

Once upon a long time ago . . .

# The early Australian pharmacists

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Occasional address to pharmacy graduates at Victorian College of Pharmacy  
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At least 30,000 years ago aboriginals lived and wandered near the site of this College. Many of them were pharmacists.

Dr L. J. Webb recently found that at least 124 different species of native plants were believed by aboriginals to have medicinal qualities. As Australia consists of many botanical regions, no single aboriginal knew all these plants. Nor were the plants necessarily as curative as the aboriginals believed.

Nevertheless, some of their intoxicants, poisonous sedatives, sore ointments, diarrhoea remedies, cough and cold palliatives, and even an oral contraceptive fit in with present pharmaceutical knowledge. Many of their other medicines, like ours, probably depended on the faith of the swallower.

It would be difficult to envisage an aboriginal walking more than a mile without recognising a grass, shrub, flower or tree which was valued as a medicine or poison. Many of the plants which overhang the suburban fences today — pittosporum, melaleuca, grevillea, acacia and eucalypt — were once prized for healing rather than ornamental qualities.

At least four species of acacia were used as a cure for coughs, colds, and laryngitis. The warmed leaves of a species of pittosporum were held against the breast of a mother to induce the first flow of milk for a new child. The inner bark of the custard apple was pressed against an aching tooth in the hope of killing the pain.

The leaves or bark of at least eight species of eucalyptus were prepared for a variety of ailments ranging from gastro-intestinal illnesses to heart troubles.

In preparing eucalyptus oil the aboriginals lacked the advantage of the

boiling process; but by rubbing and bruising and squeezing the young gum leaves and soaking them in a wooden coolamon of water, they could produce a green liquid which, once swallowed, was said to cure any cold or headache.

Herbal remedies were part of aboriginal surgery. The Reverend T. T. Webb, writing in a learned journal on "Aboriginal Medical Practice in East Arnhem Land", described sympathetically the surgery he had seen during long experience in that region. If a man were so wounded that his intestines protruded, the first test was to see whether the intestines leaked.

The wounded man sat down and allowed a mate to ease out as much as possible of his viscera, which were then arranged spaghetti-like on the sand. While the wounded man drank water the spectators crowded around, closely watching the exposed viscera to observe the effect. If the water leaked out, that was bad news. If no water was seen to leak, the viscera were washed and eased back into the body.

Now was the time for the pharmacist. He pounded a small carrot-like root and a kind of grass between stones, and the resultant mash was stuffed inside the abdominal cavity "in order to keep the organs in position". The outer wound was then painted with white clay, dressed with a concoction from the bulb of the white lily, and finally bandaged with strips of paperbark. One conclusion can be safely drawn. The recuperation, or death, of the wounded man was quick.

Tobacco in many stretches of Australian coast arrived with the Europeans but in huge areas of the interior it was there long before the Europeans. Native tobacco was usually known as pituri, or by a variation of that name. The first

printed record of this narcotic is probably in the diary of W. J. Wills who with Burke lost his life while crossing central Australia in 1861. Wills had received a little of the tobacco from an aboriginal and, after chewing it, said it was "highly intoxicating".

It was always chewed — not smoked. The usual ball of "chewed grass" was about the size of a man's thumb. It was sucked within the lower lip and rolled around with the tongue: at meal time it was squeezed behind the ear. This drug was so valued as a stimulant or narcotic that it constituted the main traffic of the long Aboriginal trade routes in central Australia.

The most common species of native tobacco was *Duboisia hopwoodii*, named by the botanist Baron von Mueller after Henry Hopwood, a former convict who, in 1856, built a pontoon bridge across the Murray at Echuca. It was perhaps appropriate that Australia's most famous narcotic should have been named after an ex-convict.

One celebrated species of pituri came from southwestern Queensland, especially around the Upper Mulligan River. The shrub, a species of *Duboisia*, was a twiggy wheaten-yellow plant which a white man, craving for tobacco, would have walked past without realising its punch.

By what accident or experiments its narcotic qualities were discovered by aboriginals will never be known, but it was one of the hundreds of useful botanical discoveries which they made — discoveries which in utilitarian value surpassed those made by outstanding European botanists in Australia.

The plant flowered about August, and the flowers and thin leaves and dry stems were harvested and dried. They were

carried in netted bags about the size of a woman's small handbag. The mixture consisted mostly of yellow twigs, not unlike the "wood" one sometimes finds in a packet of coarse ready-rubbed tobacco. Before the *Duboisia* was chewed, it was usually blended with other leaves and wood ashes.

Similar drugs were widely used for hunting and fishing in central Australia. The placing of twigs of *Duboisia* in a waterhole poisoned the water; emus which drank it were stupefied and easily caught.

Another variety of the *Duboisia* was used along the Shoalhaven River, near the coast of New South Wales. A branch soaked in a pool so affected the water that eels were intoxicated and easily caught.

How many varieties of bark, leaves, vines, and roots were used to poison fishponds will never be known, but probably there were many. In the rivers flowing into the Gulf of Carpentaria the coolibah or flooded box tree (*Eucalyptus microtheca*) grew up to thirty feet high and its leaves or bark were pounded and then immersed in the ponds in the hope of stupefying fish.

Near Geelong the bark of a willow was used, while small lagoons and waterholes of the Cloncurry River were poisoned with the tiny pods and thin leaves of the *Tephrosia*, a small bluish shrub. In some parts of Queensland a poisonous bark was placed in a dilly bag which was lowered into the creeks — like a Tetley tea-bag.

Aboriginals had no knowledge of alcoholic fermentation. They did not attempt to convert grain or fruit into alcohol. Nomadic people are unlikely to learn how to make alcohol because they do not own the necessary vats and vessels in which fermentation takes place: moreover they frequently travel and they travel too lightly to be bothered with the carrying of food and liquids. In a few places, however, fermentation occurred naturally and the aboriginals drank the liquor which nature preserved.

In Tasmania a cider eucalypt yielded a fermented sap. Rather like a blue-gum in appearance, the tree grew in the bracing climate of the central plateau, and in summer its trunk contained a sap which, when tapped, was said to make aboriginals drunk.

In Victoria aboriginals had also been seen to suck honey-rich plants and to immerse the opaque manna of the peppermint gum in water and greedily drink the mixture. In South Australia the

flowers of species of banksia and hakea possibly produced a little alcohol in damp weather. Such alcohol would have been "quite insufficient to produce even merriment," Professor J. B. Cleland commented soberly.

The virtual absence of alcohol until the European invasion may be part of the explanation for the savage effects of alcohol on the first generation of aboriginal drinkers.

Our own ancestors, coming here from Europe, made little use of the pharmaceutical knowledge of the aboriginals.

Nearly all the land in Australia was settled by the British immigrants in the 19th century. That happened to be the century when the British were so proud of their science-based civilisation, their new railways, their new telegraphs, their great manufacturing mills, their new tar-based drugs and their multiplying knowledge, that they saw little of use among the wandering Australian aboriginals.

Except for eucalyptus oil the Europeans found little. They found little partly because they expected to find little. If you do not search you rarely find: accidental discovery, in a real sense, is usually a myth. Meanwhile, much of the pharmaceutical knowledge of the aboriginals in Tasmania and southern Australia quickly died out.

A strange episode happened in the Second World War. Some of the drugs based on alkaloids had previously been imported from Germany. Once the war began Australia — and eventually her allies — became short of the powerful drug, hyoscine hydrobromide. It was required as a sedative and as a way of coping with seasickness in troopships and air-sickness in air crews. The drug was powerful, and one dose equalled on hundredth of a grain.

Australian scientists searched for new sources of hyoscine. They found it in one of the old aboriginal drugs — in the leaves of the NSW and Queensland corkwood tree, known as *Duboisia myoporoides*, which in olden days had been thrown into waterholes to stupefy the fish. The leaves of the tree were now gathered on the large scale and processed by the pharmaceutical industry.

Soon parcels of the drug were being flown — some of the most precious air cargoes ever to leave Australia — to the United States and Britain. When in 1944 D Day approached and the Allied invasion of France was about to begin, tens of thousands of troops, before they sailed from England in the invading armada,

were dosed with this traditional aboriginal drug.

For Australia was now the world's main source of hyoscine and the pre-operative medication atropine, both of which were extracted by chemists from species of the *Duboisia* tree. Here, in 1944, was the greatest armada in the history of man, setting out towards a turning point in history; and much of the success of that armada depended on a drug which had been discovered by forgotten men and women in ancient Australia.

So students graduating tonight are inheriting a long tradition. For 40,000 years, perhaps for longer, there have been pharmacists in this land, carrying out vital work as best they could.

Today's students have an armoury of sophisticated skills and of scientific knowledge which the early aboriginals could not match.

But the same public esteem will often centre on them in their careers as was once focussed on the aboriginal pharmacists. And that esteem — so long as it continues — will be a sign of their achievement.

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