



Dr. Charles James De Vis, M.R.C.S., L.S.A. England, Surgeon to the Charters Towers Hospital, 1881-1892

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Abstract

Dr. Charles James de Vis was born in West Bromwich, UK, qualified as a doctor in England, and migrated to Australia where he spent most of his abbreviated working life in the North Queensland Town of Charters Towers.

His clinical cases and time as resident surgeon in the town district hospital are reviewed. He operated successfully on horrendously mangled limbs from accidents, compound fractures requiring amputations that today could only be performed by highly trained orthopedic specialists. Limbs that today may have been at least partially salvageable with reconstructive surgery, re-anastomosis of nerves and vessels, internal fixation and supportive medical care including intravenous fluids and antibiotics. His amputations were all reported to be recovering well post-surgery.

His career, however, was blighted by chronic ill health and premature death. He lost an eye and dislocated an arm in two accidents, frequently was on sick leave with probably malaria and died prematurely at the age of thirty-nine with 'brain fever' perhaps cerebral malaria.

In conclusion the spectrum of conditions encountered and the disease management is compared and contrasted with contemporary 19th century hospital predominantly in mining towns within Australia.

The major sources of information come from Dr. de Vis' descendants and the Australian national library trove website of digitized contemporary newspapers. These are not peer-reviewed medical journals but the best available source of information.

Childhood

Charles de Vis was born on September 25th, 1852 in West Bromwich, Staffordshire, England, the eldest son of Charles Walter De Vis and Julia Margaret Holmes.

His father, Charles Walter de Vis (May 9th, 1829 - April 30th, 1915) was an eminent English zoologist, ornithologist, herpetologist, and botanist who outlived his son by twenty-two years. Charles Walter migrated to Australia in 1870 and became a founder member of the Royal Society of Queensland of which he served as president in 1888-1889, and founder member and first vice-president of the Royal Australasian Ornithologists Union. He is commemorated in the scientific name of an Australian venomous snake, *Denisonia devisi* (Figure 1).

Charles James de Vis was baptized in one of the Anglican churches of the nearby historic town of Wednesbury on February 21st, 1852. The town, originally named Wodensbury by the Saxons after the god Woden, was the site of two battles in Saxon times, then was fortified by Æthelflæd, the lady of Mercia and daughter of Alfred the great, and bombed in WW1 by a German Zeppelin. Charles subsequently had three brothers, Walter E, George J, and Edwin CJ.

Medical Career in England

Dr. Charles De Vis graduated MRCS, England, LSA. Lond in 1877 then worked as resident medical officer in the Birmingham general hospital and house surgeon in the Hereford general infirmary where he first met his future wife, Alice Catell who was a nurse there. He migrated to Australia in 1881 (Figure 2).

Charters Towers

Charters towers is a town in northern Queensland, Australia, one hundred and thirty four kilometers inland to the south-west of Townsville on the Flinders highway, and thirteen hundred

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Figure 1: *Denisonia devisi*.



Figure 2: Hereford Infirmary.

kilometers north-west of Brisbane. The current population is around eight thousand people.

The town was founded in the 1870s when gold was discovered serendipitously at nearby towers hill on December 24th, 1871, by a 12-year-old indigenous boy, Jupiter Mosman. He was with Hugh Mosman, James Fraser and George Clarke who were prospecting for gold. A flash of lightning had frightened their horses which then bolted. While Jupiter was searching for the horses at the bottom of towers hill, he found a nugget of gold in a creek as well as the horses.

The town name is derived from the surname of the Irish born Gold Commissioner, William Skelton Ewbank Melbourne Charters, a big man said to be about two hundred centimeters tall and weighing nearly one hundred and thirty kilograms, and Towers because the local conical shaped hills resembled towers.

The next two decades were boom years for Charters Towers. The population grew to thirty thousand people making Charters Towers Queensland's largest city outside of Brisbane. The great Northern railway linking Charters Towers and Townsville opened in December 1882. The Charters Towers gold field was Australia's richest major field with an average grade of thirty-four grams of gold per tonne, almost double that of Victorian mines and almost 75% higher than the grades of the Kalgoorlie gold field in Western Australian.

The ten major gold reefs eventually produced over two hundred tonnes or 6.6 million troy ounces of gold from 1871-1917 worth some six to seven billion dollars today. Charters Towers hosted its own stock exchange. The city was also affectionately known as 'The World' as it was said that anything one might desire could be had in the 'Towers', leaving no reason to travel elsewhere! The Venus battery stamping mill is still open for tourists today. There is said to be as

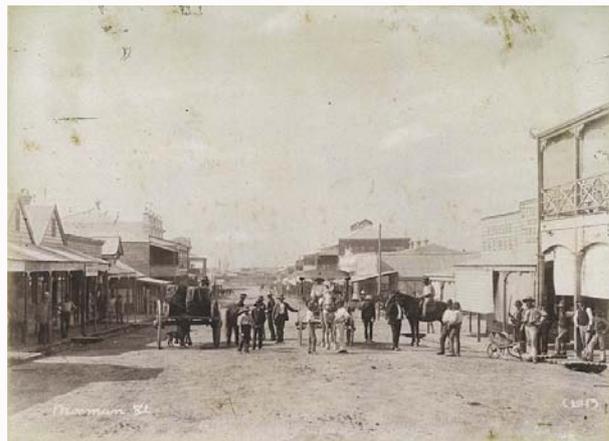


Figure 3: Mossman St 1888.



Figure 4: Mossman St 2020.

much gold still below the city today as was mined in the past.

Anderson Dawson, Australian labor party politician, 14th premier of Queensland and premier of the first parliamentary socialist government anywhere in the world worked in Charters Towers unfortunately developing the pulmonary disease and alcoholism that would ultimately lead to his death (Figure 3, 4).

The Charters Towers Hospital

The first Charters Towers hospital, built of saplings and bark, was opened in Mossman Street in 1872.

Two years later construction commenced on today's excellent hospital site in Gill Street of temporary wooden structures, one of which was called the Williams' Ward, being built by money left by a Mr. Williams, a miner, who had been treated in the hospital.

In 1883 the main brick building was commenced and was completed in August 1884 at a cost of seven thousand pounds. Later a separate wooden building was constructed as a fever ward at a cost of eight hundred pounds. By 1891 only the Williams' Ward remained of the original buildings (Figure 5).

The doctor's residence, shown to the right of the illustration, cost £1000. At the rear of the main building are premises used as a library and for other purposes, and a large kitchen and laundry, and altogether the improvements may be said to have cost £16,000. The presence of a hospital library nearly one and a half centuries ago is



Figure 5: Charters Towers Hospital c 1888.

an impressive addition dedicated to the enhancement of medical knowledge.

The 'Northern Register' considered the hospital as the only government building here which was worthy of illustration, other government buildings consisting mostly of wretched wooden edifices, which it considered a disgrace to the place. In olden days one querulous lot of committee-men did take exception to the fact that the liquor bill for one month, with only four patients, was £9 10s, but these trivial things were not allowed to seriously endanger the harmony of the occasion.

Dr. Charles de Vis is first recorded present in Charters Towers in 1881 and first recorded at the hospital in 1884, following Doctors Hineman, Kennedy, Little and Dr. Paoli. Prior to 1887 there used to be two visiting surgeons, at £150 a year each, but this was found to act unsatisfactorily, and in 1887 Dr. De Vis was appointed the first resident surgeon to be succeeded by Dr. Forbes in 1888.

In this era before specialization in medicine, a rural practitioner often in solo practice would require more surgical skills than the average general practitioner of the twenty-first century. A routine day may include amputations for compound fractures, a craniotomy for traumatic intracranial bleeding, an appendicectomy and caesarean sections. Frightening stuff for a physician!

In 1883 the average number of inpatients was twelve, but the number steadily increased to fifty-three in 1891. Then the main building had forty-eight beds, the fever ward had twelve and the Williams' ward which can be seen in the illustration, showing from the rear of the main building, was finished at a cost of £800 [1].

Dr. Charles James de Vis in Charters Towers

De Vis left England as a salon passenger aboard RMS Chybassa. She was a one thousand, seven hundred and eleven ton iron screw steamer built by William Denny & Bros, of Dumbarton, Scotland, launched on 28/07/1874, and finally broken up in Bombay in August 1900.

The ship departed from Plymouth and he boarded in London, possibly at Gravesend. The voyage through the Suez Canal would have taken about two months with Aden, Colombo and Batavia being common ports of call on that voyage. De Vis first appears in Queensland in Cook town, then the major port in North Queensland



Figure 6: RMS Chybassa.

on November 19th, 1881 according to the Australia Passenger Lists 1848-1912 in the Queensland State archives. De Vis disembarked in Townsville, the second port of call, then travelled to Charters Towers arriving on the 1st of December [2] (Figure 6).

Injuries and fatalities in the mines were tragically common around the time of Dr. Charles James de Vis' years of medical practice in Charters Towers. Inevitably where forty percent of the male workforce in town were employed in the mines, trauma and accidents would be a substantial proportion of medical practice. It was a common perception amongst the mine wardens that mining injuries were entirely due to the carelessness of the miners. Compensation and workplace health and safety concepts were workers dreams for the future.

In 1878, three men were drowned at the identity mine when water broke through. In 1881, regulations governing fire precautions, mining shafts and their fencing and explosive were introduced by the government including inspections by union and government representatives but only for mines with six or more miners.

In 1882 a rock fall at day dawn mine crushed two workers to death at the site where previous non-fatal injuries had occurred, yet no protective timber support had been placed after the initial incidents. That year there were thirty-two accidents in which twelve men were killed and twenty-six suffered non-fatal injuries.

Between 1891 and 1910 there were fifty-five deaths and two hundred and nineteen non-fatal injuries in the shafts, passes and winzes of the mines. In the same period, there were forty-nine deaths and two hundred and thirty-six non-fatal injuries from rock falls. The average death rate in town was 2.54 per thousand miners [3].

Charles de Vis's first documented patient in Queensland was the three year old son of Henry Ure who fell down an old shaft some seventy feet deep landing on soft granite, rendered crumbly by time and water. He was fortunate to survive. De Vis found that he had fractured the right thigh, and suffered contusions on the head, chest, and abdomen. Following treatment his condition was deemed critical but as a healthy three year old boy his prognosis was considered to be hopeful [4].

Dr. de Vis and Dr. Maxton treated Mr. Hugh Mosman, the same gentleman involved in the discovery of gold in Charters Towers, with severe injuries from an explosion. He was part of a picnic party on the Burdekin River about fifteen kilometers southeast of Charters Towers when he lit the fuse of a charge to throw into the river to kill and catch fish. He was either distracted or the charge appeared to ignite prematurely causing severe injuries. His left hand was shattered, some of the fingers of which were completely blown off, and the bone

of the wrist was laid entirely bare, a compound fracture. Both thighs were severely but not dangerously lacerated. Being at the opposite side of the river, Mossman, though suffering severely, swam back across, and was taken by carriage back to Charters Towers where Drs. de Vis and Maxton were obliged to amputate his left arm below the elbow. Following surgery, Mossman was reported to be progressing satisfactorily [5].

De Vis married Alice Cattell in Queensland on August 4th, 1882.

Dr. de Vis attended the October monthly meeting of the hospital board. He inquired on behalf of Inspector Meldrum whether an Indigenous trooper could be admitted to the hospital. The trooper's disease was considered advanced with a prognosis of four months at the most. It was agreed by the board that the hospital would see what could be done for the gentleman [6].

De Vis sued Mr. Parker for libel successfully in 1882, receiving ten pounds damages. This case followed a letter by John Parker in the Northern Miner stating that de Vis broke his engagement to attend Mrs. Parker during her confinement and that de Vis was in the habit of breaking engagements. De Vis wrote that he was acutely ill at the time and was yet to make a full recovery. Perhaps this was de Vis's initial bout of malaria. He wrote that Parker was twice informed of this fact and advised to seek the attendance of Dr. Maxton. De Vis claimed the imputation was utterly false which he would prove beyond question at the District court in Charters Towers [7,8].

Charles de Vis attended the December monthly meeting of the Charters Towers hospital committee [9].

Dr. de Vis appeared as an expert witness in a civil case. Mr. Maxwell had been bitten by a dog and successfully sued the owner for loss of earnings and time off work. De Vis confirmed that Maxwell had consulted him about a laceration on the plaintiff's arm some inch long and half an inch deep compatible with a dog bite [10].

Health problems continued for the most unfortunate Dr. de Vis, he lost an eye in some form of horrendous accident while treating a patient in Charters Tower hospital. Dr. Paoli assumed care of all de Vis's patients and the hospital for an uncertain but probably considerable length of time. He appears to have left for Sydney for a period [11].

A month later Dr. de Vis sailed from Sydney to Brisbane on the Governor Blackall under Captain Calder, and then from Brisbane to Cooktown aboard the Quirang, built in Glasgow and named after the mountains of Skye, under Captain J.D. McLean [12,13].

The 'Miner' was glad to welcome back Dr. De Vis. The paper stated that he had 'been south for the benefit of his health. His health has been quite re-established and his numerous friends will be glad to hear that he resumes practice at once. He has suffered in the cause of science and our general sympathy has been expressed for his loss' [14].

Drs. de Vis and Paoli were called to see an Indigenous lady, Jenny who had been accidentally shot, but she was already deceased before their arrival. Peter Goodwill Hammond who fired the gun claimed not to know the gun was loaded, but nevertheless was committed to stand trial on the circuit court on May 8th, having been remanded on a charge of unlawful wounding. Bail was granted [15].

Dr. de Vis' monthly salary of twelve pounds, ten shilling was confirmed as usual at the monthly hospital committee meeting. It

was agreed that the monthly report should also include the number of outpatient consultations and that a tent should be procured to accommodate admitted patients who were 'blacks, Kanakas or Chinamen' [16]!

Drs. de Vis and Paoli appeared as expert witnesses in the trial of John George Middleton and William Simpson charged with the murder of Robert Brown Nesbitt. Paoli performed the main autopsy detecting a perforated scalp over the right temple region. There were no powder marks around the wound indicating this was not a suicide as the trigger was pulled a distance from the head. A bullet was removed from the wound which penetrated into the right ventricle of the brain as the cause of instantaneous death. De Vis assisted in the examination of the hat Nesbitt had been wearing and the microscopy of blood and hair around the bullet hole.

The three men were all acquaintances who drank together. Simpson admitted possession of the revolver that fired the bullet but claimed the gun discharged accidentally. Both men were committed for trial at the Circuit Court, to be held on 8th May [16].

Mr. Patrick Ryan, a twenty-three year old foreman plate-layer suffered a broken left leg when his ballast train had a brake failure which concluded in Ryan being thrown off the train and dragged along some distance by the guard irons. This compound fracture required the more disabling above knee amputation performed by Drs. de Vis and Paoli following which Ryan was said to be making a good recovery.

Compensation for a man with a wife and one young child was not discussed, though the paper considered there was an onus on the government to ensure all equipment was functioning safely [17].

Dr. de Vis attended the June monthly meeting of the Charters Towers hospital committee [18].

Dr. de Vis amputated the leg of Herbert May above the ankle following an accident at the day dawn mill. While engaged in shifting some heavy machinery May's foot was badly crushed but following surgery the patient was progressing as favorably as can be expected according to the newspaper. De Vis was consulting from rooms in Gill Street opposite the Catholic Church between 9 am to 10 am and 6 pm to 8 pm [19,20].

Dr. Charles James and Alice de Vis's first child, Charles Howard de Vis 1883-1970 was born on September 10th, 1883.

Dr. de Vis attended George Gregory aged six with an eye injury. His father, Mr. GF Gregory was boring a hole with an augur into a strainer post on the Day Dawn tram way, near its junction with the railway line. Little Gregory was on the other side of the post looking to see the augur come through, but unfortunately the lad had his eye so close to the hole that when the man jammed the augur through to clean out the hole it entered the boy's right eye and literally bored it out.

Dr. De Vis was called in and did what he could for the young boy, but de Vis said the sight is completely gone and the eye destroyed. De Vis rode a chestnut gelding with an E4Q brand on its shoulder for which he offered a £2 reward in January when it was lost [21].

De Vis advertised for all accounts owing to be paid before January 20th, 1884, or legal action would be initiated [22].

Drs. de Vis and Paoli attended the hospital between June 30th, 1883, and June 30th, 1884. They cared for one hundred and eighty-two

Table 1: The cases admitted during those twelve months.

Disease	Cases	Deaths
Typhoid	48	11
Rheumatism	16	1
Injuries	15	0
Malaria	15	0
Fractures	8	0
Phthisis	6	2
Leg ulcers	5	0
Cystitis	4	0
Cerebral Contusion	4	0
Bronchitis	3	0
Hepatitis	3	0
Syphilis	3	0
Iritis	3	0
Dysentery	3	0
Continued fever	3	0
Gastritis	3	0
Necrosis of bone	2	0
Pleurisy	2	0
Synovitis of knee	2	0
Enlarged glands	2	0
Heart Disease	2	0
Aneurysm	2	1
Cellulitis	2	0
Paralysis	2	0
Anthrax septicemia	1	1
Pneumonia	1	0
Carcinoma	1	1
Nephritis	1	1
Amputation of the leg	1	0
Pemphigus	1	0
Urticaria	1	0
Cataract	1	0
Tonsillitis	1	0
Synovitis of the wrist	1	0
Hysteria	1	0
Pharyngitis	1	0
Alcoholism	1	0
Abscess	1	0
Sunstroke	1	0
Stomach ulcer	1	0
Urethral stricture	1	0
Laryngitis	1	0
Eczema	1	0
Concussion of brain	1	0
Bowel obstruction	1	1
Asthma	1	0
Orchitis	1	0
Abdominal tumour	1	0

inpatients which are detailed below, and two hundred outpatients. The doctors were apparently permitted by the administration to admit medical emergencies but otherwise the general committee of subscribers gave themselves the right to select who should be admitted electively and who should not! One wonders what skill or knowledge assisted in their decision making!

The table below documents the cases admitted during those twelve months. The report was given by Drs. Paoli and Browne as Dr. de Vis had left for Sydney on health grounds (Table 1).

Surgeons report for the year ending June 30th, 1884, Rules of the Charters Towers district hospital as gazette September 23rd, 1880, and reports and list of contributors as listed for the year ending June 30th, 1884 [23,24].

Between 1884-1885, Dr. de Vis appears in the press mainly for his arrivals and departures and his at least temporary sojourns in Sydney, possibly related to his health issues.

Dr. and Mrs. de Vis and her servant arrived in Townsville on the nine hundred and eighty ton steamer Burwah, built in the Royal Scottish Borough of Kinghorn and captained by G. H. Smith, travelling from Brisbane and Rockhampton [25].

In 1885 Dr. de Vis offered his house in Twickenham Terrace, Stanmore Rd. Sydney, to let. The property had six rooms, a kitchen, laundry, bath and stable, and was situated near the sea and also bus and tram routes. Applicants were to apply to De Vis on the premises. Stanmore Rd today is southwest of the city centre just north of Marrickville [26].

A month later Dr. de Vis, now in 51 Newtown Rd, applied for a good general servant noting there were two in the family, though he currently had a wife and one child [27].

In June 1885, Dr. and a very pregnant Mrs. de Vis and her servant embarked on the thousand ton steamer Katoomba, commanded by Captain B. Armstrong for Brisbane and Northern ports. Alice Margaret de Vis, 1885-1969 was reportedly born on June 16th, 1885 in Sydney, though either the location or date does not accord with the sailing details [28,29].

Dr. de Vis departed from Sydney again in 1885 first aboard the Rodondo for Brisbane, Maryborough and Rockhampton, a one thousand, one hundred and nineteen ton steamer that subsequently hit a reef in 1894 and sank, and then aboard the five hundred and forty ton steamer Morton under Captain G. Andrews heading for Cooktown. The presence of Mrs. de Vis and their two children was noted aboard the Morton [30,31].

De Vis advertised that, having returned to Charters Towers, he would recommence consultations at his residence in Hodgkinson Street during the hours of 9 am to 10 am, 2 pm to 3 pm and 6 pm to 8 pm [32].

De Vis appears to have been absent again in early 1886 for he announces his practice resumption in April 1886, again consulting at his residence in Hodgkinson Street during the hours of 9 am to 10 am, 2 pm to 3 pm and 6 pm to 8 pm [33].

Misfortune continued to dog Dr. de Vis when he was only just recovering from a tedious illness. He suffered a dislocated right clavicle and shoulder in a riding accident. A football being kicked around by some boys landed on his horse which took fright and bolted, it broke the martingale, threw back its head and knocked

de Vis off. (The martingale is a device for steadying a horse's head or checking its upward movement that typically consists of a strap fastened to the girth, passing between the forelegs, and bifurcating to end in two rings through which the reins pass). The Brisbane courier commented, 'indeed, poor fellow, his connection with the Towers seems to have been one long misfortune. Accidents and sicknesses have alternated rapidly with him' [34,35].

Dr. de Vis was appointed as surgeon to the Charters Towers hospital for the remainder of 1886 at a special meeting of the hospital committee following the resignation of Dr. Horan. The following day on October 26th, 1886, his second daughter, Hester Francis de Vis (1886-1975) was born in Charters Towers [36].

Dr. de Vis appeared as an expert witness in the police court in the case of Mung Lee v Alfred Brown, on a charge of wounding with intent. Mung Lee Mew, a gardener living four miles outside Millchester, a suburb of Charters towers, was carrying vegetables for sale to Charters Towers. Mung claimed Alfred brown asked him for bananas and then hit Mung on the head with his whip and stirrup iron when he said he had no bananas. Brown and his supporting witnesses claimed Mung started the physical altercation.

Dr. De Vis stated that he saw Mung Lee when he came to his house and de Vis found a contused scalp wound one and a half inches long on, the crown of the head on the right side. The free skin was cut and the lesion extended down to the bone. He said Mung had lost a considerable quantity of blood as his clothes were saturated with blood. De Vis considered a wound such as this would require a fair amount of force and was compatible with causation by a stirrup iron. He did not consider the wound to be particularly severe or potentially fatal.

Alfred Brown was remanded until the following morning though bail was allowed in two sureties of £40 each [37].

Edward Griffith was admitted to the Charters Towers hospital under de Vis. On examination Griffith had marks and bruises on his body which he stated were inflicted on him by a man with whom he had quarreled. Initially he appeared to be progressing favorably, but then deteriorated such that the wardman then went for the Police Magistrate to take Griffith's statements, but on his arrival at the hospital the patient was unconscious and expired shortly afterwards.

A magisterial inquiry before Mr. W. Palmer followed. Griffith had a long history of heavy alcoholism attested by several witnesses, with deteriorating health, back pains, periods of stupor, frequent falls and a combative nature when drunk and delirious. Prior to his admission he had argued with Charles Edward Roberts and probably initiated a fight with Roberts who resulted in Roberts hitting him perhaps only once and Griffith falling over. Shortly afterwards as he appeared quite unwell he was taken to hospital under de Vis. The hearing was suspended as de Vis was absent.

The following month the inquiry was reconvened and de Vis appeared as an expert witness. He admitted Griffith to the hospital on February 11th, 1887 and he died three days later. De Vis examined Griffith between 5 and 6 pm shortly after his admission there, finding him feeble, wanting of vitality and complaining of pain and tenderness on the left side of the chest and back. He was feverish, and on examination de Vis found his ribs were broken on that side with contusion on that side and on the back. He complained of a cough and shortness of breath. The following morning de Vis found he had several ribs broken from the sixth to the eighth and the pieces

of the broken ribs were so loose that the side of the chest gave way on pressure. Griffith had pleuritic pain from the broken ribs and passed a restless night, wandering in his sleep. Two days after admission Griffith deteriorated, though was not delirious when awake, and answered questions quite rationally. On the third day he was much worse, and towards the middle of the day de Vis did not expect him to live as his chest was full of fluid and there was no air entering the lungs on this side. He died about half past one o'clock.

De Vis performed a post- mortem examination three hours after death. He found bruises of the skin on the left side over the lower half of the chest and found the last six ribs broken with the exception of the twelfth rib. The sixth, seventh, ninth and tenth were broken in two places; the eighth rib was broken across the middle. In most of them the bones were very loose and rough. The left side of the chest was full of fluid consisting chiefly if not entirely of blood. The whole of the injuries were on the left side, the left lung itself was collapsed and devoid of air and was slightly lacerated on the outer surface corresponding with the fracture ribs.

The heart was firmly contracted, the kidneys were slightly congested and the other organs were natural. The quantity of blood effused into the chest was over a hundred and forty ounces which corresponds to four liters. De Vis considered the cause of death was syncope and asphyxia, and that the injuries could only have been inflicted by direct violence such as multiple blows of some kind. The injuries could have been received by the deceased being kicked while lying on the floor or by a man's fist used with great force. It would have taken several blows to have inflicted the injuries, at any rate four or five blows. A man might break two ribs or at the outside three with a powerful blow. Griffith's six fractured ribs would have required at least three heavy blows and were not compatible with a single fall.

After further witnesses the inquiry closed and the bench mainly on the evidence of Dr. de Vis demonstrating multiple traumas, committed Charles Edward Roberts to take his trial at the ensuing sittings of the Supreme Courts commencing shortly but allowed bail [38-41].

Dr. de Vis gave evidence as an expert witness in the trial of Christopher Pickering for the murder of Martin Emerson, though again Dr. Mohs was the primary carer and witness in this case. Mobs and a senior constable were asked to attend Pickering after he had been assaulted at Ravenswood Junction and Mobs arranged his immediate admission to Charters Tower hospital. On arrival Emerson was unconscious with a head injury but still breathing. Mohs and de Vis operated removing three fragments of skull bone, however Pickering deteriorated and died two hours later.

Dr. Mobs performed the post-mortem. The left side of Emerson's skull was completely smashed, there being a large hole in it three inches long by two inches wide, with the bone all splintered by the force of the blow from a heavy crowbar used on the railway and weighing about thirty pounds. The skull was cracked right over to the left ear, and when Dr. Mohs took off the skull it fell in halves. The extravasation of blood was considerable, and the medical officers were surprised that Emerson lived for a while when still unconscious.

Mobs appeared first as an expert witness in the trial. He stated he found three scalp wounds in an unconscious male with considerable blood loss. Mohs also noted a blood stained crowbar at the scene of the crime. He detailed his post-mortem finding and expressed an opinion the one powerful blow could have caused the injuries.

Dr. De Vis agreed with most of Mohs evidence and opinion though considered the fatal skull damage was more likely to have caused by three separate blows by the end of the crowbar, and unlike Mohs thought the injuries would have caused blood to spurt a distance probably causing blood stains on Pickering's trousers.

These minor matters had insignificant effect of the verdict, the jury considered Pickering to be guilty, the judge pronounced a death sentence and Pickering was hung in Brisbane Jail at the end of May 1887 [43-48].

Dr. de Vis apparently expressed an opinion that Sun Jim Sing, a Chinese storekeeper, who was charged at the Police court with carnally knowing and abusing a girl named Jane Young, aged six years last June was medically insane, though he was not the doctor involved. The girl identified Sing as the person who committed the offence. Jane stated that in passing to school she went into a shop of the accused and asked for a banana. He then took her to a back room and committed the offence.

Dr. Mohs was the doctor responsible for examining Jane after the event and giving confirmatory evidence of the alleged rape in court against Sing.

The Northern Miner was sceptical about the concept of insanity writing that when Drs. Mohs and de Vis pronounced Sing insane they murmured "mad doctors". The paper continued 'according to some doctors no one is sane. We read the same thing in Horace long ago when everyone was insane barring the Stoic. That heathen Chinese was too deep for the doctors' [49-51].

Dr. de Vis performed a post-mortem in presence Dr. Mohs, on the body of James Scott Charters Tower hospital following his death last night. He found nine ribs on the right side broken in a line, namely, the second, third, fifth, sixth, seventh, eighth, ninth, tenth, and eleventh, some of them in two places. There was also a contusion of the right kidney.

Scott was the contractor for the plastering of the new building in Mosman Street. The Miner thought Scott had been drinking heavily and in consequence fell from the top scaffold of the building, a distance of thirty feet to the ground, and in his descent struck against a beam on his right side, sustaining numerous injuries. He died in hospital being conscious to the last, presumably with a flail chest and pneumothorax, problems perhaps curable today with a chest drain, intubation and ventilation in an intensive care unit.

Scott was twenty-four years of age and left a wife and three children [52].

Drs. Redmond and de Vis had an unprofessional contretemps in the Northern Miner newspaper in which the relevant letters are best quoted verbatim for clarity, attitude, hubris and self-importance. Redmond clearly though his MD was vastly superior to the qualifications of de Vis.

To The Editor

Sir, -I should like to ask Mr. De Vis, surgeon apothecary, for some explanation of his conduct to-day if he is at all versed in medical etiquette.

I was called to see a boy named Hooper, who had fallen from his horse in Hodgkinson Street. Having examined the lad, placed him in a quiet position, and driven off a number of disturbing sympathizers.

I was engaged writing a prescription when the above-named model of politeness appeared on the veranda with a fresh mob, and without taking any notice of my presence or asking my permission, at once proceeded to put my unconscious patient through a fresh tour of surgical gymnastics, which had not ended when I returned from visiting a patient in Rutherford Street. The diagnosis did not seem so difficult to determine as how to get the patient out of my care; and this was got over by urging the necessity of removal to the hospital, on the staff of which this surgeon apothecary has been placed by his all providing friends.

As a doctor of medicine of a university I resent the impertinent intrusion of an apothecary, and as a master of Surgery I resent the unprofessional interference of a person holding merely a diploma in surgery.

Yours truly,

Leonard Redmond, MD

March 29th, 1887. [53]

Sir, - Noticing in your issue of this morning a letter from Dr. Redmond commenting in a very unfair manner on the conduct of Dr. de Vis at the scene of the accident in Hodgkinson Street yesterday I, as an eyewitness of the whole accident, would like to correct the impression his remarks might convey by stating the true facts of the case. When the boy was picked up he was carried into the nearest house, and Dr. Browne was immediately sent for but he not being at home at the time, Dr. Redmond was called and in the meantime, as the sufferer appeared to be in a serious condition, and no medical man having turned up, I suggested that Dr. De Vis should be called, as he resided within one hundred yards of the scene of the accident, which was done.

During the interval Dr. Redmond arrived, and after casually examining the sufferer entered the house and remained there in some time. When Dr. De Vis made his appearance, and not being aware that any other medical man had been called, proceeded to examine the boy's injuries.

Dr. Redmond having handed his prescription to the boy's brother, walked out of the house to the buggy; so he had no opportunity of witnessing what he so elegantly describes as the surgical gymnastics practiced by Dr. De Vis. In conclusion, I should have imagined, that Dr. Redmond being a professional man, and likewise supposed to be a gentleman, would have waited until he had made himself more conversant with the true nature of the incident, before he rushed into print to try to slate a brother professional in such a scurrilous manner. As it is merely in the spirit of fair play I claim the insertion of the above. I am sure you will allot me space.

Maurice Barneat

March 30, 1887 [54].

To The Editor. Editorial

We have no desire to interfere with the medical duel between Dr. Redmond and Dr. De Vis, but we are bound, in the interest of fair play, to state that Mrs. Sorohen was the first, with her two daughters, to bring the boy Hooper into her house and to clean the dirt from his mouth and face. She tells us that Dr. Redmond was writing a prescription when Dr. De Vis came. She told Dr. De Vis that Dr. Redmond was in the house, and that he thought the boy's collar-

bone was broken. Dr. De Vis did not see Dr. Redmond at this time, but Mrs. Sorohen had informed Dr. De Vis that Dr. Redmond was there. Dr. De Vis, after examining the boy, came out on the veranda and then saw Dr. Redmond. Probably Dr. de Vis did not catch what Mrs. Sorohen said and did not know that Dr. Redmond was there. He knew it afterwards, and should, we think, have given Dr. Redmond some explanation. Anyhow we thought Dr. Redmond's letter rather harsh, and in vain advised him to modify it [55].

Dr. Redmond was born in Ireland, graduated MBBS from Queens College, Belfast, and later after working in Africa, returned to Queen's college where he gained an MD, Doctor of Medicine.

Redmond's obituary in 1935 states he was highly intelligent, well-travelled and educated, contributed considerably to the field of medicine and had many friends. It also states that he was immensely proud of his doctorate, that the North of Ireland temperament was strongly pronounced in him and that he was an educated Irish gentleman.

A year previously relations between Drs. de Vis, Brown and Redmond had seemed superficially more harmonious. Redmond consulted the other two about a boy in obstructive respiratory failure with diphtheria. Browne agreed the child would probably die within minutes. Redmond performed an immediate tracheostomy and inserted two concentric tubes into the larynx. Immediately the child could breathe and fell asleep. Redmond removed the tubes after five days and the boy was astonished to hear his own voice and to be able to breathe normally.

The Northern Miner stated, 'A very clever operation was performed here. This is the first successful operation performed for diphtheria here, and Dr. Redmond deserves great credit for it. We can add our own testimony to the skill shown by Dr. Redmond in difficult surgical cases, and his brother practitioners on the field willingly acknowledge the ability of Dr. Redmond'.

Redmond appears to have sought his colleague opinion more for adulation than confirmation of his diagnosis and proposed management. He did not seek assistance with the operation and was probably gratified by the paper's report [56]!

Redmond's comments about Charles de Vis being an apothecary are somewhat unfair. The worshipful company of apothecaries was founded in 1617 with a Royal Charter from King James I, was given the power to license and regulate medical practitioners throughout England and Wales by the Apothecaries Act of 1815 and retained this role as a member of the united examining board until 1999.

Some notable people who qualified in medicine as a Licentiate of the Society (LSA) were the poet John Keats (1816), Elizabeth Garrett Anderson (1865, the first openly female recipient of a UK medical qualification) and Nobel Prize winner Sir Ronald Ross KCB FRS (1881).

Dr. de Vis appeared as an expert witness at the enquiry held on April 12th, 1887 into the death of William Turrey in the Charters Towers hospital on 8th April. Turrey had several admissions with deteriorating mental function. His behavior as attested by several witnesses was irrational, variable between somnolence and hypermania, often severely restless and sometimes aggressive. The only other noted pathology was liver congestion. His alcohol consumption was not mentioned.

De Vis performed the autopsy on the body of Turrey in the

presence of Dr. Paoli. De Vis opened the skull and found the meninges, the cerebral membranes to be markedly thickened and also found other evidence of chronic disease of the brain, though details were not specified. De Vis found the other organs to be healthy with the exception of a small congestion of the liver. He considered the brain condition to be the primary cause of death which was then documented on the death certificate.

The inquiry was adjourned to allow the evidence of other witnesses who were not present [57].

This is an unusual case, most of those attended by de Vis were patients with trauma, Turrey is a medical diagnostic problem. Today we recognize many causes of meningeal thickening such as infective causes for example syphilis, mycobacterial or fungal pathology, or malignancy such as dural metastases, plaque meningioma or lymphoma, or inflammatory and autoimmune causes such as granulomatosis with polyangiitis, neurosarcoidosis, and rheumatoid, ANCA-associated vasculitis or IgG4-related disease. Tertiary syphilis was well recognized by this time but not mentioned!

In July 1887, de Vis put his current abode in Hodgkinson Street up for rent. His proposed subsequent residence or absence while travelling are not clarified [58].

Dr. de Vis applied to be reinstated as Charters Tower hospital surgeon, but the committee elected Drs. Mohs and Paoli by ballot for the next six months in favor of de Vis and Dr. Graham Brown [59].

Dr. de Vis was one of several residents willing to pay the necessary rates to the council for watering Gill Street from the Northern Mines office to Church Street [60] (Figure 7).

Dr. de Vis attended George May and his two children, and Mrs. Purcell following an accident on their buggy. The horse bolted throwing May out, then careered on finally smashing the buggy to pieces on a telegraph poll. Mrs. Purcell and the children fortunately escaped with a few scratches. The miner states that May had a cork leg; 'but that this proved useful, as the boot got torn, and if he had a flesh leg it might have been smashed' implying perhaps that he had an artificial lower limb.

The more usual definition of a cork leg is quadriceps contusion



Figure 7: Dr. Charles James de Vis c 1888.



Figure 8: Queenstown 1890.

as the result of a severe impact to the thigh which consequently compresses against the solid surface of the femur. This often causes deep rupture to the muscle tissue and hemorrhage occurs, followed by inflammation [61].

Dr. de Vis admitted an unidentified unconscious gentleman to the Charters Tower hospital in a critical condition who had been found lying in a state of unconsciousness in the bush near Ravenswood junction and was conveyed to hospital by the police. Hours after admission he remained critical [62].

Drs. de Vis and Paoli attended three men in the Charters Tower hospital following an accidental explosion at the No. 2 Queen Company's mine, at Queenstown three kilometers from Charters Towers. Six men were engaged sinking in a new shaft, and some of them were told to bore a fresh hole, instead of charging an old one, as it was suspected there was an unexploded charge in the latter, however they started to re-bore the old hole, causing a terrible explosion when the old charge detonated.

Three men, William Williams, Thomas Kago and Johnson were injured the two former seriously and the later slightly and were immediately transferred to the hospital (Figure 8).

De Vis reported that Williams was the most severely injured sustaining a deep cut on the forearm which divided the arteries and his right hand was very much lacerated. He was also burnt, scratched and bruised all over the body especially on the chest and side and there were several cuts on both sides of his chest. It seems unlikely that this means the artery was completely severed as a skilled re-anastomosis or an amputation wound is required.

Lago had a scalp wound and possible internal contusion. Both men were in a state of collapse from the shock, but in neither case were there any bones broken. Johnson had a minor cut on the right arm requiring dressing following which he was discharged home. De Vis considered that neither of the men was in any immediate danger and that if they survived the first forty-eight hours then full recovery was expected.

A week later Dr. de Vis informed the Miner that William Williams and John Lago were progressing favorably toward full recovery [63,64].

Dr. de Vis assisted Dr. Browne in performing a post-mortem examination on the body of a young woman, named Flora Cartwright, aged about twenty and a native of England had been found dead in a well. The cause of death was considered to be drowning. There were no marks of violence except some abrasions on the knees which might have been caused on falling down the well, or in struggling to get out. The report states quaintly that she was enceinte following intimacy with a Paddy Donovan.

It had been reported to the police that Cartwright had been found dead in a well on a property occupied by a Mr. and Mrs. Williams at Nagles Creek, about five kilometers from Charters Towers. Dr. Browne, the acting government medical officer, and the police went to the place finding the well to be about twenty feet deep, with eight feet of water and with the body at the bottom. There were no marks of any struggle round the mouth of the well, but the ground was so hard that even if there had been one it would have made no impression. Utilizing ropes and grappling irons it was brought to the surface and taken to the hospital morgue where the police magistrate and Sub-Inspector Meldrum viewed the body.

The police immediately commenced enquiries. They discovered Cartwright had been in service at the North Australian Hotel, where she met Patrick Donovan. Once she discovered her pregnancy she went to live at William's property while Donovan provided the money for her board, and occasionally visiting her there.

On the evening of Cartwright's death, Mr. and Mrs. Williams left their house about seven o'clock in the evening, and went into town, leaving her at home alone. About nine o'clock the couple met Donovan in Mosman Street, and after some conversation in which he stated he had seen the deceased, they had drinks together. Donovan told Mrs. Williams he had "chucked her up" and would not pay another shilling towards her support. He appeared to be in a hurry and left.

Mr. and Mrs. Williams went home soon afterwards, and found the door of the house open, and the lamp burning on the table, but the girl was absent. At first they thought she had gone to visit a neighbor but found that was not the case. They searched round about the place and it was noticed that the cover of the well was open. A young man, who was present, went down the well and with the aid of a long stick, probed it to the bottom, and found what afterwards proved to be the body of the unfortunate young woman. Acting on the above facts, and on other information, the police arrested Patrick Donovan, at Hayes' North Australian hotel on suspicion of having murdered Flora Cartwright.

Donovan was subsequently committed at a police court for trial at the next sittings of the Circuit Court and bail was refused [65,66].

Leon Darg was admitted to the Charters Towers hospital under Dr. de Vis following a fall from a train. His feet were found to be severely smashed with several broken small bones. He was described as a colored man who does not speak good English and therefore unable to give a very lucid account of the manner in which the accident occurred. After unspecified medical attention he was said to be progressing favorably [67].

Dr. de Vis presented the annual hospital report for the year ending June 30th, 1888 while he was resident surgeon. There had been a significant increase in the number of cases from six hundred and twenty nine in the previous twelve months up to seven hundred and sixty-seven over the last year, this increase being largely due to a fifty

percent increase in the number of outpatients. There were thirty-nine inpatients remaining on June 30th, 1887, followed by four hundred and nineteen admissions as inpatients and three hundred and nine seen as Outpatients. Six hundred and ninety seven were discharged cured or relieved and there were twenty-three remaining inpatients on June 30th, 1888.

During the year there had been forty two deaths, or 5.5% of the admissions. Of these deaths seven were due to consumption or phthisis, seven from typhoid fever, five from alcoholism four to the direct result of an accident, three from pneumonia, three from Morbus Cordis, two each from cancer, pleurisy, skull fracture, syphilis and exposure. Then one each from pericarditis, apoplexy, paraplegia, Morbus Brightii (Bright's renal disease), syncope, rupture of liver, and fracture of ribs and laceration of lung. Six of these cases died within twenty-four hours of admission.

Today one would hope the some of these would survive. Skull fracture with a craniotomy and drainage of an intracerebral hemorrhage, liver rupture with laparotomy and arresting the bleeding, fractured ribs with an intercostal catheter and lung expansion, infections with antibiotics and exposure with intravenous fluids.

De Vis was delighted with the erection of the fever ward which he intended to open imminently and suggested a similar separate building for the cases of alcoholism and dementia as they were not suitable for admission into the general wards [68].

Dr. de Vis presented the monthly patient data to the hospital committee. There were twenty-nine remaining inpatients from the previous month followed by thirty-three admissions, thirty four discharges and five deaths leaving twenty-three remaining inpatients. Another thirty-four cases were seen as outpatients. The deaths were Eliza Hamill with chronic Bright's disease (kidney failure), Andrew Watt with phthisis, and Thomas Henry Jones with fractured ribs, lacerated lungs and pneumonia, James Bums with alcoholism, Jessie Rickards with syphilitic disease of liver.

De Vis also reported that a patient named John Cole Thwaite was discharged for continual disregard of hospital rules in spite of repeated admonition. Thwaite was suffering from bronchitis and asthma, and that he had made a practice of breaking the Hospital rules. On several occasions he had been found in the water-closet smoking with the seat down. The nurse had reported this offence when she first discovered it, and de Vis then reprimanded the patient, but, owing to his persisting in violating this rule, he found it necessary to discharge him for the discipline of the Hospital.

Hospitals in the 19th century appear significantly more authoritarian than today and why smoking with the seat down is a more serious offence; the miner does not make clear!

Amongst the accounts is the monthly stipend of £41 13 4 for de Vis [69].

Dr. de Vis was an expert witness into an enquiry was held yesterday about the accidental and subsequently fatal injuries in the mines affecting Thomas Jones. The doctor stated that he was resident surgeon of the Charters Towers Hospital. Jones was seen immediately on his arrival about 1 o'clock. De Vis found a severe bruise across the bottom of the back, another on the left side on the upper part of the chest below the shoulder blade and a third across the shoulders. He found the fifth, sixth and seventh ribs on the left side broken and from the symptoms present he ascertained that the lung was lacerated by

the broken ribs. The distal spinal cord was damaged and there was a great deal of shock.

Over the next day, Jones developed paralysis of the bladder and bowels resulting from the spinal cord injury. On the third day acute inflammation of the left lung set in, and he died eight days after the accident from pneumonia and spinal cord damage. Everything was done that could be done, he had drugs for his pain, and his ribs were attended to, de Vis considered it to be a hopeless case when inflammation of the lung developed. 1888 was prior to radiology to detect a pneumothorax or hemothorax, before ventilators and routine chest drainage, before antibiotics and before much understanding of the management of paraplegia. Death is unsurprising James Williams, a miner and work colleague of Thomas Henry Jones stated that they were ascending in a bucket after working six hundred feet underground laying charges when Jones was knocked out of a bucket sustaining injuries that did not appear too severe initially. He had been sitting on the edge of the bucket rather than securely inside when dislodged by a solar or platform narrowing the shaft though it was still a traversable width.

Workers in the mines were supposed to be afforded some protection at work by the Mines Regulation Act as outlined by another expert witness. The Mining warden said it was a most unfortunate affair, and that he regretted that all mines were not brought under the operation of the Mines Regulation Act of 1881, so that the authorities would have more command over them. At present no mine unless six men were employed below came under the operations of that Act. In the present case only four men were employed below, and consequently the mine was not under that Act. The accident was not reported for seven days when the death of the deceased was imminent. The fifth clause of the Mines Regulation Act of 1881 was noticeably clear on the matter, which he read as follows:

"The mining manager shall, within 24 h after the occurrence of any accident attended with serious injury to any person, give notice thereof to the Inspector; and any mining manager who willfully omits to give such notice shall be deemed guilty of an offence against this Act".

The Warden considered it was most important that accidents should be reported at once, and it would be as well for managers of mines to know that it was their duty to report accidents, and not trust it to the secretary of a company, as the manager was the only person recognized.

The enquiry concluded by stating that the depositions were then ordered to be forwarded to head-quarters in the usual manner, and the inquiry was closed. The concept of employer liability or compensation to a wife or dependent children if any was not mentioned at any stage [69].

Only six days later Dr. de Vis was back before another inquiry, this time into the deaths of two miners in another fatal mining accident at the Bonnie Dundee G.M. Co's mine in which Thomas Davies and Thomas Trevethen lost their lives. The two men were drilling holes and laying explosive charges when some dynamite was somehow accidentally detonated. Witnesses considered the Davies was killed instantaneously, but Trevethen was conscious and bleeding heavily at the residual stump of his left hand. Trevethen was unable to explain how the accident occurred.

Both men had worked as miners in Monmouthshire. Wales, for seven years before migration. Trevethen left a widow and five

children, and Davies left a widow and three children.

De Vis performed a post-mortem on the body of Thomas Davies, one of the victims. He found that several of the left upper ribs were fractured, there was a large laceration on that side between the shoulder and chest, there was extensive scarring over the chest and abdomen, ill-defined contusion of the abdomen and a wound on the right forearm several inches long, de Vis believed shock from an explosion of dynamite was the cause of his death. It is not clear if the abdominal cavity was opened.

The second victim Thomas Trevethen, was alive on admission to the Charters Towers hospital. He was in a condition of a severe shock, suffering from considerable shock from severe hemorrhage; the left hand and wrist were blown off with the exception of one finger, there was a lacerated wound on the right hand, one on the left thigh, immediately above the inside of the knee joint, one on the inside of the left groin, the face and chest and legs and arms were covered with small wounds. From subsequent examination when the man was dead de Vis found that both eyes were permanently destroyed. The immediate cause of his death was shock, and hemorrhage. De Vis did not think the hemorrhage could have been stopped had the proper appliances been immediately at hand, the shock was too intense. Again this is an era before effective resuscitation with intravenous fluids or blood transfusion, antibiotics for the inevitable wound infections, surgery to prevent hemorrhaging from wounds or even measurement of blood pressure to assess the severity of fluid losses.

Joseph Shakespeare. Inspector of Mines was unable to explain the sequence of events leading to the explosion but considered all normal precautions appeared to have been taken. As usual this was declared an accidental death with no liability or compensation [70].

Dr. de Vis and Mrs. de Vis attended a fancy dress masquerade ball in Charters Towers dressed respectively as 'The Graphic', a British weekly illustrated newspaper, and as a Red Cross nurse [71].

Dr. de Vis as the Charters Towers hospital medical officer's reported the monthly hospital patient statistics. There were twenty patients remaining at the end of July followed by twenty-three admissions, seventeen discharges and six deaths leaving twenty remaining inpatients there had also been twenty-seven people seen as outpatients. The patients who died were William James, William Young, Thomas Shaw, Robert Walker, Thomas Munjutt and Gerald Lally. No diagnoses were given. De Vis was paid forty-one pounds for his month's work.

De Vis also stated there had been a number of complaints about his refusal to admit certain patients and he sought the support and advice of the committee in preparing rules for his and the community's guidance in future.

The visiting committee also noted there had been several complaints. A Mr. Farrendon complained that de Vis refused to admit his son to the hospital. Mr. Henderson said the public would like to hear something of young Farrendon's case. Dr. De Vis responded that he had received a letter from Dr. Clatworthy, of Townsville hospital, saying that Farrendon's father had told that his son had been in the Charters Towers hospital, suffering from typhoid fever, that he was very weak, and it was thought the change to Townsville would do him good. Clatworthy had not seen the son.

De Vis disagreed stating that young Farrendon was an epileptic but was not suffering from typhoid fever and was quite robust when

seen. Mr. Farrendon was offered a private ward for his son under the usual conditions, and to provide his own nurses, but he refused.

Mr. Henderson was glad the matter was made public, so that it might be seen that justice had been done to young Farrendon. Mr. Buckland said the boy had fits and looked very dull, but the doctor said he had no accommodation for him in the hospital, and he did right to refuse him admission.

The second complaint was a letter from a Mr. Sparre criticizing Dr. de Vis's management of a Mr. RH. Smith. Correspondence is quoted verbatim.

Sparre wrote - To the President and Committee Charters Towers Hospital.

Gentlemen, - On Wednesday, 29th August, as I was going home from Mr. Deane's station, I found a man, well known on the Towers, named RH. Smith, leaning against a tree holding his horse. Knowing the man, I called out "Bob, what is the matter with you". On his attempting to walk towards me, he fell in a fit. I put him in my trap, took him home and washed him. He seemed to be a little better and able to get up, but as his mind was wandering I looked after him, thinking he would get better, but towards the evening of the following day he took another fit. I carried him in and took him to bed but had to watch him all night. As he no better in the morning. I went to get my horse and started with him in my trap to Charters Towers and arrived about six o'clock. I went direct to the police barracks, and the police advised me to take him to the hospital, as I did not find out where he lived. On my taking he to the hospital the wardsman told him to see the doctor. The doctor asked me if I had a certificate from the Government doctor, and on my answering "No", he said he could not be admitted. I then told him that the two gentlemen, who had accompanied me from the Bluff and myself were all subscribers, but our tickets were at home. He then said, "You had better take him home, as his wife would probably wish him at home, and he would be better attended there than at the hospital". I then left the hospital with the intention of going to Collins Hotel, but, seeing Mr. W. Parsons on the road, I asked him if he knew where he lived, and he said yes. He went with me to the house, and assisted me to carry him in, as he was quite helpless. I think, gentlemen, that it is very wrong on the part of the officers of the hospital, after all the trouble I have been put to in the cause of humanity, to think that the door of a public institution were shut against such a deserving case, and to prevent such an occurrence taking place again I trust you will cause a searching inquiry to be made. In the event of this man being a perfect stranger in the town, what position would I have been in.-I have, etc.

J. B. Sparre.

De Vis informed the hospital committee that he knew Smith well and that as the problem was alcoholism, he felt the optimum management was not admission but denial of further alcohol. He stated that Smith was conscious and mobile and that the police could have arranged review by the government medical officer. De Vis stated he would not refuse admission to those without a subscriber's ticket or any sick patient and suggested the hospital should draw up a management policy for alcoholics. Smith was subsequently admitted. He felt personally that conscious mobile drunks did not need admission but sought guidance from the committee.

De Vis replied in writing as follows

To the Visiting Committee Charters Towers hospital.

Gentlemen -The patient RH. Smith, who for some days past has given us considerable trouble and anxiety, decamped this morning early. The night nurse, who for several nights has been obliged to give less time to the general wards than is desirable from having to watch Smith so closely, had great trouble with him last night in trying to keep him in bed, he, in answer to her remonstrations replying by the use of bad language, had scarcely turned her back to look after something else when he quietly slipped away. He has since been returned to the hospital and re-admitted provisionally until I am instructed from you what course I am to pursue in the matter, as after what has passed I am not inclined to act upon my own responsibility. When found, Smith led the people to believe that he was quite helpless and unable to walk, as he did in the first instance. I am gentlemen, yours faithfully,

C. J. de Vis, R.M.O.

The Hospital, September 13th, 1888.

MEMO. -The Visiting Committee's action on receipt of this letter was as follows:

Instructed Dr. De Vis to give Smith in charge of the police on his attempting to leave the hospital again, but first to inform Mrs. Smith, his wife, of his intention to do so, giving her the option of taking him away to her home the above instructions were carried out with the result that Smith was given in charge of the police on the evening of the following day and ultimately sent to the Reception House, Townsville.

September 13th, 1888.

The 'Miner' editorial expressed disapproval of de Vis as follows-

'...Under the circumstances that Mr. Sparre had been to so much trouble in the cause of humanity, together with the fact that he did not know where Smith lived (in fact, he had no home of his own), we think Dr. de Vis might have admitted Smith at once, and not have allowed Mr. Sparre cart the man about in the hope of finding someone to relieve him of his self-imposed charge. We cannot refrain from remarking that Dr. De Vis draws his lines rather too fine in matters connected with the admission of patients, and displays a considerable want of tact, and in some cases a want of civility and common courtesy; for, although we have a rule which prevents our taking official notice of what people outside say, we cannot help hearing of the snubbing which he administers to some people. His professional dignity is altogether too sensitive, and induces him to say oft-times things which had been better left unsaid. I have no doubt about it there has been more of his sort of thing during the last six months than for the previous five years. The doctor seems to forget that anything high-handed or autocratic in his behavior will not be submitted to by the persons who support the institution, and the sooner he can see his way to tone down the better it will be for the institution and all connected with it'.

Sparre is obviously to be commended for his generous and unselfish genuinely concerned care of an acquaintance. The miner fails to see the adverse effect of aggressive violent patients on the care of other inmates, fails to understand the frustrations of doctors with time consuming self-induced yet not severe diseases, fails to see that hospitals are not staffed or funded to act as the type of welfare home that ultimately and appropriately admitted Smith and fails to support nurses, saints on earth, who deserve grateful courtesy from inpatients for their dedicated work on low salaries, not foul language and distraction from other deserving inpatients.

On the motion of Mr. Heath, seconded by Mr. Henderson, the visiting committee was instructed to bring up a report on the matter. Mr. Rixon moved that a committee be appointed, including the medical staff, to draw up rules regulating the admission of patients, as requested by the doctor. Drs. Brown and Paoli were elected honorary medical officers [72,73].

George Moffatt was admitted to the Charters Towers hospital under Dr. de Vis recovering from an attempted suicide. He had recently been drinking heavily and suffering from delirium tremens. He left a message for his wife saying he was sick and tired of life and saying goodbye, following which he took a dose of 'Rough on Bats', a toxic deterrent no longer identifiable today. He was seen suffering in the Oriental Hotel. Drs. Kealy and Redmond were summoned, they administered two bottles of salad oil which precipitated profuse vomiting, following which Moffatt started to improve. Later that day de Vis informed the 'Miner' that Moffatt was no longer in danger [74].

Dr. Charles James de Vis as resident surgeon at the Charters Towers hospital appeared again in court as an expert witness in the Police Court where Daniel Silva, Dan, and George De Silva were charged with the murder of Peter. De Vis was asked to examine a bar of iron, the suspected murder weapon. He did not find any blood on the bar on microscopic examination, but considered it was quite possible to inflict a fatal head injury without causing external bleeding. De Vis thought the bar weighed between four and six pounds and that the accused, Dan De Silva would have been sufficiently powerful to inflict the fatal blow.

Dr. Francis Paoli, as government medical officer, at Charters Towers, stated that he accompanied the Police Magistrate and Sub-inspector Meldrum to a creek near the racecourse where he saw the body of a man in the bed of the creek. It was covered with sand but the toes of the left foot were protruding through the sand. He had the body exhumed and observed it was the body of a colored man.

On examination, Paoli found a star-shaped wound on the left hand side of the skull frontal bone, about two inches over the left orbit or eye socket. The skull was cracked for about three inches in an upward direction, one crack extended down to the orbit; two other cracks were also in the skull up to the right and left extending in both directions for about four inches. The body was in an advanced state of decomposition, such that Paoli thought the deceased had been dead about between two and three weeks. The left forearm bones were separated from the arm, and bare and without flesh. Presumably though not stated by Paoli, this was due to the corpse being attacked after death by an animal.

He believed the cause of death was the wound on the skull, which had been inflicted with some blunt instrument. Paoli found traces of only one blow on the head. He considered the bar of iron produced could have inflicted the injuries he described.

He could not say positively what position deceased would be in when the blow was inflicted, if one of the witnesses stated that deceased was sitting down on the ground when the blow was inflicted that statement might be correct. Owing to the advanced stage of decomposition in which the body was, he could not say if a blow had been struck on the back of the neck as a blow could be struck on the neck that would cause a man to fall down without causing any significant injury to the neck.

Two witnesses described the manner in which Peter was

murdered, and how the blows were struck.

The three prisoners were committed to take their trial for willful murder at the next sittings of the Circuit Court at Charters Towers [75].

Dr. de Vis, as Resident Surgeon, presented the monthly patient statistics to the committee meeting. There were twenty-two inpatients remaining at the end of the previous month, followed by forty-one admissions, thirty discharges and six deaths leaving twenty-seven remaining inpatients. Another thirty-two outpatients had been seen.

Deaths were John Ward with pneumonia, Thomas Barnes with typhoid fever, Nellie an Indigenous lady with syphilis of the brain, Andrew McLeary from typhoid fever, Joseph Greenwood also from typhoid and Michael Quigley from typhoid fever and hyperpyrexia. He also recommended that John Woods be sent to Dunwich being an incurable disease.

De Vis suggested that several screens be made for use in the wards, and that in each of the larger wards there be placed a table and cloth with wash hand basin and a suitable box or basket to contain dressings and implements. He also suggested that diet sheets to show the names of patients and the diet and medicine they were using be procured, to be hung up at the bed heads, so that it may be seen at a glance how the patients were being treated. De Vis also begged to call attention to the very urgent need for old linen required by the hospital.

There were a large number of typhoid cases now in the hospital, including three female patients therefore de Vis thought it desirable that the fever ward be opened.

Administration supported these requests and also suggested that notices be put up in the hospital setting forth how the opinion and advice of the honorary surgeons might be obtained. Dr. de Vis was paid £41 13 4 for his monthly service [76,77].

His fourth child, Cecil Mawe de Vis 1889-1890 was born on February 8th, 1889 in Charters Towers and died May 27th, 1890 in Bedminster, Somerset, England aged fifteen months.

Dr. Charles de Vis appeared as an expert witness in the Police Court before WM. Mowbray, JP. Where Edward Rose was charged with carnally knowing and abusing a little girl named Maud Rodgers, age between nine and ten.

The issue became known when Maud's petticoat was noted to be stained and she told her mother that a man named Edward Rose had taken her into his room, and that he laid her down on his bed, and that he unbuttoned his trousers. Rose was under the influence of drink when arrested and was known to have been sentenced to twelve months imprisonment previously for assaulting one Mrs. Smith at Millchester.

Drs. Joseph Patrick Kealy and Francis Paoli, Government Medical Officer examined Maud both finding bruising, swelling and inflammation of the external genitalia with some tenderness and a purulent discharge. The hymen was intact indication only superficial penetration of the introitus. The accused was examined by Kealy and found to have similar stains on his shirt and a similar urethral discharge.

De Vis was given pieces of this petticoat to examine under the microscope. He considered the stains had the appearance of seminal fluid and a gonococcal discharge, but was not confident about the

stain, as he had not sufficient time to examine it thoroughly. De Vis desired further time in order to make a more minute examination.

This imprecise and not-scientific evidence must be seen from the viewpoint of medical knowledge of the period. Gonorrhoea had been recognized as a sexually transmitted disease for centuries; however research studies of bacterial cultures and gram stain only commenced in European laboratories in the middle of the decade 1880-1890. Such techniques which would enable accurate identification of the causative bacterium *Neisseria gonorrhoea* would not have been available to de Vis.

Mobile sperms were first recognized under a microscope in 1677 by Van Leeuwenhoek who called them "animalcules". He worried it would be indecent to write about semen or how it was obtained! Dried semen with immobile sperms and no diagnostic stains would not be detected with certainty in 1889. The court then adjourned [78].

Dr. de Vis presented the March monthly statistics for Charters Towers District hospital committee meeting. There were forty remaining inpatients at the end of February, followed by thirty-nine admissions, thirty-five discharges and thirteen deaths with one sent to Dunwich.

The deaths for the month were James O'Hare, chronic disease of liver and kidneys, George Dixon, alcoholism, Sara Howson, consumption, Edward Griffith, heart disease, syncope, Alice Barr, typhoid fever and collapse, William Findlay, burns of body and collapse, Mary McGrath, chronic consumption, Patrick Higgins, moribund from pneumonia, George Rolleston, typhoid fever, Edward Marchant, typhoid fever and pyrexia, Rachel Sloane, typhoid fever, collapse, Thomas Gilbert, chronic bronchial asthma and Andrew Haig, congested liver and fatty degeneration of the heart.

De Vis stated that quite half were either beyond all help when admitted or were of an incurable nature. De Vis received his regular stipend of £ 41 13 4.

He was concerned about cleanliness and vermin, recommending replacement of old mattresses with the new woven wire mattresses, provision of circular seats round some of the trees to keep smokers and their cigarette ends off the verandas and removal of patients own clothing to a secure location outside the ward. The doctor said that outpatients were required to return empty medicine bottle to pharmacy but compliance was poor [79].

Dr. de Vis presented his report as the medical officer to the monthly committee meeting though he may not have been present. There were thirty remaining inpatients at the end of March, followed by twenty-six admissions, twenty six discharges and two death leaving twenty-eight remaining inpatients. Twenty-three outpatients had also been seen. The two patients who died during the month were Albert Peterson with typhoid fever and George Bailey with ulcers and exhaustion.

De Vis also recommended that an incurable patient named Thomas Ingram be sent to Dunwich. Dunwich was then a leprosarium suggesting Ingram had leprosy. De Vis thanked Drs. Paoli and Brown for their assistance during the month. He reminded the committee that several recommendations which had received their sanction had not yet been fulfilled, to the inconvenience of the hospital and de Vis hoped that the ensuing month will see some of them carried out. He had procured a nurse and was currently trying to obtain another to replace the one who leaves imminently. This sounds like an admission

that he was not managing perhaps due to ill health.

The May monthly meeting of the Charters Towers hospital committee also considered the positions of medical officers to the hospital. One considered option was to have only two visiting medical officer.

Sympathy was expressed for Dr. de Vis but there was a feeling that his bodily infirmities affected him mentally and caused him to be gloomy in his demeanor towards the patients, and Mr. Armstrong thought that to see a man going amongst them brightly and cheerfully had almost as good an effect as the medicine. Although they might sympathies with Dr. de Vis for his afflictions Armstrong thought it was their duty not to allow the interests of the institution to suffer.

Many members of the committee were not satisfied with the way in which Dr. De Vis had managed the institution for this last twelve months. He had had hints time after time, but had not taken them, and if they were to carry on the system at present in operation, they must have a more energetic man. To Armstrong's knowledge, Dr. de Vis had been incapacitated from work for at least one month through illness during the past year, and part of the last month he had been unable to attend to his duties. So far as his professional ability was concerned there was nothing to be held against him, and he had every sympathy with him in his illness.

The committee decided to place advertisements in the Brisbane, Sydney, and Melbourne, daily and weekly papers in a fortnight's time planning to appoint a new resident medical by the end of the following month [80].

De Vis advertised the sale by auction of all his household furniture and effects, it would seem in preparation for their proposed trip to England to improve his health [81].

Dr. de Vis as resident surgeon presented the monthly data to the monthly meeting of the committee of the Charters Towers District hospital. There were twenty-eight remaining inpatients at the end of April, followed by twenty admissions, twenty-two discharges, five deaths and two sent to Dunwich. An additional thirty-nine outpatients were seen.

De Vis apologized for his absence from the previous meeting which he attributed to an attack of malarial fever. Dr. Paoli covered during his absence and he rejected the allegation of a board member that patients were not seen till 5:00 pm, he recommended that either an extension should be made to Williams Ward or that a new building be constructed for cases of venereal disease [82].

Numerous reports had appeared relating to the poor health of Dr. de Vis with no diagnosis offered apart from his two accidents. His casual comment about being absent briefly with an attack of malaria could well explain de Vis' intermittent episodes of poor health, the days when he struggled with his case load. The rest of his story falls into place.

Malaria is a potentially relapsing and debilitating disease typically causing fever, lethargy, vomiting, headaches, jaundice and ultimately death. Typically found in tropical areas, mosquitoes spread this parasitic disease. De Vis frequently was in the northern port of Cooktown and at least once in Burketown, locations of mosquito-borne diseases. The only known effective treatment at that time was quinine.

While the disease has been well known since the days of

Hippocrates, the Plasmodium microorganisms were not identified in blood till 1880 when Charles Louis Alphonse Laveran, a French army doctor working in the military hospital of Constantine in Algeria, observed parasites inside the red blood cells of infected people for the first time.

There is an inevitable lag time from first discovery to common diagnostic usage and de Vis's diagnosis was probably on clinical features. One species, Plasmodium falciparum can cause cerebral malaria, a condition characterized by fever, coma and death which in 1892 would be one of the diseases covered by the contemporary umbrella term brain fever from which de Vis died.

Charles Ellery, an employee of John Mills, was admitted to the Charters Towers District hospital under Dr. de Vis following an accident with a corn crushing machine. The sleeve of his shirt caught in the cog wheels and his arm was then drawn in and crushed terribly at the elbow. A tourniquet was applied and arrested the profuse bleeding. Dr. Brown, first doctor on the scene, ordered his removal to the hospital where de Vis amputated his arm three or four inches below the shoulder aided by Drs. Browne and Elliott. Following surgery Ellery was reported to be progressing favorably [83].

Dr. De Vis wrote and requested a testimonial as to the manner in which he had discharged the duties of honorary and resident surgeon at the Charters Towers District hospital. The medical officer's report stated that there nineteen remaining inpatients on 31st May, followed by thirty-four admissions, ten discharges and one death leaving thirty-two remaining inpatients. In addition thirty-one outpatients were seen.

The election of a new medical officer, in place of de Vis was then proceeded with. The following were the candidates for the office, Henry L. Forbes, Frederick John Elliott, William Coningham Asche, Charles Peyton Moreton, TE. Abbott, John McGuinness, William. H. Tomlinson, Charles Souter, Samuel Wilson, DW. Balfour Wilkie, TR. Horton, Walter H. Tofft, William Heinman, CS. Gunther Nagel, John Ward, W. Magill and L. Maxton. An impressive list for a solo-practitioner resident surgeon in a remote rural hospital after balloting Henry L. Forbes was appointed, and the secretary was instructed to communicate the fact to him.

Drs. Brown and Paoli were appointed honorary surgeons [84].

Dr. and Mrs. de Vis and their four children commenced their voyage to England, perhaps to improve his health, aboard the one thousand ton steamer Katoomba Captain George King, from Burketown, *via* Brisbane for Sydney in steerage. This being the cheapest accommodation on board, their financial situation appears suboptimal [85].

Mr. Richards made out a powerful formal accusation against Dr. de Vis and the wardman of the Charters Towers hospital at a meeting of the Miners' and accident association at the School of Arts. The paper apologized for not having sufficient space to publish details which cannot be located elsewhere [86].

Dr. de Vis returned and resumed his medical practice. A month later at the meeting of the Bowen Hospital Committee he was appointed hospital surgeon [87,88].

Andrew Gordon was admitted to the Bowen hospital under Dr. de Vis with a broken femur suffered while driving home when his spring cart capsized over a stump, throwing him out. He was subsequently said to be doing famously [89].

Dr. Charles de Vis joined a tour of 'Celebrated Medical Experts in all Diseases' visiting town hall chambers, Queen Street, Brisbane, Queensland, 23 Oriental Chambers, Collins Street, Melbourne, Victoria, 153 Rundle Street, Adelaide, South Australia, 65 Beaufort Street, Perth, Western Australia, 8 Poet Office Chambers, Wellington, New Zealand and Masonic Buildings, corner of Perkin and King streets, Newcastle.

The tour on behalf of the Medical Association of Australasia of 'The Grandest Amalgamation of Professional Talent in the History of Science'! For the purpose of treating chronic diseases and deformities, provided free consultations between 10 am to 12 am, 2 pm to 6 pm, and 7 pm to 8 pm, daily and charged only for medication. They guaranteed to cure every disease and promised a forfeit of £200 if unsuccessful!

This stellar collection of doctors as well as Charles de Vis, Lic. Apoth. Soc. et MRCS was Dr. Gunn, Chief Specialist, Lic. R. Col. Phys, Edin, Dr. Rie, MD., Michigan, U.S.A., Dr. Eames, MB., Ch. B. Univ. Dub, Dr. Soule, MD., Vermont, U.S.A. and Dr. Goodall, MD., Univ., Victoria, Toronto. Specialist fellows of royal colleges and higher doctorates are notoriously absent [90].

Dr. de Vis tendered his resignation to the meeting of the Kennedy Hospital Committee last night, but agreed to remain in charge for three months to allow time for the appointment of a successor. No reason is given but de Vis had less than a fortnight to live and poor health may have been the cause [91].

The northern mining register reported with regret death of Dr. C.J. de Vis on February 5th, 1892, in the Charters Towers hospital and published a short obituary. He had arrived at Charters Towers about nine-years ago, and practiced his profession successfully, being then one of the visiting surgeons to the hospital, also having connection with several lodges as well as an extensive private practice.

He met with an accident by which he lost one of his eyes, and shortly after travelled south for treatment. He returned, however, in 1886, and in 1887 he was appointed the first resident surgeon of the Charters Towers hospital. After about 18 months, however his health failed him and he went to England whence he returned twelve months ago. He was then appointed resident surgeon of the Bowen Hospital, and he remained there until a few days ago, when he was brought to Carters Towers from Bowen by the steamer. Cintra for treatment he was in a serious state of illness, suffering from brain fever. De Vis received every possible attention at the hands of Dr. Forbes, the highly popular hospital surgeon, but the case was deemed hopeless. The nonspecific term brain fever is no longer used but could mean encephalitis or meningitis [92,93].

Clinical Diagnoses

The majority of the cases documented in the papers, particularly the northern miner, seen by de Vis somewhat surprisingly were limited to various forms of trauma with broken bones and amputations, deaths, post-mortems and court cases. Many patients come under more than one heading in the lists below.

Classification of Patients seen by Dr. de Vis and Documented in Newspapers 1881-1892

Unlike other contemporary hospitals internal medical diseases, particularly outbreaks of infectious disease were rare or mostly not documented by the local newspapers while the hospital was under

Table 2: Classification of patients seen by Dr de Vis and documented in newspapers 1881-1892.

Trauma	24
Accidents	16
Criminal court or enquiry	13
Fractures	10
Crimes	8
Died before admission	6
Post-mortem	6
Died during admission	5
Amputations	4
Explosions	4
Gun shots	2 (both fatal)
Non-trauma	4

the care of de Vis. There are informative parallels and contrasts with contemporary Australian Hospital in Queensland or interstate, in mining or rural communities. This includes the Queensland mining ghost towns of May town and Mungana, the rural Queensland town of Spring sure, and the two interstate mining communities of Zeehan and Kalgoorlie. These hospitals at this time often had outbreaks of typhoid, diphtheria, pertussis, measles, influenza, tuberculosis, dengue or simply Pyrexia of Unknown Origin (PUO). The occurrence of typhoid, TB, pneumonia, leprosy and syphilis was further researched (Table 2).

Typhoid

The Typhoid bacillus was first detected and identified in 1880 by Karl Eberth and confirmed as the cause of the disease by Georg Gaffky in 1884, however the lag time from discovery to common usage in the medical workplace implies that typhoid would have been diagnosed in Charters Towers in the 1880s on clinical features rather than microbiology.

The history of a pre-febrile phase with headache, malaise, bronchitis and anorexia, followed by a febrile illness with diarrhea was strongly suggestive of typhoid. The presence of splenomegaly and rose-colored spots, blanching erythematous maculopapular lesions usually 2 mm to 4 mm in diameter usually on the abdomen and chest found in 5% to 30% of cases were key features on clinical examination [94].

In the era before intravenous fluids and antibiotics there was no specific therapy for typhoid. The predominant physician of the time and often considered the father of modern medicine, Sir William Osler believed medications were of no avail and that careful nursing under an intelligent nurse was critical in the management of seriously ill patients in the Charters Towers gold rush era. He advised a low residue diet predominantly of milk with plenty of water, but alcohol only for weakness, high fever or a weak pulse.

Patients with a high fever over 102.5°F should be immersed in a cold bath every three hours, and severe diarrhea was treated with starch and opium enemata. Acetate of lead and opium were recommended for hemorrhage. Osler recognized that neurological features, peritonism and heart failure, for which he recommended alcohol and strychnine being uncertain of the benefits of digitalis, indicated a poor prognosis [95].

Patrick Manson in his text 'Tropical Diseases' [2], notes the frequency of the disease in Europeans soon after arrival in unsanitary places in Asia, particularly from drinking contaminated water. He writes: - 'Similar testimony has come from Australia, where typhoid has occurred in the back country in lonely spots, hundreds of miles from fixed human habitation' [96].

The association of typhoid with poor sanitation and disposal of sewage was therefore well known by the gold rush period in Charters Towers. The disease was not as frequent as it was at the same time as in the similar gold mining town of Kalgoorlie where some two thirds of inpatients suffered from typhoid and about one in five died. Even the nursing staff and visiting clergy there caught typhoid from inpatients [97].

Typhoid is recorded in Charters Towers in the annual death statistics provided by the resident surgeon of that year. Menghetti in her PhD thesis cites other sources documenting typhoid to be the commonest cause of disease in Charters Towers though it is rarely mentioned in the daily press unlike trauma. Dr. De Vis recorded an annual total of nine deaths from typhoid his monthly statistics during his time as resident surgeon.

Typhoid was even more common in Charters Towers in times of drought when the water supply was limited. In 1883 wells were dug near cesspits causing an outbreak. Between June 30th, 1883, and June 30th, 1884, there were forty-eight cases of typhoid admitted to hospital with eleven deaths. Drs. Paoli and Browne in the 1884 annual meeting of the Charters Towers hospital committee noted this substantial increase in the number of patients admitted, mainly due to the number of men received from constructing the town railway where fresh water may have been scarce, and from the high prevalence of typhoid fever amongst them.

In 1885 when only nine inches of rain fell in the year, the death rate from typhoid was 3% or thirty per thousand populations. In 1887, a town water board was founded and water pumped into town from the Burdekin River. In spite of this typhoid continued in the town with six hundred and fifty-seven cases between 1901 and 1911 peaking in 1903.

There appears less effort by Charters Tower public health departments to trace and eliminate the sources of typhoid as was achieved with the Kalgoorlie water supply and in a spring sure dairy at the same time [98].

Mungana also had some typhoid cases, though it was said that contamination of the water supply did not matter as the five hundred inhabitant preferred to drink in one of the ten hotels rather than from a water tap [99].

In 2021 there are still ten to twenty million cases worldwide from typhoid, mainly in poor Asia communities with over one hundred thousand deaths, a totally avoidable health disaster if business spent more money on vaccines, antibiotics and clean water rather than centibillionaires' space rockets and multimillion dollar salaries and bonuses for CEOs.

Other Infectious Diseases

The additional causes of death from probable or possible infectious diseases listed in de Vis' monthly statistics during his time as resident surgeon were three from tuberculosis, three from pneumonia, two from syphilis, two from renal disease, and one each from ulcers and asthma. Two other patients were sent to Dunwich presumably with

leprosy. Deaths from non-infectious diseases in internal medicine included two from alcoholism, two from heart disease and one from burns [3].

Infectious diseases were difficult to diagnose in a period a decade or two before useful diagnostic microbiology. Diagnosis therefore depended upon clinical features and conditions currently in the community. Skin lesions facilitated diagnosis of smallpox, measles, typhoid, and leprosy. Splenomegaly could be due to typhoid, malaria, dengue or perhaps tuberculosis. Advanced tuberculosis would be apparent with chronic wasting with pulmonary symptoms and signs.

In the contemporary gold mining town of May town seven hundred and fifty kilometers to the north in the wet tropics with a wider spectrum of tropical diseases, febrile patients cases were diagnosed simply and non-specifically as 'fever' or 'gulf fever' or 'Palmer River fever' in the absence of better pathological testing.

Dengue was a recognized disease in the 1880s with a concurrent outbreak occurring in Fiji. There were no published cases at the time in Charters Towers, though there was an outbreak there in 1993 [100].

In Mungana, another contemporary mining town, this time for silver, copper and lead, some five hundred and fifty kilometers north of Charters Towers, there were deaths from measles. A reminder, like the 2019 Samoan measles outbreak in which eighty-three unvaccinated people, mainly children under the age of five died, that safe vaccines still play a life-saving role to prevent the plagues of yester year [99].

As previously noted between 1883-1884 there were also fifteen cases of malaria, six of phthisis, three of syphilis, three of non-specific dysentery, three of hepatitis and one of anthrax in Charters Towers. It is not clear if de Vis was one of these, but the disease was present in the town and did not require a trip to the coast to be infected. Clearly other specific infections occurred though not enough to interest the press [3,22].

Similarly in 1888 there were seven deaths from typhoid, seven from tuberculosis and three from syphilis out of a total of forty-two deaths. Five patients were sent to Dunwich presumably with leprosy [68].

Industrial Diseases

Industrial diseases inevitably follow mining. Gold is embedded in quartz hence silicosis is entirely predictable in the miners of Charters Towers. Then known as phthisis doctors could not distinguish between pulmonary silicosis or pulmonary tuberculosis or both combined which was frequent. At least nine deaths are recorded in the Charters Towers hospital from phthisis.

Toxicity from other metals was not a problem as for example in the public health and disastrous environmental problems of Zeehan, Tasmania, because they were not intentionally mined in the Charters Towers area at the time. The nearby Thalanga mine excavating lead, copper and zinc did not open till 1989 and closed in 1998. Raised levels of mercury in the Burdekin River postdate the gold rush days [101].

Family

Marriage

De Vis married Alice Cattell in Queensland on August 4th, 1882 and they had four children.



Figure 9: Charles de Vis's grave in was taken in 2021.

Charles Walter de Vis 1929-1915

Charles James de Vis 1852-1892

Charles Howard de Vis 1883-1970

Dorothea Hester de Vis 1928-2003 m 1 Colin Vere Melloy m 16/4/1949 - D 12/10/1978
m 2 John Robert Browne

Peter Melloy

Figure 10: Family tree (abbreviated).

Children

Charles Howard de Vis 1883-1970 was born on September 10th, 1883, Alice Margaret de Vis 1885-1969 was born on June 16th, 1885 in Sydney, Hester Francis de Vis 1886-1975 was born on October 26th, 1886 in Charters Towers and Cecil Mawe de Vis 1889-1890 was born on February 8th, 1889 in Charters Towers and died May 27th, 1890 in Bedminster, Somerset, England aged fifteen months.

Death

Charles de Vis died in Queensland on February 5th, 1892 at the age of thirty-nine as recorded in the register of Medical Practitioner. This document in which he first appears in August 1882 also confirms his qualifications in 1877 as MRCS, England and LSA, London [102].

He is buried in the Charters Towers Pioneer Cemetery.

This picture below of Charles de Vis's grave in was taken in 2021 by his great grandson, Colin Robert Melloy. Originally the stone cross

had been mounted above the headstone but in the past it had broken off and now lies on top of the grave (Figure 9).

Miss Hester De Vis, second daughter of the late Dr. De Vis, entered Toowoomba hospital as a nursing probationer next month fifteen years after his premature death [103] (Figure 10).

This paper is dedicated to my dear friend Peter Melloy, also a great-grandson of Dr. Charles de Vis with thanks for his review, photographs, content from his family archives and constructive advice.

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