

The Athenaeum Society

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**The Royal Flying Doctor Service**

“Necessity is the mother of invention”, resourcefulness is critical if human beings are to survive in a harsh environment and “where there’s a will there is a way.” An excellent illustration of these homilies would be the Royal Flying Doctors Service of Australia. Because of my own interest in missions, medicine, radio, aviation and geography, it looked like a good topic for an Athenaeum paper. First of all I would like to read a poem to set the stage, a ballad if you would, by Tex Morton in the manner of Banjo Paterson the famed Australian folk poet and entitled, “The Flying Doctor.” Dutch explorers first discovered Australia but Captain James Cook in the good ship HMS Endeavor was first to claim territory for the British Crown in 1770. Of course the Aboriginal people had arrived many millennia before and there were an estimated 400,000 of them at that time, mostly in the North or in the Outback. The flattest and driest Continent, the only one occupied by a single country and totally below the Equator, it has a narrow rim of inhabitable territory on the Coast with vast stretches of steppe and desert beyond the Eastern Mountains called the Outback or Never-Never Land which cover 2 million square miles . The Cities of Brisbane, Sydney, Melbourne, and Adelaide sprouted up in the east while Perth, the capital of Western Australia, developed some 2400 miles across the vast Nullarbor Plain to the west, on the Indian Ocean. Our American Revolutionary War was responsible for the first English to arrive, and under less than desirable circumstances. Prior to the War, English convicts guilty of lesser crimes were sent to the American Colonies but when that avenue closed, it was decided to transport them to the new land of Australia. In 1787, 11 shiploads

of convicts under the command of Capt. Arthur Phillip left England, and arrived January 26, 1788 in the Sydney area, the first of over 168,000 who were eventually sent over during the next 80 years. The first regular settlers started arriving in 1793, mostly sheepherders, cattlemen and farmers who resented the presence of the convicts. The convicts may have worn clothing with POMME or perhaps POHM on the back and to this day the English in general are irreverently referred to as Pommie bastards - prisoners of Mother England – in the Outback. Adventurous settlers gradually pushed to the interior and much of the country was discovered by searchers looking for others who were lost in the outback. In 1850 there were some 400,000 residents of English descent but by 1860, the population had tripled. Why? Again we have to look to the United States for an answer. One Edward Hargraves, an Aussie, had been to California for the Gold Rush in 1849, but returned home in 1851. On the returning voyage he boasted to a fellow passenger, “ I will find gold in Australia within a week after landing and will be made a Gold Commissioner by the Crown.” This proved to be no idle boast because within a week after landing in Sydney he made his way to a small tributary of the Macquarie River in New South Wales and found Gold. It seems that the geological formations he observed in California around Sutter’s Mill were similar to those he had remembered back home. After news of the strike was made public, people began feverishly digging for gold all over Australia and other finds were recorded that same year in Victoria, an adjoining territory. When the news reached England the rush was on and over 370,000 immigrants arrived in 1852 alone. The English perhaps had learned from the American experience and took a few precautions to control the exploration by using Gold Commissioners of whom Edward Hargraves became one, to parcel out the digging rights. They also banned hard liquor that might have reduced the amount of

fighting and killing seen in California. In 1893, an Irishman named Paddy Hannan along with his mates Flannagan and O'Shea discovered gold near Kalgoorlie in Western Australia about 600 Km east of Perth in the Nullarbor plain and the strike area became known as the Golden Mile. This kicked off another huge Gold Rush and influx of people to the remote areas. Having provided an introductory background, let me introduce the main hero of our story, the Reverend John Flynn, a man with vision and on a mission. His Mission – to serve Christ by meeting the spiritual, medical and social needs of the people of the Outback, Caucasian and Aboriginal alike. Born in 1880 in Central Victoria state he felt the call of God to become a Presbyterian minister and attended High School in preparation for Theology training at Melbourne. Money was a problem since his father lacked the funds so he became a student teacher which paid a small pittance but also picked up the hobbies of photography and first aid which were to serve him well in future years. A new avenue to education opened up in 1903 when the Home Mission Department started a program for young men called into the ministry who would go to pioneer communities and serve the people. In exchange for this, the Church would give on-going training culminating in full-study at Ormand College in Melbourne. Flynn jumped at the chance and his first post was at Beech Forrest, a lumber camp full of hard-drinking, hard-swearing tough men. An Irishman with a gift of gab, he rode about making the acquaintance of the people and by using his first aid knowledge was able to get a hearing for the gospel. He finally entered the Seminary in 1907 and in 1909 felt God's call to serve the people of the outback. Following graduation in 1911 Flynn accepted a post at the Smith of Dunesk Mission at Beltana, 350 miles north of Adelaide with a large parish to serve. Traveling another 250 miles further north, he visited a Nursing Sister at Oodnadatta who served the people in their homes and

had a vision of a Hospital in that remote locale. Somehow he was able to raise funds and even superintend the building of a facility which turned out to be a community center with ministry to the body, soul and spirit of the people. It was much appreciated by the people. The Church sent him on a fact-finding trip to the Northern Territory where he found deplorable living conditions with practically no medical care. At the time, there were two medical doctors to cover people in an area of 1,800,000 square kilometers and no hospitals. After returning, he presented a report to the General Assembly of the Presbyterian Church and said, "We want a catch phrase that fires the imagination. Safety... safety... 'a mantle of safety. We shall cast our mantle of safety over the Inland." The Session approved his recommendation to found a Medical Mission system to be called the Australia Inland Mission, with Flynn as the Field Superintendent. Over the next several years he was able to establish several bush hospitals and hostels staffed by a team of boundary riders, pastors with some medical training, who traveled over the outback on camel and horseback tending to the medical and spiritual needs of the people in remote communities, stations and households. The major problems of distance, transportation and communication remained, however, and many people died because of inaccessibility and lack of care. Nationwide attention was focused on the problem in 1917 when a stockman named Jimmy Darcy was injured in a fall out in Western Australia. The closest Postmaster, F.W. Tuckett, was able to telegraph a Doctor 2000 miles away for help and was told what to do, including performing two operations with a penknife. The doctor traveled by a cattle boat, T-Model Ford, horse drawn surrey and on foot to reach the patient but found that he had died 24 hours before. The news media publicized this widely and brought to the public attention the need for doctors, nurses and hospitals in the Outback. The Rev. Flynn was



also a very effective communicator and used every occasion to raise funds. The next person to enter the scene was Lt. Clifford Peel of the RAAF, who wrote Flynn from a Troop Ship on the way to France and suggested a solution. The airplane would overcome many of the transportation problems involved and he could envision a missionary doctor administering to the needs of the men and women scattered between Wyndham and Cloncurry, Darwin and Maree. He listed the costs of operation, the distances involved and support facilities needed. Flynn was very much taken with the idea. Unfortunately Peel did not live to see his suggestions implemented – he was shot down over German lines and killed in 1918 shortly before the end of World War I. Australian pilots returned from the Big War barnstorming around the country and the airplane was beginning to prove itself as a reliable means of transportation. Wireless Radio also had developed tremendously since Marconi first demonstrated man's ability to send a spark gap signal across the Atlantic Ocean. Placing telephone lines across the outback was impractical and electric power virtually nonexistent in most places so there were limitations. Flynn felt that this still had promise so he went to the trouble of learning as much as possible about radio, became a Ham Radio operator with the call 8AC and joined the Wireless Institute of Australia to further his knowledge on the subject. In 1920, radio equipment was rather cumbersome, complex, expensive and unreliable so Flynn along with others worked to build portable, shock-resistant, affordable units, which he then field-tested in the outback. Voice communication was impossible due to low power levels so Morse code was used. The first big obstacle was the regular availability of power supply. Accumulator car batteries required regular recharging and were prone to failure just when needed most. In 1925, Flynn and friend Dr. George Simpson planned a 2400 Km trek from Adelaide to Alice Springs in the middle of the

continent. Using a portable station and driving a Dodge Buckboard vehicle, he planned to stop, jack up the rear wheels and attach a belt drive to a generator for power and operate the radio. A glitch developed however, and both generators failed so he was desperate to find someone who could make one work. He found just the man, Alf Traeger, who had made a 600 Volt generator and bought it from him for 29 pounds. Shortly after that Alf was hired as radio engineer and electrician by the Mission, an excellent move. The immediate problem was to provide a stable signal and the next problem was teaching the Settlers to use Morse code. It was possible to make a hand crank generator but then how could a mate crank and send code at the same time? The story goes that Traeger was in his workshop one day when he suddenly jumped up and ran out the door at lunch time. He returned in minutes with a set of bicycle pedals, which he mated to a generator and by pumping one revolution per second could get an output of 180 volts DC. This would result in an output power that was adequate to send Morse code. He devised a simple receiver with two tetrode tubes and regenerative tuning, and a transmitter which had a crystal controlled oscillator with a Phillips valve and operated on a frequency of 3.4 MHz. Three 1.5 volt batteries supplied the filament, and the antenna was an end-fed long wire with a counter poise just above the ground. With further improvements, he could get 20 watts power output capable of transmitting a signal up to 300 miles away. Flynn had said that without a wireless transmitting station in every homestead, an aerial ambulance service would be 75% futile. Now that problem was on the way to being solved. In 1928 they put together a network of three stations, 8AB in Alice Springs with two satellites, plus 8AC at Hermanesky Mission and 8AD at Arltunga. The satellites could transmit to the base only in Morse code while the base stations could transmit AM back because of a good power supply. Traeger and Flynn

made a motor trip to Cloncurry to show their pedal generator and radio as a wave of the future, stopping at every station along the way to give a demonstration. The next step was to incorporate aerial service. Flynn met Hudson Fysh, a World War I fighter pilot and they jointly developed a plan. Fysh had just started a bush airline known as The Queensland and Northern Territories Air Service which blossomed until today when it is known as QANTAS, Australia's Overseas Air Carrier which flies all over the world. Then there was the matter of finance. Flynn's friend Hugh Victor McKay died and left a sum of 2000 pounds to fund a one year experiment in aerial aviation services, provided AIM would add 3000 pounds to this donation. It took overcoming opposition from some churchmen who felt that aviation and radio were outside the scope of church affairs, but in 1926, the General Assembly of the Presbyterian Church approved the Flying Doctor scheme – providing that Flynn could raise the money. A Committee was formed with four clergymen, a pastoralist from the outback, two doctors and three men with flying experience and they went “bush-ranging” for funds. The best suitable site was at Clonburry in Northern Queensland on the border of the mining and pastoral country which also had a hospital and telegraph links to the surrounding area. It was also a base of QANTAS. Fysh agreed to lease a DeHaviland DH 50 single engine aircraft at the rate of 2 shillings per mile flown and would also provide an engineer for maintenance. Thus the first base station was at Cloncurry for the “Australian Inland Mission Aerial Medical Service.” A pilot was selected, Arthur Affleck, and Dr. K. St. Vincent Welch employed as the very first Flying Doctor. Opened officially May 15, 1928, it was to be a one-year experiment, By 1929, there were eight outpost stations and each was able to contact the base with CW. The first plane was named Victory and made its first official flight on May 17, 1928 to Julia Creek,

some 85 miles away with flying time of slightly over one hour. The DH 50 was a fabric-covered biplane which carried four passengers in an enclosed cabin forward while the pilot sat in an open cockpit on top. The pilot had no navigation aids, no reliable maps, no radio and had to rely on a compass for direction. The runways in the Outback were mostly clay span or a hastily cleared paddock over which a vehicle drove first to insure it was safe to land. Flights were ordinarily made during daylight hours although in a dire emergency, lanterns or car lights were used to light up a landing strip. In the first year they made 50 flights, attended 255 patients and covered 32,000 kilometers of ground. Although some people could learn Morse code readily, others didn't have a clue so Traeger came up with another ingenious solution. He used a standard four gang typewriter with the keys connected to pivoted steel bars with indented ends and when the key was struck, the corresponding Morse code signal was produced for that letter. That meant that no knowledge of Morse code was required and only the Base station operator had to know code. In Western Australia, around Kalgoorlie, an Aerial Medical Service was also organized in 1928 independently and run by local committees with Goldfields Airways providing the air service and in 1937 joined with Eastern Australia. The network was growing so by 1932 there were twenty-five stations and by 1935 AM radiotelephony was used both ways. There were now six flying doctor bases to cover other areas and expand the ministry. The changes made in Outback life were far more reaching than in just providing emergency help because it enabled people who lived hundreds of miles away to speak to one another on AM Radio. Loneliness was eased and friends were only a call away. The women became the family radio operators and started regularly scheduled chat sessions on the air called galahs after the noisy, chattering grey and pink native parrot. In

1934, air-to-ground radio communication became possible that further broadened the scope of service. When the Aerial Medical Service first began, the flying doctors flew to see urgent cases, render first aid and if necessary transport the patient to a hospital. They gave advice by radio, flew a regular circuit to areas totally without medical care and consulted with Doctors in remote sites. Dr. Alan Vickers who worked out of Western Australia became nationally known for his work and Flynn took care to widely publicize him widely including a lecture tour to the eastern cities and before the National Legislature in Canberra to raise funds. One intermediate innovation introduced in 1942 made do-it-yourself medicine possible. Medical chests with numbered drugs became available to bush homes at a cost of twelve pounds each. By contacting the Flying Doctor and describing the symptoms and signs, he could suggest the appropriate medicine by number without having to make a 1200-mile house call. "Take medicine number 12 four times a day and call me back – during the daytime of course – if you aren't better in four days". Sometimes this produced confusion. One Station Manager, instructed to give his wife medicine #9 later told the Doctor, "We'd run out of Number 9's so I gave her a four and a five and she came good right away." The next step in practicing medicine by the numbers came with the introduction of a numbered area body chart as a diagnostic aid. "I hurt in number 4" might be a typical localization of pain and aid in making the proper diagnosis and treatment. In 1945, Sister Blanche was the first Flight Nurse hired by the RFDS and she undertook home nursing, gave immunizations, advised on preventative medicine and on occasion filled in for the doctor. Regular nurses weren't used until the 1960's but today a nurse and the pilot do 80% of the Med Evac flights. Dentists and related health professionals fly out to hold clinics in remote places. A 1951 development was "The School of the Air" whereby

children in remote missions and cattle stations could communicate by radio with teachers living in the cities and be taught by them. It was a very popular program. At the beginning of the school year, the children were all brought together to meet their teacher and classmates. A further improvement in communications came when Single Side Band Radio replaced AM in the early 1970's. Although the main objectives haven't changed, the methods have. Commercial radio and satellite telephones have replaced amateur radio and more recently videoconferences are used for teaching. Medical specialists, Dentists and related health professionals fly out to hold clinics in remote places. Down through the years there have been many changes in organization, communications equipment, and aircraft. The early Aerial Medical Service became the Australian Aerial Medical Service in 1934, the Flying Doctor Service in 1942 and finally in 1955 the Royal Flying Doctor Service. The original DeHaviland DH50's were replaced by the two-engine Dragon and later American models like the Beechcraft Baron, Travelaire, Cessna 421B's, Piper Cherokee, Chieftain and Navajo aircraft were flown. Turboprops replaced piston-driven aircraft and today many of the planes are fitted out like a flying intensive care unit. More recently, the Pilatus 12B has been used. Although the planes have all-weather and night capability, each pilot still makes the ultimate decision about flying to any destination under the prevailing weather conditions. Today, there are 20 bases that are open 24 hours a day, 365 days a year. No longer do they serve just the far outback but cover up to within 60 miles of the large cities. With telephones and satellite phones common, the radio communications are used mostly by travelers and tourists in 4 wheel drive vehicles traveling through the outback, and only 2% of the calls for help are via Radio. Portable HF Radio equipment is commercially available and travelers are strongly encouraged to contact a Flying Doctor

Base to make sure they have the right equipment and are capable of operating on the right frequencies before traversing the outback. Many of the radios have an emergency call button that transmits on a frequency monitored 24 hours a day. When a Flying Doctor Base Station receives an emergency call, they can make contact with an MD, RN and Pilot within 30 seconds and be airborne in 45 minutes. Today, about 40% of the real emergencies are related to automobile accidents. In the twelve months July 1, 2001 through June 30, 2002 an average of 540 patients per day were attended, 71 aerial evacuations made, 24 healthcare clinics held, 45,000 miles flown, 156 teleconferences presented with 40 aircraft flying from 22 bases, and using a staff of 413 full-time and 98 part-time employees. John Flynn, Alf Traeger, Hudson Fysh, Alan Vickers, Fred McKay who succeeded Flynn, men with vision who pursued a dream, made innovations, met a great need and transformed a society. They persevered through two World Wars and a Deep Depression, overcoming every obstacle. The Rev. John Flynn died in 1951 and was succeeded by Fred McKay who continued the program. Flynn is buried near Alice Springs in the center of the vast territory to which he brought, medical treatment, pastoral care and communications to the people. He received the OBE and an honorary doctorate from Oxford and was honored by the Reserve Bank of Australia by the design of the \$ 20 dollar note that pictures the RFDS and its founder on one side. There are RFDS Museums in several locales including the one in Cairns, QLD that I visited in 1994 and I have also talked with Hams on the air who were connected with the program. Yes, an institution really is the lengthening shadow of a man aided by some interested innovative friends who caught the same vision. And the work goes on.

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