Think about it,” says Dirk with his ability to turn the ordinary into interesting. “You drive through the countryside and every woolshed, except for the 1860s ones which are mainly from wood, are at least roofed, if not fully clad, with corrugated iron. You could describe some of them as cathedrals... huge cathedrals of spaces in iron, spectacular, made possible by the invention of corrugated iron.”

In 1829 Englishman Henry Robinson Palmer invented corrugated iron, a lightweight material with its strength coming from the pitch of the corrugations. Soon after, in 1837, Frenchman Stanislas Sorel rediscovered the concept of galvanisation, basically zinc plating of iron, which makes iron corrosion resistant.

“Sorel set up a business but it failed,” says Dirk, who has produced a series of reports around the corrugated iron story. “He was a great inventor but not a businessman. There was enough leeway in the way the patent was worded that English companies very quickly side-stepped the French patents.”

Once the patents for both galvanisation and corrugated iron ran out in the 1840s, many manufacturers in France, England and the USA started producing galvanised corrugated iron.

“The 1840s/50s coincided with the gold rush eras, and massive agricultural expansion, in both the U.S. and Australia,” says Dirk, a cultural heritage specialist and member of Charles Sturt University’s Institute for Land, Water and Society.

Corrugated galvanised iron quickly became very popular for large scale roofing, replacing the wooden shingles or the less common reeds that were used for roofing in Australia up until the 1850/60s.

“Corrugated iron was a really great means of sheeting large surfaces quickly,” says Dirk.
“Also it was a very effective material for water to run off so you could catch the rainwater that fell on the roofs. It was ideally suited for a country like Australia... in the end they shipped out entire corrugated iron buildings.”

However most of the vast quantities of corrugated iron imported into Australia from many different English companies came as sheets of iron, most commonly in 8 to 10 foot lengths. The iron sheets were ideal ballast for the ships that returned to England laden with bales of wool.

The first galvanised iron plant in Australia (Lysaght in Newcastle, then later and now at Port Kembla, NSW) was built in 1919, and started producing corrugated galvanised iron sheets in 1921.

Dirk’s interest in the corrugated iron story stems from his research on German heritage colonial buildings in Australia.

“Some of those building have corrugated iron sheets on them and those sheets carry the manufacturers’ stamps, which means you can use the stamps to identify who made the sheets, and then, hopefully through newspaper records, work out when the sheets were imported,” says Dirk. “And then hopefully there is enough variation in the stamps – and that’s where the archaeologist in me comes in and my interest in typology – to be able to date the sheets more accurately. Once you can do that, you can date the building. There is a risk that it could become a circular argument. You need to have a building that is well dated by other means, then you can date the sheets. But once you have the sheet stamps dated you can then look at undated buildings like outbuildings and woolsheds and date those. The sheet stamps become a very useful dating tool.”

One of the major early manufacturers of corrugated iron that found its way to Australia was Redcliff Crown, out of Bristol in the U.K. Dirk has written an initial report on the manufacturer’s history, marketing and distribution, 1877–1921.

“But there are so many variations of it [corrugated iron] and stamp variations... it’s a chaos at the moment,” says Dirk. “However the more work that gets done, the more you can start dating things. The critical part is that none of this work can be done without the help of colleagues.”

Dirk, who put out calls for assistance from the heritage profession including academic colleagues and heritage architects, says he has had a good response from throughout Australia and New Zealand. He is also using crowd sourcing to find information.

“You put up requests for information on Flickr and other sites and then the general public gives you leads that you can chase down,” says Dirk.

“Another thing that has really changed our profession is the digitalisation of books and especially newspapers. The National Library of Australia, which uses a system called Trove, is one of the leading institutions in the world digitalising newspapers. If you have a brand you can very quickly check when that brand was first imported into Australia, how frequently was it mentioned and so on. It really has changed the ball game for the better.”

While it has been surpassed these days by Colorbond, galvanised corrugated iron is still popular as a utilitarian building material (the pitch of which has been around since the 1840s) and its aesthetic value.

“If you want to generate some kind of reference to rural, regional Australia, you’ll use corrugated galvanised iron in your building design,” says Dirk pointing to where corrugated iron has been used as a design element around CSU’s Albury-Wodonga campus.

“From a heritage perspective corrugated iron is very significant. We still have roofs which were covered with sheets of corrugated iron in the 1880s and 1890s – over 120 years after they were put on they are still there- sometimes heavily rusted but usually still water resistant which is an indication of the thickness of the early galvanisation technique whereas the more recent irons have often corroded.

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Lysaght’s 1930s corrugated iron, which is stamped and dated, is still very common and is another really nice example of the longevity of the material, certainly in inland Australia."

Dirk says while we now have a standard pitch and depth for corrugated iron, in the past there were a number of variations including the narrow ripple iron (now referred to as mini-Orb) which was quite often used for ceilings instead of the more expensive and elaborate pressed metal. Corrugated iron also comes in varying thicknesses, from 24 to 28 gauge.

“Quite often iron has been taken off and re-used,” says Dirk. “There is lots of salvage iron which in itself is quite interesting though it doesn’t help you date a structure. All of that adds to the confusion but all up it is quite exciting. It looks very mundane and people think “Why work on corrugated iron?” but once you start peeling it back you can see there is a lot going on, especially if you deal with a large structure like I did with the old woolshed at Old Urangeline Station where a variety of corrugated iron sheets have been used.”

The four reports Dirk has produced so far are:

- Crown Corrugated Iron in Australasia A preliminary survey of its history, marketing and distribution, 1877–1921
- Galvanised Iron at Old Urangeline Station, near Rand (NSW). A Photographic Documentation and Analysis
- Techniques in Historic Preservation: Why do corroded corrugated iron roofs have a striped appearance?

Dirk is now working on two academic papers on the subject and a fifth report in which he is documenting the different stamps used by Lysaght so as to “produce a handbook on the stamps and dates of the Lysaght brand.”

“My aim is to get tools into the heritage profession to more accurately date and more accurately record material so, if everyone records properly, we get a data base we can all use,” says Dirk.