a bee hive, probably a Dzierzon-type. To South Australia he brought these credentials and preferences.



Figure 14. Rudolph Fiebig (left) and his son, Cyril Fiebig at the 1928 Apiarists' Association conference, Adelaide (*Chronicle*, 30 June 1928, p.56).



'Herr A. Fiebig. Musical Instrument Maker'. August Fiebig's business plate used at 442 Pirie Street, Adelaide (Photograph: author, 2002. Courtesy of Ronald Fiebig).

Following the second monthly meeting of the SA Beekeepers' Association committee, on 27 September 1884, Johann H. Weidenhöfer talked about the method of raising queen bees followed by August Fiebig, who had thirty years' apiarian experience. The account, published in the *Garden and Field*, is one of very few contacts we have with Fiebig, who was unable to deliver his own address in English. Weidenhöfer, who had 'very little experience with bees', described Fiebig's method of queen-rearing:

He noted that a good many of his hearers smiled when he claimed Dr. Dzierzon as the author of the method of queen-raising, and was aware that the credit was generally accorded to the English and Americans ... A practical and successful beekeeper would know the importance of always having a number of queen bees in stock ... to show the value of this ... it was only necessary to remember that during the height of the honey harvest ... the queen produced about 2,000 eggs per day. If the queen were lost the hive would be weaker ... by about 40,000 by the end of the 18 to 20 days that must elapse before a fresh fertile queen could be produced.

There were many advantages attached to ... queen-raising, one of the chief of which was the possibility of Ligurianising any number of colonies of black or other bees ... Ligurians ... were handsome, strong, industrious, and fertile to a greater degree in all respects than the black bees.<sup>113</sup>

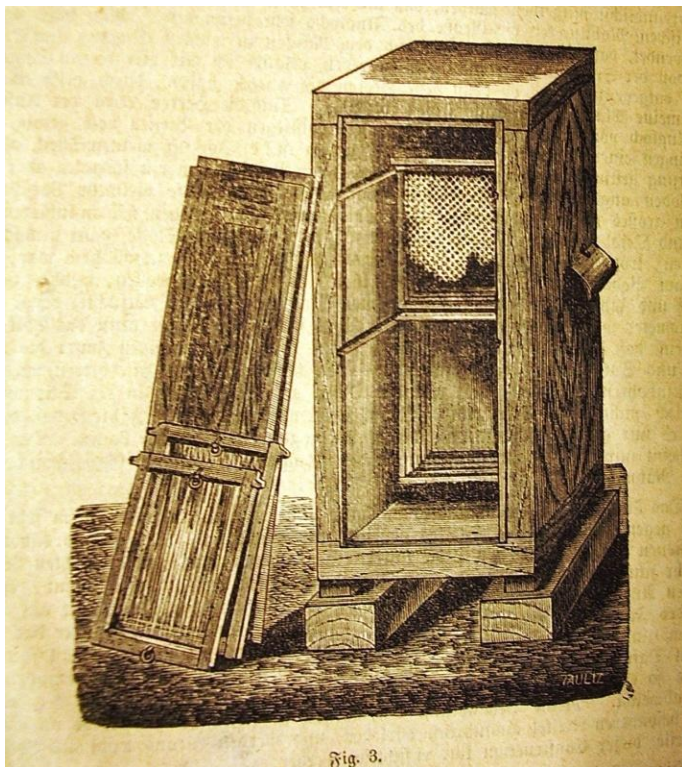
The thirty-four year old Weidenhöfer's 'little experience' was gained from seven months earlier, from February 1884, from his fifteen hives, a not inconsiderable number.<sup>114</sup> One wonders at his modesty, yet he was indeed an apprentice to Fiebig's mastery.

In this month Weidenhöfer demonstrated at a SA Chamber of Manufactures meeting a hive which he had had made 'after the pattern now largely used in Germany, and designed by Herr Dziertzon [*sic*]:

The frames are much smaller than those in general use, and are placed in three tiers of twelve, one tier above the other, the back of the hive being closed by three doors of same height as each frame. When it is desired to inspect the hive one of the doors is opened, when a pane of glass is seen set in a frame.

With the panes removed, the frames could be taken out successively for closer inspection, a more laborious procedure than with a Langstroth hive.<sup>115</sup> The 'back-opening frame hives [were] conveniently operated in a bee house'.<sup>116</sup> They were unsuited for outdoor use— at least this was so in the northern hemisphere. Weidenhöfer was reported to have kept his hives in 'a

double row under a shed, the operator working in the alley at the back of the shed'.<sup>117</sup> This was Dzierzon's method.



A Polish (Silesian) moveable frame Dzierzon-type hive ('Ein polnischer Mobilstock', *Deutscher Bienenfreund*, no. 12, December 1876, p.205). The rear-opening hive designed in 1848 by Dzierzon gave the keeper less economy of movement than the Langstroth hive. Cyril C. Fiebig, a beekeeper and grandson of August Fiebig, presented twelve bound issues of *Deutscher Bienenfreund* from 1875 and twelve from 1876 to Adelaide's Waite Agricultural Research Institute in November 1958. He also donated two volumes (January 1881 to December 1886) of the German *Bienen Zeitung* (*Bee Journal*) to the Institute. His father, Rudolph Fiebig, signed the first issue of 1881. As the core of their beekeeping library for the new land, August and Rudolph Fiebig brought with them to South Australia issues of *Bienen Zeitung* and the *Deutscher Bienenfreund*.

August Fiebig arranged the music and played the contra-basso for a production of Michael Balfe's popular opera *The Bohemian Girl* at Garner's Rooms.<sup>118</sup> He also played for occasions at Government House as well as at the Theatre Royal (figure 15), and possibly in 1885 when Signor Rafaelo Squarise's Band accompanied a moonlight bicycle race held not far from Adelaide.



**B**EEKEEPERS! TAKE NOTICE.  
**CYPRIAN BEES**—Tested Queens, from  
 10s. to £1 each per post.  
**LIGURIAN BEES**—Tested Queens, from  
 10s. to £1 each per post.  
 Money Order to accompany orders.  
**HIVES**—All patterns and all kinds of Bee  
 Appliances kept in Stock.  
**A. FIEBIG,**  
**244, Pirie Street East,**  
 NEXT GOLDEN RULE INN.

August Fiebig's advertisement in *Garden and Field*, vol. 12, no. 142, March 1887, [p.i].


<p><b>Musical</b>  <b>Instrument Maker</b>          and  <b>Repairer.</b>  <b>Viols a Speciality.</b>  <i>Professional Apiarist.</i>  <b>Manufacturer</b>          of all kinds of  <b>BEE-HIVES,</b>          Comb-Foundation          and all  <b>Apiaran Appliances.</b>  <b>Ligurian</b>  <b>Bees &amp; Queens</b>          for Sale.</p> <p><small>Richter &amp; Pietzsch, Print., Adelaide.</small></p>	<p style="text-align: center;"><b>PIRIE STREET (EAST),</b>  <i>(Next „Golden Rule Hotel.”)</i></p> <p style="text-align: right;"><i>Adelaide,</i>.....188</p> <p style="text-align: center;"><i>Dr.</i>.....</p> <p style="text-align: center;"><b>DR. TO A. Fiebig.</b></p>
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August Fiebig's Pirie Street shop account paper. Late 1880s (Courtesy of Ronald Fiebig).

Fiebig first conducted Ligurian bee breeding near Penneshaw on Kangaroo Island in 1885. But his Ligurian queen-breeding, both there and at Adelaide, 'did not then appear to have obtained sufficient vogue in the country to offer great encouragement to the specialist'.<sup>119</sup> August and his family moved to One Tree Hill in 1892, took other employment, and continued as professional apiarists at their Italian Bee Farm, noting their history as 'late, A. Fiebig & Son, Kangaroo Island' (figures 16 and 17).



Figure 15. Musicians believed to be of the Theatre Royal, Hindley Street, photographed probably in 1888. August Fiebig, bass, is first left in the back row. Chevalier R. Squarise, RCM, violinist (third from left, seated) was leader (Courtesy of Ronald Fiebig).<sup>120</sup>


**ITALIAN BEE FARM,**  
 MY QUEENS HAVE TAKEN FIRST PRIZES WHEREVER SHOWN.  
 Onetree Hill, April 13<sup>th</sup> 1891  
 Mr. R. Harper & Co. Port Adelaide  
**Dr. to R. FIEBIG**  
(Late A. FIEBIG & SON, Kangaroo Island).  
**PROFESSIONAL APIARIST.**

TERMS CASH.      ++      QUEEN BREEDING A SPECIALITY.

1891							
April	8.	20	Tim Honey	1286	<del>66</del>	25	
"	9	20	" "	1286	"		
"	10	20	" "	1285	"		
"	11	20	" "	1281	"		
"	13	20	" "	1283	"		
				gross weight - 6421		25	
				300			
				net weight 6121			£66 18 11½

Figure 16. Rudolph Fiebig's business account paper (Courtesy of Ronald Fiebig).

### James Robertson

The Field Naturalists' Section of the Royal Society visited James Robertson's apiary at 'Unley Wurlie',<sup>121</sup> North Unley. They travelled on a special car of the Unley Tramway Company, leaving from the Adelaide Town Hall, and stepped off the tramcar to cross Bartley Crescent to the eight-room stone house that Robertson had built in 1882.<sup>122</sup>

Robertson was an olive oil and vinegar manufacturer of [Thomas] Anderson & Co., Lorne Vinegar and Oil Works, Angas Street, Adelaide, that operated just east of Regent Street (figures 18 and 19). His apiary was of seventeen Langstroth hives of both the 'common native [European] black bee' and the Ligurian.<sup>123</sup> Robertson's bees were well-situated to forage amongst the flora and Winter- and Spring-time creeks of the south Park Lands, and ten years after this visit, Way College, a Methodist school for boys, opened as Robertson's neighbour, soon offering maize and other cereals, forage and fodder plants, and stone-fruit trees for nectar- and pollen-gathering on its surrounding educational grounds. Robertson remained at North Unley during the schooling at the College of one of his sons.<sup>124</sup> Way College existed from 1892 to 1903 in the building erected in the early 1880s as an ophthalmology infirmary.



Figure 17. A reproduction of the Fiebig-Weidenhöfer hive used on Kangaroo Island from the mid 1880s. A top-chamber comb frame from the original hive leans against the side (Photograph: author, 2002. Courtesy of David Clifford).




**Honey Purchased**  
At highest Market Prices at the  
**LORNE VINEGAR WORKS,**  
**ANGAS STREET.**  
J. ROBERTSON & CO.

From *Garden and Field*, vol. 12, no. 139, December 1886, p.i.



Figure 18. James Robertson ('Mr. James Robertson', *Observer*, 9 December 1893, p.16).



**FOR 10s. 6d.**

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**The S.A. Beekeepers' Supplies Compy.**  
 ANGAS STREET, ADELAIDE,

**W**ILL now supply a **STANDARD LANGSTROTH BEEHIVE** of 1½ storey, with ventilating bottom board, ten frames, rain-proof roof, made up of American lumber.

**10s. 6d.      10s. 6d.**

---

Send stamp for illustrated Catalogues of Appliances  
 to  
 J. ROBERTSON, Secretary.

Figure 19. S.A. Beekeepers' Supplies Company advertisement in *Garden and Field*, vol. 11, no. 125, October 1885, p.60.

In 1884 Robertson's S.A. Beekeepers' Supplies Company was in Halifax Street, city, selling 'Tropic' Frame Hives, Italian queens, and 'every requisite for modern bee culture'.<sup>125</sup> The business possibly was first conducted with Anderson and Company's Ice Works in Halifax

Street, or was introduced not much later as Robertson developed the works for general manufacturing.

### ***Leonard Chambers***

Leonard Chambers, when care of the domestic hardware manufacturer, Alfred Ocean Chambers of Flinders Street, city, was a 'Manufacturer of Beekeepers' Appliances and [a] Dealer in Bees' who sold the Langstroth Simplicity Hive in three forms, ranging in price from 10/- to 15/- each. He sold 'black' bees and offered to post Ligurian queens to any part of the Australian colonies.<sup>126</sup> At the February 1881 Royal Agricultural and Horticultural Show, Alfred Chambers exhibited a 'bar-framed' beehive made according to the directions of Moses Quinby.<sup>127</sup> Chambers appears to have broadened his mercantile interests by moving to Melbourne, and in 1893 he published there the third edition, revised, of his *The Colonial Bee-keeper* (Melbourne, J.C. Stephens).

### ***Alfred Muller Simpson (1843-1917)***

By 1883 the Adelaide ironworking firm, A.M. Simpson & Son, rallied to beekeepers' needs and made solar and centrifugal honey-separators (extractors, or 'spinners') and bee smokers.<sup>128</sup> Mechanical extraction of honey from combs substituted for the practice of harvesting 'drawn' honey by slow draining uncapped combs under the sun's warmth (figures 20 and 21). In 1874 the *Advertiser* gave much space to describing how to make and properly use a centrifugal extractor (or, 'slinger' in American usage).<sup>129</sup> The benefits of this substitute

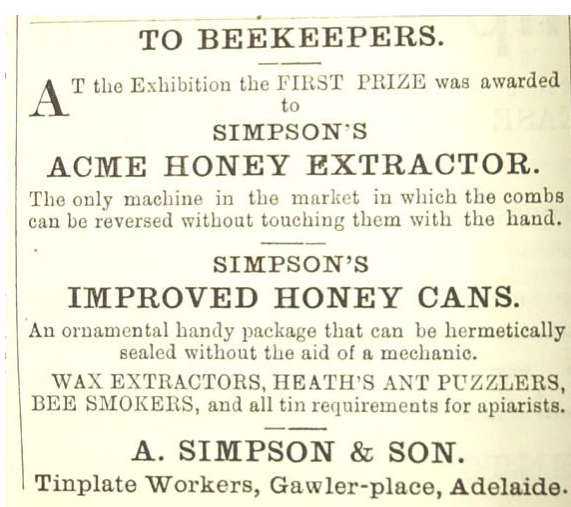


Figure 20. A. Simpson and Son advertisement in *Garden and Field*, vol. 11, no. 125, October 1885, p.iv.

for solar extraction were speed of honey harvesting and return of frames of undamaged comb to the hive for refilling by bees, which saved both bees' energy and, dependant as comb production is on bees' large honey consumption, their need for wax production. Use of the extractor also reduced bees' time away from nectar-gathering while they re-built comb.

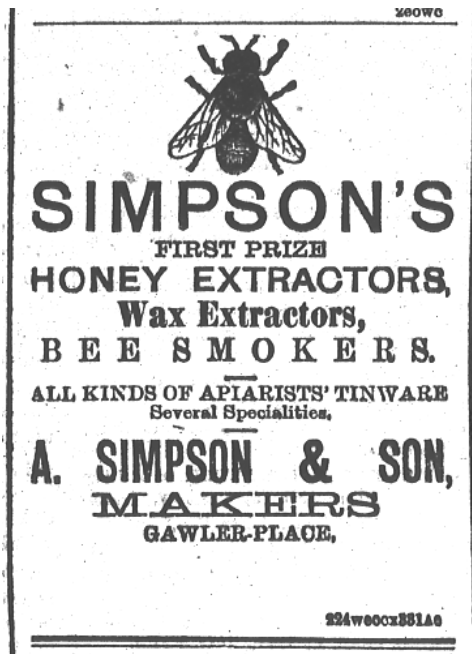


Figure 21. A.M. Simpson and Son advertisement in *Advertiser*, 20 December 1887, p.3.

The judges of the beekeepers' exhibits at the March 1885 Royal Agricultural and Horticultural Show said, no doubt to redouble encouragement, that one of the signs of colonial progress was the:

readiness with which local manufacturers . . . meet the demands arising from the development of the industry. Nearly the whole of the exhibits, from the neat section boxes to the ingenious and valuable 'Acme' honey extractor, had been made in the colony.<sup>130</sup>

For the 1886 honey surplus intended for export, Simpson's produced 'square cans, each holding 60 lb. like kerosine cans, 2 to go in a box, so that honey may be shipped to any part of the world.'<sup>131</sup> By the early 1900s, 'paint and honey tins' (probably their decorated cans for home consumption) were stored 'in profusion' at Simpson's works in Gawler Place-South.<sup>132</sup>

Simpson's 1906 Show exhibits, on the eastern side of the main Jubilee Exhibition hall,

included for beekeepers a 'four-frame reversible extractor ... representing the nearest approach to perfection in a most important branch of their work.'<sup>133</sup> Such improvement of appliances by local manufacturers over twenty years was notable.

### **The Rosenzweig family apiary**

A number of the original hives of the Rosenzweig family of Moculta, northern Barossa Valley, were bought from Anton Stanitzki when he moved from Moculta to Loxton. Anton's father, Nicholas, came to Australia from Bentchen, Prussia, in 1844 (figures 22 and 23). Robert Rosenzweig's grandfather, who arrived in Australia in 1850,<sup>134</sup> was a confectioner who came from the same area as Nicholas.



Figure 22. Rozenzweig bee hives under shelter at Moculta. The platform is suspended from iron poles which have cups at their tops containing sump oil to prevent ants from descending to the hives (From video film of the Moculta Field Day at Rosenzweig's Apiary of the Amateur Beekeepers' Society of South Australia, late 1970s-early 1980s (Courtesy of the Amateur Beekeepers' Society of South Australia Inc. and Robert Beer).





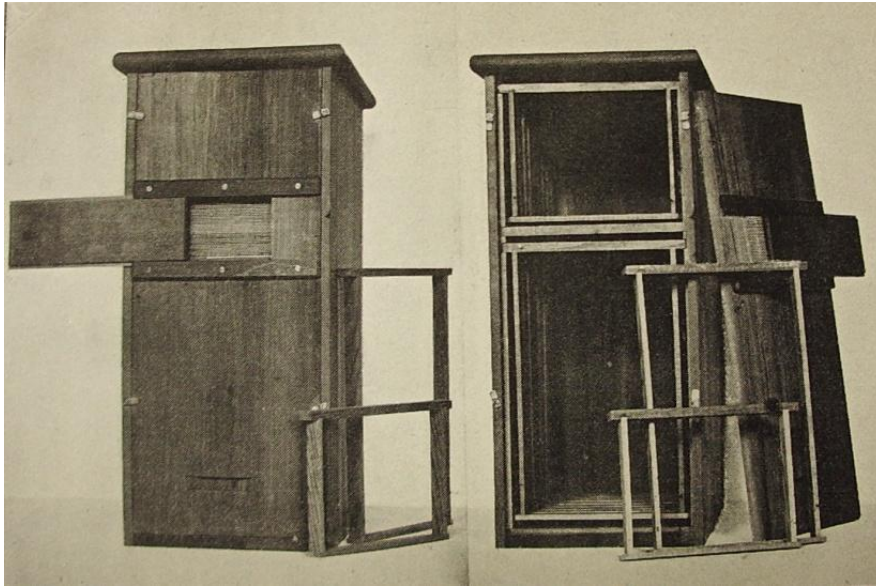
A Simpson top-handle honey extractor bought by Ted Rosenzweig's father, Robert, for 2/6 pence at a clearing sale in the early 1900s (From video film of the Moculta Field Day at Rosenzweig's Apiary of the Amateur Beekeepers' Society of South Australia, late 1970s-early 1980s (Courtesy of the Amateur Beekeepers' Society of South Australia Inc. and Robert Beer).

### ***J. J. Drage***

John Drage of East Adelaide, who kept his hived bees in the hilly slopes of Golden Grove, north of the city, took the valuable substance beeswax in exchange for the beekeepers' supplies he stocked (figure 24).<sup>135</sup> At the 1909 Show he showed an observation hive and a large number of appliances. W. A. Drage, of First Avenue, East Adelaide, a bellows-maker and washer and wringer manufacturer, also made honey extractors and wax foundation.



Figure 23. A Berlepsch-type hive used for over 100 years from the 1880s by Robert Rosenzweig and later by his son (Courtesy of the Amateur Beekeepers' Society of South Australia Inc. and Robert Beer; photo: author, July 2002). The lower left view shows the glass observation frame behind which were honey-storage combs. The wood piece in the middle of the rear wall of the hive allowed smoking through the wire mesh. This type of hive was derived from northern European log-hives.



Berlepsch hive (Albert Gale, 'The Berlepsch Hive', *Agricultural Gazette of New South Wales*, vol. 7, October 1896, p.[706]. Reproduced with permission of Industry & Investment NSW). The upper frames are supers for honey collection; the longer frames are used in the lower brood chamber. On the left, the ventilator is open, on the right the rear door is removed. The hive was worked from the rear. In 1877, Baron von Berlepsch, from Thuringia, published *The Dzierzon Theory*, a pamphlet which examined Dzierzon's most important apicultural hypotheses.



Figure 24. J. Drage's advertisement in the *Advertiser*, 13 August 1896, p.8.

### *The Jubilee celebrations, Adelaide, 1887*

The Jubilee Exhibition building was intended to provide permanent exhibition quarters for the SA Chamber of Manufactures and agricultural, horticultural, floricultural and other bodies. SA Beekeepers' Association members Bonney, S. Solomon, W. Stevens, H.H. Dollman, S. Randell and the secretary were appointed a committee to take charge of the Association's Jubilee Exhibition arrangements.<sup>136</sup> Honey was included in the Exhibition's Animal Products class with the foods gelatine and isinglass; beeswax was included with shellac and cochineal 'and other Insect Secretions'; and the Farm Buildings and Appurtenances section included apiaries.<sup>137</sup>

In the western annexe, no. 5 court of the Exhibition Building, Charles Dickins & Son exhibited bee appliances (including a new form of centrifugal extractor) and books, pictorial enlargements of bee diseases, dissections and other biological information.<sup>138</sup> In that propitious year of 1887, Dickins advertised that his firm had arranged:

with [Kangaroo] Island for raising pure Italian queens from a fine selected strain to supply our customers . . . . They will be sent out enclosed . . . in a registered introduction cage, post-free, price 25 [shillings].<sup>139</sup>

Joyner and Dickins (and the 'Kangaroo Island Apiary Company') showed observation hives and extracted and comb honey at the 1888 Show in the 'old Building'. At the following Autumn Show, 1889, G. & F. Walters & Co. (Beekeepers' Supplies Manufactory, and comb foundation makers of Flinders Street, city), took all the prizes for appliances, colonial-made foundation, and food in which honey was the chief ingredient (figure 25).<sup>140</sup> Walters had for sale books by the bee-masters Johann Dzierzon (first translated into English in 1882), Henry Alley, Gilbert Doolittle and Moses Quinby.<sup>141</sup> Dickins took first prize for the largest and best collection of honey, best hive and queen bee and progeny; and his son demonstrated bee management – with due caution – in an outside tent. August Fiebig took second prize for an observatory hive<sup>142</sup> – perhaps the one he exhibited in Pirie Street.

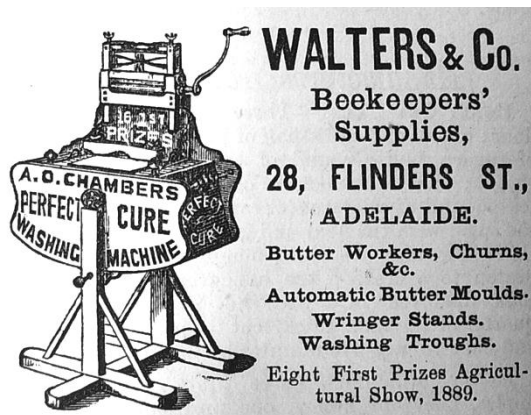


Figure 25. Walters and Company advertisement in *Garden and Field*, vol. 15, no. 179, April 1890, p.iii. In 1890 Walters's Bee Supply Stores was at no. 18 Flinders Street.

### *A manufactured by-product*

A Bee Ointment Manufactory had moved from Bowden to Goodwood by 1903. What quantities of honey (or perhaps propolis) were needed to make this antiseptic salve and mother's 'true friend', touted in the 1890s by its New Zealand maker as a curative for the weakest child as well as a horse and cattle dressing, is not known. G.P. Hoatten was the Canterbury, New Zealand, representative for Llewellyn's Bee Ointment, produced by Edwin Gallichan at Ashurst. With yet another name change, Hoatten's Bee Ointment, a 'universal healer', became available at the turn of the century from Adelaide's chemists and storekeepers and appears to have stayed the distance into the late 1930s, presumably absorbing a measurable amount of honey.<sup>143</sup> Yet not until honey-gathering was no longer a cottage 'industry' but an organised section of an expanding and exportable primary production, directed at populations far larger than Australia's, were the quantities notable. The second part of this paper looks in part at that history.



### **Acknowledgements**

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<sup>1</sup> 'Disappearance of Old Land-marks', *Adelaide Observer (Observer)*, 13 April 1895, p.35b. Some of the research for this paper was made for 'Bee breeding: Show and Tell in the City', a paper presented at the 13th State History Conference of the History Trust of SA, Adelaide, May 2004; and the writer's interest in the history of bee breeding, whether urban or rural, originated from the 'Ligurian Bee Historical Research Project' for the Kangaroo Island Beekeepers' Association in 2002.

<sup>2</sup> 'The Beehive', *Observer*, 30 August 1884, p.13d.

<sup>3</sup> A history of later developments in South Australian beekeeping is in preparation by the writer.

<sup>4</sup> W.H Ward and K.F. Trueman, *A Quality Survey of Australian Honeys. A report for the Rural Industries Research and Development Corporation*, Queensland Department of Primary Industries, RIRDC Publication no. 01/049, May 2001, p.1. Over 2000-2001 Australia's estimated total production of honey was approximately 27 800 tonnes (nearly \$53 million in value), of which 8082 tonnes were exported. South Australia produced 16% of this total (V. B. Rodriguez, C. Riley, W. Shafron and R. Lindsay, *Honeybee industry survey. A report for the Rural Industries Research and Development Corporation by the Australian Bureau of Agricultural and Resource Economics*, RIRDC Publication no. 03/039, May 2003, p.9).

<sup>5</sup> F.R. Beuhne, 'Bee-keeping in Victoria', *Journal of the Department of Agriculture of Victoria*, 10 April 1912, p.228.

<sup>6</sup> Peter Barrett has published his research on early Australian, including South Australian, beekeeping history in *The Immigrant Bees 1788 to 1898 ...* (1995); volumes 2 and 3 appeared in 1999 and 2006, and volume 4 in 2010. His 'Victoria, the First Australian Colony to Import Ligurian Honeybees', *Australasian Beekeeper*, vol. 99, no. 7, January 1997, pp.300, 305-307 also gives valuable findings.

<sup>7</sup> *Inwards Manifests to South Australia with Crew and Passenger Lists, vol. 1, Feb. 1838-Sep. 1839, vol. 3, July 1841-Apr. 1842*, GRG 41/8, SRSA.

<sup>8</sup> *Colonial Times and Tasmanian Advertiser*, 8 December 1826, p.4.

<sup>9</sup> 'Royal Society', *Courier (Hobart)*, 24 March 1854, p.2.

<sup>10</sup> Letter in 'General Intelligence', *Hobart Daily Courier*, 13 April [probably 1853], p.2.

<sup>11</sup> *Observer*, 15 November, pp.5, 7-8.

<sup>12</sup> 'Rusticus', *South Australian Register (Register)*, 11 April 1846, p.2. With a (?) similar social sympathy, Albert J. Cook, Professor of Entomology, Michigan State Agricultural College, wrote that 'Apiculture may also bring succor to those whom society has not been over-ready to favor—our women. Widowed mothers, dependent girls, the weak and the feeble, all may find a blessing in ... the apiary' (*The Bee-keepers' Guide or the Manual of the Apiary*, 1884, p.5).

<sup>13</sup> 'Urbanus', *Register*, 2 May 1846, p.3.

<sup>14</sup> Nature Amator, 'Diseases of the hive bee', *Register*, 10 June 1846, p.4.

<sup>15</sup> 'The Honey Bee', *Queenslander*, 10 September 1881, p.344.

<sup>16</sup> The English Anglican cleric W.C. Cotton (1813-1879) wrote a manual for New Zealand beekeepers (1848) and taught beekeeping to Maori in the 1840s. Mrs Ellen Tupper was a partner with Mrs Annie Savery in the Italian Bee Company established at Des Moines, Iowa, in 1865; she was a queen-breeder, wrote *Mrs. Tupper's Journal*, was a contributing editor of the *American Bee Journal*, edited the *National Bee Journal*, and in 1872 taught beekeeping courses at Iowa State University.

<sup>17</sup> Quoted in G.B. Payne and E. Cosh, *History of Unley, 1871-1997*, The Corporation of the City of Unley, [1971], p.6.

<sup>18</sup> Diary of James Allen, 1850-1857, State Library of South Australia (SLSA): D 5028/2 (L).

<sup>19</sup> James Allen's Garden Book, March 1853 to January 1857, Unley Museum.

<sup>20</sup> 'South Australian Agricultural and Horticultural Society', *Register*, 1 March 1860, p.[207]b.

<sup>21</sup> *The Diary of Samuel Pepys M.A., F.R.S.: Clerk of the Acts and Secretary to the Admiralty*, London, G. Bell and Sons Ltd., 1942, ed by Henry B. Wheatley, vol. 4, p.380.

<sup>22</sup> Ebenezer Ward, *The vineyards and orchards of South Australia : a descriptive tour ...*, 1862, p.49.

<sup>23</sup> 'Honey: its preparation and use', *Advertiser*, 5 September 1871, p.3g.

<sup>24</sup> *South Australia: a sketch of its history and resources; a handbook compiled by John Fairfax Conigrave for the Colonial and Indian Exhibition, London, 1886*, p.82; *Observer*, 8 April 1871,

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p.9f-g.

<sup>25</sup> 'S.A. Beekeepers' Association', *Observer*, 27 June 1885, p.12b.

<sup>26</sup> *Observer*, 7 November 1891, p.30a.

<sup>27</sup> Langstroth's frame-hive was increasingly used in the USA from 1861 and was introduced to England by 1862 (Eva Crane, *The Archaeology of Beekeeping*, London, Duckworth, 1983, p.212).

<sup>28</sup> Trevor Weatherhead, *Boxes to Bar Hives. Beekeeping history of Queensland*, Stanthorpe, Queensland, International Colour Productions, 1986, p.87.

<sup>29</sup> A.E. Bonney, *Modern Beekeeping. A Paper by Mr. A.E. Bonney Read Before the S.A. Chamber of Manufactures (Incorporated) on February 8, 1883*, Adelaide, W.K. Thomas & Co., Printers, 1884, p.6.

<sup>30</sup> Isaac Hopkins, *The Illustrated Australasian Bee Manual and Complete Guide to Modern Bee Culture in the Southern Hemisphere*, 3rd edn., the author, [New Zealand, Auckland], 1886, p.276.

<sup>31</sup> Hopkins, *The Illustrated Australasian Bee Manual ...*, 1886, p.14.

<sup>32</sup> 'Australasian Bee Manual', *Observer*, 13 March 1886, p.13c. Isaac Hopkins edited J.C. Firth's *New Zealand and Australian Bee Journal* over its two years of independent publication. Started in July 1883, in June 1885 the journal became incorporated with the *New Zealand Farm, Bee and Poultry Journal*.

<sup>33</sup> 'The Beehive', *Observer* 22 March 1884, p.12. In 1853 Langstroth published *Langstroth on the Hive and the Honey-Bee. A Bee Keeper's Manual*.

<sup>34</sup> *Garden and Field*, vol. 3, 1 May 1878, p.190c. The *Garden and Field* became the official organ of the Department of Agriculture in 1894.

<sup>35</sup> 'The Beehive', *Observer*, 23 May 1885, p.10. Edward Coleman is believed to have exhibited honey at the *Colonial and Indian Exhibition*, London (South Australian Court) in 1886, a year when South Australia's Royal Agricultural and Horticultural Society gave Show prizes to exhibiting beekeepers ('Beehive', *Garden and Field*, vol. 11, no. 128, January 1886, p.93c).

<sup>36</sup> *Advertiser*, 14 February 1891, p.4.

<sup>37</sup> A.W. Howard, *Bees as Connected with Horticulture. A Paper read before the South Australian Gardeners' Society, on Saturday Evening, May 3, 1884 by Mr. A.W. Howard*, [Adelaide, 1884].

<sup>38</sup> *Garden and Field*, vol. 14, no. 160, September 1888, p.47b.

<sup>39</sup> 'The Beehive', *Observer*, 24 March 1883, p.12a; 'Apiarian', *Garden and Field*, vol. 8, April 1883, p.167b.

<sup>40</sup> 'The Beehive', *Garden and Field*, vol. 6, no. 70, March 1881, p.152c.

<sup>41</sup> Albert Gale arrived at Sydney from England in December 1866. After a period in journalism, he became a school teacher; and in 1890 he was attached to the Technical Education Branch as lecturer in horticulture and apiculture. Gale was interested in fresh-water fish, the work of the Zoological Gardens, and he researched and wrote enthusiastically on bee culture for the NSW Department of Agriculture. Over 1898, for instance, he sustained a significant ten-part series on the history and contemporary practices of bee management in volume 9 of the *Agricultural Gazette of New South Wales*. Gale died in 1922.

<sup>42</sup> Lee H. Watkins, 'John S. Harbison: California's First Modern Beekeeper', *Agricultural History*, vol. 43, no. 2, April 1969, p.240 (online, <<http://www.jstor.org/stable/4617662>>, accessed 21 June 2010).

<sup>43</sup> 'Bee-Keeping', *Brisbane Courier*, 15 June 1881, p.6.

<sup>44</sup> 'The Beekeepers' Association', *Queenslander*, 6 February 1889, p.320.

<sup>45</sup> Paul Depasquale, ed., *William Spettigue Lillecrapp's Diary September 1863–April 1864*, Oaklands Park, South Australia, Pioneer Books, 2008, p.25.

<sup>46</sup> 'Bee Items', *Garden and Field*, vol. 6, no.71, April 1881, p.167.

<sup>47</sup> Neighbour, p.101. A report on how the bees fared is given in 'The Acclimatisation [*sic*] Society', *Melbourne Argus*, 2 April 1863, p.5.

<sup>48</sup> Chambers, *The Colonial Bee-keeper*, p.11.

<sup>49</sup> *Observer*, 3 December 1870, p.8.

<sup>50</sup> Peter Koch, Murray Bridge, pers. comm., 3 March 2003.

<sup>51</sup> Albert Gale, 'Apiculture', *Agricultural Gazette of New South Wales*, vol. 12, January, 1901, p.214.

<sup>52</sup> *The Diary of Samuel Pepys*, vol. 3, p.348.

- <sup>53</sup> A.E. Ophel, 'Some Aspects of Beekeeping', *Leaflet no. 4/44*, Department of Agriculture South Australia, p.9.
- <sup>54</sup> *Garden and Field*, vol. 13, no. 151, 1887, p.83c.
- <sup>55</sup> 'South Australian Beekeepers' Association', *Garden and Field*, vol. 12, June 1886, p.5; *Garden and Field*, vol. 12, September 1886, p.41a.
- <sup>56</sup> SA Chamber of Manufactures, meeting 19 June 1884, p.125, SRG 112/1, vol. 4, 1883-1891, SLSA. Queensland formed a Beekeepers' Association in 1886.
- <sup>57</sup> 'S.A. Beekeepers' Association', *Observer*, 2 August 1884, p.12e.
- <sup>58</sup> South Australian Beekeepers' Association, *Annual Meeting (July 7, 1887) and Third Annual Report*, Adelaide, 1887, p.6.
- <sup>59</sup> Demonstrations included methods of transferring a colony from kerosine box to frame hive; of restoring a queen to a queen-less colony; and talks on the amount of 'pottering' by keepers that hived bees could bear; on cross-breeding; the advantages of comb foundation; artificial swarming; recipes for disease control; the races of bees; and on the chemical properties of honey.
- <sup>60</sup> 'South Australian Beekeepers' Association', *Garden and Field*, vol. 11, September 1885, p.44.
- <sup>61</sup> 'The Beehive', *Observer*, 19 July 1884, p.12c.
- <sup>62</sup> 'The Beehive', *Observer* 5 July 1884, p.12b; and 19 July, p.12c.
- <sup>63</sup> 'Fifth Progress Report of the Civil Service Commission', Minutes of Evidence, 18 September and 23 September 1889, SA Parl. Papers (*SAPP*), vol. 2, 1890, pp.49, 51. Bonney advertised in 1906 the sale from his home in Burnside of beekeeping appliances and queen-rearing hives, and 'several good colonies of Italian Bees' (*Advertiser*, 17 July 1906, p.4).
- <sup>64</sup> 'The Beehive', *Observer*, 3 May 1884, p.12b.
- <sup>65</sup> 'The Beehive', *Observer*, 29 December 1883 p.11e. These bees probably were the progeny of the bees imported from the bee-breeder J.S. Harbison, of Santa Clara Valley, California, by Angus Mackay of NSW in 1877 (which later went to James Carroll, Brisbane). Charles Fullwood came from Melbourne to Brisbane where he became foreman bookbinder at the Government Printing Office. He retired in 1887. As well as pursuing scientific beekeeping, Fullwood promoted the temperance movement ('Retirement of Mr. C. Fullwood', *Brisbane Courier*, 1 October 1886, p.5).
- <sup>66</sup> ABC TV, *Island Life: Kangaroo Island*, Gordon Glenn, producer, Natural History Unit, Melbourne, [2001], is an excellent documentary which nonetheless perpetuates imprecision about the Ligurian's first arrival on the Island: it came 'from Italy in the 1890s', the film incorrectly states. See the author's 'South Australia's early Ligurian beekeeping – and a lingering Kangaroo Island fable', *Journal of the Historical Society of South Australia*, no. 32, November 2004, pp.69-81.
- <sup>67</sup> 'Report of the Select Committee of the Legislative Council appointed with power to confer with a similar committee of the House of Assembly on Vegetable Products', *SAPP*, no. 90, vol. 3, 1887, pp.68-69. Edward Coleman also spoke at Adelaide to the Royal Commission on Vegetable Products for Victoria in March 1887 ('Victorian Vegetable Products Commission', *Register*, 4 March 1887, p.6c).
- <sup>68</sup> *Register*, 26 October 1887, p.2a. The *Garden and Field* devoted seven columns to Foul Brood in the November 1887 issue (pp.70–73).
- <sup>69</sup> 'Beehive', *Garden and Field*, vol. 13, no. 151, December 1887, p.83a-b.
- <sup>70</sup> *Melbourne Argus*, 24 October 1887, p.8. *An Act relating to the Protection of Vineyards* ('The Phylloxera Act') was not passed in South Australia until late 1899.
- <sup>71</sup> 'Beehive', *Garden and Field*, vol. 13, no. 151, December 1887, p.83b.
- <sup>72</sup> *An Act to prevent the spread of Foul Brood among Bees, no.410, 1887*. The bacterial pathogens of commercial honey bees cause American Foulbrood (primarily controlled by colony destruction), and European Foulbrood (controlled by antibiotic therapy). See Stephen Doughty, Joanne Luck and Russell Goodman, *Evaluating alternative antibiotics for control of European Foulbrood disease*, Rural Industries Research and Development Corporation, RIRDC Publication No. 04/095, Kingston, ACT, March 2004.
- <sup>73</sup> Legislative Council, 22 November, cols. 1545, 1544, *SA Parl. Debates*, 1887.
- <sup>74</sup> Petition nos 77-78, *SA Parl. Papers (SAPP)*, vol. 1, 1887, 1888.
- <sup>75</sup> 'The Foul Brood Bill', *Observer*, 10 December 1887, p.13b.



- <sup>76</sup> 'S.A. Beekeepers' Association', *Observer*, 10 December 1887, p.13b.
- <sup>77</sup> 'The Foul Brood in Bees Act', *Garden and Field*, vol. 13, no. 153, February 1888, p.109a.
- <sup>78</sup> S.J. Mitchell, 'Bees and Legislation', *Advertiser*, 13 August 1892, p.10.
- <sup>79</sup> 'National Prize Competition, 1892', *Agricultural Gazette of New South Wales*, 1892, p.570.
- <sup>80</sup> 'The Beehive', *Garden and Field*, vol. 17, no. 11, April 1892, p.213c.
- <sup>81</sup> 'The Beehive', *Observer*, 2 August 1890. p.11e.
- <sup>82</sup> 'S.A. Beekeepers' Association', *Garden and Field*, vol. 18, no. 12, May 1893, p.341a.
- <sup>83</sup> 'Chamber of Manufactures', *Advertiser*, 22 August 1893, p.6
- <sup>84</sup> Samuel James Mitchell (1852-1926), was one-time Member for the Northern Territory; he was South Australian Attorney-General when also president of the SA Beekeepers' Association in 1909. His son, the solicitor Harold Flinders Mitchell (father of Dame Roma Mitchell), read a paper on beekeeping in February 1910 to the Kingscote Agricultural Bureau while he lived at Kingscote, Kangaroo Island (*Journal of Agriculture of South Australia*, vol. 13, no. 8, March 1910, pp.710-711).
- <sup>85</sup> *Advertiser*, 4 March 1909, p.12.
- <sup>86</sup> 'The Honey Industry', *Advertiser*, 14 April, 1909, p.5; 'Beekeepers Association', *Advertiser*, 14 April 1909, p.5; 'A Conference of Beekeepers', *Advertiser*, 26 June 1909, p.9.
- <sup>87</sup> Norton, *South Australian Produce*, pp.10, 25, 26.
- <sup>88</sup> 'South Australian Beekeepers' Association', *Advertiser*, 6 March 1909, p.13.
- <sup>89</sup> Probably Samuel Randell (1835-1901), a son of William Beavis Randell (1799–1876), whose introduction to bees began at an early age with his grandfather's hives when living with him at Kenton Park, Gumeracha ('My Experiences with Bees', *Garden and Field*, vol. 13, no. 149, October 1887, p.62a).
- <sup>90</sup> Charles Rake was born in Wiltshire, England, of a Quaker family which arrived in South Australia in 1849. He died in 1907 aged 73 years. Rake and his son successfully experimented with ensilage; they grew 'rape, mustard, maize, holens, mangolds, beets, and many other experimental crops' (*The Garden and Field*, vol. 7, no. 81, February 1882, pp.40-41). Rake popularised the White Yorkshire pig, and was one of the first to introduce Ligurian bees to South Australia.
- <sup>91</sup> This probably was R.E.G. McDonald, a large honey producer, and a Honey Producers' League of SA committee member, who advertised in 1913 as a 'Bee and Honey Specialist' who supplied honey at Adelaide in seven pound tins for 2/11d, 14 pound tins, 28 pound tins, and 60 pound tins for 18/9d (*The Farm Stock and Station Journal*, July 1913, p.11a).
- <sup>92</sup> An obituary is in 'General News', *Observer*, 1 September, 1894, p.29d.
- <sup>93</sup> *Advertiser*, 22 November 1890, p.4.
- <sup>94</sup> 'Beekeepers' Association', *Register*, 7 May 1886, p.7c.
- <sup>95</sup> John Hunter, 'Bee', *Encyclopaedia Britannica*, 9th edn, vol. 3, Edinburgh, Adam and Charles Black, 1875, pp.484–503.
- <sup>96</sup> *Garden and Field*, vol. 10, June 1884, p.15. In 1881 'celluloid' comb was prophesied ('The Beehive', *Observer*, 5 March 1881, p.[395]b).
- <sup>97</sup> Virgil, *Georgics*, trans. by C. Day Lewis, London, Cape, 1963.
- <sup>98</sup> 'South Australian Beekeepers' Association', *Garden and Field*, vol. 14, February 1888, p.105; *Garden and Field*, vol. 10, June 1884, p.13; and *Garden and Field*, vol. 12, September 1886, p.41; Eva Crane, *The World History of Beekeeping and Honey Hunting*, New York, Routledge, 1999, p.344.
- <sup>99</sup> *Express*, 18 May 1888, p.2c.
- <sup>100</sup> *Garden and Field*, vol. 15, June 1889, p.iii.
- <sup>101</sup> 'A Beehive Manufactory', *Advertiser*, 15 December 1887, p.6d.
- <sup>102</sup> Dickins, n.p.
- <sup>103</sup> 'Beehive', *Garden and Field*, vol. 13, no. 146, July 1887, p.16c. (Percy) Tarlton Rayment (1882-1964) wrote that the first Australian bee book was written by J. Carroll in 1875; in 1881, I. Hopkins published the *Australasian Bee Manual*; Albert Gale's *Australian bee lore and bee culture, including the influence of bees on crops and the colour of flowers and its influence on bee life*, Sydney, William Brooks, appeared in 1912; and then came Rayment's own influential *Money in Bees in Australasia: a practical treatise on the profitable management of the honey bee in Australasia* (claiming the first reliable description of Australian 'honey' plants) (Tarlton Rayment, 'Centenary of the Bee in

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Australia', *Sydney Mail*, 22 November 1922, p.2). Rayment made no mention of Dickins's *Australasian Bee Keepers' Guide Book* nor C.G. Gurr's far more humble *Beekeeping and Honey Production in South Australia*. James Carroll wrote *My Little [Bee] Book, being a practical treatise on bees, their management and culture* (Brisbane, Courier General Machine Printing Office, 1875).

<sup>104</sup> Contemporary instruction for 'vegetable parchment' preparation was to dip ordinary paper for a few seconds in a solution of one part water to six parts sulphuric acid, then wash it to remove traces of the acid.

<sup>105</sup> Information is at <<http://www.powerhousemuseum.com/collection/database>>.

<sup>106</sup> *Advertiser*, 5 April 1890, p.8.

<sup>107</sup> Several of the beekeeping appliances bought in 1888 by the Technological Museum, Sydney, and inherited by the Powerhouse Museum, have been dispersed or transferred (two were discarded in 1923) (Sandra McEwen, Curator, Biotechnology, Powerhouse Museum, pers. comm., 16 March 2004).

<sup>108</sup> 'Re-installation of Bee-Hive', GRG 10/1/996/1943, SRSA.

<sup>109</sup> 'A New Industry', *Register*, 14 October 1889, p.5b.

<sup>110</sup> 'The Late Mr. A Fiebig – a musician of repute', *Observer*, 18 January 1908, p.40.

<sup>111</sup> It was by these bees that he demonstrated his theory of parthenogenesis (A.I. Root, 1975, p.560).

<sup>112</sup> Ronald Fiebig holds a copy of the program of this conference. August's baptism certificate names him Frederick August. His father was Johann Gottfried Fiebig (Ronald Fiebig, pers. comm., August 2002). The ships' registers show that August left Hamburg on the *Barcelona* on 21 September 1881 and arrived in South Australia on 26 November 1881; his wife arrived with their four children (Rudolf aged 17, Paul aged 15, Oscar aged 12, and Carl aged 9 years and six months), on the *Marsala* on 12 August 1882 ('Hamburg Index 1851, 1855-1886'; and 'Hamburg Departure Lists 1855-86', acc. no. 1531, pp. 138, 147, SLSA). Some first-name spellings differ from those subsequently used by the family. The ship-board diary ('*Meine Reise nach Australien*' [My Journey to Australia]) of August Fiebig's wife, Anna Louise (née Martin, born 1836-died 8 January 1921), gives 7 August 1882 as her date of arrival.

<sup>113</sup> 'South Australian Beekeepers' Association', *Garden and Field*, vol. 10, no. 113, October 1884, p.71b.

<sup>114</sup> A.E. Bonney, *Modern Beekeeping. A Paper by Mr. A.E. Bonney Read before the S.A. Chamber of Manufactures (Incorporated) on February 8, 1883* [sic], Adelaide, W.K. Thomas & Co., Printers, 1884, p.8.

<sup>115</sup> Bonney, *Modern Beekeeping*, pp.7-8.

<sup>116</sup> Eva Crane, *The Archaeology of Beekeeping*, p.97.

<sup>117</sup> 'Bee-Culture in Australia', *Observer*, 3 May 1884, p.12b.

<sup>118</sup> Believed to be the later Tivoli Theatre, Pirie Street. For a necessarily brief history of the important German influence on this city area see Susan Marsden, Paul Stark, and Patricia Sumerling, eds, *Heritage of the City of Adelaide. An Illustrated Guide*, Adelaide, Corporation of the City of Adelaide, 1990, p.147.

<sup>119</sup> *Observer*, 18 January 1908, p.406.

<sup>120</sup> The other musicians were, back row, R. Trenberth, 2nd clarinet; A. Heath, 1st clarinet; George Gardner, cornet; unknown trombonist; front row, T.L. Hawker, flute; A. Mumme, 2nd violin; T. Grigg, 1st violin; and unknown.

<sup>121</sup> 'Field Naturalists' Section, Royal Society. Minute Book', 22 April 1884, SRG 110/1/1, SLSA; 'The Beehive', *Observer*, 24 May 1884, p.12e.

<sup>122</sup> Unley Assessment Books, City of Unley Museum (with warm thanks to Margaret Paternoster). See 'The Agronomy Plots at Way College', *Garden and Field*, vol. 20, no. 11, April 1895, p.388a. In 1881, Dr John F. Joyce first lived in the residence and hospital that he built on eight blocks of land on North Parade (later Park Terrace, now Greenhill Road). This was bought in 1886 by the Way College Board of Governors. In 1904 the Way College building opened as the Methodist Ladies' (now Annesley) College. Robertson's corner house was the last of the Park Terrace houses east of the school to become part of its property (probably in March 1921), and became the infant school of Grades I and II to 1976, after which it was demolished (P.M. Twynam, *To Grow in Wisdom. The story*

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of the first seventy-five years of the Methodist Ladies College 1902-1977, [Adelaide], The School Council, 1977, pp.23, 202).

<sup>122</sup> Bonney, *Modern Beekeeping*, pp.7, 8.

<sup>123</sup> 'Field Naturalists' Excursion to an Apiary', *Observer*, 24 May 1884, p.12e.

<sup>124</sup> This was Clarence Tertius Robertson, born in 1883 (R.C. Petersen, comp., *The Pupils of Way College 1892-1903*, Adelaide, 1997, p.66).

<sup>125</sup> *Garden and Field*, vol. 10, June 1884, p.15.

<sup>126</sup> A.O. Chambers, *A.O. Chambers' (common sense) Information for the People*, [Adelaide], 1885, p.53.

<sup>127</sup> 'The Bar-frame Beehive', *Observer*, 5 March 1881, p.[395]b.

<sup>128</sup> Bonney, *Modern Beekeeping*, p.6. The Austrian Major August von Hruschka invented the hand-operated centrifugal extractor (beginning with a wooden tub) in 1865.

<sup>129</sup> 'The Honey Extractor', *Advertiser*, 28 December 1874, p.3.

<sup>130</sup> 'South Australian Beekeepers' Association', *Garden and Field*, vol. 11, no. 122, July 1885, p.20a.

<sup>131</sup> 'The Beehive', *Observer* 18 September 1886, p.12c. Tins holding sixty pounds of honey were 9 ½ x 9 x 13 ½ inches high.

<sup>132</sup> David J. Gordon, 'Messrs. A. Simpson & Son, Limited', *The Industries of South Australia*, Adelaide, Vardon/SA Chamber of Manufactures, 1910, p.78.

<sup>133</sup> 'A. Simpson & Son's Exhibits', *Register*, 1 March 1906.

<sup>134</sup> Eric Algra's lovely photographs of Mark Rosenzweig with the historic hives and Simpson extractor are in Angela Heuzenroeder, *Barossa Food*, Kent Town, Wakefield Press, 1999, rev. edn 2002, frontispiece, opposite p.xvi, and pp.175, 177.

<sup>135</sup> *Advertiser*, 23 November 1901, p.12; 'A Successful Manufacturer', *Register*, 7 March 1899, p.7d.

<sup>136</sup> 'South Australian Beekeepers' Association', *Garden and Field*, vol. 12, no. 140, January 1887, p.88b.

<sup>137</sup> *South Australia. Adelaide Jubilee International Exhibition. 1887*, Adelaide, Government Printer, 1884.

<sup>138</sup> *Garden and Field*, vol. 13, no. 147, August 1887, p.28a.

<sup>139</sup> Charles Dickins, *The Australasian Bee Keepers' Guide Book for Amateurs*, n.p.

<sup>140</sup> John Walters, beekeeper, lived at Goodwood West in 1887; he was most likely the senior member of Walters and Company, Beekeepers' Supply Manufactory that operated from 1888 at 28 Flinders Street, Adelaide.

<sup>141</sup> Albert J. Cook (1842-1916), *The Bee-keepers' Guide, or the Manual of the Apiary* (14th edn in 1891); Henry Alley, *The Bee-keeper's handy book ...* (1883); Gilbert Doolittle, *Scientific Queen-rearing as being practically applied; a method by which the best of Queen-bees are reared in perfect accord with Nature's ways* (1846).

<sup>142</sup> 'Pithy Pars', *Garden and Field*, vol. 14, no. 167, April 1889, p.131c.

<sup>143</sup> *Advertiser*, 1 December 1903, p.2; *Advertiser*, 3 March 1938, p.20; *Ashburton Guardian* (New Zealand), Rōrahi XVII, Putanga 4170, 20 Paengawhāwhā, 1897, p.4

(<<http://paperspast.natlib.govt.nz/cgi-bin/paperspast?a=d&d=TS18970428.2.57.5&l=mi&e=-----10-1----2-all>>).