

# The Archaeology and History of Pharmacy in Victoria

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*The singular role of pharmacy as a distinct profession has not been recognised in Australian archaeological investigation. The practice and tools of pharmacy differ from those of the medical profession and should be identified accordingly. This study presents a critique of the broad, generic classification of all health care products as 'medical', by providing an outline of the pharmacy item types which may ultimately have become part of the archaeological record. Also investigated is the development of pharmacy within colonial Victoria, and the medical and pharmaceutical legislations which legally distinguished the two professions. The collection from Dow's pharmacy, Chiltern, was documented to identify the range of material items in a typical nineteenth and early twentieth-century Australian dispensary and retail pharmacy, which will serve to assist the recognition of this material in future archaeological investigation.*

## INTRODUCTION

The singular role of pharmacy as a distinct profession has been largely overlooked in Australian archaeological investigation, though the continued contribution of this practice to the health of individuals and societies throughout the world demonstrates its importance. The purpose of this study is to investigate the archaeological potential of both retail products and dispensary equipment typically located within the nineteenth- and early twentieth-century Australian pharmacy. This will indicate the types of artefacts that may ultimately have formed part of the archaeological record, to which the contribution of pharmacy is yet to be fully recognised.

Generally, health care products recovered from the archaeological record are catalogued under the generic term 'medical', or some derivative of this term, such as 'healthcare' or 'hygiene'. As yet, the distinction between medical and pharmaceutical artefacts has not been made, and no formal archaeological investigation of pharmacy products has been undertaken in Victoria. It is, however, essential to separate the history and practices of pharmacy from the history of medicine and medical treatments. For centuries, medical practitioners have predominantly treated patients and prescribed remedies, and pharmaceutical practices have primarily involved the preparation and supply of these treatments, though some diffusion between the roles did occur. In the latter half of the nineteenth century, Victorian pharmaceutical and medical legislation, education and public opinion formally distinguished the two occupations, providing clear, individually protected professional practices. The non-recognition of pharmacy-specific artefacts disregards the healthcare provision by a distinct and important professional practice in colonial Victoria. Dow's Pharmacy (1859–1968), in regional Victoria was used as a case study to provide a representative sample of the typical pharmacy retail and dispensary equipment and stock, which will aid the recognition and ultimate interpretation of this material in the archaeological record.

As yet, the material culture of pharmacy as a separate branch of healthcare has not been identified or documented in Australian archaeological investigation. Prescription, patent and proprietary medicine bottles are the most commonly recovered pharmaceutical artefacts in the archaeological record, yet where pharmacy-specific items are referred to in artefact analyses, the role of the pharmacy in the supply of

these products is not mentioned, either due to a different focus, or a lack of interest in this profession. Peter Davies (2002) in "'A little world apart": Domestic consumption at a Victorian forest sawmill' recorded that 35 medicine bottles were recovered during the 1997–1998 excavation of the sawmilling site of Henry's No. 1 Mill in the Otways State Forest. In 'Poor Man's Diggings: Subsistence Mining in the Nineteenth Century', Susan Lawrence (1995) recorded that 73 medicinal artefacts were recovered from the Dolly's Creek goldmining site, and specifically mentioned eight medicine bottles. Although patent medicines were commonly sold without requiring the consultation of a physician, the role of the pharmacy in the supply of these products was not articulated in either study. Fiona Starr (2001) recorded 479 artefacts recovered from the Norfolk Island Hospital privy, and despite listing a dispensary as part of the hospital, only scant mention of any pharmacy-specific artefacts was made. This small sample of representative studies highlights the general manner in which pharmaceutical artefacts have been overlooked.

There is the potential for pharmaceutical artefacts, once recovered, to be incorrectly identified, and a key question is whether the lack of recorded pharmacy-specific artefacts is due to insufficient documentation and inability to identify these items, or because of a lack of pharmacy material entering the archaeological record in the first place. The Sands & McDougall trade directories allow valuable insight into the development of pharmaceutical wholesale, retail and manufacturing practices in nineteenth-century Melbourne. As can be seen in Table 1, the numbers of chemists and druggists in Melbourne increased dramatically until 1890, and the small decrease in numbers over the last ten years of the nineteenth century may be explained by the economic depression of the 1890s. Subsidiary businesses also developed at this time, and Chemical Manufacturers were listed separately from 1868, and from 1891 Chemists' and Druggists' Machinery Manufacturers and Chemists' Sundries were also listed. The substantial numbers of pharmaceutical retail and wholesale businesses in Melbourne alone indicates the importance of pharmacy in Victoria at this time. Such numbers suggest a significant consumption of pharmacy material, such as would have been required to maintain a viable business in a competing market. The assumption must be therefore, that the discard of these items will have contributed to the archaeological record, and further and more specific study is required to uncover not the existence, but the extent of this contribution.

**Table 1: Dates and quantities of pharmaceutical businesses in nineteenth-century Melbourne, from Sands & McDougall 1857–1900.**

Date	Chemists & Druggists (Retail & Wholesale)	Chemical Manufacturers
1860	88	
1865	106	
1870	111	3
1875	146	10
1880	152	11
1885	177	17
1890	248	32
1895	246	42
1900	205	36

## PHARMACY HISTORY

The roots of modern pharmacy are commonly held to lie in the ancient works of the Egyptians, and the Classical Greek works of Hippocrates, Dioscurides and Galen (Ghalioungui 1963: 144). These works were expanded following the rise of Islam, and by the thirteenth century, both Arab-Islamic and Southern European pharmacy practices had been established. Throughout the fifteenth, sixteenth and seventeenth centuries, the apothecary's shop distinguished itself from other traders 'principally by its shelves lined with drug containers, and the kitchen where the bulk of the preparation was carried out' (Legge 1986:8–9). The history of pharmacy as a separate, legally recognised professional practice can be traced to seventeenth-century England when, 'in 1617, the independence of London apothecaries from grocers had been recognised by royal charter' (Haines 1998:4). The 1815 *Apothecaries Act* further distinguished the role of the apothecary by establishing 'their right to buy, compound, dispense and sell drugs and medicine by wholesale or retail' (Jackson 1999:3). Victorian pharmaceutical practices stemmed largely from these developments in England, and legislative protection was established to erase the competition with doctors for dispensing rights, and as protection of their trade from grocers and other retailers.

### Pharmacy history in Victoria

The district of Port Phillip was established by European settlement in 1835, and 'by 1842 there were six shops openly trading in Melbourne as chemists' (Haines 1988:60). During the 1840s, chemists and druggists were also trading in the regional areas of Corio, Portland and Geelong (Haines 1994: 31). The beginning of the gold rush in 1851 opened Victoria to inter-colonial and international migration on a scale never before witnessed in the region, and was the catalyst for the expansion of the city of Melbourne. 'Approximately 584 000 persons emigrated to Victoria from July 1851 until the end of December 1861' (Broome 1984:72) and 'among those who flooded into Victoria in search of gold were young chemists and druggists who had been apprenticed in England and worked there as assistants' (Haines 1988:63). The lure and promise of fortunes made through goldmining were not always fulfilled however, and many of these men quickly returned to their former trades, some establishing pharmacies in Melbourne and others on or near the goldfields themselves. It was in the establishment of pharmacies to service the goldfields that the regional development of the practise flourished. The lasting effect of the gold rush on the

development of pharmacy in Victoria is clear, as many of the men who established the Pharmaceutical Society and Pharmacy Board of Victoria had arrived during the peak migration period of the early 1850s.

Although patient diagnosis and treatment was typically the domain of medical practitioners, many pharmacists 'diagnosed their clients' illnesses and prescribed the drugs they prepared' (Hagger 1979:167). This service was particularly vital in isolated areas, where access to qualified doctors was limited. Fees for medical practitioners were high, and pharmacies were more easily accessible and cost effective, although pharmacists did not have sole dispensing rights (Pensabene 1980:9). By the mid-nineteenth century, chemists and druggists as well as medical practitioners in Victoria were beginning to demand legal protection from the other through regulation and legislations. The Victorian *Medical Practitioners Act* of 1862 was passed to distinguish educated from fraudulent practitioners by restricting the registration of medical titles and rights of practice. The *Pharmacy Act* and *Poisons Act*, both passed in Victoria in 1876, were designed to protect the public from dangerous, toxic or addictive substances, to regulate and protect pharmacy from fraudulent practitioners and to establish a divide between pharmacy and medicine (Haines 1994:91). These public health reforms formally and legally distinguished the two professions in this state, and established a precedent for the separate identification of the products and tools utilised by each.

From the mid-1850s the term 'quack' used to describe 'anyone who fell outside the borders of what was becoming orthodox medicine' (Martyr 2002:8), eventually including pharmacists. Although many quack remedies 'were genuine in design and intention' (Haines 1994:109), some provided no help and others contained potentially harmful ingredients. Two early twentieth-century studies published by the British Medical Association investigating medicinal costs and contents suggested that some quack medicines were deliberately fraudulent in their claims, so it is hardly surprising that this may have resulted in damaging the reputation of those who sold these products. These medicines were both inexpensive and readily available, initially not only from pharmacies, but also from grocers and through mail order catalogues. The claims made through the advertisements of these products also increased their popularity. The Pharmacy and Poisons Acts were ways in which the public were offered some protection from fraudulent and potentially dangerous products, and allowed pharmacists to regain public confidence in their profession.

### DOW'S PHARMACY, CHILTERN

Dow's Pharmacy, a National Trust property in Chiltern, provides an outstanding case study for the archaeology of pharmacy artefacts. Chiltern lies between the United Shire of Beechworth and the Shire of Rutherglen, south of the Murray River (Ashley 1974). Dow's Pharmacy, 42 Conness Street, opened in 1859 and continued trading until 1968. Following the closure of the pharmacy, the original shop fittings, stock, records and pharmaceutical equipment were left on site. In 1988, the pharmacy's last owner, Mrs Hilda Dow, gave the building and its contents to the National Trust of Australia. Between 1988 and 1991 major repairs were done to the building, retaining much of the original contents. The contents of the shop have been left where they were found when the National Trust acquired the shop. The collection retains much of the typical nineteenth-century dispensary equipment and drug jars, as well as the retail stock for sale until the pharmacy ceased trading in 1968.

## The pharmacy layout

The pharmacy is divided into two distinct rooms, each with its own purpose. The retail area, open to the public, was where the patent and proprietary medicines, cosmetics, baby items, cameras and gifts were on display for purchase. Behind the front counter is the drug run, a set of wooden drawers that 'held herbs, roots [and] powdered chemicals' (Jackson 1999: 6). The dispensary, at the rear of the premises, was used solely by the proprietor of the pharmacy. This was where the preparation of remedies and treatments was undertaken, and is typical of other nineteenth-century dispensaries with 'no ethical or proprietary medicines, only drugs and galenicals on view' (Haines 1988:154). As the 'practice of pharmacy has always necessitated the use of specialised equipment' (Matthews 1971:xiii), familiarity with these items will assist the identification of pharmaceutical artefacts from the archaeological record.

## The shop collection

The majority of the shop collection consists of treatment products commonly sold without requiring a prescription. It is important to recognise the difference between patent, proprietary and ethical medicines, as these terms are commonly misapplied. While ethical medicines could only be sold with a valid prescription, 'patent medicine' has become the common, generic term applied erroneously to all remedial agents sold without prescription' (Fike 1987:3). However, not all medicines sold without medical consultation were patent medicines. Proprietary medicines were registered by brand name or trademarked bottle design alone, and the contents of these products could remain undisclosed. Patent medicines, however, were registered by the full 'disclosure of formulas and contents' (Fike 1987:3). Both of these treatment types were popular among consumers because of ease of acquisition and relatively low costs, but not all of them were effective or safe. Many contained harmful and addictive ingredients, such as narcotics, which may have been unknowingly consumed because of a lack of readily available information on proprietary product labels. The late nineteenth century witnessed an era of enormous popularity of these treatment types, culminating in the legislative changes established to protect consumers from potentially harmful products.

The relative proportion of the different ailment types in the pharmacy collection indicates very clearly the treatments most commonly purchased. The products designed for and claiming to treat coughs appear most commonly in the pharmacy, and according to the analyses by Mullett (1919:10), 'the number of proprietary medicines for the cure of coughs' both advertised and sold was very large. The same study noted 'the most widely advertised pills and other proprietary preparations were put forward as remedies for indigestion' (1919: 87), and antacids were the third most commonly recurring treatment type. Also prevalent in the collection were products for vitamin deficiencies, pain relief and hair care treatments. The predominance of one product type over another can indicate the common requirements of the pharmacy customers, thereby allowing insight into the health and hygiene needs of the broader community.

The shop collection also provides valuable insight into the container types utilised in early to mid-twentieth-century Victorian pharmacies, and the proportions of each container type indicates not only the typical use of each material in pharmacies at this time, but also the relative potential of these containers to have entered the archaeological record (Fig. 1). The shop collection includes paper-labelled clear and brown glass bottles and jars, variously coloured plastic containers, metal cylinders and cardboard boxes. Cardboard boxes are

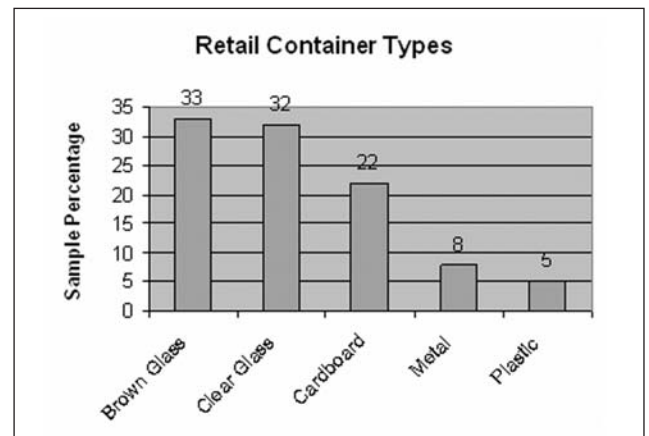


Fig. 1: Retail container type proportions in the shop collection.

common throughout this collection, but are not durable, and therefore unlikely to have survived in the archaeological record. Metallic cylinders are also present in the shop collection, but the potential for metal to corrode compromises the potential for definite identification of these containers as pharmaceutical artefacts. Plastic containers have been utilised for pharmaceutical products much more recently than the traditional glass, paper and metal containers, and are therefore also unlikely to be recovered from nineteenth and early twentieth-century archaeological sites. Paper-labelled brown and clear glass bottles and jars are the most abundant container types in the shop collection, and are the most likely to be recovered during archaeological excavations, because of the greater potential for discard and survival of glass products. The identification of these bottles as pharmaceutical artefacts is by no means certain however, as any damage may render these bottles indistinguishable from other glass containers.

While the survival or identification of these container types is uncertain, the shop collection also includes a number of embossed glass medicine bottles, which are far more likely to be recognised than the other retail containers. In the latter half of the nineteenth century, the increased commercial demand for unique bottle designs led to the substitution of etching and engraving for embossed motifs. The greater versatility of the moulding process allowed for individual designs to be developed and the manufacturer's information to be embossed onto the bottles themselves (Fike 1987:4). The embossing process involves 'the use of full size moulds, either blown, pressed or machine made, and this was the most common form of commercial markings on containers in the



Fig. 2: Typical items in a mid-twentieth-century retail pharmacy collection.

eighteenth and nineteenth centuries' (Jones & Sullivan 1985: 16). Five of the embossed bottle types within the Chiltern pharmacy collection were also recovered from Henry's No. 1 Mill site (Davies 2002), suggesting that the same products were being purchased and consumed at different sites throughout Victoria, and the role of pharmacy in their supply should be considered when interpreting and analysing artefact assemblages. Some embossed bottles may also provide the means of assisting in dating assemblages, as pharmacists would often emboss their own names onto bottles to encourage reuse and repeat sales. The discard of these bottles provides an opportunity to link the artefact with a specific person and the known dates of proprietorship.

The large set of drawers known as the drug run is also located within the retail area of the pharmacy, and despite these drawers being fixed to the walls of pharmacies, the archaeological potential of even these must be considered. 'Because nineteenth-century cabinet making was such good workmanship, sets of drawers are sometimes reconditioned for sale as pieces of furniture' (Matthews 1971:68) thereby allowing individual discard habits to permit them to enter the antique market or archaeological record.

### The dispensary collection

The dispensary collection retains much of the typical late nineteenth-century drug jars and pharmacy equipment, including the equipment used in the preparation of prescription or ethical medicines. Glass measures and funnels, scales, weights, prescription ledger, stamps, mortar and pestle, marble slab and spatula, pill cutter, suppository moulds, typewriter, labels, empty bottles and cork stoppers make up the dispensary collection, and give a very clear indication of the type of equipment typical in a dispensary of this time.

Only four glass colours are represented in the drug jar collection, clear glass being the most common. Light green glass is found in only two bottles in the collection, while brown and blue glass bottles are more common. While the discrepancies in the numbers are clear (Fig. 3), the glass colour types are relatively uniform in the collection, and follow what was typical of other nineteenth-century dispensaries. 'Most bottles were made of colourless glass, but cobalt blue was sometimes used, particularly for syrups' (Jackson 1999:7). While blue glass was frequently used for medicinal bottles, clear, brown and green glass had a more general application, so it is necessary to look beyond the glass colour to positively identify these as pharmacy artefacts in the archaeological record (Fike 1987: 13). The bottle stoppers are also relatively uniform with only three types represented in the collection, and while the cork stoppers may not have survived in the archaeological record, the glass stoppers and screw caps are more durable. As may be expected, the bottle labels provided the most extensive information, not only about the bottle contents and manufacturer, but also the manner in which these bottles may be distinguished from other types in the archaeological record. The collection predominantly displays paper labels, both printed and handwritten, although painted and engraved bottle labels are also present, as are bottles with recessed panels (Fig. 4). Although the paper labels may not survive archaeologically, the other label types can give a fairly broad idea regarding the date and contents of the bottle, as most early labels were engraved or painted, and 'towards the end of the [nineteenth] century bottles were moulded with recessed panels' (Jackson 1999:9). The identification tools provided by glass colour and labels particularly are vital to the recognition of these bottles as pharmacy-specific items.

The types of pharmacy equipment which might more

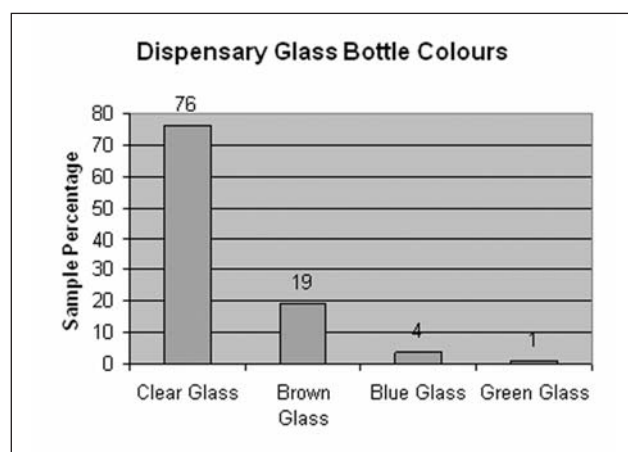


Fig. 3: Dispensary bottle glass colour comparison.

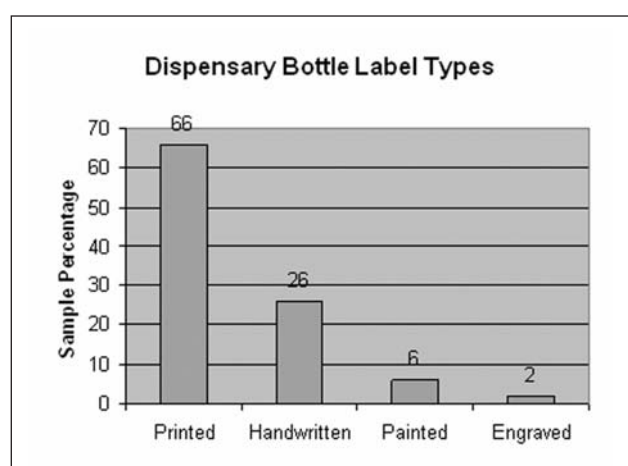


Fig. 4: Dispensary bottle label number comparison.



Fig. 5: Drug bottles in the pharmacy dispensary.

commonly have been either broken or disused and discarded were the glass measures, and glass bottles used in the supply of prepared medicines to the public. The material and repeated use of these measures made potential damage to them quite likely, thereby increasing the probability of discard. The engraved graduations and conical shape of these measures make them distinguishable from other glass artefacts, even if



Fig. 6: Typical dispensary equipment: weights, scales, mortar and pestle, slab and suppository moulds.

they had they been broken prior to entering the archaeological record (Jackson 1999:11). The size and shape of the scales and weights used in the dispensary separates them from the types used in either commercial or private kitchens, and the importance of their role to the preparation of ethical medicines suggests both a highly common usage and speedy replacement of any broken pieces. The mortar and pestle remains an important tool in the pharmacy dispensary, as many ingredients have 'to be pulverized before being administered in the form of powders or used for ointments' (Matthews 1971:29). The mortar and pestle has a long and continued history of use, and was made from a variety of different materials such as 'brass, iron, glass, ivory and hardwoods' (Jackson 1999:11) although ceramic materials became more common in the late eighteenth century. The pill cutter and suppository moulds are easily distinguishable by their unique shapes, and were used in the dispensary to alter the administration of certain medications until the commercial preparation of tablets, suppositories and pessaries became more common. The constant use of all of these items in the pharmacy dispensary suggests the probability of discard of broken or obsolete equipment. The specific use and discard of these items will have contributed to the amount of pharmacy material in the archaeological record.

Twentieth-century commercial manufacturers reduced the role of the pharmacist in the dispensary preparation of ethical medicines, and altered both the layout and use of the pharmacy dispensary. While the production of some preparations, predominantly creams and ointments, continues in the practice of pharmacy today, the role of the dispensary is now to house the packaged medication and computers necessary to record prescription information.

## ARCHAEOLOGICAL IMPLICATIONS

The shop collection provides very clear information regarding the healthcare needs of the Chiltern community, and the services and treatments provided by the pharmacy. The abundance of certain treatment types over others reflects the importance of the role of the pharmacy in the health of the community. Products designed to treat coughs, indigestion, vitamin deficiencies and pain were most common, followed by hair care treatments and animal care products. A wide selection of infant and children's medicines were included in the collection, suggesting a willingness in the community to entrust the care of their children to their pharmacist. Products for pregnancy, foot care, weight control and bandages however, were represented by only one product each in the

sample, suggesting that the community's requirements of these were more limited, or that these items were being acquired through other sources. Product repetition occurring within the collection also reflects the brand and product preferences of the community, and these preferences may have been due to greater success or confidence in these products, or because of the cost involved in their purchase.

The practice of pharmacy allowed greater scope for more reliable and safe domestic and self-medication, and the origins of these products and drug manufactures can indicate both international trading practices and the development and local use of Australian manufacturing companies. As can be seen in Figure 7, Australian manufacturers far outnumber the international companies, reflecting either a preference for local products, or suggesting a greater availability and ease of acquisition.

The products described in this study indicate that the role of the pharmacy in community health was important, suggesting the products produced for and supplied by local pharmacies were consumed at a level great enough to sustain many competing businesses. Why then has there been so little pharmaceutical material detailed in the archaeological record? One answer may lie in the practice of bottle hunting, where bottles are illegally removed from the archaeological record for private collections. Particularly prized are complete or decorated bottles, which may help to account for the scarcity of medicine bottles recovered from Australian artefact assemblages.

Bottle reuse was a common practice in pharmacy, and much of the proprietor information embossed onto the bottles themselves was to ensure repeat sales. Bottles were less likely to be discarded if they were intended for further use, and those embossed with the product name may be assumed to have been reused for the same product. However, it should not be universally assumed that all bottles were reused for the same product, and this must be considered when interpreting artefact assemblages. The commercial, large-scale manufacture of proprietary and ethical medicines reduced the need for bottle reuse however, as the individual packaging of standard sizes of many medicines decreased the need to refill bottles with medicines prepared on site. The late nineteenth and early twentieth-century introduction of pharmaceutical manufacturers would most likely have led to a greater discard of these containers, and the more durable materials can be expected to be recovered from recent archaeological sites. The majority of the containers in the collection are glass, which is relatively easily broken, but durable enough to survive in the archaeological record. Glass is the pharmaceutical container type most likely to be recovered during excavation, which has been demonstrated by the documentation of medicine bottles

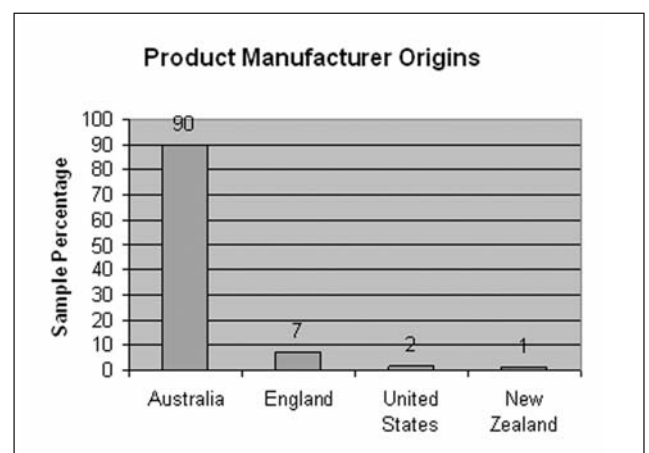


Fig. 7: Complete pharmacy collection product origins.

recovered from Henry's Mill, Dolly's Creek and the Norfolk Island Hospital (Davies 2002, Lawrence 1995, Starr 2001). The plastic containers in the shop collection demonstrate the introduction of a new manufacturing industry within the practice of pharmacy. These are light, inexpensive, disposable and durable, which suggests that they are far more likely to survive in the more recent archaeological record than the paper or cardboard packaging found within the collection.

Probably most important however is the recognition of the contribution of pharmaceutical material to the archaeological record, and the appropriate classification of pharmacy items when they are recovered. Although preliminary, studies such as this may help to aid recognition of pharmacy material, and highlight the need for further and more detailed research into this historically significant practice.

## CONCLUSION

The rapid development of the pharmaceutical industry in the nineteenth century demonstrates its significance to colonial Victoria. Many isolated communities did not have access to medical practitioners, which increased the importance of the practice in the provision of healthcare in this era. The care and treatments provided by the pharmacy can give very accurate insight into the health and hygiene requirements of late nineteenth and early twentieth-century Victorian communities. The Dow's Pharmacy collection reflects the most common treatments and brand preferences within the community, providing an initial indication of health and hygiene requirements.

The intention of this study has been to recognise a profession which, to date, has been largely overlooked in Australian archaeological investigation. It is essential to separate the practice of pharmacy from beneath the generic class of medicine, not only because the services provided differ, but also because the items used in each profession are unique. The legislative changes of the nineteenth century ensured that the professions were legally separated, and formed the basis upon which future archaeological interpretation should be based. This study represents an initial attempt to document the archaeological potential of pharmacy material in Australia, an area with enormous potential for further investigation. Further studies of pharmaceutical materials will result in greater recognition and identification of pharmacy-specific artefacts in the archaeological record, thereby expanding our knowledge not only of this important artefacts class, but also the sites where they are found.

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