HUMAN SUFFERING DURING THE MALTESE INSURRECTION OF 1798

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INTRODUCTION

The advent of war in any country heralds a total upheaval in the social and demographic characteristics of the community through "war casualties" and changes in the reproductive patterns in the population. War and epidemics are two factors which influence population growth directly by increasing the mortality rate in the population and indirectly by influencing reproductive function. Deaths from medical causes during the war must often be considered "sick war casualties" since the adverse situation in health conditions during the conflict may be contributory to these deaths. The Maltese Islands prior to the advent of modern warfare of the twentieth century have been ravaged by a number of conflicts, an important event being the rising against the French at the turn of the nineteenth century. In 1798 Napoleon Bonaparte ousted the Knights of St. John from Malta. After only a few months, the Maltese rose against their French rulers and blockaded the garrison in the Grand Harbour fortified towns. The latter event disrupted civil life in Malta and resulted in marked changes in population structure, growth and reproductive performance. The civil strife and blockade lasted two years. Because the Maltese were poorly armed, they set out to starve the French. However the Islands were short of food and the conditions of the besiegers were little better than those of the besieged. The outcome of the struggle hinged on the food supply and the health of the two parties. Meanwhile disease and malnutrition took a toll of Maltese lives. This mortality is reflected in the population registered before and after the conflict.

POPULATION CHANGES

In 1797, before the rising, the *status animarum* for the diocese of Malta and Gozo estimated the population to number 96,534 individuals,

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excluding the Order and its followers, with 3,629 recorded baptisms. The live birth (sive baptisms) rate thus approximated 37.65 per 1,000 civil population. During 1798, the population was estimated at 114,000 total inhabitants. In 1807, the population numbered only 93,054, a drop of 18.4% over the previous decade[1]. This population drop was not due to direct war casualties, but due to famine and disease mitigated by a proportion of the population emigrating abroad with the departure of the Knights. A similar drop was registered in Gozo in spite of the fact that the strife in the sister island lasted only until October 1798. The population in Gozo in 1798 has been estimated at 16,000 inhabitants. This figure fell by 19.8% over the subsequent decade so that the population in 1807 was estimated at 12,829[2]. It has been estimated that during the strife, out of a population of 100,000 souls, some 2,000 perished through sickness and hunger, while direct war casualties amounted to just more than 300 men killed and wounded, some being killed prior to the uprising. Further Maltese war casualties occurred in the fortified towns, including the executed 45 rebels of January 1799, the pharmacist from Senglea executed in February 1799 for possessing a sword, and the death of Michele Caruana from Senglea in January 1799 as a result of injuries sustained after his house collapsed after bombing[3].

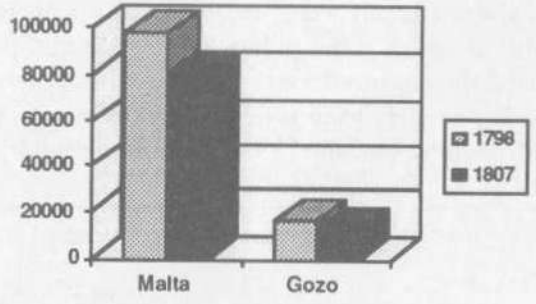

Figure 1: Population Counts

Prior to the conflict there was little difference in the number of civil events registered annually. During the year of the conflict, there was a marked decrease in christenings from: 3597 in 1798 to 2237 in 1799. The number

of baptisms in 1800 rose to 3318. A greater proportion of the registered baptisms were illegitimate during the period 1799-1800. This reflects the decrease in the number of marriages recorded in 1798-1799. There was subsequently a surge in marriages in 1800. The death rate was also markedly raised in 1799 (Table 1)[4]. Under French rule, it was made obligatory by decree of 24th August 1798 for the doctor or midwife assisting at a birth to present certificates of birth within 24 hours to the municipality under penalty of suspension of practice and the infliction of a fine and imprisonment. Declaration of death also required registration with the municipal authorities. These enactments were the first attempt to introduce civil registration in Malta, registration being previously the sole domain of the ecclesiastical authorities[5]. The health laws for Malta were brought into line with those applicable at Marseilles, while quarantine precautions were maintained. The quarantine service was to be entrusted to an inspector (Antoine Poussielgue) aided by two sub-inspectors (Segond, John Baptist Poussielgue), a chancellor (Joseph Renaud), a clerk (Stephen Renaud), a doctor (Emanuel Locana, supplemented by Grech), a fumigator (Matthew Pulis, supplemented by Philip Pulis). This quarantine system started functioning on the 18th August 1798 but came to an abrupt end because of the onset of hostilities. After the naval battle at Aboukir in August 1798, lodgings and a large barrack were constructed at the Lazzaretto in case Bonaparte and his troops returned to the Island. The Maltese rebels were also concerned with isolating the sick during epidemic episodes. Thus when febrile illness, possibly typhus, appeared on board the captured French ships - the *Genereux* and *Ville de Marseille* - the sick prisoners were isolated to Comino after being made to strip off their clothes and washing in the sea, and later with vinegar[6].

Year	Baptisms	Illegitimate	Marriages	Burials
1796	3449	208 (6.0%)	722 (20.9%)	2276
1797	3629	214 (5.8%)	726 (20.0%)	2138
1798	3597	207 (5.8%)	465 (12.9%)	3030
1799	2237	167 (7.5%)	486 (20.7%)	8199
1800	3318	246 (7.4%)	844 (25.4%)	3869

Table 1: Civil Events Registration in Malta: 1796-1800

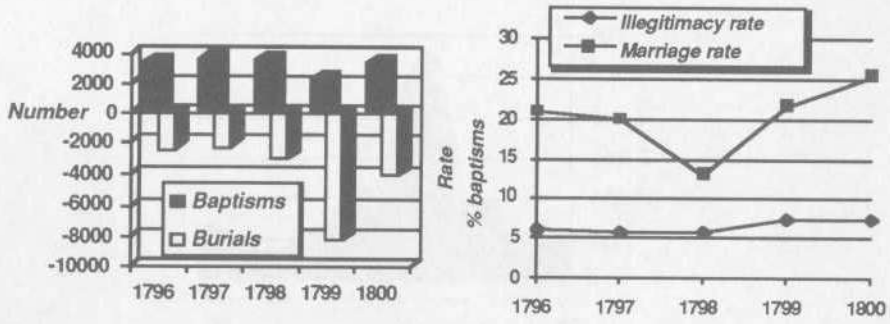

Figure 2: Population Change and Social Parameters: 1796-1800

The mortality rates in both Valletta controlled by the French (St. Dominic & St. Paul Parishes, French troops) and the countryside towns controlled by the insurgents (Tarxien, Qormi, Zebbug, Zabbar, Siggiewi, B'Kara) followed overall similar patterns throughout the two years of the strife (Figure 3). The total number of deaths from the city and countryside towns suggest a significant increase in mortality rates, the rise starting in December 1798 and peaking during March-July 1799. The peak was apparently similar in both the fortified towns and in the countryside, and was the result of an infective epidemic which affected all the population. A marked difference between the city and the countryside mortality is evident after May 1800, when the number of deaths in the countryside started to rise again in contrast to the pattern in Valletta. The rise in mortality in the countryside also affected the British troops. The mean mortality rate in Sept-Oct. 1800 was 2.23 per 1,000 troops, in contrast to the 1.27 rate in the previous months of Jan-Feb 1800. The low mortality in the city may be due to the fact that the remaining population in the city after the 1798 epidemic and the exodus of inhabitants to the countryside was a relatively young one who could withstand the ravages of disease and famine better. By the end of the strife the population in the fortified towns had decreased from 40,000 to 7,500[7].

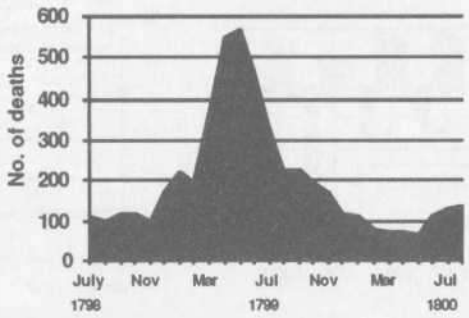

Figure 3: Death Registrations in various cities and towns

MEDICAL SERVICES

On the first day of the French occupation of Malta on the 12th June 1798, the French commanders established their first hospital at Mdina selectively reserved to deal with sick or injured troops[8]. The sick troops, which numbered 300, were transferred four days later to the Sacra Infirmeria at Valletta which was converted into a military hospital and renamed the Grand Hopital. A full account of the Sacra Infirmeria during the French occupation is given by the Physician-in-chief Dr. Claude Etienne Robert who published a book in 1802. Only a few wards were considered fit to accommodate patients, while the pharmacy, the laboratory and the storerooms were inadequate. Dr. Robert carried out a number of modifications to improve sanitation, ventilation and lighting, but he condemned the Sarca Infermeria as a hospital saying "Ainsi, si l'hôpital de Malte etoit si vante du temps de l'ordre, ces louanges ne peuvent tomber que sur la maniere avec laquelle il etoit administré". The wards were cleared of all incumbent objects including pictures on the walls, the bed canopies and curtains. The Falanga, previously reserved to treat venereal patients, was modified with the provision of large windows and connected to the Great Ward to increase the number of beds available for febrile patients[9]. The administration of the hospital was entrusted to four individuals, two of whom were Maltese physicians (Dimech resigned and was replaced by Joseph Camenzuli; and Joseph Grech). The lay administrator was Emanuel l'Hoste,

who after resignation was replaced by Agius and John Francis Gauci. The principal hospital was staffed by two French army doctors (Robert and Kenyales), an army surgeon (Sagaiere), two senior civil doctors (Dimech and Agius), three junior doctors (Joseph Grech, Gravagna and Joseph Ciaja), two senior surgeons (Angelo Ventura and Micallef), three junior surgeons (Emanuel Gonzi, Benedict Montanaro and Chalres Grech), two barber surgeons (Anthony Delicata and Joseph Marin), and four priests. These were entrusted to draw up an inventory of the hospital's holdings and also to provide the patient's necessities. The administration proved inept at providing for the basic necessities of the patients. Within two months, the French civil governor Regnaud de St. Jean d'Angely commented about the lack of clothing and absence of drugs in the hospital[10].

The situation deteriorated markedly after the Maltese rose against the French in September 1798, so that provisions to the hospital became seriously low. At the time of the insurrection, there were 700 patients in the hospital. In April 1799, General Vaubois commented that "Rien n'est si affreux. Les salles sont mal-propres. .... Le jardin livré à l'hôpital est de toute nullité,...." In June 1799, Vaubois found it necessary to exhort the soldiers to come to the hospital as before, and to defend the medical staff at the hospital. He also contradicted the rumor that no drugs were to be had at the hospital. He also advised the soldiers to maintain personal hygiene by frequent baths and to safeguard their health by eating vegetables[11].

Food provisions became markedly reduced. During the first year of the blockade each patient received an average of one ounce of beef or mutton per day. This was substituted by the same quantity of horse or ass meat during the second year. Rice, beans and fish were available, but eggs were a rarity. During most of 1800 the hospital authorities had nothing to give their sick except beans[12]. With the increasing malnutrition and an increase in the number of cases of scurvy, the number of sick troops increased so that the Grand Hôpital had proved inadequate to care for the number of diseased men, and other hospitals had to be improvised. By February 1799 there were 800 sick French in two hospitals. By June 1799, the hospitals were augmented to four. The hospitals in Malta and Gozo on the 13th July 1798 as enumerated by Dr. Vincenzo Caruana included: the hospital for males in Valletta - Sacra Infermeria (400 beds - males), the women's hospital in Valletta called Ospidaletto or Casetta (160 beds - females) with the Casa delle Alunne for illegitimate children, the hospital at Rabat - Santo Spirito (40 beds),

Saura Hospital at Rabat (80 beds- males and females), Zebbug Hospital (15 beds - females), hospice at Floriana (280 beds - males and females); Male Hospital in Gozo (20 beds), and the Female Hospital in Gozo[13]. When the French surrendered in September 1800, the sick troops who were unable to travel were transferred to Fort Manoel in charge of a French physician and surgeon, and were cared for until they were fit enough to return to France[14].

The advent of the French in Valletta required the transfer of the sick male civilians out of the Sacra Infermeria to alternative accommodation. The Commission of Government appointed a sub-committee of three members to report on the suitability of transferring the male civilian patients to the Women's Hospital. The committee proposed that modifications were to be made to the Case delle Alunne, situated next to the Women's Hospital, and towards the end of 1798 about 70 civilian patients were transferred to the new wards. This arrangement was short-lived, and alternative accommodation was arranged by January 1799 at the Convent of St. Catherine in Valletta. The convent was renamed Hôpital Civil, and was subsequently extended by adapting a de-consecrated church as a casualty ward, while the choir was converted into a dispensary. The upper floor of the monastery was used for fever cases, while the lower rooms were used for surgical cases and as stores. Part of the basement housed mental patients. A mortuary was built in the yard. The professional staff consisted of two Senior Physicians and two Senior Surgeons, three Junior Physicians and three Junior Surgeons, and two Barber-surgeons[15]. The Women's Hospital continued to function as previously, though not without incidents. On 28th April 1799, the hospital authorities complained to Vaubois that a number of French soldiers had attempted to forcefully enter the hospital. The administrators first proposed that the female door-keeper should be replaced by a male one, but later proposed that the sentries attending the Grand Hôpital across the road could also guard the Women's Hospital. These suggestions were not acted upon and on the 7th June, another incident resulted in the abduction from the hospital of an orphan girl by a French soldier[16]. Because of the exodus to the countryside, medical practitioners were not evenly distributed within the three cities. In Cospicua, six doctors had left the town - including Bruno, Renò, Angelo Pace, Abela, Frangisk Scicluna and Adriano. To remedy the shortage, the Council of Health gave its permission to the surgeon Anton Cutajar to practice medicine in the locality. Similar provisions were made for Senglea and Floriana[17].

The Maltese rebels outside the fortifications, together with the British re-enforcements, similarly required the establishment of a number of hospitals to deal with the sick and injured personnel. The previously established hospitals - Santo Spirito Hospital (40 beds) and Saura Hospital (80 beds) both at Rabat - proved insufficient to cater for the medical needs of the insurgents. Churches at Rabat and Mdina were taken over for use as hospitals. These included St. Dominic Church at Rabat called the Great Hospital, St. Francis Church adjoining Santo Spirito, the Bishop's Seminary, St. Sebastian Church and St. Agata Church. In the country, the sick inhabitants were often treated in private houses. Thus at Birkirkara, Vincenzo Borg, helped by Dr. Leopoldo Bernard, converted his house into a small hospital to care for the town's residents which had increased by about 6000 refugees from the cities. Other sites which served as hospitals for the inhabitants of the countryside were St. Joseph Hospital at Zebbug and St. Gregory Church at Zejtun[18]. The strife resulted in an acute shortage of medical practitioners in the countryside, so much so that instances of individuals posing as doctors and prescribing medicines were reported. On the 1st November 1799, Ball warned that anyone caught practicing medicine without qualification would be fined. The fine money was to be split between the accuser and the hospital at St. Dominic's Convent. Because of the shortage in medical practitioners, the National Assembly arranged for the return of three doctors - Drs. Bjagju Consoli, Lawrenz Cassar and Frangisk Scicluna - who had been exiled to Gozo after exiting from the city. It also exempted doctors leaving the city for the country from being exiled to Gozo[19]. A number of Màltese doctors gave their services to the troops, including Dr. Francesco Caruana with the Tarxien Battalion, Dr. Ludovic Balbi with the Zabbar Battalion, and Dr. Nicola Bezzina with the Zejtun Battalion. The Birkirkara Battalion had 23 doctors engaged with it, some giving a combatant service. A number of Maltese doctors were eventually awarded commemorative medals for their contribution during the strife. These included Dr. Enrico Xerri awarded a gold medal for representing the village of Kirkop on the Maltese National Assembly, and Dr. Paolo Borg awarded a silver medal for contributing funds towards the upkeep of the Birkirkara Battalion[20]. Many of the medical practitioners gave their professional services to the poor sick and the men of the Maltese battalions without receiving any salary or any other remuneration. The financial losses suffered by the various established hospitals in the countryside as a result of the prolonged strife and the previous depletion of

equipment by the French were felt long after the capitulation of the French in 1800. In the early years of the nineteenth century, frantic appeals for financial help were made by hospital administrators since their bequests and revenues could no longer be counted upon to provide sufficient income for the hospital maintenance. These appeals included those made by St. Joseph Hospital for men in Gozo, St. Joseph Hospital at Zebbug, and Santo Spirito Hospital at Rabat who presented appeals in 1801 and 1802. In the early decades of the nineteenth century because of their anxiety to establish popularity, the British took over the responsibility for the Charitable Institutions, including the hospitals, asylums and alms distributions, which had been formerly financed by the Order. By 1815, these became the heaviest item of civil expenditure amounting to about £20,000 annually[21].

Temporary general and regimental hospitals were also established for the British and Portuguese/Neapolitan forces aiding the Maltese. The General Hospital was established in July 1800 at the Zejtun residence of the Dutch Consul, Count Agostino Formosa de Fremeaux. A house belonging to Manuel Farrugia at Luqa is known to have served as a regimental hospital for the 48th and 89th British Regiments. Compensation for the use of the site was only affected in 1824. Other hospitals were set up in the Zabbar residence of Bishop Labini, while Saura Hospital also served the British regiments[22]. The medical staff attached to the General Hospital included the Assistant Inspector of Hospitals Alexander Jamieson, Edward Tegart who served as Surgeon to the Forces, Joseph Gunson serving as Deputy Purveyor, W. May as Acting Apothecary, and Mr. Norman and Mr. Anderson as Hospital Mates. The British physicians in charge of the troops included Henry Reid and P. Cambell for the 89th Foot Regiment, Henry Grasett and William Hill for the 48th Foot Regiment, Jonathan Cotgrave, Alexander Thom, Alexander Baxter, William Robertson and George Peach for the 35th Foot Regiment. The 30th Foot Regiment were served by Edward Tegart being replaced by Ebenezer Brown and John Price[23].

A temporary hospital was set up in 1799 to treat sailors of the British Navy who were aiding the Maltese uprising against the French by blockading from the sea the French troops besieged in the fortifications around the Grand Harbour. The company of the *Goliath* was attacked by a fever. The sick, numbering about 40 individuals, were landed at St. Paul's Bay and placed "in a large castle....where the whole recovered". The large castle in the vicinity of St. Paul's Bay may be considered the first temporary British

Naval Hospital in Malta. Another temporary hospital was set up in a house on the shore by Captain Ball in March 1799 to house the sick sailors on his ship[24].

MEDICAL DISORDERS

The two-year siege resulted in a total upheaval in the social circumstances of the population on both sides of the fortifications, an upheaval that brought on a number of related disease states attributed to causalities, famine and infective epidemics. In addition, a number of other disease conditions not attributable to the strife have been recorded. A number of deaths of apparently elderly individuals living in Senglea have been recorded, one aged 80 years dying a few days after an apoplectic attack. One of the French officers stationed at Valletta was taken to the Grand Hopital suffering from peritonitis resulting from a acute appendicitis. The condition was managed conservatively by the physicians. After a very tremulous course, the condition of the officer improved and he was subsequently discharged from the hospital in good health. Two French soldiers were reported to have been treated for quaternary fever or malaria. One contracted the disease in Malta, while the other had contracted the illness in Italy or France[25]. The arrival of foreign troops - both French and British - on the Islands apparently resulted in an epidemic of Malta Fever or brucellosis in these individuals. Dr. Robert, when commenting that the wards at the Grand Hôpital were unsuitable, forwarded as evidence the fact that cases of acute fevers admitted to the hospital progressed into continuous fevers and subsequently into putrid ones. The fevers generally responded to quinine, but many progressed into malignant forms or changed into tertian or double tertian fevers. The British troops were in December 1799 described as suffering from a "country fever (a kind of intermittent), many of these are convalescent but with the least irregularity of fatigue they relapse and die"[26]. This progression from an acute fever to a more chronic one with relapsing episodes is typical of brucellosis. It was only during the early twentieth century that brucellosis was found to be transmitted by the goat via its milk, and effective treatment only became available just prior to the Second World War. Another infection which occurred in the French troops was phthisis or tuberculosis which was responsible for a number of fatalities. The onset of tuberculosis in the French troops was ascribed by Dr. Robert to the prevailing climatic conditions.

Tuberculosis was apparently not uncommon in Malta towards the close of the eighteenth century, and this high prevalence in the civil population may have helped infect the French troops with acute forms of the disease[27]. Venereal disease also became evident soon after the arrival of the French troops. It reached such significant proportions that the monastery of St. Scolastica and the Anglo-Bavarian Auberge were converted into a venereal hospital to treat the French troops. In the attempt to control the spread of this disease General Vabois banished all known prostitutes to the countryside[28].

While there was little direct conflict during the two year siege, the strife resulted in a number of direct war casualties, particularly in the earlier months. A few French soldiers and Maltese insurgents died as a result of their wounds[29]. The siege conditions of the French garrison and the Maltese inhabitants living in the fortified cities brought on a number of disease states related to nutritional deficiencies and infective conditions. The insurrection of the Maltese and the blockade resulted in severe restrictions in the diet of the inhabitants in the Grand Harbour city and towns. even though the grain stores for the whole Islands were located in Valletta. It was estimated that at the beginning of the insurrection, the besieged had provisions which included "corn for eighteen months, plenty of oil, very little cheese". There was "scarce the smallest taste of anything else"[30]. The prolonged siege conditions resulted in the development of specific disorders caused by vitamin deficiencies. Scurvy, caused by vitamin C deficiency, soon made its appearance among the troops. Dr. Robert appeared to have been familiar with the prevalent theories regarding the aetiology of this disorder. It was known that the disease was due to lack of vegetables and fruit in the diet, while the administration of lemons and oranges were known to cure the disorder. Dr. Robert left a full description of the natural history of the disease as it manifested itself in Malta, including the findings of a number of postmortems which he conducted. His therapeutic efforts included the administration of lemon and orange juice, and while these fruits were available no deaths from scurvy were reported. After 22nd December 1799, all the wine available in the fortified cities was requisitioned for hospital use, and quantities were converted into vinegar since this was reputed to be an antiscorbutic[31]. Scurvy similarly affected the civil population in the fortified cities, and citrus fruits were greatly in demand and commanded high prices. To meet the demand, unripe green lemons started to be sold.

On 29th July 1799, General Vabois ordered that anyone picking or selling green lemons was to be fined and given a prison sentence. On the 11th August 1799, another order stated that no French soldier of whatever grade could pick lemons from any garden, while all lemons were to be reserved for the sole use of the hospitals[32]. Another vitamin disorder which effected the French troops was vitamin A deficiency causing night blindness. While not fatal, this disorder precluded those affected from performing night guard duties, since they could not distinguish objects in the dark. Dr. Robert associated this disorder which he termed "catarrh of the retina" with undernourishment, and tried to cure it using fumigations with animal liver and aromatic plants. He apparently obtained good but temporary results with this management[33].

The civilian population in the countryside was also affected by food shortages which promoted the spread of disease. The Maltese countryside had long become insufficient for the needs of the population, and the Islands had become dependent on regular grain imports from the continent. Most of the corn of the Island at the beginning of the revolt was stored in the granaries inside Valletta, so that the countryside was practically denuded of all food. Appeals for food supplies from Sicily were made regularly during the two years of the strife with variable response. High-handed piracy had to be resorted to on one occasion[34]. However in spite of the fact that the countryside population were living on a merger starvation diet, there is no definite record of specific nutritional disorders affecting the Maltese or the foreign troops assisting them. Besides the regular efforts made to obtain food supplies from abroad, local individuals also supplied citrus fruits to combat the problem of scurvy among the troops. The Furnaru Battalion is recorded to have during 21-24 January 1799 received 650 dozen oranges picked from the garden belonging to Countess Bologna-Bonici[35].

When Dr. Robert first took over the clinical direction of the Grand Hôpital, the infective cases included only a few cases of "acute fever" and some "gastric-bilious fevers". These were managed favorably using iced-water, though a few cases progressed into putrid fevers. The concepts of mirco-organisms in the aetiology of infective disease were unknown in the late eighteenth century, and infections (generally termed fevers) were classified into a form describing the progression of the disease. Management of fevers was supportive with nursing care, quinine medication to combat fever, purgation, and bleeding. The aetiology of the fevers was ascribed to various

causes. Thus the infections affecting the British troops during the earlier months of 1800 were ascribed as "originating from the bad air of the marsh at the head of the harbour, though from several instances there is reason to consider it likewise infectious"[36].

With the onset of winter, augmented by the food shortages, the French soldiers started developing respiratory related infections including catarrhal and rheumatic disease. Rheumatic fever is an infectious disorder which originates as a throat infection and progresses to affect and damage the heart with short and long term debilitating effects[37]. By September 1799 the pattern of disease in the French troops changed with the advent of nutritional deficiency disorders, though febrile conditions continued to affect the troops. Between June 1798 and September 1800, 4046 cases of fever out of a garrison of 6000 men were treated at the infirmary with a case fatality rate of 13%. A further 300 soldiers died from scurvy, while many others died as a result of phthisis (TB) and diarrhea[38]. The enforced use of stored water after the insurgents stopped the water supply reaching Valletta via Wignacourt Aqueduct resulted in the development of intestinal disorders with diarrhea and dysentery, probably resulting from bacterial contamination of the cistern water supplies[39]. After October 1799, the majority of the military and civilian population in the fortified cities were affected with intestinal worms of extraordinary size and volume belonging to the species Ascaris lumbricoides which required purgatives and emetics. General Vaubois and Dr. Robert were similarly affected and ascribed the infestation to under-nutrition. Some cases resulted in death as evidenced by postmortems performed by Dr. Robert. The epidemic declined the following spring[40].

In the early months of 1799, a fever epidemic with a high mortality affected the population in the countryside and the fortified cities. The high mortality caused by this infection is evident from the number of burials registered in the parochial registers during that year compared to the figures in the proceeding and subsequent years (Figure 3). Thus the number of burials in 1799 amounted to 8199, while the figures in the previous and subsequent years were 3030 and 3869 respectively. The epidemic first made its mark in December 1798 and peaked during March-July 1799. The mortality rates apparently returned to pre-epidemic levels by about December 1799[41]. The cause of this epidemic cannot now be identified, but it has been suggested to have been an epidemic of typhus fever "having its origin in bad and deficient food, anxiety of mind, fatigue, filth and poverty"[42].

Epidemiological considerations mitigate against the epidemic being caused by typhus. This infection, transmitted by the rat flea, was not yet endemic on the Maltese Islands, and only became endemic with regular annual registration of cases after the Second World War. The introduction of typhus in the late eighteenth century would have left a focus of infection in the rat population and cases of typhus would have been reported during the nineteenth and early twentieth centuries[43]. While typhus was very common on British ships, the infective epidemic of the Maltese population during the strife does not appear to have been introduced by the British sailors, even though it is reported that the sailors were similarly affected. It appears that the epidemic was first noted in the Maltese population while the British sailors became diseased after landing on the Islands. Thus in May 1799, the company of the *Goliath* was attacked by a fever "similar to one then prevalent on the Island" after the ship's crew had landed for the purposes of watering at Marsacala Bay. The fever started in these men a few days later and eventually spread to affect about forty of the ship's company. The most prominent symptoms were nausea and vomiting, headache, thirst and delirium, while in two or three cases the fever was complicated by suppuration of the parotid glands. The malignant fever also spread to the *HMS Alexander* to affect 27 of the ship's company "from having frequent communications with the inhabitants"[44]. The population and troops in the fortified cities controlled by the French were also affected by the epidemic which carried a similar mortality pattern (Figure 3)[45]. Other descriptions of the course of the disease in the civilian population mention a "tertian fever that became malignant", a "grave fatal epidemic of malignant fever" and a "mortal contagious influenza". A diagnosis was claimed by a non-medical person Clemente Mifsud Bonnici. None of the descriptions are helpful in identifying the exact diagnosis, even though typhoid and malaria have been proposed[46].

For a period lasting two years, the outcome of the struggle hinged solely on the food supply and the health of the two parties and very little direct fighting was involved. While direct war casualties were few, disease and malnutrition took a heavy toll of lives depleting the Maltese population in both Malta and Gozo by about 20%. The situation came to a head on the 4th September 1800 when the food stores for the troops and the civilians in the fortified cities had dwindled to only three days scanty bread rations. General Vaubois was thus forced to abandon his tenacious fight against hunger and disease, and capitulate to the besiegers. The effects of the two

year civil war on Maltese social and demographic characteristics continued to be felt in the early decades of the nineteenth century, receiving another setback by the introduction of the plague epidemic of 1813 when the population was further reduced by about 4-5%.

NOTES

[1] B. Blouet, *The Story of Malta*. Progress Press, Malta, 1989, p.75; *Parish Archives*. In: F. Ciappara, *Marriage in Malta in the late eighteenth centuy*. Assoc. News Ltd, Malta, 1988, p.126; C.O.S., *Census '85: Vol.1 - A Demographic profile of Malta and Gozo*. Central Office of Statistics, Malta, 1986, p.9

[2] J. Bezzina, *Religion and Politics in a Crown Colony. The Gozo-Malta Story 1798-1864*. Bugelli Publ., Malta, 1985, p.47

[3] *The humble Representation of the Deputies of Malta and Gozo, unanimously elected by the peple, at the foot of the throne of His Britannic Majesty dated 22nd October 1801. C.O.R. Malta, No.3.* In: W. Hardman, *A History of Malta during the period of the French and British Occupations 1798 - 1815*. Longmans, London, 1909, p.410; *Dispatch from Captain Alexander Ball to Hon. Henry Dundas dated 6th March 1801. C.O.R. Malta, No.2.* In: W. Hardman, p.345; X. Baldacchno, *Memorie Diverse, Archivum Paroeciae Senglea, 1783-1816*. In: S. Fiorini: From the diary of a priest in Senglea during the French Blockade. *Melita Historica*, 1982, 8(3):246-247; C. Testa: *The French in Malta 1798-1800*. MidSea Publ., Malta, 1997, p.49,141,475-516

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