INVENTORY OF A SIXTEENTH CENTURY PHARMACY IN MALTA

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Early pharmacists in Malta.

Until the foundation of the city of Valletta in 1566, the political, social and ecclesiastical life of Malta centred round the medieval inland capital of Mdina; while the maritime and commercial communities lived in the coastal town of Birgu and its environs round the Grand Harbour

It was in Mdina that the earliest pharmacist, known to have practised in Malta, exercised his profession. He was *magister* Salvatus who in 1450 is recorded as having been in the employment of the municipality of that ancient city. The Maltese Islands then belonged to the Kings of Sicily where, as early as 1224, the art and practice of pharmacy had come under state control through the laws of Frederick II. It is very likely that these laws applied to Malta as the island continued to form part of the domains of the Sicilian monarchy until 1530.

We come across another reference to a pharmacist in the service of the Mdina municipality in 1469 when at a sitting of the council of the municipality held on the 15th November the salary of this official was discussed. A further record of a pharmacist occurs in 1473 when on the 19th March *magister* Salvatore Passa (perhaps the same Salvatus already mentioned) lodged a protest with the municipality; we are not told, however what it was about and what was the outcome (Leopardi 1959).

Another *aromatarius* — Hieronimus Callus — flourished at Mdina at the beginning of the sixteenth century as stated in an inscription dated 7th October 1509 (Cathedral Museum 1972). In a document of the 11th October 1514 Callus is referred to as the salaried pharmacist of the city of Mdina. He was pleading to be granted the salary due to him for "some years past" (Ms. 28a Cathedral Archives). Other pharmacists at Mdina were Antonio Zammit in 1530 and Fabritius Zammit between 1563 and 1573 (*Processo* 31, Cathedral Archives; Ms. 28b, Cathedral Archives).

A hospital had been functioning at Rabat, the suburb of Mdina, since at least 1347, originally under the name of St. Francis and later of *Santo Spirito* (Holy Spirit). It is certain that this hospital had its own pharmacy by 1708 but I had come across no evidence of the existence of a pharmacy at an earlier period until a manuscript came my way some time ago which shows a pharmacy was flourishing at this hospital in 1592. Further research brought to light an independent record which suggests that this pharmacy had already been set up in 1580 (Univ. 85a).

The manuscript.

The manuscript (Plates 1 and 2) consists of a single sheet of paper 26cm by 39.5 cm. It has a watermark in the form of a shield containing four six-pointed stars. The script is in old Italian, the writing being on both sides of the paper. It is an inventory itemizing the quantities, nature and prices of the drugs, utensils, jars and furnishings of the hospital pharmacy as it existed on the 9th November 1592. The cost is given in *scudi tari* and *grani*, the Maltese currency of the time. The total worth of all the items was estimated to be 101 *scudi*, 2 *tari* and 7 *grani*, the *scudo* being rougly equivalent to ten new pence of the present British currency.

The pharmacy had been in the hands of the *magnificus* Antonio Bisci (or Bissi) and the inventory was drawn up at the request of his widow Julia and of the

Plate 1. The manuscript showing the inventory of 1592 of the drugs and pharmaceutical furnishing at the Hospital of the Holy Spirit at Malta. (fol. 1).

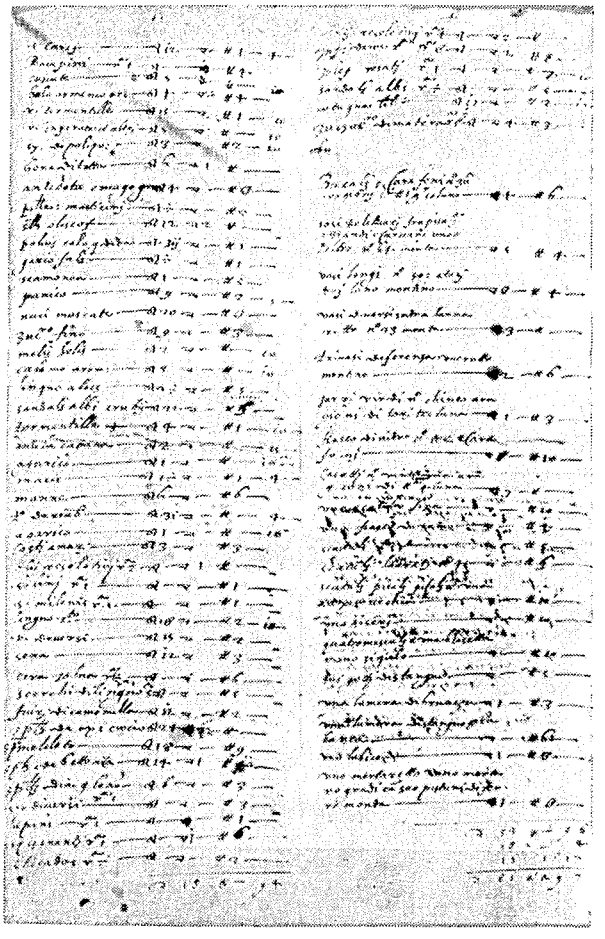

Plate 2. The manuscript showing the inventory of 1592 of the drugs and pharmaceutical furnishing at the Hospital of the Holy Spirit at Malta (fol 1v).

pharmacist Angelo de Orlando. The document consists of two parts; one lists the types and quantities of drugs and utensils which were examined and appraised by two pharmacists, Francis de Laude and Philip Venetia; and the other part refers to the items of furniture as valued by *mastro* Marco Binnici and *mastro* Matthew Hechem.

Translated in English the manuscript reads as follows:—

"We, Francis de Laude and Philip Venetia, were appointed to assess the value of the (stock) of the pharmacy of the late *magnificus* Antonio Bisci; one being nominated by the *magnificus* Angelo de Orlando and the other by the *magnifica* Julia Bisci. We have seen and examined it well and assess its value at 86 *scudi*, 2 *tari* and 7 *grani* save any errors in the sum. We state 86 — 2 — 7.

I, Francis de Laude, phamacist
I, Philip Venetia, pharmacist.

On the 9th November, 6th indiction, 1592".

Master Marcus Bonnici and master Matthew Hechem, by an act of the *magnificus* notary Angelo Falzon, have been appointed commissioners by the *magnifica* Julia, widow of the late *magnificus* An-

tonio Bisci, and by the *magnificus* Angelo de Orlando. The commissioners have informed us, at the request of the said de Orlando and Falson, that theq value the following objects belonging to the late Antonio Bisci at 15 *scudi* (at the rate of 12 *tari per scudo)* viz., the wooden shelves and cupboard, the steel box, two chairs (one of wood, the other with leather), two wooden benches, a ladder, a board with its support, three trestles, three tables, a wooden door fixed in the doorway of the pharmacy of the hospital. In the presence of the said de Orlando and Falson who accept the valuation of the above-named experts".

The pharmacists.

Very little is known about the pharmacists mentioned in this document. Indeed I have so far found nothing at all about Philip Venetia; but there are a few gleanings about the others.

Antonio Bisci is referred to as *spiziali* and lived at Mdina. He had been in the employment of the municipality of this city since at least the 11th November 1587 (Univ. 85b; Univ. 15). It is not known when Bisci died but it must have been some time before the 9th November 1592. This date coincides with an outbreak of plague in Malta that lasted from early June 1592 to June of the following year after killing 3,000 out of a population of 27,000. The death of Bisci occurred when the pestilence was at its peak and it is tempting to speculate whether he was carried off by it (Cassar 1965).

Angelo de Orlando, described as *aromatorio* and also *speziali,* received by way of loan the sum of two hundred *scudi* from the Treasury of the municipality to maintain "a pharmacy shop with adequate supplies of medicines". This was on the 22nd February 1580. For the same purpose he was again granted a loan of twenty ounces on the 16th February 1588 and three ounces a year on the 2nd April 1594 (Univ. 85 a). He died on the 11th March 1596 (Univ. 85c) and his widow, Macanuzzio, married *magnificus* Philippus La Sala who appears to have been a pharmacist. In fact Caterina applied to the municipality to be allowed to retain the pharmacy perviously managed by her husband and to continue to run the business after his decease (Ms. Univ. 15).

Francis de Laude was the son of Antonio, likewise a pharmacist. The dates of his birth and death are unknown but it is recorded that he drew up his will on the 31st May 1625 (Ms. Lib. Ad. 59).

Materia Medica

The items of *materia medica* contained in the inventory were worth 47 *scudi* 4 *tari* and 7 *grani.*

They show a preponderance of vegetable substances; indeed out of ninetynine items (Appendix I) listed, ninetytwo contained derivatives from the plant kingdom. Among these vegetable drugs we note various spices the use of some of which dated since biblical days.

In the past spices were added to food to enliven its flavour but a number of them formed part of the *materia medica* of the time because on account of their pleasant odour they masked the bitter and nasty taste of many pharmaceutical preparations. Thus the inventory includes cinnamon, nutmeg, ginger, cloves, curcuma, cardamoms and calamus (sweetflag root).

Minerals figure in six preparations, two of which in combination with vegetable parts. The mineral substances appearing in the list were:— (1) Sealed earth of Lemnos, a sort of limestone for internal use as a lozenge, in *Philonium persicum* and in *terra sigillata*; (2) corals, another kind of limestone, also for internal administration in syrup form; (3) iron, taken orally in the form of the so-called Armenian Bole; (4) zinc oxide, for external use as an ointment, in *tucia*; (5) lead, for external use as a plaster or ointment, in *emplastrum diachylon.*

With regard to this paucity of mineral substances, it is to be recalled that these began to come into use as therapeutic agents exactly in the 16th century after the physician Philippus Aureolus Theophrastus Bombastus von Hohenheim, better known as Paracelsus (1490-1541), introduced

mineral salts and antimony as medicaments (Guthrie 1947a),

There were only two animal derivatives:— (1) wax, obtained from the honeycomb of the hive bee and used as basis for plasters and ointments; and (2) the dried follicles from the prepuce of the beaver (in combination with vegetable parts in *Philonium persicum* and in *Pilulae de hermodactylis*). They were administered internally to arrest the spitting of blood and vomiting.

The nature of two ingredients — *rosapini* and *bene di tetta* has not been identified.

An item in the inventory that merits special attention is sugar. Although the sugar-plant was brought to Spain from the east by the Arabs in A.D. 700 and had been introduced for cultivation in Madeira in the 15th century, honey remained for a long time the sweetening agent for domestic and pharmaceutical purposes so that the presence of two kinds of sugars in the inventory — *zucro fino* or fine sugar and *zuczucro di matera* or Madeira sugar — point to the fact that this substance was being imported into Malta towards the end of the 16th century at least for medicinal use. It also shows that the pharmacist did not acquire his syrups ready made but compounded them himself.

The compounded preparations obtainable from Bisci's shop consisted of:—

10 different electuaries (usually made of fruit pulps mixed with honey or jalap).
7 types of pills
6 kinds of emplastra (plasters)
5 qualities of oils
4 types of syrups
4 varieties of ointments
2 *aquae* or medicated waters.

There was only one kind of lozenge, trochiscus (pastille), confection (mixture of medicinal substance with honey or treacle), tincture, infusion, decoction, powder and cataplasm (poultice).

Some of these preparations, such as trochisci, electuaries, trifera and jalap, were of oriental origin and show the influence of Arabian pharmacy; in fact the transition from galenic-Arabian *materia medica* did not occur until the seventeenth century as evidenced, for instance, by the *Teatro farmaceutico* of Giuseppe Donzelli published in Venice in 1686, while oriental pharmacy lingered in certain parts of Europe until the mid-eighteenth century (Colapinto 1973).

Pharmacologically these medicaments were supposed to influence various bodily systems. There were thirty-eight with a predominant action on the alimentary tract (purgatives, astringents, "to foritfy" the stomach and liver, to remove "obstructions" of the spleen, etc); seven on the skin (to promote sweating and 'resolve' wounds, ulcers); six on joints (in gout); five on the kidney and bladder (to dissolve renal and vesical stones); four on the nervous system ("to dispel melancholy" and in epilepsy); three each on the heart (cardiac stimulants), the genital organs (to promote menses) and on the eyes (various ocular ailments). Eight preparations were believed to have a general effect and were prescribed as "stimulants", to lower fever, "to purge the humours" and as anti-dotes againts serpent bites.

Many of these drugs were ineffective and later discarded by scientific pharmacy. They included such medicaments as *electuarium episcopi*, corals, *pilulae fetidae*, *terra sigillata*, *pilulae sine quibus*, endive seeds, Armenian bole and others. On the other hand certain items of the *materia medica* of Bisci's time have survived in the pharmacopeias of our times such as cubebs, cardamoms, colocynth, gentian root, aloves, aloe, agaric, guaiacum, senna and chamomile.

Pharmacy vases.

At a distance of almost four hundred years it is not easy for us to conjure up the atmosphere of a pharmacy shop of 1592 but the list of jars, utensils and furniture contained in the inventory (Appendix II) enables us to visualise, if only as a pale reflection, the interior of Bisci's pharmacy with its one hundred and eighty-four vases and jars, arranged in rows on the shelving round the walls, and the array of twenty-one small boxes placed beneath them.

The types and number of containers were as follows:—

Jugs and large decanters	36
Electuary vases	64
Large vases	50
Various vases	23
Green jars	5
Faience vases	3
Glass flasks and large decanters	3
Total	184

These containers were appraised at 21 *scudi* and 9 *tari*.

No mention is made of the kind of material of which 178 of these vases were made but it is probable that they were majolica ware very likely imported from Sicily or Italy where the art of ceramics was then flourishing.

There were no less than 31 boxes described as follows:—

Small boxes	21
Boxes	5
Elaborately worked boxes	4
Box of high quality	1
Total	31

There were also one old box and an unspecified number of "very small boxes". They were probably made of wood and may have served for the storage of dried flowers, seeds, roots, etc. They were valued at 9 *scudi* and 7 *tari*.

Equipment and furniture.

The pharmaceutical equipment consisted of:—

One copper flask
One balance
One alembic
One small iron mortar
One large (iron?) mortar with its pestle
Two drinking vessels of pewter
Four spoons.

They cost 5 *scudi* and 9 *tari*. While there is mention of a balance there is no reference to weights and measures; again while Bisci had an alembic — which indicates that he did some distilling — there is no allusion to a furnace, collecting vessels, retorts and condensers. One is also struck by the absence of books on pharmacy; one would expect Bisci to consult a few formularies especially when one considers that at least two works had been printed since the 15th century, i.e. the *Antidotarium parvum* of Nicolas of Salerno published in 1471 and the *Antidotarium magnum* of Nicolaus Myrepsos of Byzantium printed in 1498. A pharmacopoeia had also been printed in 1546, known as *Dispensatorium pharmacopolarum* by Valerius Cordus (Guthrie 1947b; Matthews 1962).

The furniture consisted of wooden shelves; a ladder (presumably to enable the pharmacist to reach the jars on the higher shelves); a cupboard; two wooden chairs, one of which covered with leather; two wooden benches; three tables; three trestles; a board with its supports (a moveable table-); one steel box (was it the money box or safe?); one bronze lamp; and another lamp of pewter for the bench. These items were worth 16 *scudi* and 9 *tari*. On the whole furnishings appear to be quite modest and strictly utilitarian in character so that the material comfort of both the pharmacist and the client was not high. However that may be we must remember that Bisci's pharmacy belonged to a state department and its condition was quite in keeping with the traditional parsimony of government institutions so familiar to us even in the twentieth century.

Comment.

This inventory forms a unique datemark in the history of pharmacy in Malta because:—

(a) it constitutes the earliest source of information known to us so far for ascertaining the quality and quantity of the stock of a Maltese pharmacy of old; (b) it is also of great relevance for the history of European pharmacy as very few inventories of early pharmacy shops have survived. It may be pointed out that in England the earliest known inventory of a pharmacy is dated 1415 and in Rumania 1531(Trease 1965; Nekam 1968); (c) it records the existence of a pharmacy at *Santo Spirito* Hospital — the first hospital to be set up in Malta as far back as 1592 thus enabling us to take up the story at this hospital pharmacy at an earlier point of its development

since we only knew, until recently, of the certain existence of a pharmacy at *Santo Spirito* in 1708; (d) it shows that the type of *materia medica* available in Malta in the late 16th century was nothing merely local for none of the substances in the inventory were native to Malta (except wax from beehives) but were imported from abroad. Hence the *materia medica* in this pharmacy conformed to the standards prevailing elsewhere at the time and was in line with the evolution of contemporary continental pharmacy. It provides evidence, therefore, that already in 1592 Malta was well established in the main stream of pharmaceutical knowledge and practice of Western Europe.

APPENDIX I

Inventory of the Drugs

with Explanatory Notes

The names of the drugs are reproduced in the original spelling of the inventory. The modern rendering is given in brackets. (1) *Trifera magna (Trifera magna)*. According to Nicolo Salernitano it was a compound made of many plants such as *Calamus aromaticus* (sweet flag), *Nardus indica*, mandrake, red roses, etc. Prescribed to allay epigastric pain and arrest intestinal bleeding (Donzelli 1743). (2) *Jera locodio (Hiera Logadium)*. Made up of cinnamon, saffron, cassia, aloe, etc. Employed in various ailments of the eyes and ears; to purge the stomach and to relieve "indispositions" of the kidneys, bladder, etc. (3) *Filonia persica (Philonium persicum)*. A mixture of white pepper, hyosciamus, sealed earth of Lemnos, dried preputial follicles from the beaver, "prepared pearls" and zedoaria. To arrest spitting of blood and vomiting and to shrink piles. (4) *Dia curcuma (Diacurcuma)*. Known also as curcuma, *semenza santa, santonica, semen contra* and zedoaria. The flower heads of *Artemisia absynthium*. Against parasitic worms of the alimentary canal (Cassar 1967). (5) *Diasorbo (Diascordio)*. An electuary composed of leaves of germander, gentian root, cassia, etc. In vomiting and dysentery (Baume 1780). (6) *S. petroselini (Semen petroselini)*. Seeds of *Apium petroselinum* an aromatic plant (parsley). Used with other ingredients in the form of electuary to allay colicky pains. (7) *Suco Diopatono (Succo diabotano)*. A medicament made up of many plants. Uses unknown (Zingarelli 1929). (8) *Eliscof (Electuarium episcopi seu elescoph solidum)*. A mixture of cloves, cinnamon, ginger and nutmeg. Against colic and the pains of gout (Zwelfer 1775). (9) *Sandarace (Gomma sandracca)*. Resin from *Juniperus vulgaris*. To promote sweating (Cassar 1967). (10) *Mirob emblici (Mirobolanus emblicus)*. The plum-tree *Phyllantus emblica*. Mixed with other vegetable ingredients for use as a purgative. (11) *Mirob indi (Mirobolanus indicus)*. Another type of plum tree as above. (12) *Mirob hebuli (Mirabolanus kebulus)*. A further type of plum tree *(Therminalia chebula)*. *(13) Mirob cetri (Mirobolanus citrinus)*. All these *mirobolani* were used as purgatives and "to dispel melancholy". (14) *Aq. cordiali (Aqua cordialis)*. There were at least four "cordial waters" i.e. of endive, chicory, wild borage and scabious. Prescribed "to stimulate the heart". (15) *Cubebe (Cubebae)*. Pungent berry of a Javan shrub from which oil was expressed. Employed "to fortify the stomach and the brain" (Lemery 1737). (16) *Cardamon (Cardamomum)*. Seeds of *Elettaria Cardamomum*. Used as a tincture to promote urination. (17) *Coralli (Corallum)*. Calcareous substance secreted by a marine polypus. It was reduced to powder and administered as syrup "to foritfy the stomach and liver". (18) *Pille fetide (Pillole fetide)*. Made of coloquinth, aloes, cinnamon, scamony and euphorbia. To purge the body of "cold humours" and allay the pains of gout. (19) *Pille de ermo (Pilulae de hermodactylis)*. They consisted of colchicum *(hermodactylus)*, aloes, saffron and dried preputial follicles of beaver. In gout and joint pains. (20). *Tucia (Tucia)* An ointment made of zinc oxide, white wax and lead, etc. Applied to ulcers. (21) *Sp. Elescof (Spiritus episcopi)*. See under No. 8. (22) *Terra sigelata (Terra sigillata)*. Sealed earth originally brought from a cave in the Island of Lemnos *(Terra lemnia)*. Given in the form of lozenges in bleeding, diarrhoea, etc. (23) *Pille deserapin (Pilulae de sagapeno)*. Made of gum of *Sagapenum officinale, Calamus aromaticus*, colocynth and aloes. In gout and to promote mensis. (24) *Pille lucis (Pilulae lucis*

majoris). They contained red roses, violets, cubebs, nutmeg etc. Employed in eye diseases. (25) *Pille sine qos (Pilutae sine quious)*. Compounded of aloe, rhubarb, agaric, scammony, etc. They were so-called because they were deemed to be so effective that "it was better not to be alive than to live without their use'.' Used in cataract, earache and melancholy. (26). *Pille de ermoda.* See No. 19. (27) *Pille cenaglossa (Pilulae cinaglossa)*. Composed of opium, incense, cloves, cinnamon, myrrh and hound's tongue (a kind of borage). To allay pain and induce sleep. (28) *Elebori (Helleborus)*. From the roots of the black hellebore (Helleborus niger) an extract was prepared and used as a purgative. (29) *Coloquididа (Coloquintida)*. The pulp of the dried fruit of *Citrullus Colocynthis*. It was used as a confection in asthma and gout. (30). *Zinezibires (Zingiber)*. Ginger obtained from the dried rhizome of *Zingiber officinale*. A stimulant. (31) *Aristologia (Aristolochia)*. Roots of *Aristolochia rotunda*. In fevers and in gout. (32) *S. end. et altri (Semenze di endivia ed altri)*. Endive and other seeds. A syrup made of lettuce, borage and sandal wood was prescribed to promote urination in fevers. (33) *Guma lacca (Gumma lacca)*. Resinous gum obtained from various trees in the East Indies. The tincture was used as a mouth wash "to fortify the gums" and "to remove scorbutic affections of the gums" (Lemery 1737; Baume 1780). (34) *Dia finiconis (Diaphenicon)*. An electuary containing sweet almond, ginger, cinnanmon and fennel. In fevers and to allay abdominal pain. (35) *Ung, tu rosato (Unguento rosato)*. Ointment of roses. An emollient. (36) *Justinu (Justinianus)*. An electuary named after Emperor Justin. Made up of cinnamon, cassia, penny-royal, etc. For colic and dysuria (Donzelli 1743). (37) *Dia calamento (Calamintha)*. The plant *Calamintha montana*, to stimulate urinary excretion (Lemery 1737). (38) *Cecena (Cicer)*. The vetch plant belonging to the bean family. The red variety was administered in the form of an electuary to stimulate coitus and sperm formation (Donzelli 1743). (39) *Filoniu romano (Philonium romanum)*. An electuary composed of cassia, opium, cinnamon, etc. Given in the form of a clyster to allay visceral pain (Baume 1780; Zingarelli 1929). (40) *Aqa, nafria (Asqua de nenufaru o ninfea)*. Roots of *Nuphar luteum* or of *Nymphaea alba*. They were dried in the sun and then drunk in wine. In dysentery. (41) Fenu grecu *(Foenum graecum)*. The seeds of *Trigonella foenum graecum* were made into flour for emplastra and cataplasms (Ms. 756), (42) *Olio demedu: am: (Olio di amandole amare)*. Oil of bitter almonds. Prescribed in tinnitus and visceral "obstructions". (43) *Spica narda (Spica narda)*. Roots of *Nardus indica*. Taken to dissolve renal and vescical stones (Cassar 1967). (44) *Gentiana (Gentiana)*. Roots of gentian for the production of a syrup used as a purge. (45) *Ceduaria (Zedoaria)*. Known as *Santonica* or *Semen contra*. The flower-heads of *Artemisia absynthium*. Against parasitic worms of the intestines. (46) *Pionia romana (Poenia)*. The seeds of *Paeonia officinalis* were pounded in a mortan with leaves of rosemary, sage and other plants; then macerated and formed into a syrup. "To fortify the stomach" and to aid breathing in asthma. (47) *S. portulace (Portulaca grandiflora)*. The seeds of this plant were considered to have a "cooling" or refreshing effect. (48) *S. carvi (Carum carvi)*. The seeds were used for their laxative effect (Zingarelli 1929). (49) *Rosapini*. Unidentified. (50) *Cuscute (Acqua di cuscuta)*. The water was prepared from the plant *Cuscuta major*. "To purify the blood." (51) *Bolo armenu (Bolo di Armenia)*. A clay coloured red by the iron it contained. It was imported from Armenia and used as an astringent in dysentery and in bleeding. (52) *U. termentille (Unguento di termentilla)*. Ointment made from roots of *Potentilla reptans*. To promote healing of wounds and arrest bleeding. (53) *U. imperato et altri (Unguento di imperatoria ed altri)*. Ointment made from the roots of *Imperatoria officinalis*. Prescribed in apoplexy (Zingarelli 1929). (54) *Sy, de polipo (Sciroppo di polipodio)*. Syrup made from the roots of *Polipodium vulgare* (common polypody or fern). In colic and melancholia. (55) *Bene di tetta*. Unidentified. (56) *Antidotu emagogu (Antidoto emmenagogo)*. A composition with fourteen ingredients among which cassia, black hellebore, liquorice and anise. To stimulate menses and "to remove obstructions in the liver and spleen". (57) *Pille, masticini (Pillole masticine)*. Purgative pills composed of aloes, roses and mastic. (58) *Ellr. elescof.* See No. 8. (59) *Pulvis coloqidida (Pulvis Coloquintida)*. See No. 29. (60) *Cariofali (Garofani)*. The fruit of various kinds of *Caryophyli*. The oil and water were prescribed in epilepsy and paralysis (Lemery 1737). (61) *Scamonea (Scamonea)*. Gum resin from *Convulvulus scammonia*. A strong purgative. (62) *Panico (Panicum)*. Seeds of *Setaria italica* (Zingarelli 1929; Lemery 1737). Aperitive. (63) *Nuci moscata (Noce moscata)*. Nutmeg. A carminative. (64) *Zucro fino (Zucchero fino)*. Fine sugar. For the production of syrups. (65) *Melis solis (Milium solis)*. Seeds of *Panicum miliaceum*. Taken with wine to dissolve vesical stones and promote urination (Zingarelli 1929; Donzelli 1743). (66) *Calamo arom. (Calamo aromatico)*. Roots of sweet flag *Acorus calamus or Calamus aromaticus*. To promote menses (Lemery 1737). (67) *Lingno aloes (Legno di aloe)*. Aloe wood from *Aloe socotrina*. Purgative. (68) *Sandalis albi e rubii (Santalum album et rubrum)*. White and red sandal wood from *Santalum album* and from *Pterocarpus santalinus* respectively. Astringent and "to fortify the heart, stomach and brain." (69) *Termentille (Radiche di tormentilla)*. The dried roots of *Potentilla reptans*. Employed in the treatment of phthisis and diarrhoea. (70) *Enula capana (Enula campana)*. Extract from the roots of the plant *Inula helenium*. In asthma and against serpents' bites. (71) *Agarico (Agarico di larice)*. The white agaric, a fungus that grows on the larch tree. It was given

as a purgative. (72) *Macis (Macis)*. The fleshy peel surrounding the nutmeg seed *(Myristica fragrans or officinalis)*. A carminative. (73) *Manue (Manna)*. Sweetish substance obtained by incising the trunk of *Fraxinus ornus* and F. *rotundifolia*. A laxative (74) *To de reub. (Trochisco di reubarbaro)*. Lozenges containing rhubarb, bitter almonds, anise, etc. Administered in fevers and to allay abdominal pain (Zwelfer 1775a). (75) *Agarico*. See No. 71. (76) *Costi amari (Costo amaro)*. An aromatic herb known in the 18th century as *Costo arabico* which was an ingredient of an electuary prescribed in "putrid" and "malignant" fevers. (77) *Olii resolutivi (Ogli risolutivi)*. Oils obtained from various plants such as *Cucurbita citrullus*, *Althea officinalis*, etc. Applied to inflammatory swellings to "dissolve" them (Zwelfer 1775a). (78) *S.lini (Semenza di lino)*. The dried seeds of *Linum usitatissimum*, flax or linseed. For use as a poultice. (79) *S. milonis (Semenza di mellone)*. The seeds of *Cucumis melo*. Used as refrigerants in fevers. (80) *Lingo Sto. (Legno Santo)*. The heart-wood of *Guaiacum Sanctum* or *officinale* from which a resin is obtained. Used as a purgative (Hale-White 1927). (81) *U diversi (Unguenti diversi)*. Various ointments. (82) *Sena (Senna)*. Senna pods. The dried fruit of *Cassia acutifolia* and *C. angustifolia*. A purgative. (83) *Cera (Cera)*. Wax. Used as a base for ointments and pomades. (84) *Sorchi di lingio sto. (Scorze di legno santo)*. See No. 80. (85) *Fiuri di camomella (Fiori di camomella)*. Chamomile flowers. The dried flower heads of *Anthemis nobilis*. Used externally as a poultice or taken internally as an infusion for its emetic effect. The oil was applied externally as a "resolvent". (86) *Eptr. de oxicrocio (Empiastro di ossicroceo)*. This plaster was made of turpentine, myrrh, crocus, etc. Employed as a "softening' agent in fractures and dislocations (Zwelfer 1775b). (87) *Ep. meliloto (Empiastro di meliloto)*. A plaster containing flowers of *Melilotus officinalis*, yellow wax, tar, etc. A "softening" and "resolving" agent (Baume 1780). (88) *Eptr. de bettonica (Empiastro di bettonica)*. Plaster composed of many ingredients among which the juices of various plants such as *Betonica officinalis*. It was applied to head wounds and to allay the pains of rheumatism. (89) *Eptr. diaqlonon (Emplastrum diachylon simplex)*. A plaster made of lead, linseed and mucilage from the rhizome of *Altea officinalis*. Uses unknown. (90) *S. diversi (Semi diversi)*. Various seeds. (91) *Lupini (Lupini)*. Flowers obtained from the plant *Lupinus albus*. Applied externally as a "resolvent. (92) *Squinanti (Squinanto)*. The plant *Scirpus suaveolens*. One of the many plants composing the electuary of Mithridates. Astringents (Lemer 1737). (93) *Sticados (Stecade*. Flowers of wild lavender. *Lavandula stoechas*. Used as a stimulant and carminative. Administered in the form of a syrup. (94) *Olii resolotivi (Olii risolutivi)*. Oils employed in the treatment of wounds as "resolving" agents. (95) *Inf. de rosi (Infuso di rose)*. Infusion of red roses. Given in persistent colic. (96) *Julep rosati (Gialappa rosata)*. Jalap. The dried tubercles of *Ipomea purga*. The resin was administered in the form of an infusion of roses. Purgative. (97) *Sandali albi (Santalum album)*. White sandal or sanders wood obtained from *Pterocarpus santalinus*. A cordial and stomachic. (98) *Cotugna lib. (Cotogno)*. The fruit of *Cydonia vulgaris* from which a decotion was obtained by cooking the fruit. Administered in diarrhoea (Baume 1780). (99) *Zuczucro de matera (Zucchero di Madera)*. Madeira sugar for the preparation of syrups.

APPENDIX II

Inventory of pharmaceutical equipment

	4 *scudi*	6 *tari*	0 *grani*
Jugs and large decanters No. 36 at 1 *tari* 10 *grani* each.			
Electuary vases, small and large; and *caruari* No. 64.	5	4	–
Tall vases No. 50 at 2 *tari* each	3	4	–
Various vases in the small cupboard No. 23	3	–	–
Three faience vases, one broken	2	6	–
Five green jars at 3 tari each	1	3	–
Three glass flasks and large decanters	1	10	–
Twenty-one small boxes at 4 *tari* each.	7	–	–
A box of high quality	–	10	–
A copper flask	–	4	–
Five boxes	–	5	–
Four elaborately worked boxes ,	6	–	–
Very small boxes and one old box	–	6	–
One balance	–	10	–
Four spoons, a *blasetta* (?) and a chair	–	10	–
Two drinking vessels of pewter	–	5	–
Bronze lamp	1	3	–
One pewter lamp for the bench	–	6	–
One alembic	1	8	–
One small mortar, one large mortar with its pestle made of iron	1	8	–
	38	10	0

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