

A Prescriptions List of 1546*

STANLEY FIORINI B.Phil., M.A., Ph.D.
University of Malta

* Dedicated to the memory of my good friend Mario Borg Olivier.

Address:
Department of Mathematics
University of Malta
Msida, Malta.

ABSTRACT

A prescriptions list for Santo Spirito patients dated 1546, the earliest of its nature found to date, is discussed. Light is thrown on the activities of the hospital, its medical staff, the patients, and the state of the art of medicine in Malta at the time. The document is transcribed *in toto*.

A hospital at Rabat, Malta, was already functioning by 1372, under the rectorship of a Franciscan, appointed by the king himself, and under the name of the Hospital of St. Francis.¹ In 1433 the hospitals of these islands were given over by the king to the Università as they were being mismanaged.² The change of name from Hospital of St. Francis to Santo Spirito very probably took place then; it was already referred to by this latter name in 1467.³ The records of the town council that yield this information also show that the hospital functioned normally from the middle of the fifteenth century onwards; procurators were appointed regularly⁴ and the financial position of the institution was healthy enough not only to make the place economically viable but also to warrant the Università to dip into its surplus funds to finance other enterprises.⁵ However, these early records give precious little information about the inmates of the hospital and much less about their state of health. Doctors (*physici* and *chirurgici*) and *aromatarii* (or pharmacists) are recorded as being appointed to serve the town and island of Malta, but hardly ever in connexion with Santo Spirito;⁶ only towards the end of the fifteenth century can any link be established between town-doctors and doctors serving Santo Spirito.

Detailed information about the day-to-day activities of the institution begins to be

available from 1494 when the records of the hospital accounts start to unfold and reveal a wealth of information.⁷ These records give minute details of all the expenses incurred by the hospital in caring for the poor, the sick and infirm living there but again relatively little is given away about the state of their health, illnesses, and the art of medicine at the time. The earliest relevant document known to date has been the important inventory of 1590 of the contents of the Santo Spirito pharmacy, published by Paul Cassar.⁸ The situation is now somewhat altered; a fortunate chance encounter with an odd single sheet of paper among the hundreds of others in Miscellanea 441 of the ACM Series in the Mdina Cathedral Museum now enables one to go back further another half a century to 1546.

THE DOCUMENT

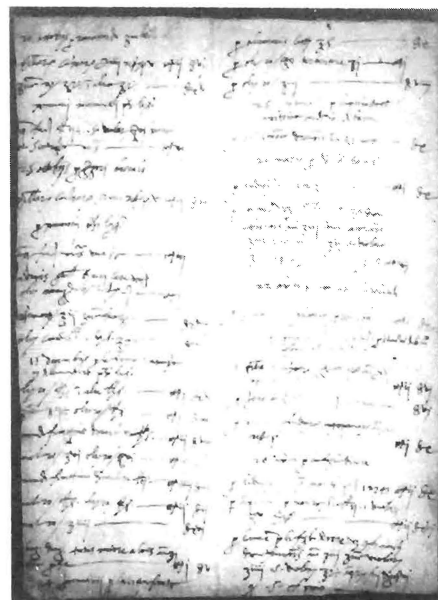
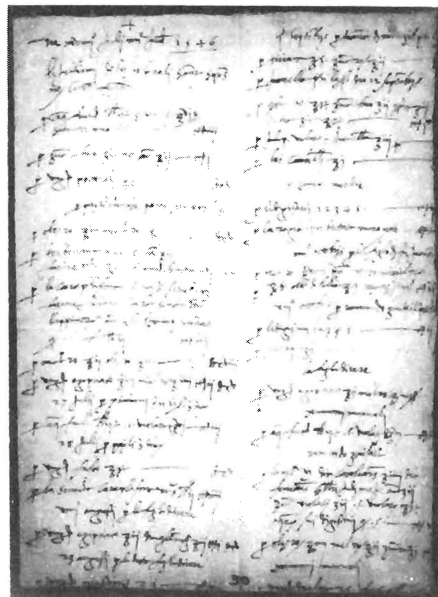
Miscellanea 441 consists of some 300 unbound single sheets of paper, in varying degrees of preservation, most of which are clipped, crumpled and/or pierced as if by an awl. They were discovered by the late Dott. Mario Borg Olivier (to whom this note is dedicated) as padding in the old binding of volumes ACM Misc. 34-37 (*olim* A, B, C) (Università) and Punteria (1587-1720). They are all mid-sixteenth century material.

Folio 30-30v, measuring 26cms x 19 cms, is one of a few papers relating to Santo Spirito. It is pierced in two places, in no way impairing the text, but neatly cut down one side and at the bottom, shearing away the last line of the writing on each side and cutting short the text on the right hand side of 30r and on the left of 30v.

The contents of this sheet, neatly written in four columns as transcribed in Appendix II to this note, show that it concerns a list of Santo Spirito patients together with the various prescriptions administered to them, all carefully dated and priced. The first entry is dated 19th July 1546 and the last 26th April 1547.

AUTHORSHIP

Although unsigned, it is safe to infer that it is the work of some *aromatario* serving the



Facsimile of folios 30 and 30v of manuscript Miscellanea 441 of the Cathedral Archives.

► hospital at the time. Between 1495 and 1520, the town-apothecary was Hieronimus Callus, the father of the famous Joseph, alias Matthew Callus *artium et medicine doctor*; it is clearly documented that he also served Santo Spirito.⁹ Towards the end of his career (he drew up his will in 1521)¹⁰ he was not the only pharmacist made use of by the hospital: Antoni Zammit was also on the hospital pay-roll in 1520 *per tanti medicamenti come pari per sua policza*.¹¹ He continued to be of service in the 1540s and into the 1560s¹² even when Antonio Callus, Hieronimo's eldest son, took over after his father's death.¹³ In the middle of the sixteenth century these were not the only two *aromatarii*. In 1549 *Joannes Mondellus aromatarius de Fidelissima Civitate Syracusarum*¹⁴ appears in Malta and marries Becta, the widow of Petro Zarb of Mдина.¹⁵ The marriage was short-lived and soon after the death of Mondello¹⁶ Martin Zarb, Becta's eldest son from her first marriage, appears to have taken over his practice.¹⁷ From 1563 onwards, yet another pharmacist, Fabritius Zammit,¹⁸ appears on the scene. However, the year 1546 when the document was drawn up limits the authorship, in all probability, to either Antoni Zammit or Antoni Callus.

THE DOCTORS

The document yields the names of two medical practitioners issuing prescriptions: Mastro Joanni Ferriolu and Lu Magnifico Josep Callus. The general format of the document suggests that these were two exceptional cases and that some other medic, whose name is unmentioned because understood, issued all the others. Again, one needs to go to other documents to shed light on the situation. M.ro Rayneli Bonello, *medico chirurgico*,¹⁹ had been in the employ of the hospital regularly since 1517.²⁰ By 1540, work at the hospital had increased to such an extent that one full-time surgeon could not cope alone, so that the town council considered appointing a second.²¹ Although the name of the appointee is not recorded in the minutes, between 1540 and 1543, M.ro Rainelio Bonello appears on the hospital staff together with M.ro Johanni Ferriolo *medico*.²² But between 1545 and 1547 only Bonello is encountered among hospital payees, whereas Ferriolu signed another contract of work with the hospital in September 1550²³ This explains why Ferriolu's name is specifically mentioned in the prescriptions list and that is because he was not in the regular employ of the hospital in 1546.

Besides a surgeon (*medicus chirurgicus*), the hospital also employed a physician (*medicus physicus*). In 1520, *medicus fisicus* Bernardo de Munda held a conjoint post as town-doctor and hospital physician and the contract was extended by another six years at an annual salary of 32 unciae; he was then also recognized as *protomedicus* of the island.²⁴ He was still active in 1536, but in November of that year one encounters Joseph Callus *artium et medicine doctor*

requesting, through the *Jurati*, and being granted by the Grandmaster a salaried post as town-doctor to relieve De Munda who could not properly see to his duties on account of *varii litigii de grandi Importancia comu ancora per la sua gravi infirmita*.²⁵ De Munda was dead by October 1540,²⁶ and Callus is found deriving an annual income of 40 unciae from the Università alone for his service as town-doctor.²⁷ He does not ever appear on the Santo Spirito pay-list and the wording in the prescriptions list, *per comandamento di lu procuraturj per ordinationj di lo magnifico Josep Callus*, tends to confirm that he was not employed there.

THE PATIENTS

From an analysis of the books of accounts one can deduce that in 1546 the hospital was catering for three main categories of people in need. There were the patients who, sick or injured, came or were brought to the hospital. There was a number of *habitanti poviri* who were given alms, food, lodging, medical attention if they needed it, and a burial when they died. And there was also an increasing number of "exposed infants", mostly of unknown parentage, who were farmed out to wet nurses, reared and eventually placed with fostering or adoptive parents. In 1546, this last service to the community was still in its early stages, the first cases recorded occurring in 1518,²⁸ whereas the number of *habitanti poviri* was being cut down, presumably for lack of space; there is no more mention of *habitanti* after 1554 but the same people remained under the wings of the hospital receiving alms and medication.

The patients mentioned in the prescriptions list represent all three categories. Joanna di Miresib, who hailed from Rabat itself, was one of the ten *habitanti poviri* listed on 5th July 1544:²⁹

Agatha figla di Chicca, Catherina di lo Naxaro, Luna di la Musta stropiata, languyda, Joanna di Miresib di Rabbato, Antona la Goczitana, Agnesa la Orba, Nayna la simplici, Nayna figla di Paulo Dilie, Venera figla di la pacza, Petro Sammut C. Naxar.

This description shows how these indigent people flocked to the Santo Spirito haven from all over the island. The prescriptions list also shows how one of the patients came all the way from Mosta or Naxxar.

The exposed infants inevitably needed medical attention ever so often. The accounts records are replete with such references, typical entries being *de una creatura....dilo hospitali malata di mal di la tinia* in 1540,³⁰ or *per achito per la tinia dilu pichottu* the following year,³¹ or *per succaro per una creatura and per una pichotta menzo di vino di saboca perche era maiata* in 1554,³² and so on. In the prescriptions list

one encounters the *pichotta* in the care of Andria di Bonu and another *pichottu* who had kidney trouble. Another connexion with the *pichotti* was Zuna Merkie, most probably to be identified with *la mogleri di Petro Merkie*, who was one of the *mammame che nutrirono li figlioli gettatini* in 1547 and in 1554.³³ Another wet nurse that year was *la mogleri dilo monaco*, perhaps the same friar as Frati Joannello of the prescriptions' list and whose daughter was ill in 1542.³⁴

The patients background was mixed indeed. There was the priest Don Joanni Francisi next to the prostitute *figlia di Tere*, the Friar's son and other innocent children, next to wounded, possibly violent, adults like Payli Chutaje Pajas *feruto* and *la feruta di la Musta oy di lu Naxaro*, and others yet about whom we know only their names and what was prescribed to them: Ximuni Manuelli, Ramundo Zinkil, Grigorgi Bartolo,

Apart from the two cases of wounding, only two maladies are specifically identified in the list, namely a kidney ailment and venereal disease (*morbo gallico*); other illness can only be identified by inference from the prescriptions given. The high incidence of *morbo gallico* among Santo Spirito patients is somewhat surprising. In the accounts records of 1544, it is recorded that *medico* M.ro Rayneli Bonello ordered treatment for two females suffering from venereal disease,³⁵ and in 1547 similar *comandamenti* (authorizations for payment) were issued in respect of Antonio Machnuc and of Magdalena daughter of the late Manso besides two others for the daughter of Littere,³⁶ who receives no less than five mentions in the 25 prescriptions recorded in the list; in all cases the cost of treatment was 6 tari 18 grani. What must explain the high incidence is the presence of a surprisingly large number of prostitutes in the Mдина/Rabat community of the mid-sixteenth century; this situation was, incidentally, repeated in Gozo a couple of decades later.³⁷ It took the relevant Baptismal records of the Mдина Cathedral to shed light on the real extent of the problem. Each of the following is recorded as *peccatrici* who had given birth to and baptized her offspring: Isabella ta Hapap (1.xi.1542), Joanna Iordaina (22.xi.1546), Agatha ta Sihaytira (6.iv.1547), Margarita Pauli Vella Sandar (3.ii.1561) and Luchia ta Xiffi (29.ii.1576). *La figlia di muheyse* is recorded as having passed away (23.xii.1558);³⁸ she may well have been identical with *Clara meretrici dicta mihayse* who in August 1537 was ordered to move house under the pain of a birching and a fine.³⁹

Going through the list of patients systematically, one is introduced to:

(1) *Ximuni Manuelli* who recieved treatment twice in July and three times in October for what appears to have been a respiratory ailment. In July he was prescribed ►

► *unguentum pectorali*, an ointment made from sweet almond oil, camomile, violets and animal fats, which when rubbed into the chest was meant to alleviate pains by maturing catarrh and facilitating expectoration.⁴⁰ A similar ointment, *unguento di althea*, was prescribed to him later. On both occasions he was also given a restorative mixture including *aqua fortis*, violet syrup, sugar and extract of roses.

(2) *Payli Chutaje Pajas* was one of two patients described as *feruti*; the other was *la feruta di la Musta oy di lu Naxaro*. In the latter case the prescription consisted in dragon's blood, frankincense, myrrh, aloes and a *mundificativum*, containing the same substances,⁴¹ known from Biblical times for their cicatrizing virtues. In the former, however, the plaster *cataplasma quinque farinarum* was ordered, indicating also the presence of swellings besides open wounds for which he was prescribed *unguento fusco* and *unguento Aegyptiaco*. In both cases medications based on roses, *oleum rosarum* and *mel rosarum*, were given; the oil, made from red roses, was a sedative used to oint the temples, soles of feet and palms of hands, to induce sleep and relaxation.⁴²

(3) *La figlia di Tere* was easily the longest suffering patient. Described as stricken by *morbo gallico* and having had prescribed various *unguenta vulneraria* like the *Aegyptiaco* and the *Masticino*, implying the presence of lesions, it is strongly suggested that this was a case of syphilis or of chancroid rather than a milder instance of gonorrhoea. She was also given *digestivi 1 2 3 4 5 contra morbo gallico* which were not internally taken medicines but liquid ointments, made from *turpentine* and tincture of aloes, meant to free wounds from pus.⁴³

(4) *Li digistivi 1 2 3 4 5* were also prescribed to *Zuna Merkie* and to *Ramundo Zinkil*, whereas the first three sufficed for *Don Joanni Francisi*. It is not at all clear what Zuna was suffering from, but she certainly needed a purgative which was administered in the form of *turbith*, a drug extracted from the root of *Ipomea Turpethum*. Besides the usual excipient and sweetening agents in the form of *aquae*, *zucro violato* and *syrupus violarum*, Zinkil's *mixtura* or *medicina* contained *diacatholicon*, a kind of all-heal,⁴⁴ *electuarium Indi majoris*, which was supposed to purge the *pituita*⁴⁵ (whatever that might have meant), and *diafencon*, which was an antipyretic and analgesic.⁴⁶ As fever and pain are present in many conditions one cannot be at all sure of the causes. The *medicina* that was given to Don Joanni Francisi was only different from Zinkil's in that he was prescribed *electuari succi rosarum* instead of *Indi Majoris*; these were supposed to be effective against the *gotta calda* and the *colera rossa*.⁴⁷

(5) Besides *Grigori Bartalo* and *Joanna di Miresib* who was prescribed a *theriaca* or

antidote against snake-bite or similar poisoning, there are also listed three paediatric cases. *Lu pichottu che nutriva Andrea Dibono* was a suckling who was given *syrupus de mentha*; it is hard to tell what he was suffering from as this syrup was prescribed at the time both as a carminative and for epilepsy. *Lu figlo di Frati Joannello* was prescribed the sedative *oleum rosarum* and rose and bilberry powder and lily oil, all meant to "fortify the stomach", arrest vomiting and dispel wind.⁴⁸ There was finally *lu pichottu alu hospitali*, perhaps in his teens, who is clearly stated to have had kidney trouble and who was treated by Callus. The *emplastrum constrictivum* prescribed, which was intended *per le durezza e per i calori...delle reni*,⁴⁹ would certainly not have met with the approval of present-day medicine. He was also given *pillule foetidae* and *opopanax*, which "evacuated" *l'umore freddo*, *pituitoso*, *crudo ed anche bilioso*,⁵⁰ *Jera pigra Galieni*, given *per purgare lo stomaco e purificare il sangue*,⁵¹ and *pillulae aggregativae*, which achieved the same effect by first "aggregating the humours prior to dispelling them".⁵² One is tempted to identify this child with an adoptive son, called *Matteu!*, Callus is known to have had;⁵³ but this is mere speculation.

MATERIA MEDICA

The prescriptions list exhibits a representative cross-section of the *materia medica* available in Malta at the time as can be deduced from a comparison with the complete inventory of the Santo Spirito pharmacy in the hands of Antonio Bisci till 1590,⁵⁴ even though the two documents are not strictly comparable since the earlier list is comprised of compounded preparations whereas the later one is a catalogue of simple, constituent drugs used in such preparations. To look at the list in its right historical perspective, one needs to view it both against the backdrop of the medieval medical tradition of which it was the outcome as well as in contrast with the developments of later centuries, both on Malta itself and abroad. This is perhaps best achieved by drawing up a concordance (see Appendix I) of the *materia medica* in the list with that in classical and Arabic sources such as Galen and Dioscorides,⁵⁵ Al-Razi, Al-Samarqandi, Al-Kindi, Ibn Jazlah and Mesue,⁵⁶ with that in contemporary sources particularly an anonymous *Ricettario* printed in Florence in 1550,⁵⁷ and works such as that of Paracelsus of Germany (1493-1541) and of Mattioli of Italy (1500-1577),⁵⁸ and with that in subsequent formularies and catalogues including chronologically Bisci's inventory of 1590 from Malta, the work of Donzelli⁵⁹ of Naples (*floruit* 1660s), and Lemery's in France (1645-1715),⁶⁰ as well as with a very useful second inventory of Santo Spirito drawn up in 1769 by Lorenzo Farigiani.⁶¹ It is seen that Maltese medicine in 1546 was very much in the main-stream of the Arabo-

Hellenic medical tradition, flourishing on the continent at the time.

One cannot help noting the overwhelming preponderance of vegetable sources for the drugs and only the minor presence of substances derived from the animal and mineral kingdoms. Of the latter, worthy of note is the use of nitric acid, of copper oxide, of calcium, of lead, and of alum, all of which, except possibly nitric acid, were also known to Arab doctors.⁶²

Although a number of substances had to be imported, it was perhaps less so in 1546 than in 1590. In the earlier list more was made of locally obtainable herbs, such as roses, violets, almonds, barley, salvia, mint and myrtle, than in the much more sophisticated later inventory. Several of the simple ingredients that went into the compounded mixtures were also locally produced such as vinegar, honey, animal fats, cummin, fennel, thyme and perhaps also sugar! Already in the eleventh century, Ibn Jazlah had described how sugar could be obtained from sugar-cane (*canna miele*).⁶³ That sugar-cane was grown and very probably also used in Malta is fairly certainly indicated by the toponym *Vyed el Kasab helu*, recorded by Abela as late as 1647, and located by him west of Rabat.⁶⁴

The presence of imported elements, even in the earlier list, is not surprising given the close contact Malta had had with Sicily,⁶⁵ not least in the medical sphere: fifteenth century documents testify to this rapport, with special reference to pharmacists.⁶⁶ That the 1590 inventory should reflect an augmented availability of foreign material is in all probability due to the increasing influence of the Hospitaliers.

Also of interest is the fact that the Farigiani list of 1769 includes practically all items of *materia medica* found in 1546. This is hardly surprising when one notes that quite a few of the herbs used then, such as aloes, linseed, almonds, ginger, camomile, mentha and turpentine, remain valuable to this day for their medicinal worth,⁶⁷ although admittedly, several others became obsolete. This process in time of weeding out substances considered worthless or even harmful can be seen working from one particular entry that highlights the prescriptions list as a product of its time: the *cataplasma farinarum* in which Joannes Ferriolu prescribes the use of flours, includes barley, lentils, chickpeas, beans and lupins, all of which, with the exception of chickpeas, are among the recommended flours for this poultice a century later,⁶⁸ yet at a contemporary date, Paracelsus was still recommending *cicer*.⁶⁹

The prescriptions' list was not without its idiosyncracies. An interesting entry is "*per la tragia turbicctata more nostro*", that is, the powder enriched with turpeth according to our custom and usage. This suggests that the mixture was not entirely orthodox and ►

► that some formula of local invention was being adopted. The medical terminology used in Malta must also have had its own peculiarities. Although not mentioned in the prescriptions list, a particular term used in contemporary documents is worth recording here. When the same Joannes Ferriolu was signing a contract of employment at Santo Spirito in 1550, one of the conditions imposed on him was that he was bound to provide at his own expense "*omnia unguenta ut dicuntur di buxula*".⁷⁰ The same term was employed when the town council was deliberating on appointing a second surgeon at the hospital: the appointee was held to provide "*Inguenta ut vulgo dicunt di busula minima*".⁷¹ "*Ut vulgo dicitur*" suggests vernacular usage; the term has not been encountered anywhere else and its meaning remains obscure.

THE TRANSCRIPTION

The document is fairly technical in content and economical in presentation in the sense that profuse use is made of abbreviations, both of a palaeographic nature and of standard current pharmacopoeial jargon and terminology. This has necessitated a certain amount of judicious interpretation in expanding these abbreviations. Thus for example, the symbol *s.* has been freely used conveying at least two distinct meanings: *syrupus* or *semen*. Since the prescriptions invariably involve compounded drugs, the former meaning has been consistently preferred. The symbol *me.a* has been expanded into *medicina* but it could equally well have been rendered *mixtura*, admitting a reading *mi.a*, conscious of the fact that the letter *i* has only been dotted at random. On safer ground, because encountered in near-contemporary texts, are *f.* = *fiat/fiant* (let it/them be made/formed, as in *fiat pocio* or *fiant pillulae*), and *q.s.* = *quantum satis/sufficit* (as much as necessary);⁷² clearly written in full is *zinuruzj*, taken to mean "generous (helping)", from the context. The Hippocratic *ana*⁷³ is quite standard and means "equal parts of each". *Metser* (difficult reading in all instances) has been rendered *mane et sero* (morning and evening) as the phrase, in full, occurs elsewhere.⁷⁴ Other difficult readings have been *R.*, whose meaning from the context has been taken to be *recepta* (recipe/prescription) and *rescrip.*, rendered *rescripta/rescribatur* (re-written/to be repeated so many times).⁷⁵

The numerals used are roman, though not consistently so. The symbol for a half is \div although $\frac{1}{2}$ is more common in contemporary script.⁷⁶ ρ is also taken to mean a half, by comparison with λ used in Lemery.⁷⁷ Symbols for weights are:

lb = 1 *libra* (a pound of 12 ounces),

ξ = 1 *uncia* (an ounce of 8 drachmas),

3 = 1 *drachma* (= 60 grains), and

\varnothing = 1 *scrupulus* (= 20 grains);

the modern equivalent of 1 grain is 60 mg.⁷⁸

The symbols for currency are *tr.* = 1 tari of 20 grani, and *gr.* for 1 grano.

The bibliographic notation D, G, K, L, M, R has been adopted in Appendix I to denote respectively the quoted works by Donzelli, Graziani, al-Kindi, Lemery, Mattioli and the anonymous *Ricettario*.

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APPENDIX I

The Materia Medica of the Prescriptions List

Adeps gallinae. Chicken fat; used as base for ointments.

Dioscorides, al-Kindi (K. 292), Al-Razi, Al-Samarqandi, Al-Zabidi (G. 201); Ricettario 25; Farigiani 7.

Aegyptiacum, Unguentum. A depurative of wounds and ulcers; made from vinegar, honey and verdigris.

Egyptian origin (L. 415); Ibn Jazlah (G. 78); Ricettario 177; Donzelli 390; Lemery 415; Farigiani 35.

Aggregative, Pillulae. An analgesic; composed of aloes, turpentine, absinth and other herbs.

Mesue (D. 328); Ricettario 142; Donzelli 328; Lemery 204; Farigiani 28.

Aloes. The juice of leaves of several varieties, such as *aloe Socotrina*; used in many preparations as a stomachic and purgative.

Dioscorides, Al-Baytar, Al-Kindi, Al-Samarqandi (G. 221), Ricettario 11; Paracelsus 944; Bisci 67; Mattioli 720-2; Donzelli 22-24; Lemery 7; Farigiani 7.

Althaea, Unguentum de. a haemostatic; compounded from the roots of *althaea* and various seeds including linseed and seeds of *trigonella foenum graecum*.

Paracelsus 1077; Ricettario 174; Mattioli 977; Donzelli 388; Lemery 415; Farigiani (13), 35.

Alumen (Coctum ?). A mineral salt obtained by burning (*alumen ustum*) a type of rock; used for cicatrization of wounds.

Dioscorides, Al-Kindi (K.291); Al-Baytar, Al-Samarqandi (G. 217); Ricettario 11, 59;

Paracelsus 660; Mattioli 1429; Donzelli 24; Lemery 363; Farigiani 17.

Amygdalarum dulcium, Oleum. A stomachic and diuretic; made from distilled sweet almonds.

Ibn Butlan (G. 132), Mesue (D. 402); Paracelsus 408; Bisci 42; Mattioli 84,292; Donzelli 402; Lemery 378; Farigiani 26.

Aqua fortis. Nitric acid or saltpetre acid said to be discovered by the eighth century arabian alchemist Geber, who prepared it from potassium nitrate (saltpetre); a resolvent.

Paracelsus (657); Mattioli 1493; Donzelli 282; Lemery 8,364; Farigiani 17.

Butyrum. Butter; used as base for ointments.

Dioscorides (M. 395); Mattioli 394; Lemery 9; Farigiani 8, (18).

Cannellae, Oleum. A tonic and antipyretic; made from distilled cinnamon.

Galen (M. 565); Paracelsus 851; Mattioli (94), 565; Donzelli 317.

Cochiae, Pillulae. Composed of turpentine, scammony, *hiera picra* and syrup; supposed to "purge the pituitary."

Al-Razi (D. 332); Paracelsus 719; Ricettario 143; Donzelli 332 Lemery 192-3; Farigiani 28. These pills are also found prescribed in 1661 (MCM AIM Spogli A20 (24.ix.1661) f.1).

Constrictivum, Emplastrum. Composition unknown; in the prescriptions' list it is given *pro renibus*; Lemery (436, 7) prescribes a *ceratum, sive emplastrum santalinum...per le durezze e per i calori...delle reni*, not described however as *constrictivo* (p. 21) of unknown composition and use; see also Farigiani (23, 29).

Diacatholicon. An analgesic; made from various herbs including cassia, tamarind, rhubarb, violets, aniseed and sugar. Attributed by Donzelli (p. 217) to Arnaldo de Villanova; Ricettario 122; Farigiani 20; found also in the 1661 prescription.

Diaiteon, (Ceratum). Composed of alum, calcium and verdigris; use unknown. Ricettario 184.

Diaphoenicon. An antipyretic and analgesic; made from dates and other herbs. Mesue (L.13); Ricettario 123; Bisci 34; Donzelli 218; Lemery 13; Farigiani 21.

Diaquilon (Diachylon) Nigrum, Emplastrum. An emollient and resolvent of tumours; made from the mucilaginous roots of *althaea*, litharge (lead monoxide) and oils.

Mesue (L. 444); Ricettario 182; Bisci 89; Lemery 12,444; Farigiani (21).

Digestivi, (Unguenti). Liquid ointments that promote suppuration; made from ►

► turpentine; egg-yolk, basil and tincture of aloes.
Lemery 14; Farigiani 35.

Farinarum (Quinque), Cataplasma: vz cicerum, fabarum, lentium, luppinorum, hordei. A resolvent; poultice made with flour of chickpeas; beans; lentils, lupins, and barley.

Galen (M. 444); Dioscorides, Al-Kindi (K. 240,260; 293,302); Al-Samarqandi, Al-Zabidi (G. 220); Ricettario 180; Paracelsus 461; Bisci (38, 91); Mattioli 420, 444, 452, 460; Lemery 3, 10; Farigiani 19, (23).

Foetidae, Pillulae. Pills made from turpeth, *sagapenum*, bdellium, myrrh, and opopanax, which fetid herb gives these pills their name; prescribed to "purge the pituitary".

Mesue (L. 215); Ricettario 145; Bisci 18; Donzelli 332; Lemery 215; Farigiani 28.

Fuscum, Unguentum. A vulnerary ointment that promotes suppuration of tumours; made of "Greek pitch", "black pitch", *sagapenum*, mastic, frankincense, and turpentine. Attributed by Lemery to Nicholas (L. 433); Ricettario 172-3.

(H)amech, Confectio. A compound of several herbs including thyme, ginger, absinth, scammony and anise; it is prescribed in cases of venereal and other diseases including prurigo. Named after Ibn Hamech, alias Al-Razi (D. 207).

Ricettario 123; Donzelli 207; Lemery 304; Farigiani 19.

Indi Majoris, Electuarium. An electuary made with sweet almond oil, scammony, sugars, and herbs including turpeth; given "to purge the pituitary". Attributed by Lemery (L. 314) to "medici Indiani Orientali".

Jera (Hiera) cum Agarico. A compound of aloes, cinnamon, mastic, spikenard, honey and agaric; a vermifuge that stimulates the appetite and supposedly "fortifica il ventricolo".

Galen, Mesue (M. 673-4); Paracelsus 177; Bisci (71); Mattioli 673; Donzelli (181, 230), Lemery 320; Farigiani (7), 29. It is also found in the 1661 prescription.

Jera (Hiera) Picra Galeni. As the preceding but excluding agaric; given to "purge the stomach and purify the blood".
Galen (D. 230); Paracelsus 173, 690; Donzelli 230; Lemery 319; Farigiani 24.

Julep Violarum. A cordial that quenches thirst and allays fevers; made of distilled violets and white sugar.

Galen (M. 1243); Ricettario 91; Mattioli 1243; Donzelli 258; Lemery 37.

Lilii, Oleum. Oil made from lilies and herbs including mastic, *calamus*, cinnamon, cloves and *carpobalsamum*; prescribed for

pains in the chest, stomach and lower abdomen.

Mesue (L. 380), Dioscorides, Al-Baytar, Al-Kindi (G. 219); Ricettario 163; Paracelsus 1064; Mattioli 90, 922; Lemery 380; Farigiani 27.

Mastichinum, Unguentum. Ointment made from mastic, absinth, nard, mint, red roses and other herbs, purported to resist gangrene.

Al-Razi, Al-Zabidi, Al-Baytar (G. 210); Paracelsus 42; Bisci (57), Donzelli 121-2; Lemery 429; Farigiani (12, 22, 27).

Mentha, Syrupus de. A syrup made from mint, thyme, lavender, oregano, *calamintha*, pepper, cinnamon, anise and other herbs; prescribed at the time both as a carminative and for disorders of the nervous system and the brain including epilepsy, spasms and paralysis.

Dioscorides, Mesue (D. 256, L.114); Al-Kindi (K. 257, G. 130); Ricettario 98,99; Mattioli 749; Donzelli 256; Lemery 114; Farigiani 33.

Mirtillorum, pulvis. Powdered myrtle; used for various purposes including to stop continuous lacrimation, for burns and as a stomachic.

Dioscorides, Ibn Jazlah, Al-Ghafiqi, Al-Razi, Al-Samarqandi (G. 138, 195); Mattioli 247-251.

Mundificativum mellis rosarum. It is not clear what the preparation consisted in, except that the name suggests some cleansing agent. An *unguentum mundificativum* is attributed to Dioscorides and to Mesue (D. 263-47) whose use was the cicatrization of wounds. A prescription of 1648 lists *mundificativa* of various vegetable substances including *ordei* (barley), *passularum* (raisins), and *turbit* (turpeth) (MCM AIM Spogli A 10(28.x.1648) f.434v).

Ricettario 176.

Myrrha. A gum resin; used for various purposes including as a stimulant, expectorant, astringent, emmenagogue, antipyretic and antiputrescent.

Dioscorides, Ibn Sina, Al-Razi, Al-Kindi (K.333); Al-Samarqandi (G.132); Ricettario 31; Paracelsus 821; Bisci (86); Mattioli 95-99; Donzelli 163-4; Farigiani (12), 34.

Opopanax. A fetid gum resin from the herb *opopanax chironium*; a panacea (whence the name) or all-heal.

Dioscorides (M. 782); al-Kindi (K. 254-5); Paracelsus 686; Ricettario 33; Mattioli 783; Donzelli 189 (332); Lemery (215); Farigiani 12.

Pectorale, Unguentum. A decongestant; made from sweet almond oil, butter, camomile, violets, chicken and duck fat.

Lemery 430, Ricettario 168.

Rosarum, Conserva (= *Rosarum, Zucro*).

Red roses cooked in sugar; used as a styptic, for cough and to arrest vomiting. Mentioned also in the 1661 prescription.
Mattioli 204-5; Donzelli 265; Lemery 72-73; Farigiani 20.

Rosarum, Electuarium de Succo. An electuary made from red roses, white sugar and scammony; given "to purge the bile". Attributed to Niccolo Alessandrino (D. 225); Paracelsus 512; Donzelli 225; Lemery 254; Farigiani 21.

Rosarum, mel. Made from the juice of red roses, eggs and honey; used as astringent and detersive in gargles for inflamed gums and throat. It is also quoted in the 1648 prescription. Dioscorides, Mesue (D. 263); Donzelli 263; Lemery 77; Farigiani 25.

Rosarum, Oleum. Made from red roses; used as tonic and antipyretic.

Dioscorides, Mesue, Ibn Jazlah (G. 127); al-Kindi (K. 344) Ricettario 161,162; Mattioli 87; Donzelli 394; Lemery 380; Farigiani 27.

Rosarum, Pulvis. Powdered red roses, cinnamon, spikenard, ginger, nutmeg, cardamom, given to "fortify the stomach", arrest vomiting and ease colic.

Lemery 151-1; Farigiani (10).

Salviae Rosarum, Lixivium. Water alkalyzed by lixiviation of ashes of salvia flowers, kneaded with flours to make poultice; used to arrest haemorrhage and to cleanse ulcers.

Galen (M. 749); Paracelsus 279, 794; Mattioli 748; Donzelli 267, 368; Farigiani (10, 25).

Sanguis draconis. A red resin that exudes from various plants of the family *Dracaena cinnabari*; used to inhibit catarrh, and arrest all kinds of flux including haemorrhage.

Dioscorides, al-Kindi (K.268); Al-Samarqandi, Al-Baytar (G. 200); Ricettario 40; Paracelsus 180; Mattioli 1415; Donzelli 339, 392; Farigiani 14.

Terebinth. Turpentine, a pine resin; used in many preparations including those against podagra, sciatica, gonorrhoea.

Dioscorides (D. 184); Paracelsus 1022; Mattioli 124-7; Donzelli 184; Farigiani (31).

Theriaca. Various compounds of several ingredients including *terra Lemniae*, *trochisci viperarum*, and peppers; used as antidote against the plague, "malignant fevers", and venomous bites.

Al-Razi, Ibn Jazlah, Al-Kindi (G. 121, 200, K. 267); Paracelsus 846; Ricettario 127-129; Mattioli 1511; Donzelli 447-50; Lemery 272-3; Farigiani (18, 31), 34. It is also quoted in the 1648 prescriptions list.

Thus. Frankincense, an aromatic gum resin from trees of the genus *boswellia*.

Mattioli 102-3; Donzelli 182; Farigiani 15. ►

► *Tragea turbictata*. Powdered preparation including turpeth, a drug extracted from the roots of *Ipomea turpethum*; turpeth is employed in diverse conditions including nervous disorders.
Ibn Jazlah, Al-Razi, Al-Samarqandi, Ibn Sina, Al-Kindi (K. 249, G. 133, 220); Ricettario 47; Mattioli 1259; Donzelli 220; Lemery 26; Farigiani 15; It is also quoted in the prescriptions list of 1648.

Violarum, Conserva (= *Violarum Zucro*). Violet petals cooked in sugar; a cordial that alleviates chest congestion.
Donzelli 266.

G. 114, 196), Ricettario 95; Mattioli 1238-42; Donzelli 238; Lemery 90-91; Farigiani 33.

Violarum, Syrupus. Violet syrup; used for fevers, headaches, cough, quinsy, hoarseness and epilepsy.
Dioscorides, Ibn Jazlah, Al-Kindi (K. 247,

Zucro fino. Fine crystalline sugar; sweetening agent in several preparations.
Ibn Jazlah (G. 63, 218); al-Kindi (K. 284); Paracelsus 336; Bisci 64; Mattioli 409-11.

APPENDIX II

Museum of the Cathedral, Mdina. ACM Misc. 441 (19.vii.1546-26.iv.1547) ff.30-30v.

A list of prescriptions for patients at Santo Spirito Hospital

f.30(a) +
Die xviii^o Julij iiij^e Jnd(ictionis) 1546

Li Jnfirmj di lu hospitalj Sanctj Spiritus Not(abili)s Civit(at)js Mel(ive)tj
per aq(ua) furtj lb.ij÷ s(yrupi) violatj ʒ vj per simunj manuelj tr.iiij
per zuc(ro) fino zuc(ro) ros(arum) ana ʒ ij tr.j
per ung(uenti) pectoralj ʒ j÷ gr.xv
per payli chutaje pajas feruto prisi la R(ecepta) gr.xv
per olej ros(ati) ʒ iiij mel(lis) ros(ati) ʒ j÷ gr.xv
per terbentina mel ros(arum) ana ʒ ij
farine ordej ʒ j÷ f(iat) mundificativo tr.j gr.vj
per la cataplasma s(ecundum) m(a)s(tru)m Jo(anne)m ferriolu vz farine fabarum Cicerum lencium ordej luppinorum ana ʒ ij lixivii salvie ro(sa)rurum q(uantum) s(ufficit) f(iant) lb.ij tr.iiij
per mel(lis) ros(ati) ʒ ij olej ros(ati) ʒ iiij gr.xviiiij
per ung(uento) egipciaco ʒ iiij mel ros(atum) ʒ iiij tr.ij gr.xv
27 Julij per ximunj prisi la R(ecepta) s(up)ra dicta
per aq(ua) furtj lb.ij÷ s(yrupi) violatj ʒ vj tr.iiij
28 Julij per pajlj s(up)ra dictu
per ung(uento) fusco ʒ j÷ gr.xv
per la secunda cataplasma ut s(up)ra lb.ij tr.iiij
viii^o augustj per la figla di tere
per ung(uento) egipciaco ʒ ij
diaquilon nigro ʒ ij tr.j gr.xv
23 augustj per la dicta figla di tere
per ung(uento) masticino ʒ ij tr.ij

f.30(b)
ij^o septembrjs per Joanna di mirezib prisi lj(...) gr.(...)
per tiriaca ʒ 5 zuc(ro) ros(arum) ʒ ij
per Joannella prisi la R(ecepta) die 12 Septembrjs
per conserva ros(arum) ʒ j÷ zuc(ro) fino ʒ ij
conserva ʒ ij in alia zuc(ro) ʒ j÷ tr.j (...)
per Julep violarum per Joannellam ʒ iiij (...)
per olej cannellj ʒ j (...)
per zuna merkie
per li digistivj 1 2 3 4 5 tr.ij (...)
per la tragia turbictata more n(ost)ro tr.ij (...)
iii^o octobrjs per lu figlo di fra(ti) Joannel(...) per olej ros(ati) ʒ viij pul(vis) ro(sa)rurum et mirtilorum(...) per ʒ 5 olej de lilio ʒ j ro(sa)rurum ʒ j m(ane) et ser(o) tr.ij (...)
viij^o octobrjs per ramundo zinkil prisi la R(ecepta)

per li digistivj 1 2 3 4 5 tr.ij (...)
per Julep ʒ j (...)
la figla di tere
per ung(uento) egipciaco ʒ j mel ros(atum) ʒ j m(ane) et ser(o) (...)
ximunj manuelj
per aq(ua) furtj lb.ij÷ s(yrupi) violati ʒ vj tr.iiij (...)
ramundo zinkil
per la medicin)a vz diacatoliconis ʒ iiij dia feniconis El(ec)t(ua)rj Jndj maJo(ris) ana ʒ ij zuc(ri) violatj ʒ ij s(yrupi) violatj ʒ j÷ aquarum suj digistivj q(uantum) s(atis) tr.vj (...)
per olej ros(ati) ʒ iiij mel(lis) ros(ati) ʒ ij zinuruzj tr.j (...)
ximunj manuelj
per ung(uento) dealtea ʒ 5 olej cannellj(...)

f.30v(a)
20 octobrjs per ramundo zinkil
(per) pill(ul)arum cochiarum
ʒ iiij rescrip(ta) v tr.ij gr.vj
(per) zuc(ro) ros(arum) ʒ j÷ in alia ʒ j÷ ximunj manuelj prisi la R(ecepta) gr.xv
(per) aq(ua) furtj lb.ij÷ s(yrupi) violatj ʒ vj prima et secunda ut s(up)ra tr.vj
25 octobrjs per grigorj bartalo
(per) pill(ul)arum cochiarum
ʒ iiij rescrip(ta) v tr.ij gr.vj
per ximunj prisi la R(ecepta)
(per) aq(ua) furtj ut s(up)ra una prisa tr.iiij
(per) adipis gall(inae) butirj Cere cum agar(ico) olej amigdalarum dulcium ʒ (?) tr.j
(per) conserva ros(arum) ʒ ij zuc(ro) fino ʒ j÷ gr.viiij
(per) olej cannelle per la R(ecepta) ʒ j÷ gr.iiij
15 decembrjs per la feruta di la musta oy di lu naxaro prisi la R(ecepta)
(per) olej ros(arum) lb. ʒ in alii lb. ʒ tr.j gr.xvj
(per) zuc(ro) ʒ ij÷ olej ros(arum) lb. ʒ tr.j gr.xj
(per) mundificativo de mel(le) ros(arum) lb. ʒ tr.ij gr.viiij
(per) mel(lis) ros(arum) ʒ vj olej ros(arum) ʒ vj tr.ij gr.ij
(per) mundificativo de mel(le) ros(arum) lb. j÷ tr.iiij gr.xvj
(per) mel(lis) ros(arum) lb. ʒ olej ros(arum) lb. ʒ tr.ij gr.ij
(per) mel(lis) ros(arum) ʒ iiij gr.xvj
(per) s(ang)uinis drag(onis) turis mirre aloes ana ʒ j omnia per se tr.j gr.v
14 Januarij per la dicta feruta
(per) mel(lis) ros(arum) (...)

▶ f.30v(b)									
per aluminis Coctj(?) 3 5			gr.x		pro renibus		tr.j		gr.x
per olej ros(arum) 3 v terbenine 3 j	tr.j				per comandamento dilu procuraturj per ordinacionj di lo m(agnifi)co Josep Callus				
per olej ros(arum) 3 iij			gr.viii		per pill(ul)arum cochiarum agrigactivarum ana 3 ij				
25 februarij per lu pichotto che nutrira andria dibonu					rescrip(ta)		tr.ij		gr.vj
per s(yrupi) de menta diaitonis ana 3 j					per Jere pigre galienj 3 j				gr.vj
m(ane) et ser(o)			gr.x		per pill(ul)arum fetidarum oppopanacis ana 3 j				
26 marcij per don Jo(anni) francisi					rescrip(ta) iij		tr.j		gr.x
per li digistivj 1 2 3		tr.j	gr.x		26 aprilis per la figlia di tere				
per la me(dicin)a vz El(ec)t(ua)rj Suc(c)i ro(sa)rurum dia feniconis ana 3 iij dia catoliconis					per li digistivi contra morbo				
3 iij zuc(ri) violatj 3 ij s(yrupi) violatj					gall(ico) 1 2 3 4 5		tr.ij		gr.x
3 j+ aq(ua)rurum suj digistivi					per aq(ua) furtj per nautra(?) R(ecepta) lb.ij s(yrupi) violatj				gr.xvj
q(uantum) s(at)is		tr.vj			3 vj m(ane) et ser(o)		tr.ij		
22 aprilis per lu pichotto alu hospitalj					per la me(dicin)a per la figlia di tere vz conf(ectio) amech dia feniconis ana 3 iij zuc(ri) violatj				
per Emplast(ro) constri(cti)vo					3 iij s(yrupi) violatj 3 j+ aq(ua)rurum suj digistivi				
					q(uantum) s(at)is f(iat) pocio (.....)				

FOOTNOTES

1. Text in H. Bresc, "Documents on Frederick IV of Sicily's intervention in Malta: 1372", *Papers of the British School at Rome*, New Series Vol. XXVIII (1973) 200.
2. Text in R. Valentini, "Documenti per Servire alla Storia di Malta: 1432-1450", *Archivio Storico di Malta* VIII (1937) 465-467.
3. B(biblioteca) V(alletta), Univ(ersita') 13 [1467]22v.
4. B.V.Univ. 11 (14.iv.1474) 295v (bis)-297. M(useum) C(athedralis) M(dina), ACM Misc. 438 Nos. 1-4 (1494-1555) *passim*; *ibid.* Misc. 440 Pts. I-VI (1540-1562) *passim*. In 1546 the procurators were Franciscus Serrano and Simon Bartolo.
5. The Santo Spirito resources were considered in the town council for funding the repairs of the Mdina walls in 1451 (Univ. 11(14.iv.1451)63v), to pay the school-master's salary in 1463 (Univ. 11(3.vi.1463)186v), in 1473 (Univ. 11(30.xi.1473)269v) and in 1476 (Univ.11(10.ii.1476)347v), to fund a *maritaggio* (poor girl's dowry) in 1468 (Univ.13(28.i.1468)11), to ransom a captive in 1472 (Univ. 11(28.xi.1472)230v-232), to help with the building of Santa Maria de la Grueta, the Dominican church and convent in 1470 (Univ.11(26.iii.1470)588v), and in 1472 Univ.11(28.xi.1472)230v-232 and to assist in the repairs of the Old Benedictine nunnery in 1477 (Univ. 11(4.ii.1477) and in 1479 (Univ.11(i.xii.1479)407v).
6. G. Wettinger, *The Jews of Malta in the Late Middle Ages* (Malta, 1985) p.114 FN28, p.138. See also Univ. 11(10.ii.1476)347v.
7. MCM ACM Misc. 438 No. 1 (1494-1496).
8. P. Cassar, "Inventory of a Sixteenth Century Pharmacy in Malta", *The St. Luke's Hospital Gazette* XI(1)(1976) 26-34.
9. MCM ACM Misc. 438 No.2 (1518-1520) 4v,19.
10. MCM ACM Ms.368 "Libro dei Testamenti" (1400-1700) 100; Testamento di Girolomo Callus quondam Jacobi in actis Not. Antonii Rapa (27.ix.1521); will untraced. He was certainly dead by 26.iv.1522(MCMACM M1 (Mandati) f.310).
11. MCM ACM Misc. 438 No. 2(1517-1520) 17v.
12. MCM ACM Misc. 440 (1540-1562) 21v, 123v
13. *Ibid.* ff.21v, 49v.
14. A(rchivum) N(otarile) V(alletta) Not. Brandan Caxaro R175/26 (27.xii.1549) 744.
15. *Ibid.* R175/27 (8.iii.1550) 1143v.
16. *Ibid.* R175/60 (5.x.1559) 232.
17. A(rchivum) A(rchpresbyteri) C(athedralis) M(dina), Liber Mortuorum I (3.vii.1564) 803; ANV Not. Angelo Bartolo R48/7 (21.vi.1564) 223v.
18. MCM ACM Misc. 440 (1563) 83v; P. Cassar, *op.cit.*, p.26.
19. AACM Liber Baptizatorum I (17.i.1541) 43.
20. MCM ACM Misc. 438 No. 2 (1517-1520) 3v,10v, 7v.
21. BV Univ.13 (5.vii.1540) 196-196v.
22. MCM ACM Misc. 440 Pt.1 (1540-44) 21; AACM Liber Baptiz. I (26.viii.1543) 48.
23. ANV Not. Giuliano Muscat R376/22 (25.ix.1550) 131v.
24. V. Borg, "Medical Practitioners in 16th Century Malta", *Proceedings of History Week 1981* (M. Buhagiar, ed.) 82-85.
25. BV Univ.13 (13.i.1537) 127v-128.
26. *Ibid.* Univ 84 (20.i.1541) 8v.
27. BV Univ. 84 ff.8,321v and especially 329v.
28. MCM ACM Misc. 438 No.2(1518) 3v, 4v, 6, 6v, 10, 11.
29. MCM ACM Misc. 440. Pt.II (5.vii.1544) 30v.
30. *Ibid.* Pt.I f.10.
31. *Ibid.* f.14.
32. MCM ACM Misc. 438 No.4 (1554) 6,8v.
33. MCM ACM Misc. 440 pt. III (vii.1547) 47v. *Ibid.* Misc. 438 No.4 (31.vii.1554) 4v.
34. *Ibid.* Pt. I (17.xi.1542) 17.
A Frati Joannello Saliba of the Conventuals, who was guardian of San Francesco, Rabat in 1536-37 (ANV Not. B. Caxaro R 175/2 (29.ix.1536) 70-70v was accused in 1541 by Agatha, wife of Gulju l-Ahmar, of raping her, getting her pregnant, and deserting her and her offspring. (*Ibid.* R175/7 (2.v.1541) 464v). He had a (natural but illegitimate) son called Joannes Baptista (*Ibid.* R175/8 (8.xi.1541) 74). On this same friar *vide* also *Ibid.* R175/2 (6.iii.1538) 388, Ms. 719 No.1 (10.xi.1542) 681,681v, and G. Wettinger, "Concubinage among the clergy of Malta and Gozo ca. 1420-1550", *Journal of the Faculty of Arts* 6(4) (1977) 174.
35. *Ibid.* f.22 (Comandamenti 63, 64).
36. *Ibid.* f.49v.
37. S. Fiorini, "The Resettlement of Gozo after 1551", *Melita Historica* IX(3)(1986) 230.
38. AACM Liber Bapt., Matr., Mort. I ff.46, 64, 67, 137, 224, 774.
39. BV Univ. 13 (4.viii.1537) 144.
40. N. Lemery, *Farmacopea Universale* (Venezia, 1742) 430.
41. *Ibid.* 414.
42. *Ibid.* 380.

- 43. *Ibid.* 14.
44. G. Donzelli, *Teatro Farmaceutico*, (Venezia, 1743) 217.
45. Lemery, *op.cit.* 314.
46. Donzelli, *op.cit.*, 218.
47. *Ibid.* 225.
48. Lemery, *op.cit.*, 151-2.
49. *Ibid.* 436-7.
50. Donzelli, *op. cit.*, 332.
51. Lemery, *op.cit.*, 319.
52. *Ibid.* 304.
53. ANV Not. Placido Abela Ms.514 (2.vi.1558) unpaginated; "Donatio causa mortis Mag.ci D. Josephi Callusii artium et medicine doctoris...Item dedit Matheo Callusio filio adoptivo...".
54. P. Cassar *op. cit.*
55. Pedanios Dioscorides, *The Greek Herbal of Dioscorides* (R.T. Gunther, ed.) (New York, 1959). Claudius Galen, *Claudii Galeni Operi Omnia* (K.G. Kuhn, ed.) Leipzig, 1821-33)..
56. Muhammed ibn Zakariya Abu Bakr al-Razi, *Kitab al-Hawi* (Cairo, 1929). Najib al-Din Muhammad ibn 'Ali al-Samarqandi, *The Medical Formulary and the Relation of Early Arabic Simples to those Found in Indigenous Medicine of the Near East and India* (Philadelphia, 1967). 'Abu Yusuf Ya'kub Ibn Ishak al-Kindi, *The Medical Formulary of al-Kindi or Aqrabadhin* (A Study of its Materia Medica by Martin Levey) (Wisconsin, 1966). Yahya bin 'Isa bin 'Ali Ibn Jazlah, *Arabic Medicine in the Eleventh Century as Represented in the Works of Ibn Jazlah* (A Study by Joseph Salvatore Graziani) (Karachi, 1980). Yuhanna ibn Masawayh (Mesue), *Kitab Jawahir al-Tayib al-Mufrada* (B. Sibath, ed.) Bulletin de l'Institute d'Egypte No. 19 (1936-7) 5-27.
57. *El Ricettario dell'Arte, et Universita de Medici, et Spetiali della Citta di Firenze* (Firenza, 1550).
58. Aureolus Philippus Theophrastus Bombast von Hohenheim Paracelsus, *Opera* (Strasbourg, 1603). Pietro Andrea Mattioli, *Dei Discorsi di M. Pietro Andrea Mattioli Sanese...nelli sei Libri di Pedanio Dioscoride Anazarbeo della Materia Medica*, Vols, I, II (Venetia, 1604).
59. Giuseppe Donzelli, *Teatro Farmaceutico* (Venezia, 1743).
60. Nicolò Lemery, *Farmacopea Universale* (Venezia, 1742).
61. Laurentio Farigiani, *Taxa Recens Pretii Omnium Pharmacorum...ad usum Hospitalis...Sancti Spiritus* (Malta, 1769). I should like to thank Can. John Azzopardi, Curator of the Cathedral Archives, for bringing this document to my attention.
62. *Vide.* J.S. Graziani, *Arabic Medicine in the Eleventh Century as Represented in the Works of Ibn Jazlah* (Karachi, 1980) 65, 78, 117, 128, 210, 217.
63. *Ibid.* 218.
64. Gio. Francesco Abela, *Della Descrizione di Malta* (Malta, 1647) 66. The use of sugar in Malta is already recorded in 1523: "Et plui per ZOCCARO uncie xvj...tarenii iv" (MCM ACM Mandati M2 (1523-4) 46).
65. S. Fiorini, "Sicilian Connexions of some Medieval Maltese Surnames", *Incontri Siculo-Maltesi* (G. Brincat, ed.) (1988) 104-138.
66. The earliest recorded town-apothecary is M.ro. Salvatore Passa who served, on and off, between 1450 and 1475 (BV Univ. 11 (ca.iii.1450) 63v; (15.xi.1453)29; (10.x.1460)93; (17.xii.1460) 95v; (21.x.1462) 174; (23.iv.1470)592v; (19.iii.1473)235v;(19.x.1475)345v. He was, in all probability, of Sicilian origin (Univ. 13 (13.iii.1468)13v) and certainly kept professional ties with Sicily and specifically with Palermo; on 28th January 1468 (Univ. 13 f.10v) he protested with the Mdina town council that he should be reimbursed for travel to and from Palermo in connexion with his duties. When the same town council in 1472 was looking for a replacment for Passa, it was suggested that a pharamcist be sought in Agrigento (Univ.11 (15.i.1472) 217v). The following year M.ro Paulo of Noto was considered for the post under the conditions that he should be in possession of the necessary warrant from the *protomedico* (of Sicily) to exercise his profesion and that the prices he would be charging for his drugs should be the same as those then current in the city of Palermo (Univ. 11 (2.xi.1473) 266v). What became of these appointments is not known, but in 1476 yet another *aromatarius* from Noto, M.ro Johannes Rufrigiato was considered for the post of town-apothecary. (Univ. 11 (10.ii.1476) 347v). In fact it was M.ru Paulu who, four months later, is recorded to have "*Incomenczau tinirj putiga secundu li pacti di lu primu contractu*" (Univ. 11 (20.iv.1476) 350v); unlike Passa's, his stay does not seem to have been long-lived because in August of that same year he wanted to leave the island (Univ.11(12.viii.1476) 350v). The search for yet another Sicilian pharmacist was again on and in January 1477 the names of M.ru Johanni Rufrigiatu from Modica, of M.ru Nicola di Natali and of M.ru Francesco Jarratana were being proposed (Univ. 11 (8.i.1477) 356v). Whoever was appointed this time was being found fault with for not keeping his pharmacy adequately stocked with fresh drugs. (Univ. 11 (8.iv.1478) 380v). Already in 1480, yet another foreigner, *M.ru Michaeli de Speciano speciali*, appears to have taken over the pharmacy, only to be himself sacked in that same year (Univ. 11 (ca.x.1480) 454).
67. A.H. Douthwaite, *Hale-White's Materia Medica Pharmacology and Therapeutics* (1963).
68. Lemery, *op.cit.*, 3.
69. Paracelsus, *op.cit.*, 461.
70. See footnote 23.
71. BV Univ.13 (5.vii.1540) 196-196v.
72. Lemery, *op.cit.*, p.31. Donzelli, *op.cit.*, pp.15-16.
73. *Ibid.* and Tommaseo Bellini, *Dizionario della Lingua Italiana* (8 Vols) (Torino, 1861).
74. MCM 'ACM Spogli A/10 (28.x.1648) 434v.
75. Compare Donzelli, *op.cit.*, pp.15-16: *Repl. = Replacetur.*
76. Compare MCM ACM Misc. 438 no.1 (1494-96) ff.1-36 "Quaternu..di l'j Jntroyti et exiti...di lu hospitalj", *passim.*
77. Lemery, *op.cit.*, p.30.
78. Donzelli, *op.cit.*, p.13. Lemery, *op.cit.*, pp.30-31. Douthwaite, *op.cit.*, p.4.

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