## Surgery in Malta: Yesterday, in our day – and tomorrow?

Victor Griffiths

From the simple briefing given to me to write about Surgery in Malta in the past and for the foreseeable future, I choose to pick on the words "Major Surgical Landmarks". The reference to a 'millennium' hardly appeals to the practical and realistic frame of mind of a surgeon because, truth to tell, nothing of moment in the historical record of matters medical in Malta reaches so very far back in time or can evoke visions so far ahead.

Therefore, in practical terms, I shall treat in some detail surgical practice in Malta over the last century, after dealing briefly with a few items from the time of the Knights. Practically all that was known of Maltese medicine up to 1960 has been embodied in Paul Cassar's classic work<sup>1</sup>, which remains the prime source to which we all gratefully refer. I shall dare to elaborate somewhat on the history of Maltese surgery over the last sixty years, being the period that I have been privileged to observe directly even with some personal contribution. This reliance on living memory partially makes up for the near-total absence of written clinical records: we know so much about administrative matters in Maltese medicine of the past, but where are the precious data about what our surgeons managed to achieve?

The creation in 1676 by Grand Master Nicholas Cotoner of the School of Anatomy and Surgery attached to the Sacra Infermeria rates as more than a landmark ... it is a great beacon which illuminates us to this day by virtue of its survival as our University's Medical School so that our Faculty of Medicine can proudly claim to be surpassed in seniority only by that of Theology<sup>2??</sup>. It is also significant in that it links indissolubly the study of the two great disciplines; the professorships were held as a joint chair up to the time of Charles Galland in 1858. Moreover, it is one more proof justifying the age-old dictum that warfare provides the best school of surgery: the Sacra Infermeria was a general hospital, but one can see to this day that one ward was specially reserved for treatment of the wounded, and a surgeon possibly from the humbler ranks of the Barberotti was an essential member of the crew of the redoubtable war galleys of the Order.

The towering figure of the Master Surgeon Michelangelo Grima (1731-1798) stands head and shoulders above his contemporaries, including his own teachers, and he placed the surgical service at the Sacra Infermeria on a par with that of anywhere in Europe. Part of his training was obtained on the battlefields of the Seven Years War; his great treatises on wounds and on head injuries testify accordingly. Indeed, with his many substantial publications, some of which embody

his own research, he should have served as an example for every surgeon that Malta has produced since his time. Unfortunately, we have all failed to emulate Grima, claiming that we are far too busy with the knife to have time for the pen. Yet Grima himself was heavily engaged in a wide range of major surgery, achieving a superlative competence and dexterity in perineal lithotomy<sup>3</sup>, where his time for the operation is said to have rivalled that of Cheselden and other remarkable exponents, while his success rate is said to have brought foreign patients to the Sacra Infermeria.

Almost right through the nineteenth century in Malta we do not encounter anyone like Grima for major surgery. In fact, it has to be some foreigner like Paolo Fabrizi in the 1840s<sup>4</sup> with orthopaedic interventions and even plastic surgery a la Tagliacozzi who hits the headlines, literally too as the emergent medium of the newspapers advertised his activity.

Making their entry into the Maltese medical scenario we now find the momentous innovations of **Anaesthesia** and **Antisepsis**, both such essential ancillaries that they revolutionised surgical practice by making it endurable and humane, safe and progressive. Before anaesthesia, surgery was practically limited to rapid amputations. Before antisepsis, surgery usually meant a sentence of death from complicating infections.

It was in March 1847<sup>5</sup> that Thomas Spencer Wells at the Royal Naval Hospital at Bighi operated with the benefit of ether anaesthesia, this being just three months after its introduction in a London hospital and only four years after its invention by WTG Morton in Massachusetts. No doubt, thereafter ether was in regular use in the service hospitals and possibly also for civilians, and by 1864 chloroform administration also was firmly established: these two valuable agents were still almost indispensable for us during World War II.

Taking inspiration from Pasteur, the epoch experiments in Glasgow by Lister in 1865 on disinfection with carbolic acid effected the greatest of revolutions in surgical practice. This was duly brought to the notice of Maltese doctors by 1871, and there is no reason to believe that Listerian principles encountered more opposition or were adopted more slowly here than elsewhere. Certainly, they had become practically rouprogress in major tine by the last decade. The rate of surgery in Malta may be gauged from the fact that the first recorded laparotomy dates from 1890 and was for an ovarian cyst. The next year saw the first Caesarian operation on the living mother. As both these operations are to the credit of the Professor of Midwifery, GB Schembri, one may wonder whether by comparison the V. Griffiths

general surgeons were rather inactive! It is relevant to recall that by 1883 Lawson Tait in Birmingham had totted up a thousand laparotomies, while the first ovariectomy had been successfully accomplished by Ephraim McDowell in Kentucky as far back as 1809. As to general surgery, the first successful cholecystectomy was by Carl Langenbuch in Berlin<sup>6</sup> in 1882, while Billroth in Vienna started partial gastrectomies in 1881. By the turn of the century, following on the work of Fritz, McBurney, Treves et al, the acute appendix was being confidently diagnosed and actively tackled.

Surgical diagnosis acquired its most powerful ally from Rontgen's discovery of X-rays in 1895, and within a year a professional photographer, Mr. Richard Ellis, was experimenting with it and offering his services to the Maltese government and the military hospitals<sup>7</sup>. Not surprisingly, it was Malta's versatile luminary, Temi Zammit, who first demonstrated the new wonder technique. A temporary (and part-time) posting as radiologist to the Central Hospital seems to have attracted a succession of our leading doctors who then moved on to other specialisations until the appointment in 1919 of Dr. Joseph Briffa, who was also an excellent Professor of Anatomy (1939-52).

I now come to the precise round figure of 1900 when Dr. Salvatore Cassar (1861-1938) was appointed Professor of Surgery in succession to Dr. Theodore Bonnici. Although he has been termed "the father of surgery in Malta", I cannot be sure that he quite deserves being credited with "dragging Maltese surgery into the twentieth century" as there seems to be no written record of the range and results of the major surgery that he undertook. He certainly was held in high respect even by his really extraordinarily gifted successor, Peter Paul Debono, and his proficiency would certainly have been boosted by contact with the great influx of highly qualified British medical personnel in 1915 to deal with war casualties from the Gallipoli campaign.

It is this event that I would certainly depict as a landmark in our surgical advancement. Up to that date one could have thought with some justification that the very small number of civilian surgeons, and indeed of other Maltese medical specialists, on this very small island could have felt the deleterious effects of isolation and lack of direct contact with "foreign" colleagues. This I state without denying that the best Maltese doctors had always been renowned for keeping up with modern advances through their reading and correspondence, and it needs no saying that the historic contribution of Temi Zammit to the famous discoveries on Brucellosis owed much to his close association with his British colleagues in the first decade of the century. Now it was the exigencies of war that brought eminent British surgeons to Malta, and possibly the best remembered of these was Sir Charles Balance. Professor Salvatore Cassar must surely have made the best of his opportunities to follow the surgical activity at the service hospitals, and I would think that the same was the case with his understudy, the Junior Surgeon, Dr. JS Galizia (qualified in 1892) who was to fall victim to the post-war pandemic of the 'Spanish' inflenza.

Here the hand of fate can be clearly seen as creating the greatest of landmarks for surgery in Malta over the last hundred years, the 'man of destiny' being Peter Paul Debono. The death of Galizia in 1918 opened the way for Debono (born in 1890, qualified in 1910) to switch to surgery from a career in Pathology where he had already established a reputation. Initially he was inclined to work in Public Health and he made his mark in bacteriological research, but in 1914 he enlisted for two years' service as an anaesthetist for the naval and military hospitals, and then demonstrating versatility by turning to pathology as his prime interest: in my view, this gave him the best foundation for his subsequent brilliance as a surgeon. I am sure that, when the need arose, it was Charles Balance, Archibald Garrod and the other great service 'chiefs' who hand-picked Debono as a rising star with the necessary ability and drive who would eventually succeed Cassar.

Thus in June 1919, Debono as the prospective Junior Surgeon was despatched to London to obtain the essential stamp of a surgical trainee, the Fellowship of the Royal College of Surgeons of England, which he achieved in eighteen months. More importantly, he was acquiring invaluable hands-on experience in 'house' appointments at Bart's and other centres of excellence in the capital, and when he had qualified as the first Maltese FRCS he moved north to the Manchester Royal Infirmary where, as resident surgical officer, he was recognised as a fully competent general surgeon, fit to return to Malta for his post as an autonomous consultant. On the retirement of Salvatore Cassar in 1926, Debono took his place as Professor of Surgery and (senior) Surgeon in charge of adult male patients at the Central Hospital in Floriana, while the one other consultant appointment (for women and children) went to Dr. Frederick Borg (qualified in 1810). Soon the name of "Pietru Pawl" was on everybody's lips, rapidly raising him to the enviable status of "a legend in his lifetime".

The brilliant career of Professor PP Debono has been eloquently set out as a historical record while with due modesty coloured by fervent admiration of my mentor, I would also dare to present my own homage to his great attributes<sup>10</sup>. It is surely significant that both these essays<sup>9, 10</sup> are derived from the PP Debono Memorial Lectures (1973 and 1975) which the Association of Surgeons and Physicians of Malta had established in 1969, while what PP Debono meant to Malta under so many worthy aspects is sincerely recorded in his obituary notices<sup>11</sup>. A forceful character who could dispose of any difficulty and over-ride any obstacle, 'Pietru Pawl' radiated charisma and influence. As a superb teacher by precept and example he had all the ability to create a school of surgeons; however, it has to be said that the monopolistic set-up of the whole medical establishment of the times excluded delegation to his juniors who, as he had done himself, sought their practical training

The range of major general surgery that Debono introduced to Malta and successfully accomplished certainly set him on a par with his contemporaries abroad and entitles him to be called the father of modern surgery as he taught it to us. We who worked for him and under him can make up for the near-total deficiency in the official record and hospital documentation. Abdominal conditions, both gastro-enterological and urological, were adequately tackled by the methods of his time, certainly whenever emergencies demanded and often when elective procedures could be embarked upon; the actual "demand" for surgery then was not all that great. Being bold and resolute, venturesome and "not easily deterred", Debono like other great general surgeons, would at times tackle situations which really called for the finesse and expertise of the specialist but, of course, the specialist in Malta in any medical capacity had yet to be conceived. The difficulties and deficiencies that Debono had to cope with would have defeated any lesser man; for instance, I can vouch from personal knowledge that a pioneering attempt in 1928 at blood transfusion was considered difficult and hazardous; incidentally, it was undertaken by the brilliant young physician, Dr. JE Debono, PPD's brother.

With absolute confidence I would denote **World War** II (1939-1945) as the next great landmark to be observed, and it so happens that this period brought PP Debono (and therefore Malta's surgery) a crowning glory. Here, without apologies, I must present my own account delivered to the British Medical Association (Malta Branch) as the St. Luke's Day Lecture in 1992.

The dire effects of these eventful years, especially from 11<sup>th</sup> June 1940 to the middle of 1943, brought us death, suffering and privation but also the undying fame and glory of a second Great Siege of Malta G.C. In terms of surgery, they brought us an enormous experience of the surgery of trauma from aerial bombardment. The tally of 1500 persons killed outright is a sufficient pointer to the 4000 civilian casualties who were treated by the surgical teams at the emergency hospitals, for the most part at Bugeja Hospital in Hamrun and by PP Debono. These were the unforgettable circumstances that brought me first to sit as a student at the feet of "Pietru Pawl", then to assist as a "dresser" in the casualty reception rooms and eventually in 1943 to serve as PPD's house surgeon.

Besides the massive numbers of casualties that had to be treated, and in this regard one has to give due recognition to the prudent measures of preparation pre-war by the CGMO Professor AV Bernard, our war surgical exposure presents such highlights as coping with the great hazard of surgical shock and adapting slender resources to problems of resuscitation, improvising a process of "triage", fighting deadly infections with nothing but antisepsis and the sulphonamides, and treating large and complicated wounds on the principles learned from Trueta's experience in the Spanish civil war.

As during the Great War, the British staff at the naval and military hospitals were substantially reinforced, and PP Debono benefitted from close liaison with them; in point of fact, the service surgeons never had to face such a terrific work-load as Pietru Pawl, and here I must also repeat what I emphasise in my monograph that, despite bombs raining down on ill-fed people and the

wounded crowding into Bugeja Hospital, PP Debono continued to cope almost single handed with such "cold" general surgery as was imperative, although of course, there was little inducement for anyone to seek elective operations!

Since it is indeed an ill wind that blows no good, I must still assign to the War my next landmark of surgical progress, as it was in 1943 and quite probably as a direct effect of war that Malta suffered the first of the great epidemics of Poliomyelitis. Hundreds of young Maltese children were stricken, in contrast with much smaller numbers of young British soldiers. Deaths were few but the paralysed were many, creating urgent clinical and administrative problems<sup>13</sup>.

The initial burdens of care fell on Professor JE Debono and his medical team at St. Luke's Hospital, with some aid from Pietru Pawl on splinting and rudimentary physiotherapy. Malta being then a Crown Colony, the civil government called on the Colonial Office for help and in March 1943, Professor HJ Seddon, Nuffield Professor of Orthopaedics at Oxford, came here, staying for several weeks at St. Luke's. Besides launching orthopaedic measures for the effects of paralysis, he was accompanied by professional physiotherapists from his unit in Oxford, this being such a novelty for Malta that it could rank as a landmark in its own right as it established a properly qualified service which was later supported by further British visitors until Maltese girls were identified as trainees to go to Oxford for their own full qualification.

Even more significant was Seddon's immediate identification of a glaring deficiency in our surgical services – that of a properly staffed orthopaedic department. PP Debono actually had a penchant for the occasional minor orthopaedic intervention and he certainly was a master in the treatment of all skeletal injuries; he had schooled us thoroughly in the methods of Bohler and Watson Jones. But with his fantastic work-load he was not, and could never be a proper orthopaedic surgeon. So Seddon started by identifying the right man who was to create the new department in the person of Mr. Alfred John Craig (1909-70) who had qualified in 1931 and being already seen as the natural successor to Debono had obtained his FRCS (England) in 1940 and received training as a general surgeon in Edinburgh, London and Lancashire. Seddon, as adviser to the Colonial Office and the Nuffield Foundation, could now move Craig from Southport to his own unit in Oxford, so that late in 1944 he could return to Malta as our first orthopaedic surgeon (at the Central Hospital, Floriana) and Lecturer in Orthopaedics.

Seddon, the Colonial Office and the Nuffield Foundation did much more for post-War Malta: they identified and sponsored the Maltese doctor trainees for such departments as radiology, paediatrics, psychiatry and thoracic surgery, and to this last discipline, I shall in due course return.

It was not in PP Debono's nature that he should rest on the laurels earned on his war services. The six years left to him before his retirement in 1951 were marked by his boldest new ventures and his most notable successes. When anaesthesia with endotracheal intubation became routine, he fulfilled a long-standing ambition to invade the thoracic fortress, and in 1947 I was privileged to assist him with a successful ligature of the patent ductus arteriosus, and with a dissection lobectomy for a lung abscess, two "firsts" for Malta which can surely be rated as landmarks. A bold attempt at a resection for cancer at the gastro-oesopageal junction was not crowned with success, nor did he accomplish resection for lung cancer, a condition that was now being frequently diagnosed although it had hardly featured in the superb series of his lectures to our course. One may recall that in the diagnostic sphere, he demonstrated familiarity with what was then known of Crohn's disease, Buerger's thromboangiitis and other conditions of relatively recent appearance in the literature.

When in 1951, PPD came to retirement, he was succeeded as Professor and Senior Surgeon by his brilliant pupil, Alfred Craig who returned to the mainstream of general surgery by handing over his excellent orthopaedic department to Victor Amato and Albert Bartolo, two Oxford trained surgeons who had been specially selected by Professor Seddon. The indefatiguable Pietru Pawl, right up to his death in 1958, carried on in private practice, adding on to his large figures of operations for hernia, with results that were probably unsurpassed: he attributed his enormous experience to an extraordinary prevalence of the condition in our islands.

During his 18 year tenure of office, Professor Craig brought to our surgical scenario several novel and admirable aspects. In both physique and personality he was very different from Debono, and this was reflected in his meticulous and painstaking operative technique which he probably owed to his orthopaedic training in Oxford and now applied in his abdominal surgery and in such areas as the breast and thyroid. This too, led to his introduction to Malta of the essential gentle touch in paediatric surgery, a field which I would regard as his greatest contribution. The orthopaedic department that he had created was a model of order and discipline, the result of his insistence on high standards. His death in 1970, just one year after his retirement, was a very sad loss: deservedly for some years, the new hospital in Gozo was named after him.

It is now accepted that every general surgeon should have a "special interest" and this in many parts of the world may have to make up for the lack of ad hoc appointments of specialist surgeons in the full sense. The situation in Malta was that there were just the two general surgical consultants with two assistant surgeons, so that 1944 can be seen as a landmark year through the appointment of Alfred Craig as consultant and his creation of an orthopaediic unit. The next step forward was in thoracic surgery; again it was a happy outcome of the War, and I was the fortunate person who was involved.

Pulmonary tuberculosis in pre-war Malta was a serious scourge. The privations of war and siege included semi-starvation, and the numbers of phthisic patients soared. The only active treatment available at the worse

than inadequate Connaught Hospital in Mdina was artificial pneumothorax; very occasionally PP Debono would do a thoracoplasty. There was an obvious need for urgent re-inforcement of staff, both medical and surgical, and again it was the Nuffield Foundation that provided for the new Maltese trainees. As by March 1946 I had obtained my FRCS (England) and completed my programme of general surgical training in England, I was instructed by the Colonial Office to take up a posting for six months as registrar at Harefield, Middlesex, then a leading sanatorium where my surgical chiefs were Thomas Holmes Sellors and Vernon Thompson, then already renowned as pioneers in thoracic surgery. My experience at Harefield concentrated on improved techniques for thoracoplasty, besides such lesser procedures as pleural adhesion section and phrenic nerve paralysis. However, the workload had already shifted largely to pulmonary surgery, especially resection for lung cancer and bronchiectasis, so that I found opening the chest no more formidable than laparotomy. My chiefs were also scoring early successes in tackling the oesophagus, so that while assisting them I could add to experience gained at Hammersmith under the great George Grey Turner. When I was recalled to Malta, Holmes Sellors was preparing for the first operations on mitral stenosis, and Harefield was set on the way to become a world centre of excellence in cardiac surgery.

I was fortunate with my elevation at an early age to consultant status. The 'Junior' Surgeon, Dr. Frederick Borg, retired in March 1947 and thus I could join as partner my revered chief PP Debono. When he, in turn, retired in 1951, with his most worthy successor Alfred John Craig, I could consolidate a long standing friendship into happy collaboration. If Craig and I could lay any modest claim to creating a landmark for surgery in Malta, it would be in our active encouragement of our junior staff by providing them with proper training. Our house surgeons became proficient in minor surgery; when the brightest among them opted for a career in surgery, and proved their worth by qualifying as FRCS, we created for them the first posts as Registrars so they could take their fair share of the workload as the activities of our Department were greatly expanded.

Close contacts with our friends and colleagues in Britain ensured that our practice was as "modern" and progressive as was judiciously correct. Gastroenterology was our main field, with peptic ulcer keeping us busy almost as much as biliary surgery. By 1950, we were moving from partial gastrectomies to truncal vagotomy and eventually to the selective procedures. Surgery for cancer of the large bowel gave us a fairly satisfying five year survival rate, and for ulcerative colitis the physicians could rely on us for total colectomy, necessarily at that time with permanent stomas. In our urological practice, the high local prevalence of renal calculi afforded us considerable experience, and with our prostatectomies we moved with the times evolving better techniques, though not arriving at the specialisation of endoscopic resection, which, of course, has now become routine and established as the 'gold

V. Griffiths

standard'. Today I sometimes have occasion to recall that already in 1947 my thoracoscopic section of pleural adhesions was the first venture into "minimally invasive surgery", years before the gynaecologists introduced us to laparoscopy. Massive three state thoracoplasty for tuberculosis was a valuable stand-by until streptomycin rendered even lung resections obsolete. Lung cancer we tackled vigorously: the first successful pneumonectomy dates back to 1953, and if initially the mortality rate may have verged on disheartening, the experience gained helped to make other pulmonary surgery quite safe, as was also the case with our oesophagectomies. I resisted pressures to introduce valvotomy for mitral stenosis, even though the original "simple" digital operation was first done in 1925 by Hentry Souttar and, in our own day, had become routine almost everywhere. The justification for our prudence came around 1971, when the advent of 'open heart' surgery brought us the launching of a regular service by visiting cardiological teams, originally from St. Mary's, which initiated the referral of Maltese patients to London, until the 1980's when the full facilities were actually brought to us here; of course, progress peaked for Malta just four years ago when we welcomed the first all-Maltese cardiac team which has had impressive success.

In December 1976, we celebrated in great style the Tercentenary of the Foundation of our Medical School<sup>14</sup> with a number of appropriate symposia of which, unfortunately, we lack a printed record as the disruption of our medical and academic activities in June 1977 brought about also the demise of the St. Luke's Hospital Gazette.

At the academic symposium I was privileged to render an account of past and current achievements of the Department of Surgery. Re-reading my typescript, I find that I could have reproduced it for this account. One of my themes was that surgery in Malta, as elsewhere, had progressed from ablation to conservation to reparation and restoration: this it had achieved by respecting physiological function as well as anatomical structure. The aims for the future that I set before my department repeated and extended those that I had envisaged in 1969<sup>15</sup>, namely a strong expansion on staffing together with a great degree of integration with the Departments of Medicine and Pathology for the foundation of joint clinical units in gastro-enterology, endocrinology, oncology, etc. Coupled with this essential advance, I proposed a bold move towards specialisation. The general surgeon, with his splendid record of past service meriting to be regarded as an all-rounder, would remain very much alive, and indeed, indispensable, but would enjoy the support and collaboration of colleagues specially qualified and dedicated for chosen fields.

I had no intention to pose as a prophet, but we do now have fully fledged special units for vascular and cardiac surgery and transplants, for urology and paediatrics. Of course, these well staffed and equipped services of the first quality would not have been possible without the creation in 1977 of our Intensive Therapy Unit, which itself provides a shining model of excellence to the rest of St. Luke's; more recently, its paediatric counterpart, the SCBU has greatly helped towards safety and progress in surgery for our youngest patients. Even the darker times of a ten year interregnum were lightened by the advent of a 'state of the art' department of neurosurgery, while the same crisis at least ended the ridiculous shortages of staff, especially for anaesthesia and surgery itself. Now, too, we can glow with pride and delight, and almost catch a flicker of reflected glory, through the innovative work in Dundee on "minimal invasion" by Malta's eminent son, Sir Alfred Cuschieri, thanks to whom the world of surgery sees new horizons.

What of the future? Who will dare to prophesy what changes will come in the electronic age? It is only time that will tell, but our successors will certainly advance Surgery in Malta. AD MULTOS ANNOS!

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