

Documentary Sources for a Study of the Maltese Landscape

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Tangible objects form a challenging kind of historic record. They challenge us because we know that objects have meaning if only we know how to decipher it; moreover by their very presence, and refusing to go away, objects demand to be interpreted. To archaeologists no form of material artefact is perhaps more challenging – tantalizing and illuminating at one and the same time – than the vast disorderly collection of human artefacts that constitute the cultural landscape. By cultural landscape, archaeologists (but also geographers) mean the total assemblage of visible things that human beings have done to alter the face of the earth for economic, social, religious, or symbolic purposes: quarries for the extraction of building stone and clay; dams to control water, cisterns to store it and conduits to deliver it for irrigation purposes and to sustain human and animal life; the purposeful manipulation of the earth's vegetative cover in farms, woodland, orchards and terraces; tracks, paths and roads used to transport objects and ideas; walls erected to subdivide land into manageable units and to separate portions of the earth from one another.¹

Landscapes differ in appearance from place to place, not only because they are made up of changing ecosystems that are peculiar to a region or a place but also for the self-evident reason that all cultures have collective ambitions about the way they interact with the earth's surface to achieve different goals over time. It can be said, therefore, that landscapes are a kind of document, preserving traces of the cultural autobiography that humans have carved and continue to carve into the earth's surface. It follows that if a landscape is a document then this can be read in a manner analogous to the way we read written documents, an exercise led and constrained by material possibilities and by the material associations, similarities and differences in the evidence. Just like ancient parchments that have been written on again and again but imperfectly erased between successive uses, cultural landscapes are rich palimpsests.² Unravelling the traces of past human activities in that palimpsest is an exercise that depends on an explicit combination of the physical survey and the study of the historical record, following the methods established by historical geographers like Maurice Bloch and W. G. Hoskins in the twentieth century.³ For the archaeologist the palimpsest can be understood in a process of recovery that proceeds very much like a stratigraphic excavation, peeling

away the most recent “layer” of material traces in order to uncover earlier ones, which may lie below.⁴ For the early periods, when historical records do not exist or are largely missing, the recent historical record provides a useful lens through which to view the physical remains in the landscape. This is done not only to check on the existence of extant landscape features (or cultural markers) at a certain point in time but also because historical records illuminate early phases of place making and of economic and social improvement and restructuring.⁵

The aim of this article is to bring to the attention of those interested in studying the Maltese landscape a selection of documentary sources useful for the task of understanding its form within a framework of time and space. Especial attention is given to the property books which go by the name of *cabrei* (singular *cabreo*). We close with some thoughts on certain landscape features.

Documentary sources

The potential range of documentary sources for a study of the Maltese landscape is great. Without attempting to provide a complete inventory, we highlight some of them here.

1. Published sources and dissertations

A book on the making of the Maltese landscape which could take its cue from works inspired by that pioneer work, *The Making of the English Landscape*, published by W.G. Hoskins in 1955, still has to be written. In its absence, the volume which puts together the findings of the Malta Geographical Survey Project (1955-1958) remains the most important study, especially its chapters on land use and agriculture albeit with a bias on the British period.⁶ Several contributions which appeared in a special issue of the journal *GeoJournal* (vol. 41/2) in 1997 relay the results of much recent work on the Maltese landscape, whilst J. Chircop’s unpublished MA dissertation (1993) *Underdevelopment: the Maltese Experience 1880-1914*, builds on the records kept by the *Società Economica Agraria* founded in Malta in 1844 on the initiative of the Governor, William Reid.⁷ In 1963, the geographer B. Blouet submitted his PhD thesis at the University of Hull entitled *The Changing Landscape of Malta during the rule of the Order of the St John of Jerusalem 1530-1798*.⁸ It is the best – unpublished – account to date for the period which saw significant

activity in the countryside. C. Giacinto's much overlooked work *Saggio di agricoltura per le isole di Malta e Gozo* (Messina, 1811) takes up the account for the opening decade of the 19th century. For the earlier Medieval period, G. Wettinger's writings fill important gaps especially his *Agriculture in Malta in the Late Middle Ages*,⁹ and his *The Lost Villages and Hamlets of Malta*.¹⁰ For the prehistoric period, R. Grima's PhD thesis, *Monuments in Search of a Landscape: the Landscape Context of Monumentality in Late Neolithic Malta* (University of London, 2005), points the way future research ought to go, especially if complemented by studies of the sort undertaken by K. Fenech in her *Human-Induced Changes in the Environment and Landscape of the Maltese Islands from the Neolithic to the 15th Century AD*, published in 2007.¹¹ For a reconstruction of Malta's landscape before human colonisation started in the Neolithic much remains to be done as pointed out by C.O. Hunt and P.J. Schembri in their *Quaternary Environments and Biogeography of the Maltese Islands*.¹² For the historic period, however, C.F. Grech's, PhD thesis *The History of Forests, Trees and Gardens in the Maltese Islands up to 1798* (University of Aberdeen, 2001) is useful as it gathers much data gleaned from a close reading of the *cabrei* and related documents. For the British period, the thesauri of flora are useful although the introduction of particular species to Malta still deserves study.¹³ Other, important information is to be found in several travelogues, starting with Jean Quintin d'Autun's *Insulae Melitae descriptio* (Lyons, 1536) and in G.F. Abela's *Della Descrittione di Malta* (Malta, 1647) with its revised edition by Count Ciantar of 1772.¹⁴

2. Maps

For Malta, the 1:25000-scale maps and accompanying series of large-scale 1:2500 survey sheets produced by the Malta Environment and Planning Authority (MEPA) provide the basic topographic information for anyone seeking to understand landscapes. The islands' geology is contained in two 1:25000-scale maps produced by the Oil Exploration Division of the Office of the Prime Minister in 1993, revising a first geological survey map of 1955. Older editions of maps and survey sheets prepared by the Ordnance Survey when Malta was a British colony (1800-1964) provide the topographical framework for studying site-use and survival over time.¹⁵ The last edition of survey sheets at 1:2500-scale produced in 1968 and revised in 1974 superseded the 25-inch survey sheets produced at the turn of last century. From the 25-inch survey sheets were compiled the 6 inches to the mile map series produced in ten sheets for Malta (but not for Gozo) in 1910, last updated before World War II. They all provide useful information which subsequent development has almost wiped

from the landscape and, therefore, from modern maps. Boundary markers of Crown property and milestones are shown, and a variety of water catchment facilities including wells and tanks are often included. Behind the first edition of these 6-inch and 25-inch maps is a fine set of original surveyors' Crown property or tenement maps in watercolour drawn to a large scale and produced between 1861 and 1867, bound in four large volumes and held at present at the Chief Draughtsman's Office in Floriana.¹⁶ Each map carries the name and number of the Crown tenement and contains a detailed description, including the area of the property, the quality and use of the land, built structures (often redrawn at a larger scale and included as an inset), rock-cut features, rubble walls, and adjoining tracks, paths or roads. Property belonging to pious foundations and legacies that passed under Crown control after 1800 were surveyed and mapped in the same manner, and are to be found bound in rolls at the Chief Draughtsman's Office too.¹⁷ The key with tenement numbers to these maps is to be found on rolls of 25-inch and 1:2500 survey sheets held in the same office.¹⁸ Other maps and plans deal with different aspects of landscape, including archaeological monuments (rolls 100 and 100A). Significant information related to Malta's maritime landscape, for instance, is contained in the hydrographic charts published by the Hydrographic Office of the British Admiralty. They all build on the first survey conducted by William Smyth and published in 1823, and contain a wealth of information related to coastal buildings, features and archaeological sites.¹⁹ These maps ought to be seen in conjunction with the written description of the coasts contained in pilot books published by the Admiralty or compiled for the Order.²⁰ The oldest portolan mentioning a host of features on the Maltese coastline dates to 1296.²¹

3. Archival sources

The most important primary sources for a study of the Maltese landscape are contained in various state, church and private archives.²² The National Library of Malta in Valletta contains volumes in its Treasury series (A and B) belonging to the Order of St John and the *Università*; they are listed in a printed catalogue drawn up by the Library and on the website of the US-based Hill Museum and Manuscript Library.²³ Series A consists of several account books related to the lease or sale and maintenance of rural and urban territorial holdings, sometimes referred as *compendia*. Series B includes several hundred volumes, mostly property books or *cabrei* (see below) of holdings in Malta which contain an extensive collection of estate plans, mostly in colour, and land use data covering the period 1654-1810. Land possessed

by the church can be researched in contracts, written surveys of estates and *cabrei* which the ecclesiastical authorities drew up. Several such volumes are held in the Archives of the Cathedral of Malta in Mdina²⁴ and in the Archives of the Episcopal Curia of Malta in Floriana,²⁵ but parishes, religious orders, and the Inquisition had their own.²⁶ The earliest survey map we are aware of goes back to the 1620s and depicts the territory of Mizieb ir-Rih in northern Malta, bought by the Mdina cathedral in 1523. A stone pillar topped with the coat of arms of the Mdina Cathedral still marks the northernmost boundary of the territory; others have been lost.²⁷

The National Archives of Malta housed in the former Santo Spirito hospital in Rabat preserve documents pertaining to the British era. Most are records and correspondence files between governmental offices. Of particular significance are correspondence letters between the Chief Secretary to the Government and the Collector of Land Revenue,²⁸ records of governmental granting of public sites,²⁹ leases of government land allotments,³⁰ and a register of licenses granted by the Land Revenue for the building of tenements in rural areas, for stone quarrying and soil transportation.³¹ A large map also hangs in one of the corridors and it shows the rural tenements, individually numbered, given out on emphyteutical lease to farmers after 1850.

Other documentary sources of a more legal nature are kept at the Notarial Archives in Valletta. The earliest deeds covering land leases and transfers of property go back to the Late Medieval period and records are available from 1467. A selection has been published and several others have been studied in an effort to throw light on socio-economic conditions of the islands in the late 15th and early 16th century.³² Acts drawn up during the British period are also kept here. It is not known when the practice of appending sketch plans of the property to the deed started. It was the practice in the 17th and 18th century to have extracts from contracts relating to leases of agricultural land carved on stone tablets and affixed to rural farmsteads and town houses.³³

Several archives also exist in private possession and are mostly related to the acquisition, sale and maintenance of land by members of the Maltese nobility. Most fiefs were created before the arrival in Malta of the Order of St John in 1530 but some were subsequently recognised by the grand masters whereas others were annexed to the Order's property.³⁴

Finally, collections of aerial photographs of the Maltese Islands exist locally and abroad.³⁵ Their use for studying the landscape and in particular relics of cultural heritage is still largely untapped.

4. Iconography

Landscape representations became common towards the end of the 17th century, often accompanying travelogues.³⁶ The *International Dictionary of Artists who painted Malta* (Malta², 2002) by Nicholas de Piro gives an idea of the variety of the record which varies according to the modes of thought and aesthetics cherished by generations of artists. Of particular importance for the historian and archaeologist are the images included in Jean Houel's *Voyages pittoresque des Isles de Sicile, de Lipari, et de Malte* of 1787 and the series of watercolour drawings by Charles Frederick de Brocktorff.³⁷ Photography facilitated the recording and reproduction of landscape views and for a twentieth century record of the Maltese landscape the work of Richard Ellis and Geo Fürst should be singled out amongst many others.³⁸

5. Toponymy

The place-names of a country record its successive peoples and languages, and the topography, vegetation, land tenure and land-uses of the past. G. Wettinger's monumental dictionary *Place-Names of the Maltese Islands ca. 1300-1800* (Malta, 2000) is the fundamental reference work for the study of Maltese toponymy, and the introductory essay is an insight into the myriad ways in which the lie and shape of the land, crop suitability, habitation types, hydrography, geology, soil, and the existence of thoroughfares have dictated the choice of names for the land. Wettinger consciously excludes place-name evidence after 1800, recorded in British-period cadastral and other maps, and relinquishes an earlier choice of giving map coordinates for place-names that could be identified on maps.³⁹ These place-names were listed by N. Tagliaferro in 1910 in an unpublished work preserved in the University of Malta library.⁴⁰ Zammit Ciantar's *Placenames of the Coast of Gozo* (Malta, 2000) is useful as it adds a maritime perspective to the process of naming landscape features.

The *cabrei* of the Order of St John

The Italian term *cabreo* (or Spanish *cabrero*, from the Latin *capi brevium*) appears to have come into use for the first time in 1597 by the Grand Priory of Pisa, one of the Italian commandaries of the Order of St John. The term was adopted by the Order to denote a collection of records consisting of a written and drawn survey of land and property holdings.⁴¹ The drawn survey often consisted of manuscript maps drawn by *periti agrimensori* (land surveyors) at

scales large enough to allow detailed depiction of the landscape, and bound together in one volume with a long-winded description. Written surveys of estates or holdings, known in English as terriers and in Italian as *decimari*, preceded the appearance of the graphic form for the estate record.⁴² For the Order of St John, however, the term *cabreo* became a synonym for the written survey even when the latter was still the common form of recording immoveable property in the 17th century. It was in this century, in fact, that the Order felt the pressure to record the extent of its territorial possessions in the Maltese Islands. The need to draw up a *cabreo* of magistral property is recorded in the minutes of the Council of the Order for 1643.⁴³ The main requirement was to locate the fiefs which had become the Order's property in 1530 and on which no rent had ever been collected. The completion and description of the *cabreo magistrale* was announced in 1654.⁴⁴

The National Library holds other *cabrei* related to the Maltese Islands produced in the course of the eighteenth century when the practical value of mapping for running and improving estates within clear definitions of the boundaries must have become obvious. Foundations, including those set up by successive grand masters to provision galleys, build and maintain fortifications and other deeds – e.g. Wignacourt in 1617,⁴⁵ Lascaris in 1651,⁴⁶ Cotoner in 1674,⁴⁷ de Villhena in 1724⁴⁸ – and others, including the foundation set up in 1607 with the specific intent of redeeming Christian slaves (*Fondazione della Monte di Redenzione degli schiavi*) had their own *cabreo*.⁴⁹ A record of the lands pertaining to the Mdina *Università* and the venerable assembly of conventual chaplains are to be found in their respective *cabrei*.⁵⁰ Indeed, the eighteenth century must have been a century of intense surveying activity and the quality of the cartographic record is often high, with *cabrei* produced in elegant style containing colourful coat of arms or a portrait of the grand master himself.⁵¹ In general, a *cabreo* belonging to a foundation consisted of the following parts. The frontispiece is followed by an introductory description about the foundation, motives for its establishment including details of the founder (often the grand master himself), and the foundation date. Instructions given for the compilation of the *cabreo* were also integrated in the first section of the volume. This included the name of the person or authority calling for the compilation of the *cabreo*, the commissioners entrusted with the survey and the specific reasons for the compilation of the *cabreo*. The work to be carried out is notified to the interested parties by the issue of a *bando*. The administrative documentation is followed by further information of a more judicial nature related to the land bought by the foundation since its inception. This part is generally followed by a list, a veritable index, of all the urban and rural possessions described in the *cabreo*.

The description and illustrations of the immoveable property, urban followed by rural, constitutes the central part of the *cabreo*. Houses in towns have scaled plans and elevations whereas plots of land are delimited by colour banding to denote contiguous properties often listing the name of the owner or the institution. The survey depicts structures and other features, including farmsteads and storage rooms, animal pens and sties, cisterns, water tanks and conduits, threshing floors. Rubble walls, paths, tracks or roads are marked to show the limit of the property.⁵² Trees are often included. Land quality is rendered in different ink and watercolour washes: pink hatching sometimes interspersed with grey ones denotes arable land of very good quality, grey and ink shades are used to denote mediocre land, and shades of grey and black represent rocky surfaces and generally bad quality land. A scale bar and a north point invariably accompany the plans; sometimes the name of the surveyor is included too. The description, often found on the opposite page, includes essential information about the property: name, the area of land and its quality, and contiguous possessions. Details of the lease often follow: the name of the notary who drew up the contract, the name of the lessee and village or town of origin, and the rent paid.

Thoughts about some landscape features

It is often possible to discern the extent of territorial enclosures belonging to various foundations or other institutions when these are plotted on a modern map, better still on the 6-inch maps which depict the islands before massive building development altered large swathes of countryside. Such an exercise has been done by one of us to study the field system at the head of Mistra Valley in Malta.⁵³ In that case it was possible to locate the extent of the Mdina Cathedral territory of Mizieb ir-Rih on the valley floor, the enclosures belonging to the *Fondazione Lascaris* spread along the Bajda Ridge, the magistral territory of Ghajn Tuffieha to the south, the territory belonging to the *Università* to the north, and the property of the *Fondazione di Redenzione* around Selmun to the north-east. That exercise made it possible to peg dates to various relics of occupation in a region of northern Malta, relics that define the agricultural organization and utilization of the landscape at its most basic level: field enclosure rubble walls, terraces, access roads and pathways, cave and other forms of settlement. In what follows we comment on some of these features in order to highlight the ramifications that a study of historical documents can have on an archaeological survey which has as its scope an understanding of the material organization of the landscape.

Although the investigated area is now crisscrossed by several roads, few public access routes existed before the mid-19th century. In the 17th and 18th centuries, three roads crossed the Bajda ridge northwards. To the west, a road descended into the Pwales valley from Tal-Palma and Ġhajj Tuffieħa respectively to join at Manikata, dropped into the Mizieb valley and climbed up the ridge above Ġhajj Żnuber. In the *cabreo magistrale* of 1654, one of these roads is described as '*la strada che viene dal giardino di hayn Tofeha e va al sbarcatore del Gozzo*'.⁵⁴ The stretch of road in the valley bottom at Mizieb between the fields known as '*ta Schiatba*' and '*il Catgha tal Ghain Żnuber*' is also shown in the enclosure map drawn up by Cathedral surveyors dating to the 1620s. The road to the east which climbs the Bajda ridge from Xemxija bay behind the redoubt (built in 1715/16), and descended into the valley was known in the written survey of the immoveable property of the Lascaris foundation as the '*salita per la quali si va alla Madonna della Mellecha*'.⁵⁵ The documents cited here allow relics of the landscape long viewed in a mood of open naiveté to be studied in a historical context. For instance, the road just described and others that crisscross this area orthogonally have long been thought to be Roman roads on account of their straight alignment and impressive engineering.⁵⁶ In actual fact, all straight roads on the Bajda ridge and in northern Malta do not appear in the Order's *cabrei*. They are post 1850 in date and were built by British engineers to service a large territory that was divided up in rectilinear parcels of land. They are evidence of the attempt by the Colonial government and the *Società Economica Agraria* to reclaim garigue (known as wasteland) for agricultural purpose or to improve the quality of what existed already.⁵⁷ The boundary walls, built in dry rubble, are orthogonal to the roads and they superimpose – often physically – an earlier pattern of shallow contour terraces which appear in 18th century *cabrei*. It is possible, in fact, to write a "wall-to-wall history" on the basis of close observation and study, creating a relative sequence of wall types which are after all ubiquitous features of limestone landscapes anywhere.⁵⁸ Such a technical exercise should be led by economic and social considerations, often the driving-force behind the investment of labour and capital, which may have overridden concerns driven solely by environmental possibilities and constraints.⁵⁹ Such an approach should also direct the investigation into human habitation in marginal landscapes, such as those in northern Malta, where corbelled huts (*giren*) and caves, often assumed to be Medieval settlement forms,⁶⁰ are found. It is telling, for example, that the huts that dot the garigue in the Cortino di Hain Tofieħa (Xaghra l-Hamra area) are missing from the *cabreo* of the Lascaris foundation; instead a description is given of the sole farmstead, still standing to this day: "*una granda stanza di pietra [...] coperta di balati*".⁶¹

We close with a comment on water sources, one vital ingredient in sustaining settlement on islands with limited annual rainfall. The work of archaeologist K. Buhagiar has done a lot to highlight the importance of *qanat*-type water galleries to tap rainwater from the perched aquifer.⁶² He is convinced that the system may date back to the Arab occupation of Malta which may very well be but still needs to be proven. We believe that in the absence of direct evidence a closer scrutiny of Early Modern documentary sources may provide data to make a stronger case, working by elimination.⁶³ The 1620s estate map of Mizieb ir-Rih mentioned earlier includes three important water sources – ‘fontane’ – on the south flank of the Mellieħa ridge. One of these, Ghajn Zhuber, which falls in territory long held by the *Mdina Università*, was highlighted in the Morris report of 1952 which includes a plan of its rock-cut gallery and ventilation shafts.⁶⁴ That the Order of St John knew about similar water galleries is known from reports commissioned to assess their state. One, compiled in 1718 by the French engineer M. Blondel, includes a fine map of the system underlying Rabat.⁶⁵ We also know that one such gallery, dry but visible to this day, supplied the hamlet at the northern end of the Ghajn Tuffieħa territory with water. In 1654, the *cabreo magistrale* relates that repairs had been made to it: “[...] *vi sono state fatte in detto fego molte reparazioni e particolarmente della mina e beveratura sotto le grotte in detto fego.*”⁶⁶ This datum provides us with a significant *terminus ante quem* for the existence of this water gallery.⁶⁷

We write this study at a time when property development and a systematic programme of road construction are fast unmaking those very features that give character and a time depth to the Maltese landscape besides endangering archaeological resources as never before. We can only hope that work on the lines suggested here be utilized to identify, record and understand the landscape. After all, “*landscape has an important public interest role in the cultural, ecological, environmental and social fields, and constitutes a resource favourable to economic activity and whose protection, management and planning can contribute to job creation*”.⁶⁸

NOTES

- ¹ B. K. Roberts, 'Landscape Archaeology' in J.M. Wagstaff (ed), *Landscape and Culture: Geographical and Archaeological Perspectives*, (Oxford, 1987), 77-95.
- ² The term palimpsest has long been used to describe landscapes; see C. Taylor, *Village and Farmstead: A History of Rural Settlement in England*, (London, 1982) and for its use more recently, B. Bender, *Stonehenge: Making Space*, (Oxford, 1998).
- ³ M. Bloch, *Les caractères originaux de l'histoire rural française* (Oslo, 1931); W. G. Hoskins, *The Making of the English Landscape*, (London, 1955). There are those who are adamant that the historical document is fundamental to provide firm evidence for landscape change and encourage a richer analysis of social and economic change; see D.W. Holdsworth, 'Landscape and archives as texts', in P. Groth and T.W. Bressi (eds), *Understanding Ordinary Landscapes*, (New Haven, 1997), 44-55. For a classic example in this genre, see A.H. Galt, *Far from the Church Bells: Settlement and Society in an Apulian Town*, (Cambridge, 1991).
- ⁴ For landscape as a "stratified document" see L. Bartolotti, *Storia, Città e Territorio*, (Milano, 2002), 64.
- ⁵ Recent archaeological field survey work in the Mediterranean has also highlighted the importance of ethnoarchaeological observation to provide a detailed historical context for the material culture patterns preserved in the abandoned landscape; on this see T.M. Whitelaw, 'An ethnoarchaeological study of rural land-use in north-west Keos: insights and implications for the study of past Aegean landscapes' in N.P. Doukellis and L.G. Mendoni (eds), *Structures rurales et sociétés antiques. Actes du colloque du Corfou, 14-16 mai 1992*, (Paris, 1994), 163-186.
- ⁶ H. Bowen-Jones, J. C. Dewdney, W. B. Fisher, *Malta: Background for Development*, (Durham, [1961]).
- ⁷ On William H. Reid's contribution to the improvement of agriculture in Malta see, O. W. Blouet, 'Sir William Reid, F.R.S, 1791-1858: Governor of Bermuda, Barbados and Malta', in *Notes and Records of the Royal Society of London*, 40/2, (1986), 169-191. On the wider ramifications of agricultural improvement much can be learnt from S. Tarlow's *The Archaeology of Improvement in Britain 1750-1850*, (Cambridge, 2007).
- ⁸ A copy of the thesis is available in the Melitensia section of the University of Malta library (Classmark: MZT, A). Other publications by B. Blouet dealing mainly with land reclamation are his 'Some observations on the distribution of *xaghra* place-names in Malta', in *Journal of Maltese Studies* 4, (1967), 81-84 and 'The distribution of marshland in Malta during the seventeenth century', in *Journal of Maltese Studies* 2 (1964), 198-204.
- ⁹ The contribution by G. Wettinger was published in *Proceedings of History Week* (1981).
- ¹⁰ The chapter was published in A. Luttrell (ed), *Medieval Malta: Studies on Malta before the Knights*, (London, 1975), 181-216. Some of Luttrell's own remarks in the introduction to the same volume (pp. 1-70) are worth serious consideration but the pessimistic stance on the unlikelihood of finding pottery scatters (p. 13) ought to be revised. An archaeological fieldwalking project undertaken by the universities of Malta and Ghent (Belgium) and the Superintendence for Cultural Heritage (Malta) in northern Malta in September 2008 recovered 20,000 sherds over two weeks in an area of less than 2 km².
- ¹¹ Grima's methodology could be applied with profit to the early historic period on which see N.C. Vella 'Unravelling past agricultural landscapes in the Maltese Islands: making a case for the Phoenician and Punic periods' in A.M. Aruda, C. Gómez Bellard and P. van Dommelen (eds), *Sítios e Paisagens Rurais do Mediterrâneo Púnico*, (Lisboa, 2007), 69-85, and A. Bonanno, 'L'habitat maltese en età romana', *Kokalos* 22-23 (1976-1977), 385-395.
- ¹² The contribution is published in A. Mifsud and C. Savona Ventura (eds), *Facets of Maltese Prehistory*, (Malta, 1999), 41-75.
- ¹³ See for example, S. Zerafa, *Florae melitensis thesaurus, sive Plantarum Enumerato quae in Melitae Gaulosque insulis ant indiginiae ant vulgatissimae occurrunt*, (Malta, 1831); J.C. Grech Delicata, *Flora Melitensis systems stirpes Phaneorgans in Melita Insulisque adjacentibus hucusque detectas*, (Malta, 1853). Such studies, combined with palynology should offer exciting insights into the ecological history of the Maltese Islands. For a case study, see C.O. Hunt and N.C. Vella, 'A view from the countryside: pollen from a field fill in Mistra Valley, Malta', *Malta Archaeological Review* 7 (2004-2005), 61-69.
- ¹⁴ On Abela's topographic description see J. Galea, 'Topography of Malta in Abela's times', *Essays in honour of G. F. Abela by members of the Malta Historical Society*, (Malta, 1981), 38-48.
- ¹⁵ To our knowledge, no history of land surveying and topographic map production in nineteenth-century Malta, or indeed of the preceding centuries, exists; the agrarian contribution to land surveying initiatives would seem to us to be worthy of study especially if seen against the development of the Ordnance Survey in Britain (see

W.A. Seymour, *A History of the Ordnance Survey*, (Folkstone, 1980). The cartographic production related to Malta before 1800 has been studied by A. Ganado in several publications, including *A study in depth of 143 maps representing the Great Siege of Malta of 1565*, (Malta, 1994-1995) co-authored with M. Agius-Vadala, and *Valletta città nuova: a map history* (1566-1600), (Malta, 2003).

¹⁶ *Descriptive Plans of the Crown Property in Malta and its Dependencies*. 4 vols. 1861-1867. The survey was conducted under the administration of Lieutenant General Sir John Gaspard Le Marchant G.C.M.G. Governor and Commander in Chief and under the direction of E. L. Galizia, Chief Surveyor, Department of Land Revenue and Public Works.

¹⁷ These include: Rendenzione Monte di Pietà; Santo Spirito; Maddalena-Barone Inguanez, Barone Xerri, Notaro C. Gatt; Redenzione and Santo Spirito; Maddalena-Barone Inguanez, Barone Xerri, Notaro C. Gatt, Legato.

¹⁸ Annotations in pencil and ink on these maps relate to files belonging to various government departments. Access to some of these files and other records, especially recent ones, may be restricted by the provisions in the Data Protection Act.

¹⁹ The Hydrography of Sicily, Malta, and the adjacent Islands; surveyed in 1814, 1815, and 1816 under directions from the Right Honourable the Lords Commissioners of the Admiralty, by Capt. William Henry Smyth, R.N.K.S.F. Fellow of the Astronomical and Antiquarian societies of London, (London, 1823).

²⁰ Portolans have been discussed in a preliminary study by F. Theuma, 'Across the wine dark sea: Early Modern portolans from Malta', presented at the 5th *International Congress of Maritime History*, Greenwich, (UK, 2008).

²¹ A. Cassola, 'The Maltese toponymy in three ancient Italian portolans 1296-1490', *Al-Masaq* 5 (1992), 47-64.

²² For a general survey of archives in Malta see *Notum sit omnibus ... A selection of documents from public and private archives in Malta and Gozo: exhibition catalogue*, (Malta, 2002).

²³ *List of Volumes and other Documents of the Order of St John of Jerusalem and of the Municipal Institutions known as the Università, preserved in the Government Treasury*, Institute of Historical Research Malta, 3 (1932). The Hill Museum and Manuscript Library catalogue can be searched at www.hmml.org.

²⁴ Of particular significance are the manuscript volumes making up the series of cabrei, *Beni della Cattedrale* which cover the period 1528-1830.

²⁵ Two volumes are particularly important: *Descrizione generale di tutt'i beni stabili esistenti nella isola di Malta e Gozo spettanti alla S. Chiesa Cattedrale Arcivescovile di Malta colle loro denominazioni, piante, capacità, comrade, confine, concessioni, ed annuo canone; e di alcune Ricognizioni terminate correndo l'anno 1838 coll'indice generale nel fine del Sacerdote Giuseppe Maria Cachia Cancelliere Capitolare; Judicale Inventarium Bonorum*. 1759 (property belonging to the Mensa Vescovile). Others are listed in the catalogue of the Hill Monastic and Manuscript library: www.hmml.org/centres/malta/cathedral/aam/aam-cabr.html.

²⁶ A description of property held by the Inquisition is given in *Stato antico ed attuale de' Beni del Sant'Officio* – Archives of the Inquisition of Malta, Mem. 15 (1754-1759), referred to in F. Ciappara, *The Roman Inquisition in Enlightened Malta*, (Malta, 2000), 105, n. 13; see also F. Ciappara, The landed property of the Inquisition in Malta in the late XVIII century, in *Melita Historica* 7/1 (1976), 43-60.

²⁷ The extent of the territory of Mizieb ir-Rih, starting from the 17th century, has been defined in Hunt and Vella, *A view from the countryside*.

²⁸ NAM, P[ublic] W[orks] 201-252 (1814-1900).

²⁹ NAM, PW 172-174 (1852-1857).

³⁰ NAM, PW 175 (1853-1854).

³¹ NAM, PW 176 (1816-1862).

³² In the series *Documentary Sources of Maltese History* published by the University of Malta, the notarial documents of Giacomo Zabbara (1486-1488, 1494-1497, 1471-1500) have already appeared in 3 volumes edited by S. Fiorini. A host of unpublished dissertations by History undergraduates are also available for consultation at the University library.

³³ Blouet, *Changing Landscape*, 92; a complete inventory of these tablets does not exist and is a major desideratum.

³⁴ Much has been done using private archives by J. Montalto in his *The Nobles of Malta 1530-1800*, (Malta, 1979); on Medieval fiefs see also H. Bresc, *The Secrezia and the Royal Patrimony in Malta: 1240-1450* in A. Luttrell (ed), *Medieval Malta: Studies on Malta before the Knights*, (London, 1975), 126-162.

³⁵ Extensive German air photo coverage of Malta was carried out between 1941 and 1943. The photographs are preserved in the United States National Archives at College Park, Maryland; see M. Abicht and R. Standing,

'Malta in camera, early air survey in the Mediterranean (paper abstract)' in N. C. Vella (ed), *The Fourteenth Annual Meeting of the European Association of Archaeologists* 16-21 September 2008, (Malta, 2008), 232. P. Saliba's poster communication at the same conference (p. 334) highlighted the importance of the collection of aerial photographs kept at the Malta War Museum Association and the Malta Environment and Planning Authority.

³⁶ On travelogues, the work of T. Freller is indispensable; see for instance his *Gozo: The Island of Joy*, (Malta, 1997). Landscape paintings may appear subjective, but were not independent of predominant worldviews. On landscape as a genre of painting in the 16th and 17th centuries, see T.M. Vella, *The Visual Representations of Land between the 16th and 17th centuries: An introduction to the Early Modern preoccupation with land in European societies*. Unpublished MA dissertation (University of Malta, 1999).

³⁷ B. Scicluna, *Charles Frederick de Brocktorff: Watercolours of Malta at the National Library of Malta, Vol. I*, (Malta, 2007).

³⁸ M. Harker, *Photographers of Malta, 1840-1990*, (Malta, 2000); G. Bonello, *Nostalgias of Malta: Images by Geo Fürst from the 1930s*, (Malta, 2006).

³⁹ The six-figure grid reference for some place-names appears in an appendix to Wettinger's *Lost villages and hamlets of Malta*, 205-216.

⁴⁰ N. Tagliaferro, *Vocabolario topografico dell'Isola di Malta (1900-1905)*. Unpublished manuscript, University of Malta library; see L. Muscat, *Napoleon Tagliaferro: his life and works with an edition of his "Vocabolario topografico di Malta"*. Unpublished BA dissertation (University of Malta, 1970).

⁴¹ The history of the *cabreo* has been researched by L. Ginori Lisci in *Cabrei in Toscana: raccolte di mappe, prospetti e vedute, sec. XVI-sec. XIX* (Lucca, 1978). We are grateful to Teresa Zammit Lupi who kindly brought this book to our attention and lent us a copy. Zammit Lupi has studied and conserved one *cabreo* recording the property of Fra Mario Bichi (1653-1712) in San Pietro in Camollia in Siena, dated to 1692 and currently at the National Library of Malta; see 'The *cabreo* of Fra Mario Bichi', *Treasures of Malta* 8/2 (2002), 59-63. It has not been possible for us to consult a copy of *Cabrevatio Bonorum: Priorati, ballaggi e commende dell'Ordine di Malta*, (Perugia, 1997) brought to our attention by Dr A. Luttrell.

⁴² See D. Fletcher, 'Map or terrier? The example of Christ Church, Oxford, estate management, 1600-1840', *Transaction of the Institute of British Geographers* 23 (1998), 221-237.

⁴³ All details are to be found in Blouet, *Changing Landscape*, 72 including the reference to AOM 257, f. 152.

⁴⁴ The *cabreo* consists of one volume, Treas. B 289. See Blouet, *Changing Landscape*, 73 with the reference to AOM 118 Liber Conciliorum 1652, 1653, 1654, f. 186v.

⁴⁵ NLM Treas. B 305: *Cabreo de' Beni Spettanti alla Fondazione Grotta di San Paolo*. 1705.

⁴⁶ NLM Treas. B 301: *Cabreo de' Beni Spettanti alla Fondazione Lascaris Vol. I*, 1784; Treas. B 301A: *Cabreo de' Beni Spettanti alla Fondazione Lascaris Vol. II*, 1779; Treas. B 302: *Cabreo de' Beni Spettanti alla Fondazione Lascaris Vol. III*, 1784.

⁴⁷ NLM Treas. B 300: *Cabreo Universale de' Beni Stabili della Fondazione Cotonera principiato l'anno 1737*. The compilation of the *cabreo* started in 1732.

⁴⁸ NLM Treas. B 310: *Cabreo o sia descrizione della Fondazione Manoel 1734*; NLM Treas. B 311: *Tomo secondo del Cabreo della Fondazione Manoel* [1736]. An appraisal of these two *cabrei* has been published by C. Thake in 'The *cabreo* of the "Fondazione Manoel"', *Treasures of Malta* 3/1 (1996), 47-52.

⁴⁹ NLM Treas. B 309: *Cabreo de Beni del Venerando Monte della Rendenzione de'Schiavi di quest'Isole di Malta e Gozzo*. The *cabreo* was completed in 1735.

⁵⁰ NLM Treas. B 303: *Cabreo o sia Descrizione di tutti li Beni Stabili cosi urbani, come rustici [...] dell'Università della Città Notabile, ed isola di Malta*. 1750.

⁵¹ An insight into the production of a *cabreo* can be gleaned from a comparison of the 18th-century *cabrei* Treas. B 290 and 291. The latter volume consists of the plots of plans drawn from a physical survey carried out by triangulation; the traverse, in pencil, is shown. Templates in thick paper of the property outline survive in the volume. With these were drawn the boundaries of the same properties in Treas. B 290 which were then given watercolour washes.

⁵² Blouet reconstructed the road network existing in Malta in 1650 on the basis of information gleaned from the *cabreo magistrale*; see *Changing Landscape*, fig. 6.11. On a study of roads in Malta, see C. Debono, *The Road Network of the Maltese Islands: A Case Study in Historical Geography*. Unpublished BA (Hons) dissertation (University of Malta, 2006).

⁵³ Hunt and Vella, *A view from the countryside*, especially figs 1, 2 and 4.

⁵⁴ Treas. B 289, ff. 94-95.

⁵⁵ NLM Lib. 1302, ff. 21-22.

⁵⁶ For example see H. Lewis, *A Guide to the Remote Paths and Lanes of Ancient Malta* (UK, 1974), 15-16 and E. Theuma, *San Pawl il-Bahar: a guide*, (Malta, 2003), 21ff.

⁵⁷ See Hunt and Vella, *A view from the countryside*, 69 n. 18.

⁵⁸ We take our cue from the work by R. Hodges, *Wall-to-Wall History: The Story of Roystone Grange*, (London, 1991). On Maltese rubble walls see the preliminary studies by C.O. Hunt conducted as part of the Gozo survey project in the late 1980s: A. Jones and C. Hunt, 'Walls, wells and water supply: aspects of the cultural landscape of Gozo, Maltese Islands', *Landscape Issues* 1/2 (1994), 24-29 and 'Cultural influences on the landscape of Gozo island, Malta', *Topos* 6 (1994), 37. For a useful typology of drystone walls see *Dry-stone work: Materials, tools and traditional techniques in the Mediterranean Islands Vol. 2: Mallorca* (Palermo, n.d.). Familiarisation with the literature on south-east Sicily is a must if only because the island was Malta's dispersed hinterland for many centuries; see M. Giorgianni, *La pietra vissuta: Il paesaggio degli Iblei*, (Palermo, 1978) and P. Tiralongo, *Pietra su Pietra: Architettura in pietra a secco degli Iblei* (Palermo, 1998).

⁵⁹ On this point see P. Horden and N. Purcell, *The Corrupting Sea: A Study of Mediterranean History*, (Oxford, 2000), 234-237.

⁶⁰ M. Buhagiar, *The Late Medieval Art and Architecture of the Maltese Islands*, (Malta, 2005), 44; see also D. Mallia, 'Indizi sull'architettura autoctona tra Malta e gli Iblei' in A. Bonanno and P. Miiello (eds), *Malta in the Hyblaens, the Hyblaens in Malta/Malta negli Iblei, gli Iblei a Malta*, (Palermo, 2008), 269-281. An interesting study on the use of caves in the long term is by J. Chircop, 'Margined people of the karstland: pastoral cave-centred survival strategies in the central Mediterranean' in M. Emmanuelson and E. Johansson (eds), *Peripheral Communities. Crisis, Continuity and Long-Term Survival*, (Uppsala, 2008), 245-260.

⁶¹ NLM Lib. 1302, f. 20v. *Giren* are the subject of an on-going in-depth study by Ernest Vella for an MA in Archaeology. The potential of linking the technical study of traditional farmhouses (as in C. Jaccarini's *Ir-Razzett: The Maltese Farmhouse*, (Malta, 2002)) with dated documentary sources is still untapped. The same can be said of apiary huts (*mgiebah*) often assumed to be of Roman date by specialists and amateurs alike; see A. Camilleri, "*Fejn jinzamm in-nahal l-mgiebah jitravmu*": *A Case Study in Industrial Archaeology*. Unpublished BA (Hons) dissertation (University of Malta, 2003).

⁶² K. Buhagiar, 'Water management strategies and the cave-dwelling phenomenon in Late-medieval Malta', *Medieval Archaeology* 51 (2007), 103-131.

⁶³ An attempt should be made to stay clear of certain pitfalls. The fine publication *A Study of Landscape and Irrigation Systems at Is-Simblija limits of Dingli, Malta and Conservation Project*, (Malta, 2002) co-authored by P. Saliba, J. Magro Conti and C. Borg, who worked along the lines suggested here, is marred by the cautious insistence that the Simblija hamlet outside Rabat, Malta, is of medieval date. We suspect that participation in the EU project which funded the survey conditioned the final publication and its conclusions.

⁶⁴ T.O. Morris, *The Water Supply Resources of Malta* (Malta, 1952).

⁶⁵ NLM, Univ. 187, ff. 11v-12. A reference to this work is to be found in E. Theuma's interesting article 'Qanat, Saqqajja and Roman aqueduct system at Rabat, Malta', in T. Cortis (ed), *Proceedings of History Week 2003*, (Malta, 2004), 75-100.

⁶⁶ NLM, Treas. B 289, f. 94.

⁶⁷ This reference is also useful as it pre-dates the possibility that the *qanat*-system of water retrieval was introduced to Malta from the Balearics when the Cotoner grand masters (1660-1680) brought with them windmill technology from their island home Mallorca. On windmill technology transfer, facilitated by similar geology on both islands, see M.O. Moragues and B. Bestard, 'Geografía sanjuanista en Mallorca' in *La Orden de Malta, Mallorca y el Mediterráneo* (Mallorca, 2000), 199-211 especially pages 207-208. Water retrieval on Mallorca has been studied by M. Barceló, M.A. Carbonero, R. Martí, G. Roselló-Bordoy, *Les aigües cercades (Els qanât(s) de l'illa de Mallorca)*, (Palma de Mallorca, 1986).

⁶⁸ The statement is from the preamble of the European Landscape Convention - www.coe.int/dg4/cultureheritage/Conventions/Landscape/default_en.asp - which the Government of Malta signed in Florence in 2000 but has so far failed to ratify.