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Medicinal Herbs and Plants of 17th and 18th Century Malta

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Abstract

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The area of research aims to identify herbal or plant medicinal formulas that were prepared and used in the Maltese islands during the 17th and 18th centuries and to identify the healing remedies used then which may still be in use today. In the past, the Santo Spirito hospital in Rabat, Santa Scolastica in Birgu, the Sacra Infermeria in Valletta and Argotti Gardens in Floriana, which was a botanical garden used by the Hospitaller Knights of St John to grow medicinal plants, were notable sites in this respect. There are countless medicinal plants and herbs that grow in the Maltese Islands and stories of such healing herbs have already featured in documents, thanks to previous research done by other academics. The research will adopt a qualitative and document-based research approach to data collection. Data will be collected using academic publications and papers, while secondary data shall be retrieved from the archives of the Inquisition, the National Library and the archives of Santo Spirito hospital. Therefore, a bibliographic method for analysis shall be the main method used. The essay will give an overview of the herbal medicines administered during the period. Emphasis will be placed on the type of natural plants that were administered, which may still be administered today. The data shall be supplemented by means of a semi-structured interview with a physician or other expert holding an academic or research background in the field of medicine or herbal therapies. The information gathered shall be useful to determine whether enough material exists to support an alternative medicine tour that would include some of the historical landmarks highlighted in the research. The findings of this essay may further contribute toward the setup of botanical gardens and future nature reserves, in line with the Regulations on the Protection of Flora, Fauna and Natural Habitats instituted by the Authorities in Malta

Keywords

Medicinal Plants, Knights of St John, Tourism, Flora, Healing Herbs, Therapies

Declaration of Authenticity

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Research Title **:** Medicinal Herbs and Plants of 17th and 18th Century Malta

Declaration:

I hereby declare that this research study is based on the outcome of my own research. I, as the author, declare that this research study is my own composition which has not been previously produced for any other qualification. The research study was conducted under the supervision of Mr. David Pace

30 January, 2023

Date

Francesca Vincenti

Student's Signature

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I would like to thank my tutor, Mr. David Pace for his guidance on this journey. Without his scientific direction and support, several aspects within this paper would have been lacking.

I dedicate this work to the memory of my late father Dr. Joseph Henry Vincenti M.D., RAF, who was my first educator, a resolute Physician and a talented Pharmacologist. It was he who nurtured the passion inside of me, to question, explore and to work in harmony with nature.

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1. Introduction

The study of Medicinal Plants of the Maltese Islands has gained momentum in recent years, with local scientists the attributes of indigenous species seriously (Darmanin Ellul, 2014). However, what were the herbs and plants used in the 17th and 18th centuries in Malta? Hippocrates mentioned 250 herbs in his work. Dioscorides, a Greek physician of the 1st Century, later published the *De Materia Medica* which contained more than 600 medicinal plants which he believed were based on the *Four Elements*, Earth, Air, Fire and Water and he described these as *Humours.* Aristotle eventually added to the theory by linking them to *Four Qualities* being Hot, Dry, Cold and Wet. One hundred years later during the 2nd Century, the physician Claudius Galen, linked both theories with the "Temperaments of Man" (Savona-Ventura, 2004. Page 193).

Illness in the Maltese Islands was approached using the theories of Galen in the 17th and 18th century by the Order of St John. While lay healers and slaves were also resorted to by locals, the plants used were never documented and it was the Knights of St John who diligently kept indexes, recipes and the methods of preparing plants in line with the *Doctrine of Contraries,* a system of pharmacology known as Galenism. This theory remained the major model of Medicine for the next millennium and a half, until toward the end of the 18th century. Through the observation of the plants used, one also learns what the common illnesses of the period were.

1.1 Research Background

This essay adopts a qualitative and document-based research approach to the data collected, which was derived from academic publications and peer-reviewed papers. Secondary data was obtained from research and readings that was done at the National Library of Malta in Valletta. Limited data was further retrieved from the archives of the Metropolitan Cathedral of Mdina and the data is supplemented by means of a semi-structured interview with a Doctor of Medicine. Additional research was conducted at the Argotti Botanical Garden (reserved area) and at the Botanical Garden of Madrid, Spain. The method of the analysis is therefore a bibliographic one and for the purpose of this essay the Harvard-Anglia 2008 version for referencing has been selected.

1.2 **Objective**

It was argued by Dr Paul Cassar in *The Pharmacist* (1987), that the earliest academic records referring to medicinal plants, date back to the mid 1600's, when Grandmaster Nicolas Cotoner had set up the school for anatomy at the Sacra Infermeria. This was run by the physician Fra. Giuseppe Zammit, who was also a botanist and he took it upon himself to create a botanical garden inside Fort St Elmo. He used this as part of the pharmaceutical and herbalism courses where students would learn how to identify plants and the various growth stages. However, not all plants and herbs used for medicines were grown locally. The research undertaken for this essay, produced documents and pharmaceutical prescription lists, shows that the *materia medica* used for medicinal purposes was indeed made up of both local and imported plants. Furthermore, academic documents and recent studies highlight that several of the medicinal plants and herbs used between the 1600's and 1700's, still grow across the Maltese Islands, for example the indigenous *Squill* (Scicluna-Spiteri, 1986). Squill was already used as an expectorant and a diuretic before the seventeenth century and it is still in use as an expectorant or as a cardiotonic today (Attard et al, 2015).

2. Literature Review

For this essay, several publications and journals written by renowned medical researchers and academics were consulted. However, the works by Dr. Paul Cassar M.D. offered the richest source of insight regarding the structure and modus operandi of the medical profession of the period. A selection of manuscripts and registries dating between the seventeenth and eighteenth century, as well as others from the second half of the nineteenth century were outlined in the work of Cassar. In an article called *Pharmacists, Patients and Payments in 17th Century Malta* (Cassar 1991), for the journal *The Pharmacist* (Jan-June 1991), Cassar highlighted several ingredients that the *Aromatari* used in their preparations. Journals by the same academic, entitled *Two centuries of medical prescribing in Malta 1683 -1882 (Cassar, 1969)* and *A Medico-Legal Report of the sixteenth century from Malta (Cassar, 1976),* featured botanicals used in the two centuries. This was further supported by Charles Boffa (2005), in *The Uses of Plants and Herbs in Medicine,* where he confirmed that some of these plants were still in use up until the early 1900s.

2.1 Manuscripts of the Order and Translations

The translations of the *Spogli* or manuscripts of the Knights of St John, that are referenced in this essay were carried out by the academics that are cited where necessary in this essay. These are primarily works by Dr. Paul Cassar and a translated index by Reginald Vella Tomlin (1960). Such work was crucial in supporting the evidence studied for this essay, which includes a seventeenth century Manuscript registered at the National Archives of Malta as Lib251. The extracts were then translated, producing some interesting information regarding healing recipes.

2.2 When did Pharmacy begin in Malta?

There are no records to demonstrate when the preparation and preservation of Medicinals began in Malta. Certainly, traditional medicine and lay healers have existed on the islands since Neolithic times. The earliest written records according to Dr. Paul Cassar (2015) in his paper entitled *An Outline History of Pharmacy – Part III, The Story of Maltese Pharmacy*, come from the listings, prescriptions and records that are held at the Sacra Infermeria dated 1676. However, according to Fiorini (1989), pharmacists already existed in Malta, many years before the knights occupied the archipelago in 1530 and that one such pharmacist was based in Mdina, within the hospital of Santo Spirito itself.

It appears that the first records of any regulations for a school of pharmacy date back to 1729, when students had to undergo an entrance examination, prepared by the Chief Pharmacist of the Sacra Infermeria. This was to ensure that they could read and write in Latin, since doctors would prepare prescriptions in Latin. They were also obliged to become interns at the Holy Infirmary for practical reasons.

2.3 **Pharmacist Licences in the 17th and 18th Century**

When the British colonised Malta in the nineteenth century, they found that a legal system regulating medicine and the administration of pharmaceutical preparations was already in place. This was quite avant-garde, since back in England, no such laws existed before the 1800s. The British authorities in fact, adopted the laws enacted by the Knights of St John of Jerusalem, until other regulations for the control of Pharmacy were created in 1900.

When the Order of St. John was in Malta between 1530 and 1798, it was the Protomedicus who controlled the regulation of the public health and of the medical and pharmaceutical specialties. The Protomedicus was equivalent to the Physician-in-chief of today. Within the National Archives of Malta, a document dated 1764, concludes that it was the *Collegio di Sanita* that was responsible for the granting of licences and issuing the regulations that controlled the sale of all medications. This manuscript, together with other papers from earlier years, demonstrate that in the seventeenth century, 'medicamenta et drogas vendere' was strictly controlled (Archives 568, f.160; NLM; Archives 464, f.386)

These regulations were previously enforced in Rhodes and anyone wishing to open a pharmacy had to obtain the licence from the Grand Master. The same permit was needed if a pharmacist wanted to buy or sell a pharmacy or transfer it from one locality to another. However, they were not allowed to sell medicines without a doctor's prescription and had to keep poisonous substances under lock and key. A bonus was that pharmacists were exempt from military duties, which were compulsory for citizens.

However, such licences were not limited to the medical profession. A special licence was issued to a female shopkeeper called Maria Pace in the *Citta Pinto* (Qormi) on 27th August 1764 and Maria was allowed to sell 'every kind of aromatic substances in the natural or compounded state, solution of wine in water (aqua vitae), tobacco in powder or leaf, honey, hard and soft soap but excluding abortive and poisonous drugs such as mercury, sublimate and arsenic in all its forms, under the penalties laid down in the proclamation registered at the Grand Court of the Castellania' (Cassar, 1996. Page 31). Meanwhile, lay healers who were mostly folk persons and slaves, would resort to traditional and local methods and were left to practice without a licence.

2.4 The difference between Medicinals and Aromatic Substances

The Order distinguished between what they considered medications and what they considered aromatic substances. Vegetables in their natural state or compounded with an oily base, including leaves, spices or herbs and fruits, mixed or compounded, as well as anything used to flavour food, such as sugar and chocolate were considered aromatic substances. Sugar and chocolate were also used to flavour Medicinals and as such, were not amongst the food items banned during Lent (Mercieca, 2018)

Shops that sold such organic medicinal and nutritive preparations, had to be registered with the Castellania, in Valletta and underwent annual inspections by the Protomedicus to ensure that all preparations were kept fresh and fit for human consumption.

3. Methodology

The primary method used for this long essay was a Bibliographic one. Data collection was retrieved from various works produced by local professionals and historians, as well as Melitensia books, foreign publications, papers as well as journals sourced academic websites, peer-reviewed publications and newspaper articles. Research was also carried out at the National Archives of Malta and at the Archives of the Metropolitan Cathedral of Mdina and site studies were carried out at the Argotti Botanical Gardens, the Maglio Gardens of Floriana, as well as the Botanical Gardens of Madrid, Spain. A semi-structured interview was finally held with a local Doctor of Medicine (General Practioner). During the interview, the present-day usage or prescriptions for plant and herb substances was discussed.

3.1 Outline

The study for this Long Essay was carried out using a textual analysis approach and a historical analysis approach.

3.2 **Melitensia**

The availability of Melitensia publications focusing on the 17th and 18th century was limited. Thus, the essay relied heavily and primarily on academic works that were available for research, journals published by scholars and published studies carried out by Dr. P. Cassar, Dr. S. Fiorni, Dr. C. Boffa, Dr. Savona-Ventura and Dr. G. Lanfranco and others. These focused in part or in whole, on the pharmaceuticals and medicinal plants used in the centuries in question. While several international publications, journals and papers were also found, the information therein was limited or localised to other countries, such as the United Kingdom, Italy and Germany.

3.3 **Limitations**

Some limitations were experienced during the research. The curator of the Santo Spirito Hospital of Rabat advised that any records for the purpose of this Essay would not be found in the archives. Another limiting factor was the fact that manuscripts found at the National Library of Malta were hand-written in old Italian, with faded pages or with ink staining facing pages. Interpretation of the ancient calligraphy proved challenging however, these were compared to previous research done by Paul Cassar MD and hours of online research. Finally, any detailed comparative studies would have required more time than was available for a Higher National Diploma level. Also, to deliver an in-depth analysis, given the historical period and particular topic for this essay, questionnaires were not considered a useful tool.

4. Results, Analysis and Discussion

"The use of certain plants and herbs, has a long tradition in our islands, even to a limited extent up to as recently as the 1800's and very early 1900's"

Dr. Charles Boffa (2005)

Several medical documents and legal manuscripts dating back to the time of the Knights of St John were researched by Dr Paul Cassar. These contained ingredients, lists and names of pharmacists and patients of the period (Cassar, 1991). Some of the manuscripts offered detailed information about the pharmacists who had filed a claim for payment for the services they rendered, against the estate of deceased patients between 1713 and 1735. The names of herbs, plants and other materia medica that were commonly used in the era were mentioned in these documents. The list included oils, ointments, syrups, conserves and powders from white roses, fennel, senna, vinegar, sugar, anis, borage, verbena and other local plants. Another register dated 1766 to 1768, mentioned rhubarb (Roebarb), sweet almond (Amygd Dulcis) and radix china (Cassar, 1991). Radix, also referred to as china china, is an Asian herb used to strengthen the blood and promote circulation amongst other benefits (Wu and Hsieh, 2011. Page 32) and the plant was noted in the eighteenth-century manuscript entitled *Libro di Ricette Medicinale,* at the National Archives, in a recipe to treat 'Febbri Intermittenti' (MS. Libr. 251, Page 74). However, the source of this plant was not mentioned. It is not indigenous to the Mediterranean and enquiries at the botanical garden of Argotti in Malta and at the Royal Botanical Garden of Madrid, yielded neither specimen, historical literature, nor knowledge of its existence.

Meanwhile, a manuscript translated by Reginald Vella Tomlin (1959, page 20), had an index of local medicinal flora. The town of Floriana was mentioned in the document as a site where one could find the *Albero Giuda* (the Judas Tree), which hails from the *Siliqua* family to which even Carob trees belong. The Serpillo (Wild thyme) was also listed as growing in Floriana. Other local Flora in the translated index included the Sarsapilla, Olive, Caper, Rocket, Juniper, Cypress and a variety of local flowers amongst others.

The highlight of the research carried out for this essay, was uncovered at the National Library of Malta. A manuscript registered as *Libr. MS 251*, *Libro di Ricette Medicinali*, offered detailed information of various botanical, mineral and other ingredients for pharmaceutical preparation. The manuscript was hand-written in old Italian, the lingua franca of the period. In the process of translating selected extracts, some valuable information emerged. This was further researched and cross referenced with medical and botanical information sources to ensure the accuracy of the information extracted. The remedies on the document were contributions credited to persons, such as Dell' Medico Don Lorenzo Ther (?), Com. Luc. Tomasi and Bali. Cavaniglia,

Amongst the recipes, were 'Waters' using simple ingredients, to more complex preparations for the treatment of catarrh, Gout, dental problems, Calcium or Uric Acid stones, the Plague, Carbuncle boils and surprisingly even a solution to rid dogs of fleas and a remedy to avoid getting drunk at banquets.

"Per non imbriacarsi ne' conviti ancorche' si beva di molto di vari sorsi di vini, e si mangi molto"
Dal Com. Luc Tomasi, Lib 251. National Archives of Malta

Several local plants and extracts were listed in the manuscript which ranged from Spanish Broom, Calendula and Cynomorium to Olive Oil, Bitter Almonds, Cabbage and Cinnamon. Flavoured Coffees were also listed for use with persons during 'times of plague'.

"32. Profumo per le Café', e per Le Persone in tempo di Peste"
Lib.251, Ricetta 32. National Archives of Malta

"34. Eccelente preservative curati o della Peste"
Lib.251, Ricetta 32. National Archives of Malta

Copies of the pages within this manuscript, have been included in the Appendices, under Appendix 1.

It remains unclear whether pharmacists were allowed to grow their own botanicals, or whether they were restricted to purchasing ingredients from known or registered suppliers. While the medicinal botanical garden at Fort St Elmo existed between the 17th century up until the 19th century, it seems that Maltese flora may not have provided all that was needed for pharmaceutical use. Dr. Paul Cassar MD published information on this garden in the publication entitled *Three Medical Biographies,* where he explained that the botanical garden was run by Fra Giuseppe Zammit (1650-1740), on behalf of Grand Master Nicolas Cotoner in 1674. Cassar explained that Fra Zammit also cultivated non-local flora (Cassar, 2004, page 12) besides local species. Further studies by Dr. T. Zammit (Zammit, 1919, page 136), supported these findings by Cassar.

The botanical garden was moved to Floriana in the nineteenth century during the colonial period and the plants were initially divided between the Sarria Garden and the Maglio Garden. The entire collection was later relocated to Argotti Gardens (Times of Malta, 2015). Today a section of the garden is reserved for specific Departments of the University of Malta, such as the Department of Biology and the Institute of Earth Systems, where projects focus on the conservation of plants and research of bioactive extracts and ecology. None of the plants that originated from the Knights' botanical garden of Fort St Elmo survived till today, however the herbarium and other areas host several plants of the Maltese Islands that would have been popular ingredients in the day.

4.1 The Use of Native and Non-Native Flora by Pharmacists

Regardless of the availability of local flora during the 17th and 18th century, many of the ingredients that the pharmacists required were therefore imported from neighbouring Sicily, as noted by Reginald Vella Tomlin (1959, Page 9) and from other countries, as noted by Paul Cassar (1987, Part III. Page 15). Comparatively, in Manuscript Lbr. 251 at the National Library, there were species of plants listed, that indeed do not grow on the Maltese Islands, however no mention was made of the source or country of origin of the plants was was made.

In the journal entitled *An Outline of History of Pharmacy, Part III, The Story of Maltese Pharmacy (Cassar, 1987, Part III. Page 15),* another Manuscript is mentioned which is said to exist at the National Library, said to carry the names and quantity of vegetable ingredients which were purchased from Venice, Leghorn, Agosta (Sicily), Turin, Florence, Marseilles, Madrid and Lisbon. The last three cities were known hubs for plant, chemical and animal products that arrived in Europe from the Americas.

According to Ganger (2015), the Spanish Crown imported several medicinal plants and plant-based remedies from its South American territories. These included botanicals such as Ipecacuanha, guaiacum, sarsaparilla, jalap root and cinchona, which found their way into the medicine chests of Europe's best physicians and pharmacists and were "as much sought after, as much haggled over and as much exported as America's silver, its emeralds and its tobacco" (Ganger, 2015). It is therefore possible, that the Knights of St John, would have imported the latest herbs on the market for pharmaceutical use, fuelled by trends and the allure of the exotic, rather than by any hard scientific evidence of the healing properties offered by such plants.

Cassar (1969, page 105-112) describes other manuscripts of the Knights of St John, which he had the opportunity to study. These were mentioned in his journal entitled *Two Centuries of Medical Prescribing in Malta 1683 – 1882*, in the St Luke's Hospital Gazette. The research also led him to two pharmaceutical registers of the Medicinals that were supplied to the Jesuits of Valletta and the information supported and paralleled the evidence that was observed during the specific research conducted for this essay at the National Archives. Cassar identified the names of the pharmacists who were paid for the drugs and ingredients that included oils, ointments, syrups, conserves, powders and emplastra made mainly from plants. Animal parts from scorpions, crayfish, hart's horn and human skull also featured in the registries that he observed. Another registry cited by Cassar, listed botanicals and their uses, for claims made against the estate of a deceased client or patient, by pharmacists of the day, that were called *Aromatari* or *Speziali*. Such claims were submitted to the *Commissione degli Spogli*, a committee made up of members of the Order, who would decide on the distribution of the assets and estate of the deceased. Cassar mentioned that there were names of at least ten such pharmacists and nineteen patients in such legal documents known as *Spogli (Cassar, 1991. Page 27).* Reference is therefore made to Appendix 2, showing a list compiled by a pharmacist Francesco Martinez, which he submitted to the *Commissione degli Spogli*, for payment of his services in the 1700's.

4.1 The Existence of Lay Healers

> "Apart from the regular medical practitioners there were the cunning folk, exorcists and saints besides the widespread use of domestic medicine"
>
> Carmel Cassar (2008)

Healing in the 17th and 18th century was not restricted to licenced Pharmacists. Long considered to be one of the qualities and roles of women folk in society, traditional methods for treatment were also carried out by men. Disease and illness were part of the daily lives of the common folk and thus, it was normal for them to connect healing with food and environment. Treatments administered by both sexes of the healing arts ranged from herbal baths, fumigation, poultices and masticated plants, usually accompanied by religious prayers and singsongs (Ciappara, 1978, Page 62). One woman called Margarita, attempted to heal the eye of a girl by masticating the *Ciminagro* herb and placing it on the eyelids. Another woman and a tertiary nun called Catherina Bonnichi from Vittoriosa, went for help to a midwife called Agatha, who fumigated Laurel leaves and made the sign of the cross on the girl while reciting prayers (Cassar, 2002. Page 172)

However, slaves known to possess healing skills were also consulted and a particular slave called Chag Hali would fill a hot bath with different plant and herbs, leaving patients to relax and soak in it (Cassar, 1993. Page 321). Such healers were popular amongst the common folk, since physicians and pharmacists were unaffordable and most people preferred the traditional methods handed down by their ancestors, especially when the medical professionals aroused feelings of fear and intimidation with the poor classes (Cassar, 2002. Page 171).

In his journal *Maltese Medical Folklore, Man and the Herpetofauna of Malta*, Savona-Ventura (1990) mentioned several examples of healers and their concoctions. The local clergy for example, offered interesting solutions for common ailments and the nuns or friars of St Theresa in Cospicua were said to heal boils and abscesses with an ointment made from local Mallow leaves. When compared to the studies carried out on the Manuscript Lib 251 at the National Archives, the Pharmacists of the Knights would also treat boils or carbuncles, however their ingredients did not include Mallow leaves, but various seeds of different plants that would be powdered, made into a paste and spread over the boils (NAOM, Man. Lib 251, 34b, 34c). Fennel and Bella Donna boiled and applied to the wound also did the trick for the clergy or alternatively, an ointment made from almond oil mixed with sugar, was applied to a bandage and wrapped around the boil (Lanfranco, 1980).

> “Late 18th. century Malta was a bizarre world. A whole crowd of lay healers treated patients for various diseases - swollen feet, ringworm, pterygium, warts, jaundice”
>
> Ciappara, 1978

A woman called ‘*Marietta Butigeg of Gudja’*, denounced herself in 1602. She believed that she had done nothing wrong when she tried to cure Domenico Vella, her niece’s husband from rheumatism. Marietta had heard that the herb Sambuca, was said to relieve the pain, so she crushed some leaves and cooked them in a pot and massaged the mixture on to Vella’s legs. Marietta’s case shows that there existed a general belief that herbs and tradition, especially since it was understood that nurturing was part and parcel of a woman’s set of feminine soft skills, was acceptable to cure simple illnesses (Cassar, C., 2008).

4.2 **Restrictions on Particular Herbs and Plants**

Speziali or pharmacists, were forbidden from selling medicines without the prescription of a physician. Moreover, poisonous substances such as Arsenic, Sublimate and Mercury had to be kept under the strictest of conditions and could only be handled by a pharmacist. Meanwhile, Opium could only be sold with the written approval of the Chief Medical Officer. All the lids covering stock preparations had to display the date when they were compounded (Cassar, 1987. Part III - Page 15).

Interestingly, none of the manuscripts and indexes researched by any of the scholars mentioned in this essay, mentioned the local plant called White Henbane. In fact, this plant grows freely in the Maltese islands and has known hallucinatory properties. The plant is known locally as the *Mammazejza* and the chemicals in this plant have been scientifically shown to interfere with neuron receptors in the brain which leads to hallucinations, tiredness and confusion (Evergreen.edu, 2014).

4.3 **Research Conducted by the University of Malta on Maltese Medicinal Plants**

Phytochemistry studies of fourteen Maltese Medicinal plants were carried out by two departments of the University of Malta in 2015. The Institute of Earth Systems, *Division of Rural Sciences and Food Systems* and the Faculty of Medicine and Surgery*, Department of Pharmacy*, noted that the selected plants possessed healing properties. Some of these plants feature in the documents consulted for this essay, such as Squill, which was noted by the University of Malta to have the ability to produce a cardiotonic effect. Meanwhile, Borage and Squirting Cucumber offered anticancer qualities (Attard, 2001). The findings also resulted in the fact that Olive had immunomodulatory properties (Wisniewski et al, 2019, Page 117), while Marigold known as Calendula (Hiura et al, 2016, Page 149), as well as Aloe Vera and Erica (Villareal et al, 2013, Pages 236 – 243), all contained anti-inflammatory properties. Meanwhile, plants such as Poison Ivy, Sage and Basil, Fig, Caper and Sticky Fleabane were found to hold antimicrobial and antifungal properties, while Vervain had an antispasmodic effect. Waters made from Orange Flower, Chamomile and Blue Passionflower had a sedative effect on the body, while studies revealed that Micromeria which hails from the mint family and known as the Maltese Savory was good for Kidney Stones (Attard et al, 2015. Page 5).

5. Final Arguments

Evidence therefore leads us to understand that ingredients and method of administering medicine in the seventeenth and eighteenth century was, on one hand strictly controlled by the Knights of St John and that there was a decrease in the use of local herbs and plants toward the end of the seventeenth century, with an increase in the importation and use of non-local botanicals, as well as minerals and other materia medica. Plants such as ‘roses, violets, almonds, barley, salvia, mint and myrtle’ were amongst the more popular ingredients imported to Malta (Fiorini, 1989. Page 21). Fiorini also argued that medicine in Malta was based at the time, on the Arabo-Hellenic traditions as supported by Cassar in his own research. Cassar also stated that the methods used by the medical profession in the seventeenth century were inadequate, since they followed the ancient theories of the Humours of the body, something that dated back to the time of Hippocrates (Cassar, 1991, Page 34.).

During a semi-structured interview with a General Practitioner, the physician was asked whether he had or would consider prescribing local herbs for ailments, to which he replied that he would prescribe Spaccapietra (Ceterach officinarum) for the treatment of kidney stones. The physician added that he had reliable local sources in the Dingli area, who foraged for this plant. Spaccapietra has been traditionally understood to break down renal calculi and recent in vitro studies have shown that the plant, reduces the formation of calculi and crystals in the urinary tract, thus preventing kidney stones (De Bellis et al, 2015, Page 22.) However, no mention of the Spaccapietra plant was ever noted in any of the medicinal recipes found in the eighteenth century MS. Libr. 251 at the National Archives of Malta unless this was known by an alternative name. Alternatively, the 'Fungo Marino', better known as the Cynomorium coccineum, which is found on the General's Rock in Gozo, together with other flora such as the Parietaria (Erba di Vento), the Mercorella (Mercurialis annua) and the Marsh Mellow plant (Bismalva) and the Ginestra (Spanish Broom), were mentioned as viable healing plants for renal problems and stones.

Additionally, the most common diseases or ailments in the periods were related to the abdomen area. This is supported by the findings of Paul Cassar who noted that purgatives and laxatives were frequently prescribed (Cassar, 1991) for illnesses of the gut or urinary tract and he also listed the herbal ingredients found in manuscripts of the Order. The medicinal ingredients that Cassar observed, are listed in his work entitled *Pharmacists, Patients and Payments in 17th century Malta* (Cassar, 1991. Page 27 -29) and some examples of these botanical medicinal ingredients and what they were used for, is offered below:

- Violets and bugloss used as diuretics
- Julep (syrup) of violets with sugar and distilled violet flowers as a febrifuge. White roses as a laxative
- Oil from flower buds of capers for aperitive
- Crushed Sarsaparilla roots for venereal disease
- Fennel water made from the leaves and roots of the plant, to relieve flatulence
- Syrup of leaves of Cassia senna as a purgative
- Syrup of lemon peel to reduce fevers
- Syrup of lemon juice to promote urination
- Oil of sweet almonds for renal colic and to help expel bladder stones.

Despite the listings and observations made, Cassar contends that the medical research that was needed to justify the prescription of such medicinals was lacking. In sharp contrast to this argument, the work of Dr. Michaelangelo Grima in *Traumatic Medicine* (1773), showed that science and research was evolving. Grima himself advocated the use of the sarsaparilla plant for the treatment of venereal disease, instead of the mercurial therapy that had been administered to syphilis sufferers, amongst whom was Grand Master Perellos (Bonello, 2008). Sarsapilla is still found in the valleys and maquis areas of the Maltese Islands and today, it is a component in conventional medicine that is used to treat syphilis itself (www.rxlist.com), besides psoriasis, rheumatoid arthritis and kidney disease amongst others (www.webmd.com). Meanwhile, syrup of senna with or without rhubarb, listed on the documents of the seventeenth and eighteenth century, remained in use up until contemporary times for similar complaints, such as bowel irritability and constipation (Camilleri et al. 2015).

5.1 **Conclusions**

The research undertaken demonstrates that the use of medicinal plants and herbs in the seventeenth and eighteenth century was primarily practiced by licenced pharmacists. It is further understood that the plants and herbs used for the preparation of medicine was not limited to local flora but included various imported varieties of botanicals. Studies also demonstrate that the healing arts were not restricted to just trained and licenced physicians or pharmacists, but there existed an unspoken coexistence between the professional medical community and the folk healers of the Maltese Islands, since herbal remedies have always been entwined with local traditions and knowledge of the common diseases with a culture.

There exists an abundance of well documented information for entities to justify the investment in additional botanical gardens and to create more protected areas in Malta where rare, indigenous flora can be preserved for posterity and for future scientific research. Additionally, the studies carried out for the purpose of this long essay, may provide a strong basis for further investigation by historians, as well by those focusing their studies on Pharmacy or Botany. Finally, the findings demonstrate that sufficient evidence exists to create diverse and interesting guided tours, based on the medicinal plants of the Maltese Islands, as well as folklore, traditional lay healers who existed and the methods used by the Knights of St John to heal patients. While there may be the danger of over-romanticizing the concept of alternative medicine, the concept of applying historical medical facts together with folklore, culture and tradition as derived from this study, could produce a unique itinerary for Tour Guides.

5.2 **Recommendations**

> *"*Giardino di bellissimi segreti e ricette avuti da diversi signori soggetti bravi dove si contengono varie sorte di segreti, ricette medicinali et artificiali insegnati con l'occasione di camminare il mondo e praticar diversi virtuosi, parte di loro approvati da me Don Giuseppe Seychel"
>
> *Libr. MS. 1173, Don Giuseppe Seychel. Anno Domini 1776*

During the research carried out at the National Archives of Malta, a manuscript that may hold important historical, cultural, medicinal and ecological information was noted. The Manuscript, registered as Libr. MS 1173 is dated Anno Domini 1776. A detailed academic focus on this document is recommended, as it may hold also valuable information on the flora of the Maltese Islands. The document does not seem to have been referenced by any of the scholars cited in this essay. Meanwhile, a closer look at another eighteenth-century manuscript, Libr. MS. 251 *Libro di Ricette Medicinali* is also recommended, for the numerous medicinal recipes and ingredients listed therein. The information held in this *Spoglio* could form the basis for further scientific and pharmaceutical research and pages from this Manuscript are included in the Appendix as reference.

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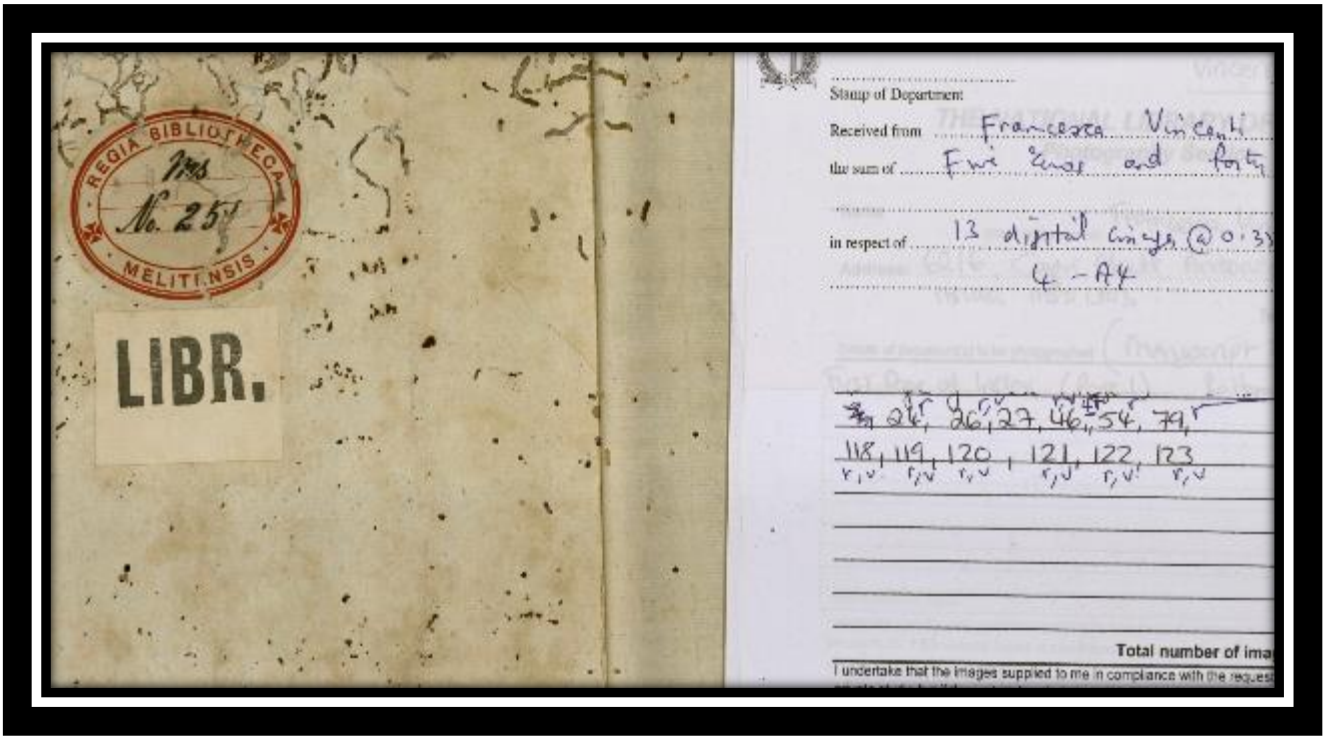
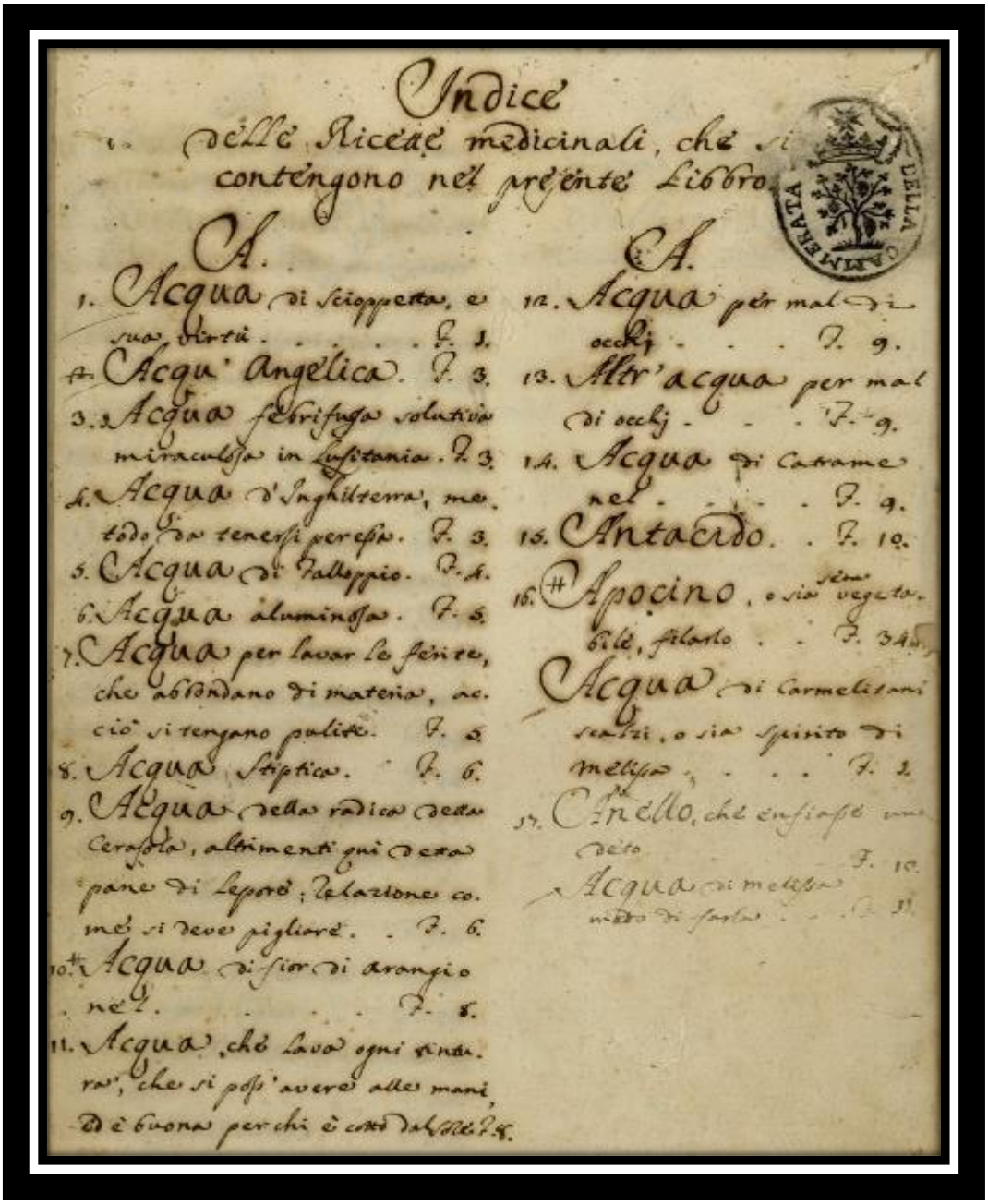
Appendices

The Appendices include additional information from research and studies carried out, which hold pertinent information, regarded as too valuable to omit. These could contribute to future extended studies and references on the subject.

Appendix 1: Selected Pages from Manuscript Libr. 251 - National Library of Malta



Manuscript cover and request form for copies of pages, July 2022.



Indice
delle Ricette medicinali, che si
contengono nel presente Libro

A.

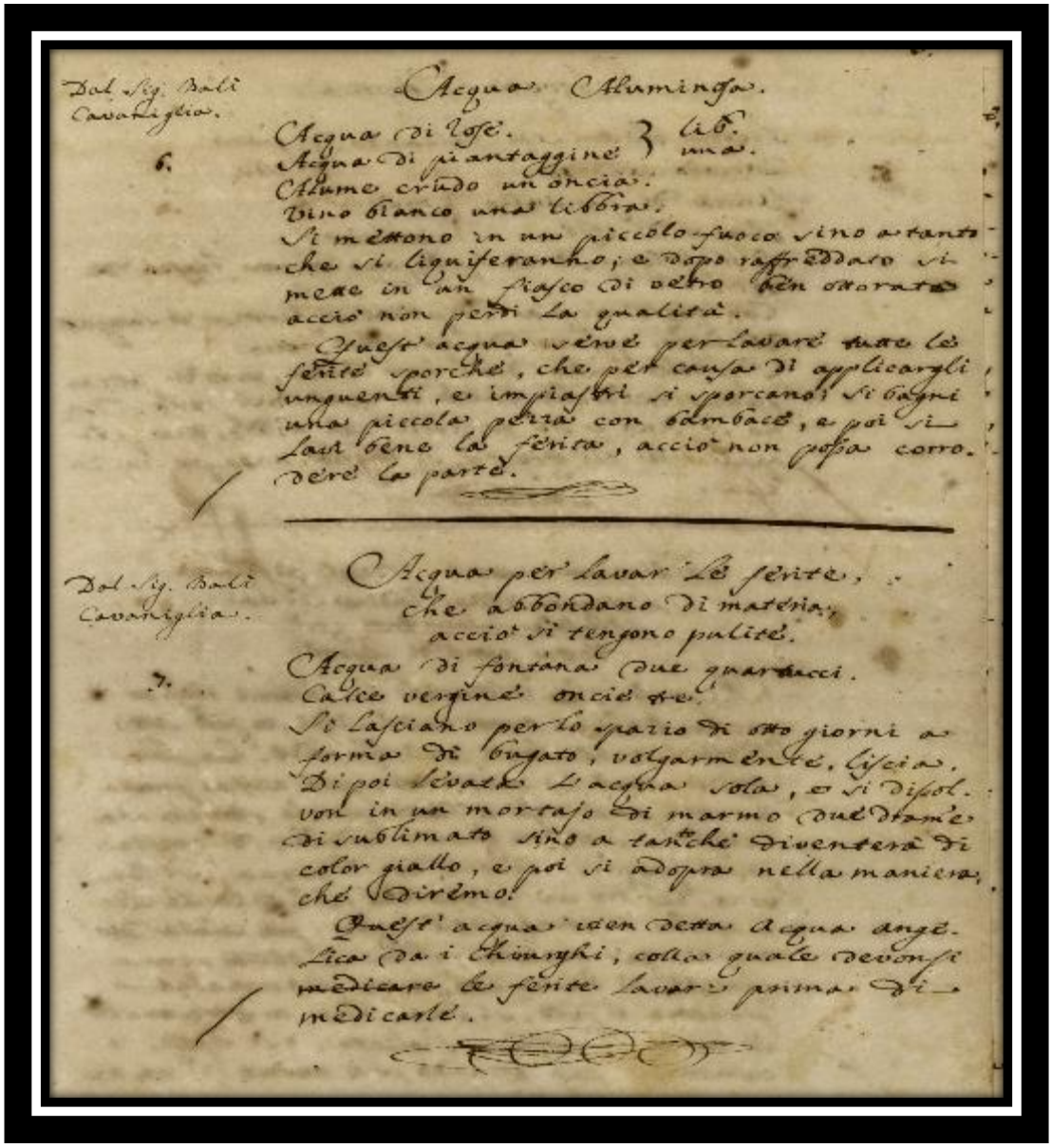
1. Acqua di sciopetta, e suo virtù . . . . . f. 1.
2. Acqua' Angelica. f. 3.
3. Acqua febrifuga solutiva miracolosa in Lusitania. f. 3.
4. Acqua d'Inghilterra, metodo di tenersi per essa. f. 3.
5. Acqua di Talleppio. f. 4.
6. Acqua aluminosa. f. 5.
7. Acqua per lavar le ferite, che abbondano di materia, acciò si tengano polite. f. 5.
8. Acqua Stiptica. f. 6.
9. Acqua della radice della Cerasola, altrimenti giù detta pane di Lepore; relazione come si deve pigliare. f. 6.
10. Acqua di fior di arancio nel. . . . . f. 8.
11. Acqua, che lava ogni rinchiuso, che si possi avere alle mani, ed è buona per chi è cotto dal Sole f. 8.

A.

12. Acqua per mal di occhj . . . f. 9.
13. Altr'acqua per mal di occhj . . . f. 9.
14. Acqua di Catrame nel . . . . . f. 9.
15. Antacido. . f. 10.
16. Apocino, o sia seme vegetabile, filarlo . . f. 34.
Acqua di Carmelitani scalzi, o sia spirito di melissa . . . . f. 2.
17. Cinello, che enfiasse un dito f. 10.
Acqua di melissa . . . f. 11.

“Index of The Medicinal Recipes Held in This Book”

Page 1, Libr 251, NAOM.



Dal Sig. Bali Cavaliglia.

6.

Acqua Aluminosa.

Acqua di Rose. } lib.
Acqua di piantaggine } una.
Alume crudo un oncia.
Vino bianco una libbra.
Si mettono in un piccolo fuoco vino a tanto che si liquiferanno; e dopo raffreddato si mette in un fiasco di vetro ben otturato acciò non perdi la qualità.

Quest' acqua viene per lavare tutte le ferite sporche, che per causa di applicargli unguenti, e impiastri si sporcano; si bagni una piccola pezza con detto, e poi si lavi bene la ferita, acciò non possa corrodere la parte.

Dal Sig. Bali Cavaliglia.

7.

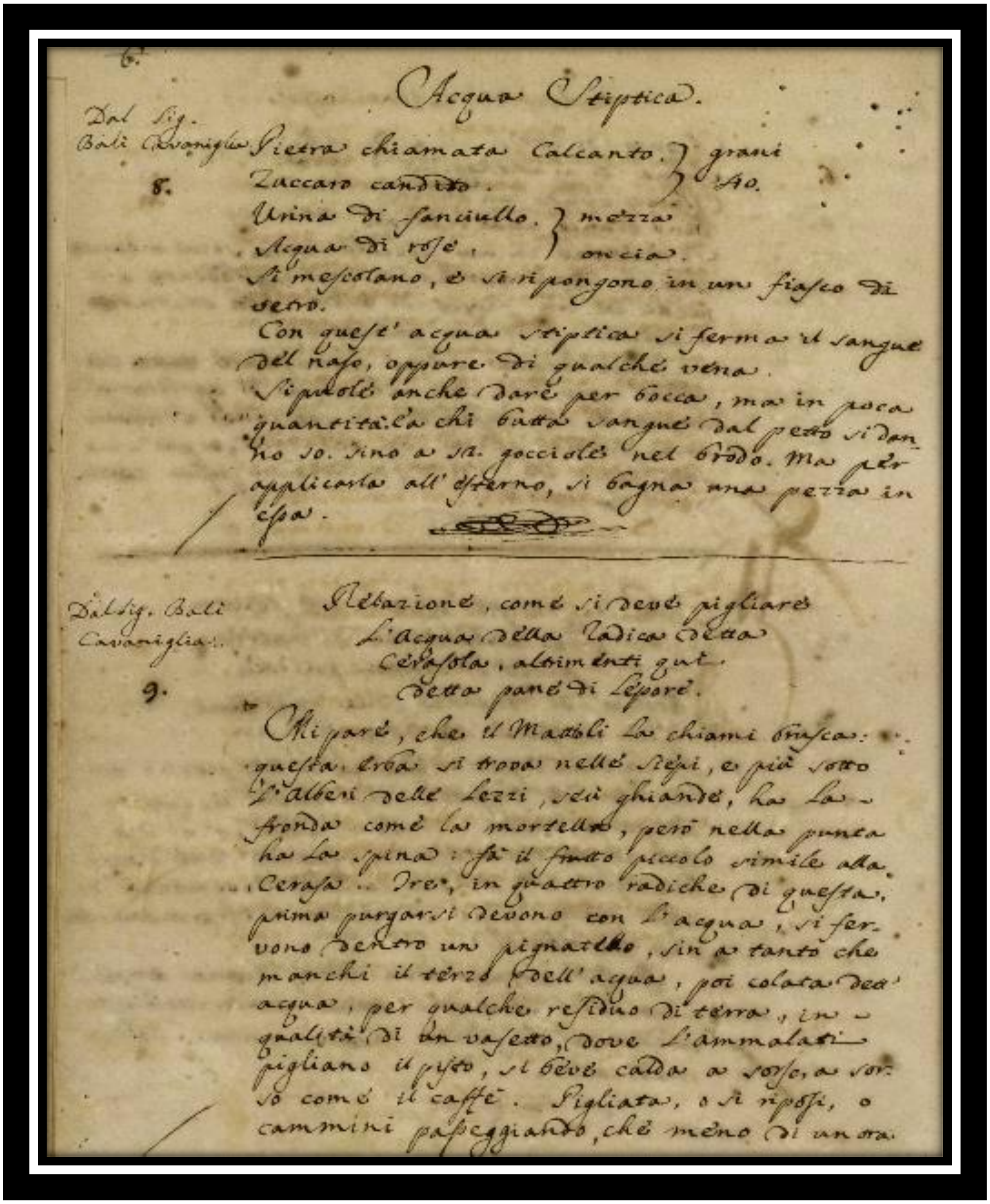
Acqua per lavar le ferite, che abbondano di materia, acciò si tengono pulite.

Acqua di fontana due quartucci.
Calce vergine oncie tre.
Si lasciano per lo spazio di otto giorni a forma di bugato, volgarmente, lissia.
Di poi levata l'acqua sola, o si dissolvono in un mortaio di marmo dell'istesso di sublimato sino a tanto che diventerà di color giallo, e poi si adopra nella maniera, che diremo.

Quest' acqua viene detta acqua angelica da i Chimyki, colla quale devonsi medicare le ferite lavate prima di medicarle.

"Acqua Aluminosa" - *Mercury Preparation (Waisse and Alfonsogoldfarb, 2009)*
"Acqua per lavar le ferite che abbondano di materia, accio' si tengono pulite"

Dal Sig. Bali. Cavaniglia, Libr. 251, Page 26. National Archives of Malta



6.

Acqua Stiptica.

Dal Sig. Bali Cavaniglia

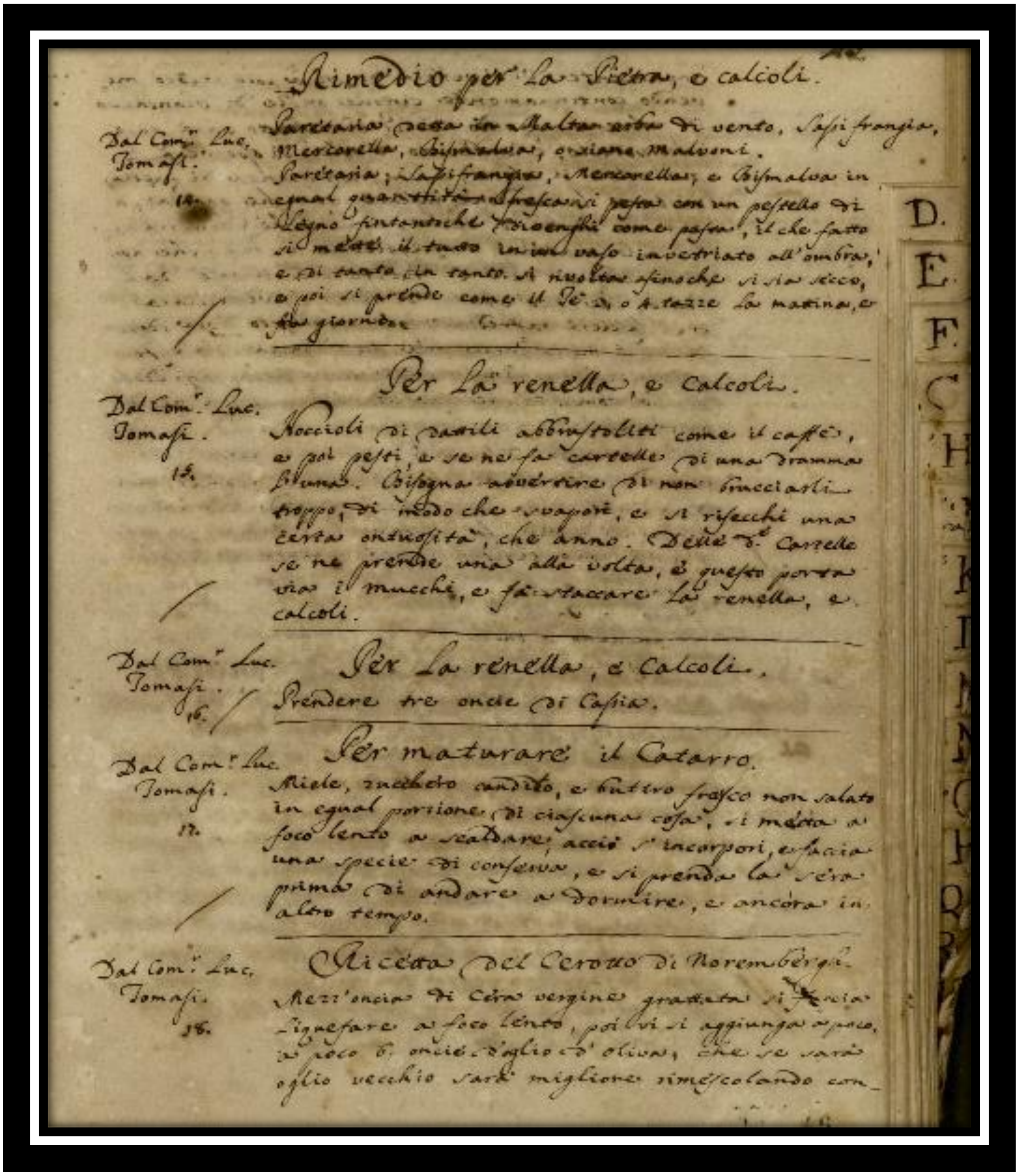
8. Pietra chiamata Calcanto. } grani
Zuccaro candito. } 40.
Urina di fanciullo. } mezza
Acqua di rose. } oncia.
Si mescolano, e si ripongono in un fiasco di vetro.
Con quest' acqua stiptica si ferma il sangue dell naso, oppure di qualche vena.
Si puole anche dare per bocca, ma in poca quantità. a chi butta sangue dal petto si danno 50. sino a 60. gocciole nel brodo. Ma per applicarla all' esterno, si bagna una pezza in essa.

Dal Sig. Bali Cavaniglia.

9. Relazione, come si deve pigliare l'Acqua della Radice detta Cerasola, altrimenti qui detto pane di Lepore.
Chi pare, che il Mattioli la chiami Brusca: questa erba si trova nelle siepi, e più sotto l'alberi delle Cerzi, seu ghiande, ha la fronda come la mortella, però nella punta ha la spina: fà il frutto piccolo simile alla Cerasa. Tre, in quattro radiche di questa, prima purgarsi devono con l'acqua, si fervono dentro un pignatello, sin a tanto che manchi il terzo dell'acqua, poi colata dett' acqua, per qualche residuo di terra, in qualità di un vasetto, dove l'ammalati pigliano il pisto, si beve calda a sorso, a sorso come il caffè. Pigliata, o si riposi, o cammini passeggiando, che meno di un ora.

"Acqua Stiptica" - Water for Constipation

Dal Sig. Bali Cavaniglia, Libr. 251, Page 27. National Archives of Malta



Rimedio per la Pietra, e calcoli.

Dal Com.re Luc. Tomasi. 14. Parietaria detta in Malta erba di vento, Sassi frangia, Mercorella, Bismalva, overo Malvoni.
Parietaria, Sassifrangia, Mercorella, e Bismalva in equal quantità, e fresca si pesta con un pestello di legno fintanto che divenghi come pasta, il che fatto si mette il tutto in un vaso invetriato all'ombra, e di tanto in tanto si rivolta sinoche si sia secco, e poi si prende come il Tè 3, o 4 tazze la matina, e fra giorno.

Per la renella, e Calcoli.

Dal Com.re Luc. Tomasi. 15. Noccioli di dattili abbrustoliti come il caffè, e poi pesti, e se ne fa cartelle di una dramma l'una. Bisogna avvertire di non bruciarli troppo, di modo che svapori, e si risecchi una certa ontuosità, che anno. Delle d.e Cartelle se ne prende una alla volta, e questo porta via il mucchi, e fà staccare la renella, e calcoli.

Per la renella, e Calcoli.

Dal Com.re Luc. Tomasi. 16. Prendere tre oncie di Cassia.

Per maturare il Catarro.

Dal Com.re Luc. Tomasi. 17. Miele, zucchero candito, e buttiro fresco non salato in equal porzione di ciascuna cosa, si metta a foco lento a scaldare, acciò s'incorpori, e faccia una specie di conserva, e si prenda la sera prima di andare a dormire, e ancora in altro tempo.

Ricetta del Cerotto di Norembergh.

Dal Com.re Luc. Tomasi. 18. Mezz'oncia di Cera vergine grattata si faccia liquefare a foco lento, poi vi si aggiunga a poco, a poco 6. oncie d'oglio d'oliva, che se sarà oglio vecchio sarà migliore rimescolando con

"Remedio per la pietra o calcoli" - Remedy for Stones and Calculi – requires detailed study of various plants

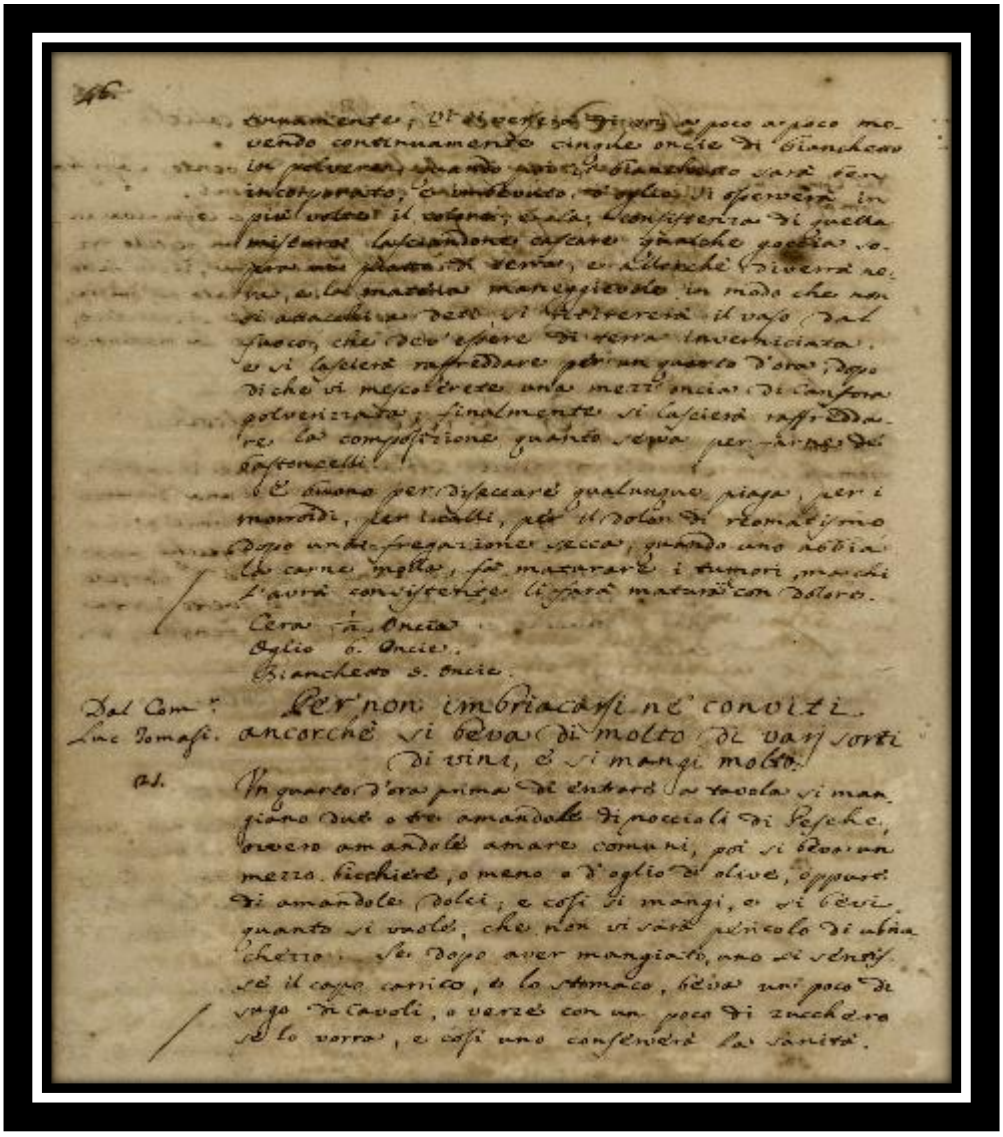
"Per la renella o Calcoli" – For urinary tract Grains and Calculi

"Per maturare il Catarro" – To mature Catarrh/Loosen Catarrh

"Ricetta del Cerotto di Novembergh" – November Aloe Vera recipe

Aloe Vera (Cira Italian word for Aloe), Coffee, Honey

Dal Com. Luc. Tomasi, Libr. 251, Page 46. National Archives of Malta



“Per non imbriacarsi ne’ conviti ancorche’ si beva di molto di vari sorsi di vini e si mangi molta”

In order not to get drunk at banquets, even if you sip various types of wine and eat a lot

Bitter Almonds, Peach Nuts, Cabbage Gravy/Juice

Dal. Com. Luc. Tomasi, Libr. 251, Page 46. National Archives of Malta


Dal Com.r Luc. Tomasi. 4 — Per i Calli. 47.

Cera nuova, verderame, e biacca, di ciascuna cosa un'oncia; solimato mezz'oncia, alume di rocca [illegible] dramme due, oglio rosato oncie due, e se ne faccia unguento a fuoco lento. Si [illegible] poi il callo a molle in acqua, o ranno caldo, e poi si tagli bene sottile, e vi si metta un piastrello con detto unguento, e continuando se ne anderà via.

Overo se si farà una pasta con farina di [illegible] di lino, et aceto forte, se si metterà di tal pasta alquanto dura sopra il callo, in breve lo disseccherà.

Dal Com.r Luc. Tomasi. — Per il Dolor di Capo.

Sugo di maggiorana tirato su per il naso.

Dal Com.r Luc. Tomasi. — Remedio a i Cani quando sono molestati da i pulici.

Si ungano con oglio di oliva, che moriranno i pulici, overo si pestano radiche di beleno, e facciansi bollire in acqua; e con quest'acqua si lavi il Cane, che se haverà pulici subito moriranno, overo [illegible] con quello [illegible]. L'istesso farà [illegible] della torvisca [illegible] molto bene il Cane; ma [illegible] pulita, perchè se il Cane con la lingua leccandosi toccasse quell'acqua della Torvisca gli farebbe danno assai, per essere molto velenosa.

Dal Com.r Luc. Tomasi. — Maniera di preparare la creta per unire i recipienti, e le boccie di vetro, e ogni Lambicco per stillare.

Si prenda creta di pignate della migliore

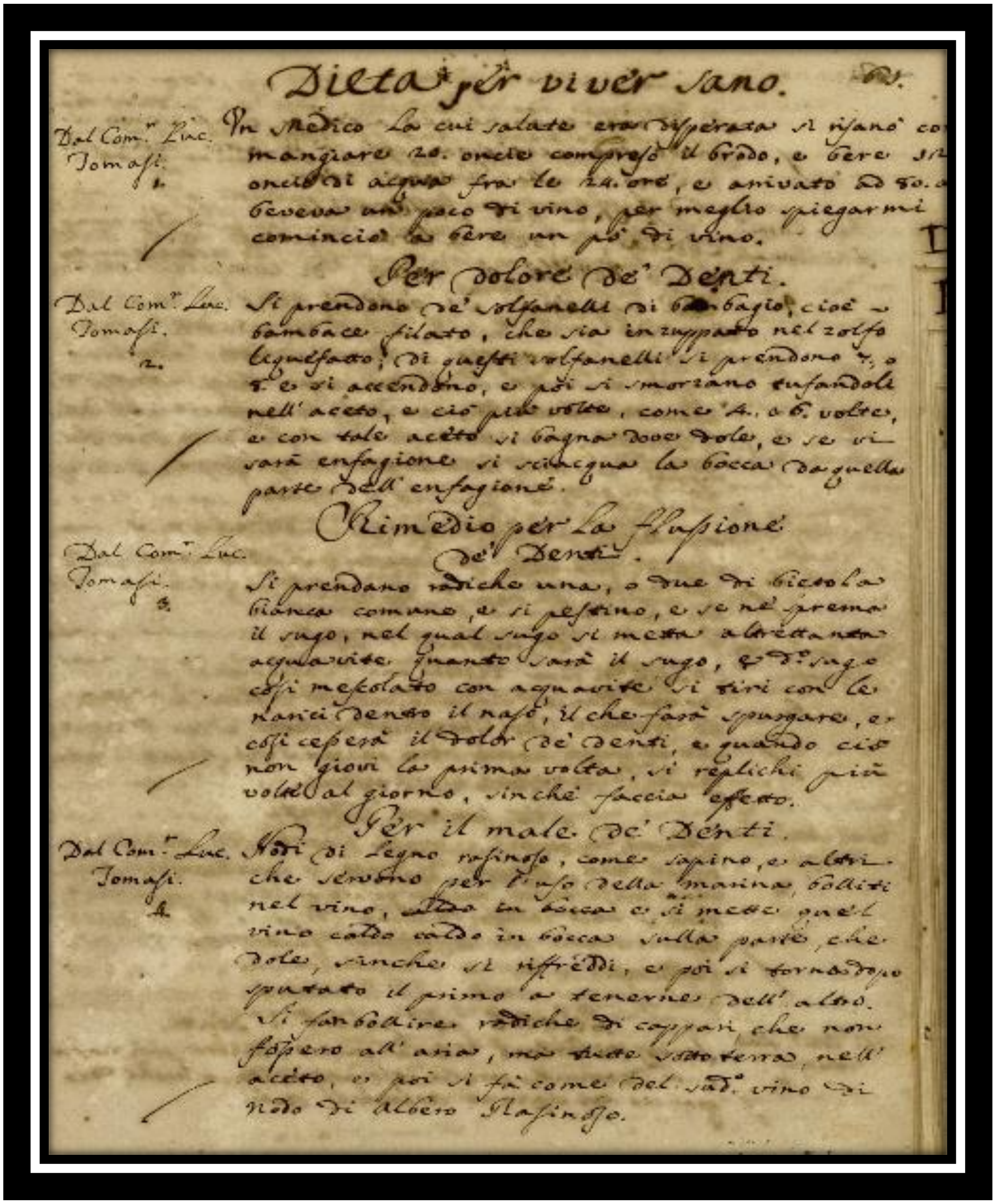
"Per i Calli" – For Calluses

"Per il Dolor di Capo" – For Headaches

"Remedio a i Cani quando sono molestati da i pulici" – Remedy for dogs when they are molested by fleas

Marjoram, Olive Oil

Libr. 251, Page 47. National Archives of Malta



Dieta per viver sano.

Dal Com.r Luc. Tomasi. 1.
Un Medico la cui salute era disperata si risanò col mangiare 20. oncie compreso il brodo, e bere 32 oncie di acqua fra le 24. ore, e arrivato a 80. a[nni] beveva un poco di vino, per meglio spiegarmi cominciò a bere un po' di vino.

Per dolore de' Denti.

Dal Com.r Luc. Tomasi. 2.
Si prendono de' solfanelli di bambagio, cioè bambace filato, che sia inzuppato nel zolfo liquefatto; di questi solfanelli si prendono 4, o 5 e si accendono, e poi si smorzano tufandoli nell'aceto, e ciò più volte, come 4. o 6. volte, e con tale aceto si bagna dove dole, e se vi sarà enfiagione si sciacqua la bocca da quella parte dell'enfiagione.

Rimedio per la flussione de' Denti.

Dal Com.r Luc. Tomasi. 3.
Si prendano radiche una, o due di bietola bianca commune, e si pestino, e se ne prema il sugo, nel qual sugo si metta altrettanta acquavite quanto sarà il sugo, e d.o sugo così mescolato con acquavite si tiri con le narici dentro il naso, il che farà spurgare, e così cesserà il dolor de' denti, e quando ciò non giovi la prima volta, si replichi più volte al giorno, sinché faccia effetto.

Per il male de' Denti.

Dal Com.r Luc. Tomasi. 4.
Nodi di Legno resinoso, come sapino, e altri che servono per l'uso della marina, bolliti nel vino, [illegible] in bocca e si mette quel vino caldo caldo in bocca sulla parte, che dole, sinche si raffreddi, e poi si torna dopo sputato il primo a tenerne dell'altro. Si fan bollire radiche di cappari, che non fossero all'aria, ma tutte sotto terra, nell'aceto, e poi si fa come del sud.o vino di nodo di albero resinoso.

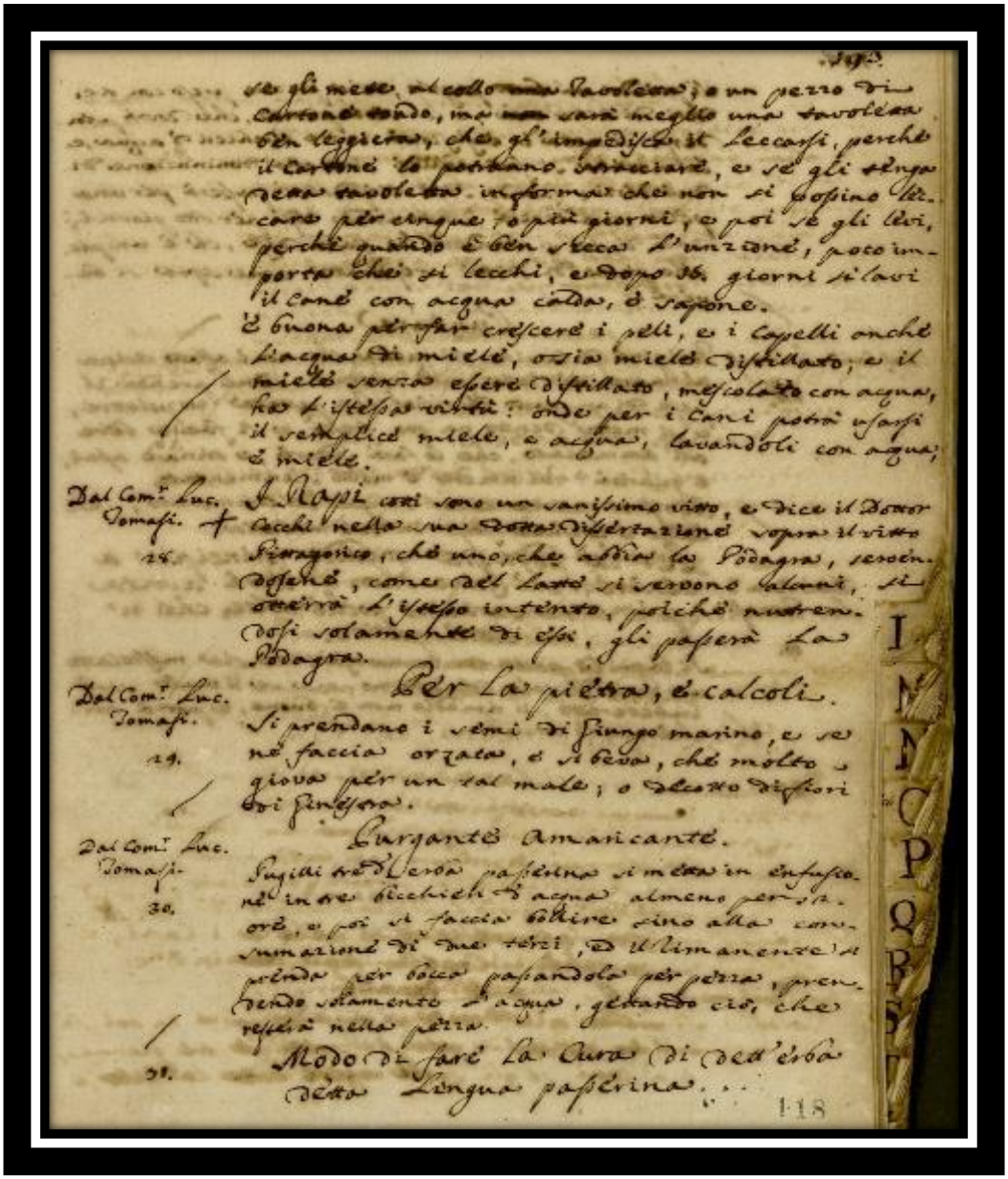
"Dieta per viver sano" – Diet to live Healthily

"Per dolore di Denti" – For Toothache

"Rimedio per la Flusione de Denti" – Remedy to Pull (?) Teeth

"Per il male de Denti" – For Bad Teeth

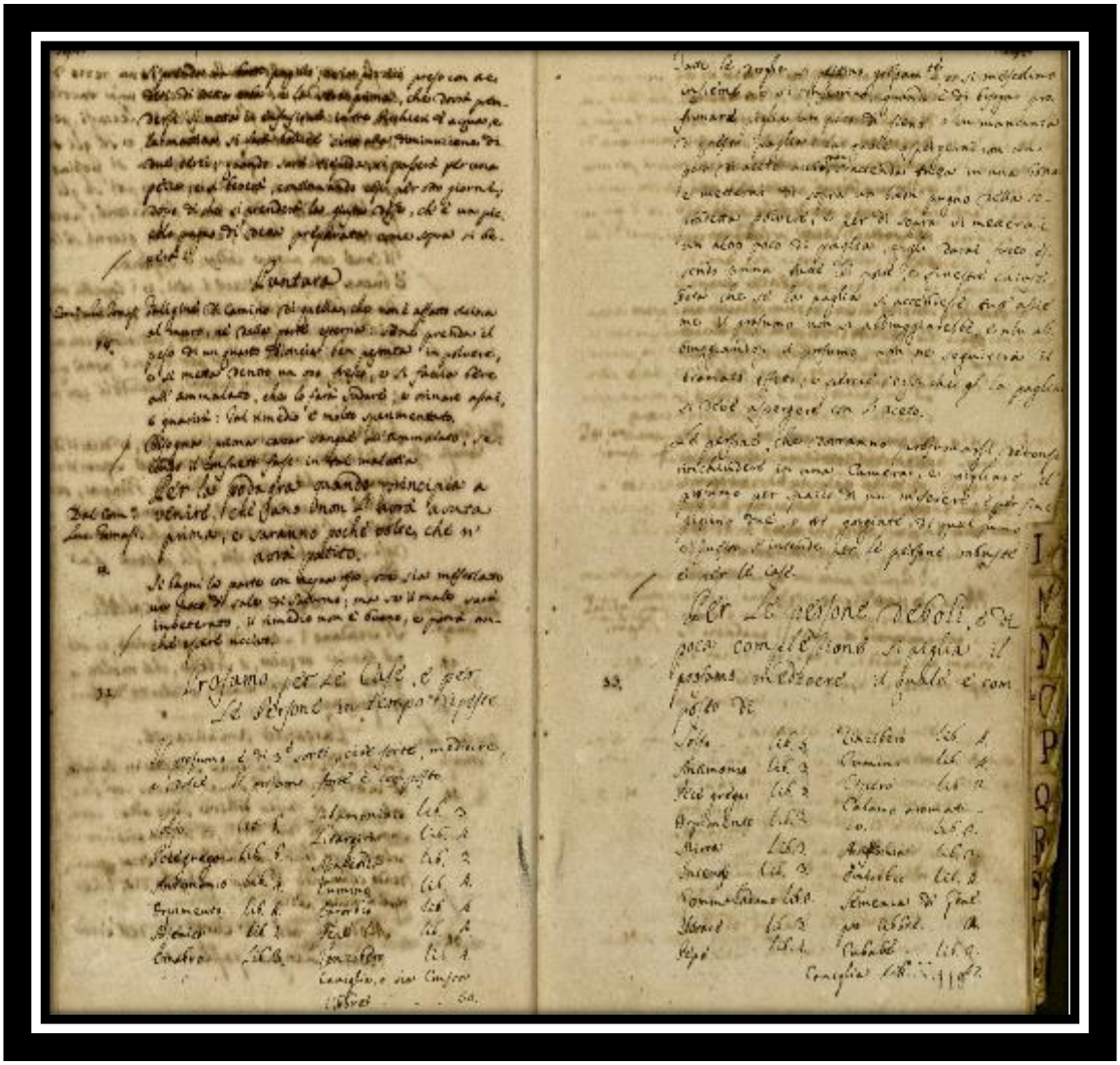
Dal. Com. Luc. Tomasi, Libr. 251, Page 54. National Archives of Malta



“Per la pietra, e Calcoli” – For stones and calculi

Fungo Marino, Ginestra

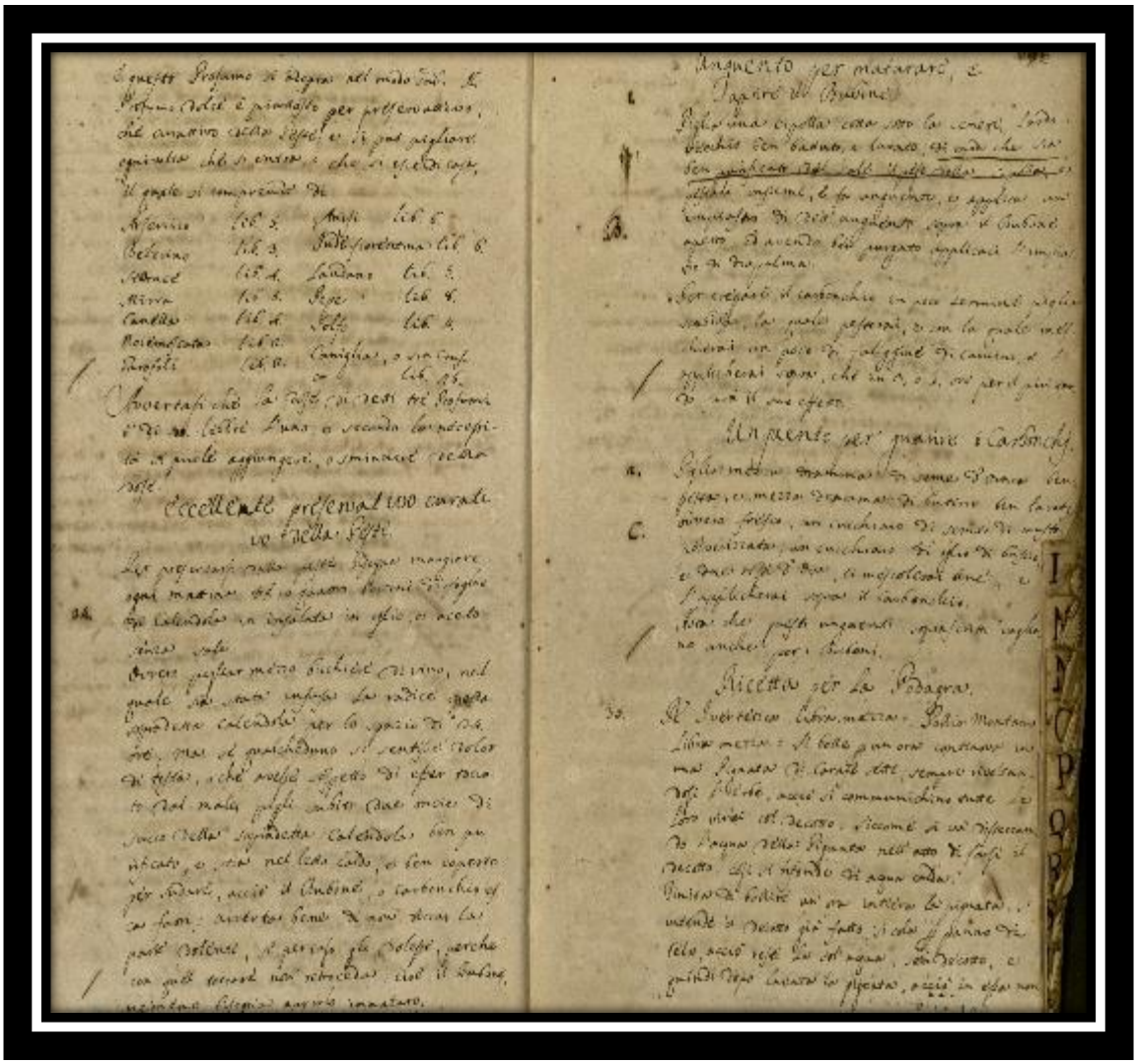
Dal. Com. Luc. Tomasi, Libr. 251, Page 118. National Archives of Malta



“Puntura” – Stings

“Profumo per Le Café’, e per Le Persone in tempo di Peste” – Flavouring for Coffee (Drink or Fumigation?) for people in times of Plague. Coffee was prepared in three strengths: strong, medium and sweet. Amongst the ‘additives’ mentioned are *Arsenic, Cinnabar (mercury), Pepper, Cumin, Cinnamon, Myrrh, Styrax,* Further studies and translation recommended.

Dal. Com. Luc. Tomasi, Libr. 251, Page 118 - 120. National Archives of Malta



“Eccelente preservativo curati (o) della Peste” – Excellent healing preparation for Plague, *Calendula*

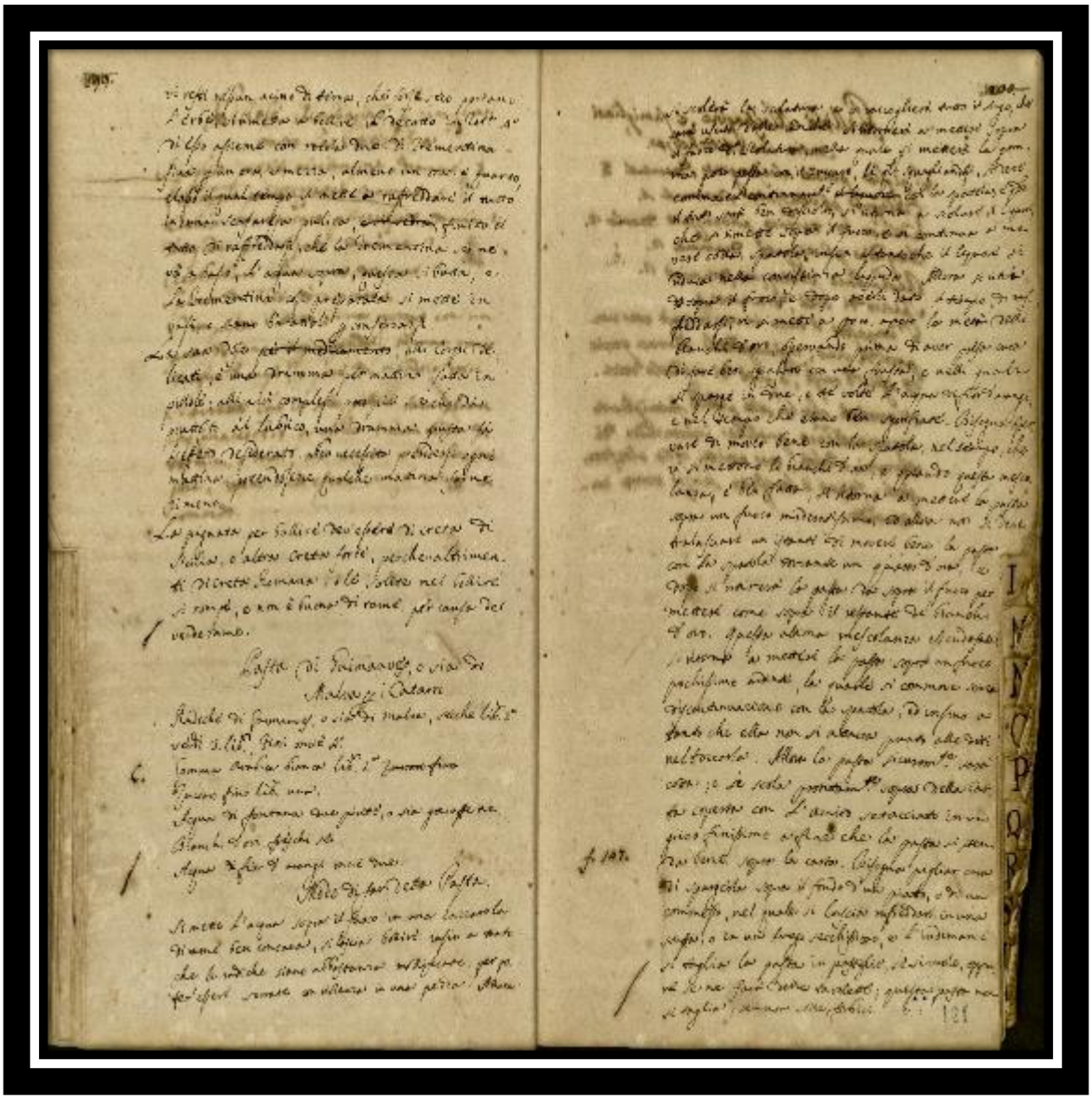
“Uguento per maturare e aprire il Burbone” - Ointment to ripen and open boils/carbuncles, *Onion*

“Uguento per guarire i Carbonchi” – Ointment to heal boils/carbuncles

“Ricetta per la Podagra” – Recipe for Foot trap (Gout)

Further studies recommended.

Libr. 251, Page 120. National Archives of Malta



“Pasta di Primavera o sia di Malva (per?) i Catarri” – Spring Pasta with Mallows (for?) the Catarrh

“Modo di Dar detta Pasta” – Method to make the Pasta

Ingredients not identified

Libr. 251, Page 121. National Archives of Malta

Appendix 2: Pharmacist Francesco Martinez: Processi de Spogli 1709 – 1711 Sp/v/no B/14/2

Name as in Spogli	Name of medicines	Description and use
Agar. Troch / agar. trocis		These troches (lozenges) are made from agaric with wine
Aq. Borag/ aq. Still. borrag	Water of Borrage	Used for heart problems, but also removes bad thoughts, sharpens memory, rids the body of bad humours, strengthens the heart, cleanses the blood, takes away sadness and grief
Aq. cicor	Succory water/aqua di fiori di Cicoria	Used to purify the blood, excellent against heat in the stomach cools the liver, used against eye diseases in the eyes
Aq. cinn	Aquae cinnamomi	Used to flavour preparations
Aq. hord	Barley water	Drink against fevers and diarrhoea
Aq. Still. scorson	Water from the roots of viper grass	Antidote to poisonous bites, smallpox and plague
Camfore	Camphor	Beaten into powder and mixed with oil and the temples anointed to ease headaches, inflammations.
Cass. Noviter. Extract.	Freshly extracted cassia	Used as laxative
Castor		Dried follicles of the penile foreskin of the beaver. Used to fortify the brain eases pain and convulsions
Clist.com	Common clyster	Purgative

Name as in Spogli	Name of medicines	Description and use
Conf. hijac	Confection de Hyacintho	Composed of sealed earth from Lemnos, crab eyes and myrrh. To cure fevers, pestilences and strengthens the heart.
Decoct. Iac		Made from Malva, Althea and violet leaves
Dia feniconis		An electuary. Contains dates, sweet almonds, ginger and fennel. For fevers
Diagrid	Scamonea	Laxative
Empla	Emplastre Diapalma	Used for bleeding wounds, ulcers and tumours
Gingib	Ginger	Stimulant
Hirud	Leach	Bruises
Ligni Sti	Legno Santo	Used to cure syphilis
Ol. Lil. Alb.	Oil of white Lilly	Tumours
Philon. Roman		To Calm abdominal pains
Pill. Et. tribus	Pills of three things	Strengthen stomach and liver
Sacc. viol	Sugar of violets	Laxative
Saccar. Malvar. Et. Viol.		A conserve made of violets and marshmallow
Salsa. Parill. Minuti.	Sarsaparilla	Used against headaches and joint pain

Sem. Mel.	Seeds of melon	Used to cool the blood, and cool fever
Sijr. Da agrid. cit	Sciroppo di Agro di cedro	Used in fevers and to strengthen the heart
Sijr. De. Betton	Syrup of Botanic Spices	Used for head and stomach pains, colds, vertigos, madness
Sijr. De. sena	Syrup of Senna	Laxative
Sijr. Ros. Sol.	Rose syrup solutions	Laxative
Spirit therbent	Spirit of Turpentine	Remedy for gonorrhoea
Name as in Spogli	Name of medicines	Description and use
Syr. acetos		Juice made from wood-sorrel. Used for fevers
Therbent. venet	Turpentine	Resin used for cracked lips
Trocis. Gordon		Used for ulcers in the bladder
Ung. Litarg cum	Ointment of oxide of lead	Scabs
Ung. Refrig. Galen		Ointment from rose oil and almonds to cure inflammations and tumours

Appendix 3: Code of Health and Licences During the Knights Period

Dr. Stanley Fiorini's paper focuses on a particular listing that dates to 1546, found in *Miscellenea 441* of the ACM series in the Metropolitan Cathedral Museum Mdina, Malta. This dates further back than a similar prescription listing of 1590, that was prepared for patients in one of the Santo Spirito hospitals, as noted in a study carried out by Dr. Paul Cassar (Fiorni, 1989, page 19). Since the Hospitaller Knights had a strict code surrounding Health, with laws that were developed in Rhodes and introduced to the islands to control infectious diseases, it stands to reason that such prescriptions, listings and manuscripts would also be kept.

The issuance of licences for medical Practioner and surgeons, as well as pharmacists also fell under the remit of the Hospitaller Knights. Interestingly, it was only in 1729 that the first regulations for the running of the school of Pharmacy at the Sacra Infermeria under Fra Giuseppe Zammit, were created together with other regulations surrounding Health.

By 1784, they all formed part of the De Rohan code (Savona-Ventura, 1997).

Appendix 4: HND TG Long Essay Tour Itinerary

A Visit to the Floriana Mall and the Botanical Gardens of Argotti

Walking Tour – A Visit to the Floriana Mall and the Botanical Gardens of Argotti

Level of Difficulty – 2/10 (Easy)
Distance – 5km.
Time – 1hr 30min /1hr 45min

Meeting Point – Phoenicia Hotel, Floriana.

This is an easy walking tour, using the paved public pathways in Floriana, visiting two public gardens that belonged to the Knights of St John. The tour is suitable for all ages and is wheelchair accessible. Enroute, we shall see stop to enjoy monuments dedicated to important persons and events in the history of the Maltese Islands, while maintaining the focus on the many different trees, shrubs and plants found enroute and within the gardens. Several of these plants offer interesting medicinal properties. Examples of the types of illnesses that plants were used for in the 17th and 18th Century, will be offered during the tour. The Meeting Point is located to the main hub for public route buses, just outside of Valletta. Comfortable walking shoes are recommended. The tour is accessibility friendly and follows paved public areas. The Group shall be crossing one main road and two secondary roads along the way.

ROUTE MAP

THE TOUR

Departing from the Phoenicia Hotel, Floriana, we shall make our way to the statue of ***Christ the King*** *(fig 1.) which is the work of a celebrated artist called Antonio Sciortino.*

Figure 1 – Christ the King,

The paved central pedestrian area is lined with Date Palm trees, which is a species originating from Northern Africa and the Middle East. An interesting topic to kickstart our tour! From here we shall proceed to visit the Floriana Mall that offers some interesting plants to admire, followed by a visit to the Botanical Gardens of Argotti. The walking tour should take between one hour and thirty minutes, to one hour and forty-five minutes, depending on the agility of the group.

THE FLORIANA MALL VISIT

This was originally an area designed solely for the relaxation and pleasure of the Knights of St John when it was first built. A very peculiar sport was practiced here which was very in vogue at the time. An explanation of how this area transformed from its previous purpose to the Public Garden it is today, shall be presented. During the visit, we shall admire various plants, trees, shrubs and flowers. We shall discover some indigenous trees, such as the Aleppo pine, which once formed part of the ancient woodland that covered the Maltese Islands. This pine species is a drought-tolerant evergreen which hails from the conifer family.

Various trees, such as the Ficus, Olive, Bay Laurel, Cypress, as well as different species of Palm trees, shrubs and flowers and shall mention the medicinal value and uses they offered in the past and perhaps even today. We might also see some typical common fauna found in Maltese gardens, such as the Maltese Wall Lizard, or the non-venomous spider called *Argiope Trifasciata;* impressive to look at with its striped body and menacing but harmless body.

The mall garden visit shall also include stops along the way, to learn about some of the monuments that one can find here, dedicated to various local personalities, who had contributed to society.

Amongst these are Dr. Aloisio Pisani who was a Public Health Physician during the Cholera Epidemic in 1837 and Nicolo di Pappaffy, the only non-Maltese person to be commemorated here. Making our way down this garden, we shall also stop to admire the Parish Church of Floriana, dedicated to St Publius and the silos that one can find all over the largest piazza in Malta (Fig. 3). Our tour shall then lead you out of the Floriana mall garden, where we shall proceed to visit three interesting yet different structures, dating between the 17th and 19th century. From here, we shall enter the Botanical Gardens of Argotti.

ARGOTTI GARDENS VISIT

The Argotti Gardens are a treasure trove for botanical enthusiasts. The area was originally two separate gardens, both created in the early 1700s and our tour shall give you an insight as to the evolution of this area and how it was only recognised as a botanical garden in the late 1890s. Besides stopping to examine some of the different species of plants, trees and shrubs, participants shall hear about their medicinal properties and if they were used by the Knights of St John Hospitaller in the 17th and 18th Century.

Stories regarding the strange ingredients that were added to medicinal preparations in the day by both physicians, pharmacists and Maltese traditional folk healers will be included in the commentary, providing entertainment, raising questions and promoting discussion amongst the audience. The Gardens offers impressive varieties of plant life, as well as indigenous flora growing in and around the bastion area. The Argotti tour includes stops at selected viewpoints along the Floriana fortifications that border this national garden, as well as brief stops at the monuments found here.

This tour covers a total walking distance of circa 5km. The tour takes into consideration time for a photographic appreciation and any questions that participants may have.

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