RAVENSWOOD: MINING, TOURISM AND HERITAGE
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Introduction
The Ravenswood Goldfield lies about 130 kilometres inland from Townsville. It is first encountered as changed vegetation. The narrow leafed ironbark, which is native to the area, gives way to chinee apple and rubber vine, with domestic sites marked by other exotics – black bean, tamarind, date palm, fig and mango trees. The town area then appears as a desert – barren red earth ripped by erosion gullies and dotted, here and there, with brick smokestacks. At its heart lies a cluster of miners’ cottages surrounding the remains of a turn-of-the-century main street. For the visitor, the impact of the ghostly town centre is dramatic: set, as it is, in a nineteenth century mining landscape.

North Queensland was settled in the early 1860s in a flurry of speculation which led to the rapid occupation of all land up to the Gulf of Carpentaria. The speculation was about wool for a booming British market which, in 1861, had been cut off from vital supplies of raw cotton by the Yankee naval blockade of the southern states of America. The English textile industry turned to wool, and the possibilities of the vast sheep grazing lands of North Queensland seemed limitless.

The great dream of northern development opened up the sheep runs and established the coastal towns to service them. But by the middle of the decade the dream had already faded. Sheep were an environmental disaster. Their cloven hooves and close cropping of pastures led to erosion and the replacement of sweet grasses by coarse vegetation species in only five years. Among these was the spear grass which killed sheep and ruined fleeces. Tropical parasites such as lung and fluke worm, blowflies and foot rot decimated the flocks. Furthermore, insecure pastoral tenure discouraged investment in improvements. To cap all this, with the end of the American Civil War in 1865, British textile producers returned to the manufacture of cotton cloth.

Clearly an alternative staple to wool had to be found – equally clearly this would have to be cattle. But wool was light, compact and non-perishable and therefore easy to export. Cattle growers needed a market for meat – bulky, heavy and, in that time before refrigeration, very perishable. So, despite experiments with minor products such as tallow, hides and meat extract, it was obvious that the industry could not survive unless large numbers of meat consumers could be attracted to the north. Australian history had already shown that the easiest way to create an instant population explosion was to discover gold. Therefore, late in 1865, the Townsville business community offered a reward for the first payable gold find in its hinterland. The government backed this up by incorporating a similar reward into the Gold Fields Regulations of 1867. Early finds on the Star River were not promising but the gold seekers were undeterred. In July of 1867, the important leads of Cape River were pegged. As prospectors fanned out across the vast and forbidding land, discovery of a major reefing field was inevitable.

It is questionable who ‘discovered’ Ravenswood. If ‘discovery’ of a goldfield means the finding of the first gold there, the honour may go to Ravenswood Station stockman Thomas Aitken. If ‘discovery’ means finding gold and attracting others to the field, we might point to the part-owner of Merri Merriwah Station, Marmaduke Curr, who persuaded a prospecting syndicate to follow up his pannings. If, however, ‘discovery’ is about finding gold in quantities which would attract settlement to the area, the prospecting group of Jessop, Buchanan and Crane must be nominated. And indeed Acting Gold Commissioner Sharkey from Bowen awarded this party the £500 government reward for their rich finds on Nolan’s Gully.

By the time the reward case was heard (on 1 May 1870 at McLaren’s Store) Ravenswood was swarming with prospectors. A Royal Commission reported 900 people on the field in 1871. At first they concentrated on alluvial gold – the free gold washed into creek beds from which it could be recovered in pans, cradles and dry-blowers. But it quickly became clear that the alluvial had come from quartz reefs – reefs which still contained the bulk of the field’s wealth. Reef gold meant ‘permanent’ gold – which might, with luck, be mined for years to come. The main reefs of the Ravenswood field were discovered very quickly. Most of them occurred in the area adjoining the present town – although a number of small camps and townships, scattered over outlying parts of the field, were important small producers for many years. The reefs were composed of quartz and occupied fissures in the granodiorite which formed the country rock of the field. Often they outcropped above the ground, and early mining consisted of working the outcrop and then following the lode down.
Extracting gold from quartz was a greater problem. The rock had to be crushed before the gold could be separated from the waste. This required heavy machinery and, by December 1869, miners working on the General Grant, Sunset, Sunrise, London, Melaneur, Shelmalter, Overlander, Rose of Denmark, Donnybrook, Nil Desperandum, Trieste and Perseverance reefs were getting very anxious. After one false start a machine, W.O. Hodgkinson’s Lady Marion, arrived on 29 December 1869, though with some of its parts broken. It finally began to crush quartz on 18 April 1870, and in its first month treated 450 tons of hand-picked ore to produce 1,083 ounces of gold. By 1871 the field had five mills, with 52 stamps between them. The crushed ore from these stamps was washed over copper plates coated with mercury which ‘amalgamated’ with the gold. ‘Amalgam’ was then scraped from the plates and the mercury driven off, leaving gold ‘bullion’.

Simple mining and amalgamation characterized activities for only three or four years. During this time, the town was laid out by Government Surveyor Steiglitz, and Ravenswood acquired the newspaper, stores, banks and houses necessary for civilized nineteenth century life. In 1871, the field’s most important mine, Bateman and Buchanan’s Sunset, sank its shaft below the water table and its owners found that ore from this level would not release its gold in the stamp mill. The following year the same thing happened at a depth of about 70 feet in the General Grant. Black Jack and Melaneur. Ravenswood’s troubles began in earnest.

The economics of mining
The problem of how to extract gold from what the miners called the ‘mudic’ ore was to haunt Ravenswood Goldfield for the rest of its life. Above the water table the ‘red stone’ quartz which had been oxidized by surface water, was easy to treat. Below the water table most of the gold existed as minute specks throughout the sulphide ore (mainly iron disulphide or ‘pyrites’). Releasing these specks from the sulphides was a problem on any mudic field. In Ravenswood there were several circumstances which made it particularly difficult. The first of these was that the gold specks were minute. This meant that the ore had to be very finely crushed – a process which tended to result in gold loss through sliming, as the finely crushed ore simply carried off the gold. Further, after their release, these tiny gold particles were likely to be coated with sulphide and therefore could not be collected by mercury which only amalgamates with a clean surface. The second problem was the variety of sulphides present in the ore, and the unpredictability of their distribution. As well as pyrites, there was galena, chalcopyrite, sphalerite, arsenopyrite and stibnite (minerals containing lead, copper, zinc, arsenic and antimony respectively) in the ore.

Bismuth was also present. Many of these interfered with ore treatment. Thus, while all methods of gold retrieval tried on the field over the next three decades – smelting, chlorination and cyaniding – worked for some ore, none of them worked for all of it – not, at least, at an economical level.

In reality, the problem of cost was much more important than the problem of technology. Because of distance, the cost of coke and fluxes for smelting was prohibitive as was the cost of transporting ‘concentrates’ to other centres for treatment. Costs were further increased by the nature of the ore shoots. Miners complained that the reefs were unpredictable – one shoot would be rich, the next practically barren – although both shoots looked the same. Therefore non-productive ore would be processed along with the better grades. These expensive complexities quickly divided the Ravenswood miners into three groups. Some gave up the field as a bad job and left for new rushes to Charters Towers (1872) or Palmer River (1873). Others, defeated by costs, became ‘redstone miners’ or fossilickers. The field always had a very large number of these people. As a result Ravenswood was soon gutted of the rich oxidized ore which, on other fields, would subsidise the development of mines at depth and help to make low grade deposits payable. A third group formed companies and sought capital to develop complex mining and treatment works. Efforts to attract outside (especially British) money began in the early 1870s. These were sporadically successful. Such capital was always hailed with great satisfaction as finance for shafts which might find reef ‘junctions’ deep in the ground, or to buy new and expensive technology which, they hoped, would solve treatment problems for ever. The first British financed venture, London Pyrites Company, was formed around the London reef as early as the mid 1870s – only to collapse amid accusations of fraud in 1877.

As it happened, it was not British capital which kept Ravenswood alive during the 1880s. The salvation of the field was the discovery of silver at the One Mile. Silver prices were high when Richard King set up his mine at Totley. Although prices dropped steadily over the next decade, his mine kept up the field’s production while the gold miners were experimenting with gold extraction. This is not to suggest that Ravenswood and its gold mines were undeveloped. Indeed the town’s population rose to around 2,000. This number included some 300 Chinese who were engaged in alluvial mining, retailing, cooking, mill work and contract sinking in the mines as well as operating most of the field’s market gardens. The central mines, by the 1880s, were dominated by one company under the control of H.H. Barton who, in 1887, floated the Ravenswood Gold Mining Company (Black Jack, Sunset, Grant and the Mabel Mill – Melaneur and Duke of Edinburgh were added.
later). Barton had a great interest in milling, and the Mabel became a showpiece of modern technology. It boasted a wide variety of grinding and concentrating devices and a chlorination works which spewed sulphur fumes into the heart of the town.

On the fringes, the smaller mines retained their independence, and three separate companies were experimenting in gold extraction. At the New England (or Wild Irish Girl) Mill, an overseas concern ran a rival chlorination plant. The Queensland Smelter Company was sited on One Mile Creek. Nearby, Duncan and Peter Macintyre were, in great secrecy, conducting the world's first field experiments on a process which was to change the face of gold mining forever - cyaniding. Throughout the period, and particularly after the completion of a rail link with Townsville in 1884, some of the field's ores were being crushed, concentrated and sent off for treatment at the Rothschild's Aldershoot works in Maryborough or overseas to Swansea in Wales. Meanwhile the Sandy Creek mines (John Bull and John Bull Block) had become important producers. They were slightly different from the town workings in that the ore was easier to mill. On the other hand, they were plagued by loose earth which led to a large number of rock falls. They also tended to flood. Even so, it was the John Bull which provided a launching pad for the career of the 'uncrowned king of Ravenswood' - Archibald Laurence Wilson.

During the latter part of 1892 Messrs Sidley and Trenfield put the Sandy Creek mines and their associated St George Mill under offer to Wilson. This ex-publican mine manager then raised money from local businessmen for a trip to England. There, in the following year, he managed to float a company to develop the properties. It took possession in April 1894 and began to work the lodes vigorously. Wilson's next entrepreneurial venture involved the town mines of the Ravenswood Gold Company. Barton ran into difficulties in 1896. His problems lay with the Queensland National Bank which had invested widely (and sometimes unwisely) in North Queensland mining during the previous decade. The Bank closed its doors during the depression of the 1890s. When it was reconstructed its purse strings were tightened - to Ravenswood's disadvantage.

The first victim of the new policy was the Old Man mine and mill on Four Mile Creek. The QN Bank foreclosed in 1893 and work ceased. Later that year it obtained liens over the properties of Ravenswood Gold to secure the company's overdraft. Even so, Barton managed to keep going until 1895 when the bank refused to extend the overdraft to cover his wages bill. The mines closed and the bank took up its liens. After a vain attempt to sell the properties the Bank let them out on tribute - apparently a successful move although the parties had difficulties with the Mabel Mill. One problem was that the company's skilled furnace men were Chinese. The tributers, having a typical nineteenth century miner's dislike of Chinese, decided to operate the chlorination plant themselves. The consequences were a disaster and the Chinese were reinstated.

In the meantime, Wilson was investigating the possibility of listing the central properties on the London Stock Exchange. This he managed after March 1899 when the New Ravenswood Company was registered with capital of £50,000, to acquire Sunset, General Grant, Black Jack, Shelmaliere, Melaneur and the Mabel Mill. At the same time he floated the Donnybrook Blocks Mining Syndicate. He became General Manager of both companies under their English directorates. The capital was used to refurbish the mines and mill (whose new equipment included two Wilfley tables) and crushing began again in January 1900. The following year Wilson promoted the Ravenswood Deep Mines Company and his control over Ravenswood mining was sealed.

Wilson's career was stormy. His approach to 'his' companies tended to be high-handed and he was censured for not keeping his directors informed about his actions. On the other hand, he found himself under considerable pressure to produce results in the form of dividends. Massive dividends of 50 per cent were paid to the New Ravenswood shareholders in 1901 and 1902. These raised optimism and increased investment in the town, where new mines and commercial buildings sprouted like mushrooms. However, the payment of dividends on this scale almost certainly shortened the life of the mines. In the meantime, however, the company's workforce rose to 200 and its gold output to £90,000 a year. Population increased, in 1903, to a peak of 4,800, about half of whom were women and children. Speculation in mining scrip was infectious. Local residents invested in shares and there was talk of introducing a diamond drill to explore the field even further. On the other hand, accidents increased - there were six mine deaths in 1903 alone - and the town was again without a hospital. Nevertheless these first years of the new century saw the heyday of Ravenswood town and its mines.

By June 1912 the New Ravenswood Company had won over £750,000 worth of gold and had paid aggregate dividends of over 300 per cent on its capital. But the end was in sight. The first indication that the boom might not last came as early as 1904 when the Shelmaliere mine proved 'not up to expectations'. By 1908 the Warden was already worrying that the town seemed to have too many businesses for its population. In the 1910-11 financial year the company's dividend had dropped to six and a quarter per cent and hours and conditions of work for the miners were not keeping pace with the rest of Queensland.
Trouble broke out during 1912 when the Federated Engine Drivers and Firemen's Association pressed for better working conditions. Agitation came to a head at the end of November. The month's returns had been poor and Wilson decided to lay off 32 workers. The union claimed its more active members had been singled out when the company served retrenchment notices. On 1 December the miners went on strike.

The dispute bitterly divided the town especially after 'scabs' were brought in to replace the striking unionists. On New Year's Eve there was a riot during which one man was shot in the leg. By mid January 1913 families were suffering great hardship. Many workers left for other fields. For six months both management and workers stood their ground. Then finally, in July 1913, the dispute was resolved without clear victory for either side. Even so the demise continued. The First World War worsened the town's problems, taking away labour and increasing the cost of mine supplies. The New Ravenswood Company collapsed in 1917. During the years that followed mining was intermittent on the Ravenswood field. However, the 'boom' days were over. Families went away. Buildings were removed, especially to Home Hill, Ayr and Giru. There was a small revival during the 1930s Depression and early 1940s, and later revivals as new technology allowed companies to mine for much lower ore grades than would have been economical at an earlier time. But Ravenswood was never rebuilt.

Heritage and tourism
The physical remains of Ravenswood are, therefore, not only extremely picturesque but also very valuable as mining history. The compact town area contains the courthouse complex, the ambulance centre, the Roman Catholic Church, a post office, the state school and adjacent teacher's residence, the School of Arts and its derelict library, a rare brick-arch bridge, two hotels and several other commercial premises – mostly constructed at the beginning of the twentieth century. The entire town area is 'protected' by heritage legislation. A number of timber or iron domestic buildings, all of them small, have survived. Most are still used as homes. There is a great deal of other evidence of domestic occupation: the cemetery, wells, fruit trees, garden terraces and many glass and brick scatters. Mining relics, many of them within the town area, are often spectacular. In addition to shafts and mullock dumps, several bracke (including the Sunset – probably Australia's only surviving underlie headframe) and five chimneys have survived. Two of the most accessible mill sites contain stamp batteries and milling machinery.

For many years Ravenswood has attracted tourists from within its region – particularly from Townsville. The construction of the Burdekin Dam some 70 miles beyond the town resulted in the replacement of the gravel access road by a narrow but good bitumen highway which has increased both local and interstate tourism. Last year (1989) some 3000 school children were bussed in, and holiday-makers were able to visit as part of a package, which included Charters Towers and the Burdekin Wilderness Lodge near the dam.

The visitors regard Ravenswood as a ghost town, but, at present, this is far from the truth. In 1987 Carpentaria Gold Pty Ltd, one of the MIM Holdings group of companies, began mining in the town area. The company is presently mining by open cut and extracting the gold by heap leaching. It aims at retrieval of more than 100 000 ounces by 1992, when it will probably close down. The operations of Carpentaria Gold have made the question of tourism particularly urgent. The population has doubled (about 200 people). One of the hotels has been upgraded (with careful attention to its heritage status) and one set of commercial buildings has been reopened. In addition, a service station/motel has set up on the outskirts of the town. When the mining operations close down there will be a need for a replacement industry – a need which can only be filled by increased tourism.

Aware of the social problems likely to follow the pits' closure and influenced, perhaps, by protests from the town's heritage lobby, the company has set aside part of its budget to assist the tourist industry. It has interested itself in three ways. Firstly it has transported the original courthouse and police buildings back to Ravenswood and has begun their restoration. Secondly, it has funded the restoration of the School of Arts hall. Its most recent project has been to fund a substantial tourist booklet based on a guided tour of the mining sites and aimed at tourist education.

Problems
Unfortunately, however, this concern with the tourist aspects of Ravenswood's heritage has not filtered down to the workforce. Current mining operations have severely impaired some of the most important mining sites. As Peter Bell (1989) has pointed out, new mining normally centres on the areas of greatest production during earlier phases of the industry. So it has been in Ravenswood. At least one head frame has been demolished and another has been left stranded on a small hillock in a way which defies all historical explanation. Enormous damage has been done to machinery bases which have not been recognised as historically important. While the company, at its upper management level at least, is interested in heritage and tourism, much of the work is carried out by contractors whose employees show little awareness of the problems involved. Locally, probably the most contentious issue is the Company's use of explosives and the effect of blasting on old buildings. Serious problems have also arisen at the prospecting stage.
The first leases were apparently opened up without any Historical/environmental impact study (EIS) being conducted. Studies are now required for all proposed new leases. However, the Authority to Prospect (A to P) allows prospecting by heavy machinery; the historian conducting the EIS is therefore likely to find the site riddled with costeens. A two stage A to P, allowing excavation only after the completion of the EIS, would be highly desirable.

The local authority is also aware of the need to promote cultural tourism in Ravenswood. The Dalrymple Shire Council has taken action to improve road access, to provide parking areas and generally to ‘clean up’ the town site. Regrettably such action has involved improvement of local roads by filling with rock from the spectacular London mullock dump and clearing rubber vine from the town sites with a bulldozer. Perhaps inevitably, the bulldozer also cleared several house stumps, the site of the masonic lodge and a brick well.

In the meantime local residents are also undertaking projects. One of these is a cottage used as a museum or curio display. This is operated by a local enthusiast who offers an opportunity to pan for gold in the backyard and who has a great deal of local knowledge to impart. Another local project currently underway is the reconstruction of a miner’s cottage. One endeavour which has attracted considerable support is the setting up of an outdoor machinery museum on the site of the Mabel Mill. For some years residents have been collecting pieces of machinery around the field and putting them into the grounds of this gold mill. As a consequence a very valuable site has become extremely difficult to interpret — old mangles, ploughs and butter churns are not helpful to an understanding of gold milling technology. In addition the integrity of sites from which machinery has been removed is also impaired.

The tourists themselves are also contributing to the demolition of the site. Tourism in Ravenswood is still entirely undirected and visitors scramble over delicate flumes and fossick around the mine shafts. For many years they have left their litter and taken the artifacts. As a consequence, pieces of mining machinery are to be found propping open doors all over North Queensland. Particularly distressing is the Chinese section of the Ravenswood cemetery where only one broken grave marker remains. Allied to the devastations of the hands-on tourist, are the dangers to the visitor from the mines. All over the field there are unprotected shafts, many of them eroded at the cap. Machinery, some of it weighing several tonnes, sits precariously in termite-eaten frames. Small children scramble over mullock heaps which may be unstable, and may conceal ventilation or mining shafts. Ravenswood does not have a resident mining warden, police officer or ranger.

Clearly Ravenswood’s most urgent need is for intelligent tourist management. Clearly defined paths and well designed signing of sites would help to modify the behaviour of the visitors while alerting miners and shire employees to the value of heritage areas. But the problem would certainly not end there. As tourism increases, property owners are considering building new structures in the main street and government control over land usage is imperative. In addition, many of the town’s buildings require careful attention. While most of the Macrossan Street buildings are brick, the town has many timber and iron structures which are of interest. These materials are particularly susceptible to termites and to the severe storms which are a notable feature of the climate. The timber and iron buildings which are still standing are themselves early twentieth century restorations or replacements of nineteenth century structures damaged or destroyed in wild electric storms or cyclones. In 1989 Cyclone Aivu caused extensive damage and one main street shop collapsed in the wake of the recent Cyclone Ivor.

These problems are not unique to Ravenswood. However, this North Queensland Goldfield is perhaps unusual both in its combination of town and mine sites and in its encapsulation of conservation problems. If these problems are not solved tourism will peter out and the town will be left, on the departure of the miners, with no economic base. In addition, a valuable and possibly unique example of Australian mining heritage will be lost.

References