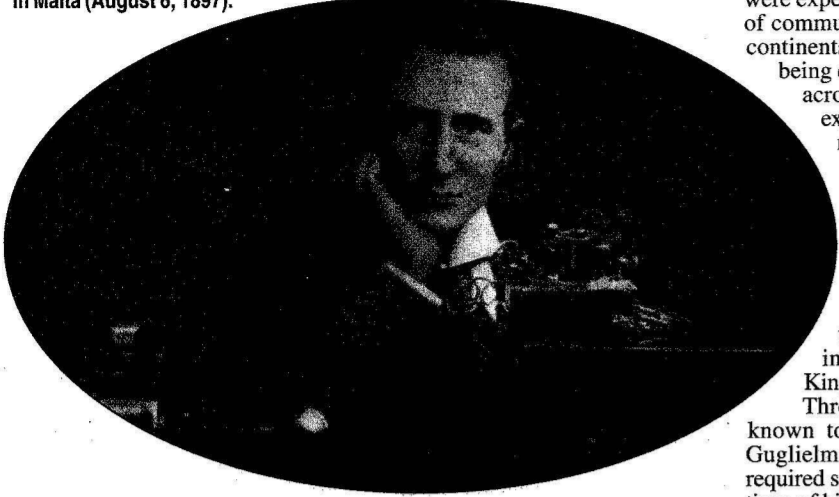


GUGLIELMO MARCONI at the age of 23, when he applied for the first patent in Malta (August 6, 1897).



Marconi – the Malta connection

A two-part feature
by Carmel G. Bonavia

THE general interest in satellite communications, cybernetics or Internet is reminiscent of a similar phenomenon at the turn of the century. A hundred years ago, many scientists were experimenting with new ways of communicating between far-off continents. Messages were already being exchanged by cable, even across oceans, but laboratory experiments were pointing to new ways of transmitting through space.

Foremost among these pioneers in communications and experiments was an Italian youth, who at 22 left his native land to seek better conditions and prospects for his inventions in the United Kingdom.

Through personal contacts, known to his Irish-born mother, Guglielmo Marconi found the required support. Public demonstrations of his achievements and of the

tries where patents were to be obtained. On August 6, 1897, a few days after the Wireless Telegraph and Signal Co. was incorporated in London, Marconi filed an application for his first patent on "improvements in transmitting impulses and signals and in apparatus therefor" with the Chief Secretary to the Government of Malta, Count Gerald Strickland.

Marconi was too busy in his Middlesex laboratory with his experiments. He left all the paperwork and the procedure to be followed in getting these patents in the hands of his agents Messrs Carpmael & Co of Chancery Lane, London.

Carpmael forwarded Marconi's application on August 6, 1897 to Count Strickland with a money order of £3, being £1 payable on application and £2 for the publication of the Governor's warrant granting the patent in the *Malta Government Gazette*.¹

Marconi's application consisted of 24 beautifully hand-written pages accompanied by technical drawings

instruments he built were arranged by Sir William Preece, engineer-in-chief of the British Post Office. Great interest was shown by all and on June 2, 1896, Marconi was granted the famous Patent No. 12039 (UK) for his wireless transmission apparatus.

Within a year the Wireless Telegraph and Signal Co. was set up with a capital of £100,000 to provide Marconi with funds to further and improve his findings, and to acquire the necessary patents in all countries.

Malta, thanks to its strategic position, was a favourite among the coun-

tries where patents were to be obtained. On August 6, 1897, a few days after the Wireless Telegraph and Signal Co. was incorporated in London, Marconi filed an application for his first patent on "improvements in transmitting impulses and signals and in apparatus therefor" with the Chief Secretary to the Government of Malta, Count Gerald Strickland.

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the year before acted as Carpmael's agent. Vella replied that as he was then Acting Chief Secretary, he could not act as agent any longer, and suggested that Mr George Alfred Page, a solicitor, of 13 Strada Reale, Valletta, might be his substitute, attaching a new power of attorney to be filled and legally certified by Marconi.⁴

On September 17, Carpmael and Marconi accepted Vella's suggestion and empowered Page to act as agent.

Mr Page was a solicitor (LP) and a notary public. He is described as "Notary to the Naval Department and Military Provisions".⁵ He was also involved in acquiring patents for clients from various countries which covered all kinds of new inventions, from machinery for cigarette-making, pneumatic tyres to telegraphic apparatus. He was also approached by local inhabitants to send petitions to the Governor on all sorts of subjects.⁶

Mr Page's application on behalf of Marconi was soon approved, and Marconi's drawings, circuits and details were sent to the Public Reg-

istry to be exhibited for public viewing as required by law...

On October 4, 1897, the Governor, Sir Arthur Lyon Fremantle, approved Marconi's application and signed the warrant for the granting of Patent No. 26 for 14 years' protection of the invention.⁷

A competitor

Managers of companies involved in telegraphy were continuously monitoring Marconi's inventions and improvements patented in England and the colonies. They saw a threat to



Telegraph Co. which acquired important patents such as that granted to Thomas Alva Edison.

Marconi followed his successful achievements in England by protecting them also in Malta. On October 26, 1900 he filed an application for "improvements in apparatus for Wireless Telegraphy". He was granted Patent 38 on September 24, 1901.¹⁰ A year later, on November 12, 1902, he followed with yet another request to protect his results on "improvements in receivers suitable for wireless telegraphy" for which Patent 49 was awarded to him on January 27, 1903.¹¹

Other patents

In the meantime other leading scientists were applying to take patents in Malta. Sir Oliver J. Lodge applied to protect a device called "a coherer", a detector of electric waves consisting of a glass cylinder, the size of a thermometer, containing filings which cohere when struck by an electric wave.

Sir Oliver J. Lodge, Alex Muirhead and Edward Ernest Robinson together on December 24, 1902

very busy with his inventions and improvements in wireless transmissions. His main concern was to cover longer distances between transmitter and receiver, tuning to selected wavelengths while using a single aerial. On April 26, 1900, Marconi protected this very important discovery by the famous UK Patent 7777. This improvement was destined to be the subject of heated disputes which ended up in court.

Marconi admitted that he based his new discovery on previous results by his forerunners but the final success was his. The court's judgment was in favour of Marconi and newspapers and scientific publications on both sides of the Atlantic carried reports about Marconi for quite a long time. Following this sensational sentence, Marconi restructured the Wireless Telegraph Co. and changed its name to Marconi's Wireless

applied for a patent for "improvements in and relating to coherers". The Governor, Charles Mansfield Clarke, on August 7, 1903 approved their request and awarded them Patent 51.¹² The period of protection of any invention remained, as before, 14 years from the date of application, even when the original Ordinance was re-enacted on May 31, 1899.¹³

Dr John Ambrose Fleming of the University College, London, a close collaborator of Marconi, inventor of the wavemeter and valve detector, on September 28, 1904 filed two applications for patents in Malta. Lodge's requests were accepted to and Patents 57 and 58 were awarded to him on August 11, 1905.¹⁴ He also protected his new instrument to measure alternating current by obtaining Patent 63 on October 20, 1905.¹⁵

Marconi proceeded with his improvements in wireless transmission and any important step towards his great invention was safeguarded by patents in the UK and abroad. After applying for yet another patent, Marconi obtained Malta Patent 67 on August 14, 1906.¹⁶

Success

Marconi's success may be attributed to his patience, infinite persistence plus an ability to foster friendliness even with his genuine competitors. He had also courage and a strong will to win over all difficulties. He surrounded himself with a team of expert electricians and engineers whom he respected and with whom he shared his experiences.

From time to time the Marconi Wireless Telegraphy Co. bought several patents belonging to leading scientists. Malta Patents 26, 33, 49, 51, 57 and 67 were acquired by Marconi's company between 1901 and 1906, enabling Marconi to continue improving wireless transmission and reception.

As long as these inventions and their improvements remained under the control of English companies, the British Government found no difficulties at all. All grants and transfers of patents of whatever type were examined and scrutinised by the Patents Office in London and telegraph and wireless inventions were closely studied. They were important from the point of view of security.

This policy is quite evident in the case of an application and Ettore Bellini and Alessandro Tosi, residing in Paris. Although they were granted Patent 73 on February 21, 1908, when they came to put the "invention for a system of directed wireless telegraphy" in use in Malta, the whole matter took a different dimension. Bellini and Tosi were allowed by the Patent Law to use their invention in Malta for 14 years. However a notice by Bellini and Tosi appearing on March 19, 1909 in the *Lloyd Maltese*, organ of the Malta Chamber of Commerce, raised the eyebrows of the British Government.

This notice expressed Bellini and Tosi's "desire of entering into arrangements... for the purpose of exploiting Patent 73 (system of

directed wireless telegraphy) and ensuring its practical working in Malta."¹⁷

The following day Sir A.G. Curzon-Howe, C-in-C Mediterranean Fleet, on board the *Exmouth* at Malta, wrote to the Governor, H.F. Grant, about the Bellini and Tosi advert. The matter was seriously considered and lengthy correspondence followed between the Chief Secretary, the Admiralty, the Secretary of State and the British Prime Minister up to July 8, 1909.¹⁸ The conclusion was that it was "undesirable to allow any private Wireless Telegraphy stations in a fortress" and that "no licence was to be issued without submitting the proposal" to Downing Street. In the case of Bellini and Tosi a licence for experiments could only be issued "under such conditions as may be necessary after consulting the Naval Authorities".

Marconi collaborated also with Bellini and Tosi in later years. They worked together in developing ground-air transmitters and, in 1920 Croydon Airport was equipped by Marconi with the first air transmitter station remotely controlled from a Marconi-Bellini-Tosi receiving station.

Radio licence

Under colonial administrations the control of the setting up of wireless stations, later termed "radio stations", continued for many years. This was

a very sensitive matter for the Services and State security. In time, receiving sets were made available to the public when broadcasting started just after World War I. A few radio amateurs built their own radio receivers just before war broke out in 1914.

In Malta one of these early radio receivers was built by Dockyard College student Robert F. Galea of Birkirkara. In January 1914, Galea built a radio receiver and the following month he succeeded in assembling a transmitter set. Galea was later employed as a draughtsman at the Superintendent Electrical Engineer's Department at the Dockyard.

Galea continued his electrical engineering education both locally as well in the UK and served as a Liaison Officer (Radio) Defence Security during the last war. On the outbreak of World War I, Galea was requested to hand all radio apparatus to the police.

Other early radio amateurs were George Galea, of Ta' Xbiex and Joseph Garzia of Vittoriosa. Around 1923 Galea built a three-stage reaction type receiver with valves whose heating elements could be controlled to vary the emission. The tuning was by mutual inductance variation.¹⁹

These early radio enthusiasts used to import the required parts and assemble the sets here. They could not afford to import the cabinet as well. It cost £1, which was considered too much for those times. So they

built one themselves without the usual lustre and polish. Their great satisfaction was in receiving music and talks from far-off stations. Their neighbours were enthralled.

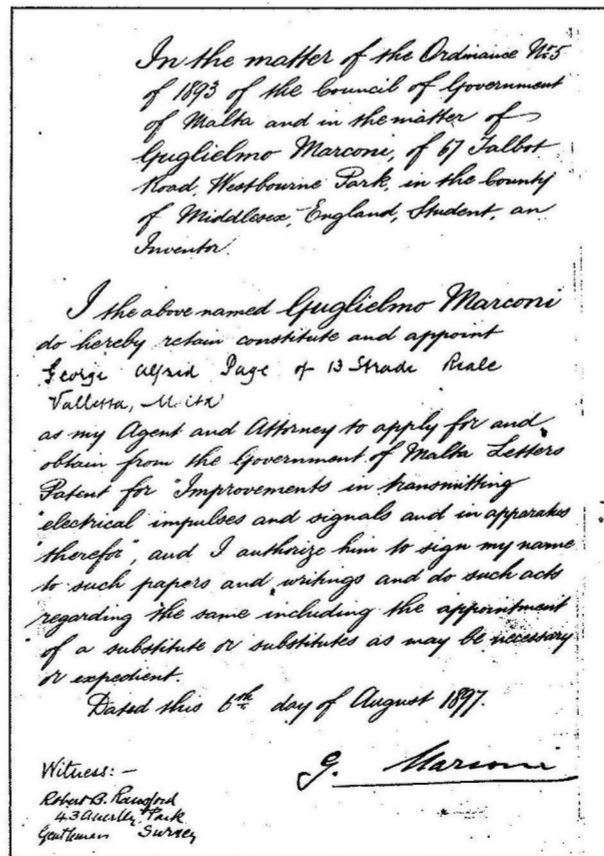
Wireless telegraphy, receiving and transmission continued to be considered vital to the security of the State. It was one of the Reserved Matters in Malta's first self-government Constitution 75 years ago, and similar reservations continued to feature in later Constitutions.

On June 6, 1922 the Governor, Lord Plumer, issued an ordinance whereby all radio apparatus were to be held with the permission of the Governor.²⁰ Telephones or radio sets were not common up to the early Thirties. The Malta Directory in the *Guida Generale di Malta e Gozo* (Giov. Muscat) 1929-30 indicated such persons with the letters T (telephone) and R (radio).

With more improvements in radio transmission and reception, the primitive apparatus became more simple to operate and cheaper to obtain. More sets were imported into Malta and the name of Marconi was rendered more familiar with the people. The real link, however, between Marconi and Malta became more real and evident by his visit to our island in April 1928, which will be dealt with next week.

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(To be concluded)



POWER OF ATTORNEY by Marconi appointing George A. Page as his agent in Malta – National Archives, Malta

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