
A stratigraphic study of the *giren* at Ix-Xagħra l-Ħamra, limits of Mellieħa, Malta

Ernest Vella

The history of the Maltese corbelled hut, known as il-girna (pl. giren), dispersed in the karstic plains of the Maltese islands has been quite elusive. Little is known about these dry-stone buildings. Queries related to the origins and role of the present giren in the development of the historical rural Maltese landscape remain partially unanswered. This article will present a synthesis of a research exercise that made use of an archaeological approach to study architectural structures such as the girna (Vella 2010). Such an exercise had as its principal objective the understanding of the reasons for construction of the corbelled hut and its dating. The methodology of study proposed is based on the principles of archaeological stratification combined with Landscape Archaeology and Historical Archaeology, starting with the premise that any structure needs to be understood as a cultural unit within its landscape. Thus farmhouses, corbelled huts, rubble walls, apiaries and so forth, as well as artificial spaces including fields, surface-quarries, roads and pathways, are perceived as cultural units within the landscape. At this point, landscape is not seen as a mere backdrop but recognised as a cultural palimpsest, preserving traces of past use, similar to stratified layers in an archaeological excavation. Hence the girna is understood as a unit within a stratigraphic sequence that can be represented through a matrix. Additionally, historical documents are utilized to obtain a chronological base for the structures built in the rural landscape. Consequently, the stratigraphic sequence is pegged to the dates obtained from the historical documents, making it possible to date particular units within it, including the girna. This method shows that it is possible to study the archaeological stratification of cultural units in rocky terrain where archaeological excavation is not possible because the terrain lacks discernible archaeological deposit.

Introduction

Corbelled huts are not just a Maltese phenomenon but are spread throughout Western Europe and the Mediterranean region. Different types of corbelled huts can be found in several countries across Europe including the British Isles, Switzerland, France and Germany. Corbelled huts extend through the western Mediterranean basin including Spain and the Balearic islands, Italy and Croatia, and are also found in the eastern Mediterranean basin such as in Crete, Israel and Palestine. Southwards one can find corbelled huts in North Africa, as in Egypt and Morocco. Previous studies have shown that there is a whole typology of corbelled huts, reflecting the different cultures of the people who built and used them (Rohlf 1963; Juvanec 2004). However all these buildings have three

characteristics in common: they are built of undressed stones, are built in dry-stone technique, and are roofed through the corbelling technique.

Definition of a corbelled hut

The corbelled hut is an architectural structure mostly built from undressed stones that occur naturally in the area or are quarried from the surface of the bedrock. The most widely used stone is frost-shattered outcropping limestone, but sandstone, granite, schist, *breccia*, basalt and pumice stone are employed, depending on the geology of the area (Rohlf 1963, 11; Lassure n.d.)

A distinctive characteristic of the corbelled hut is the roofing system. All corbelled huts are roofed

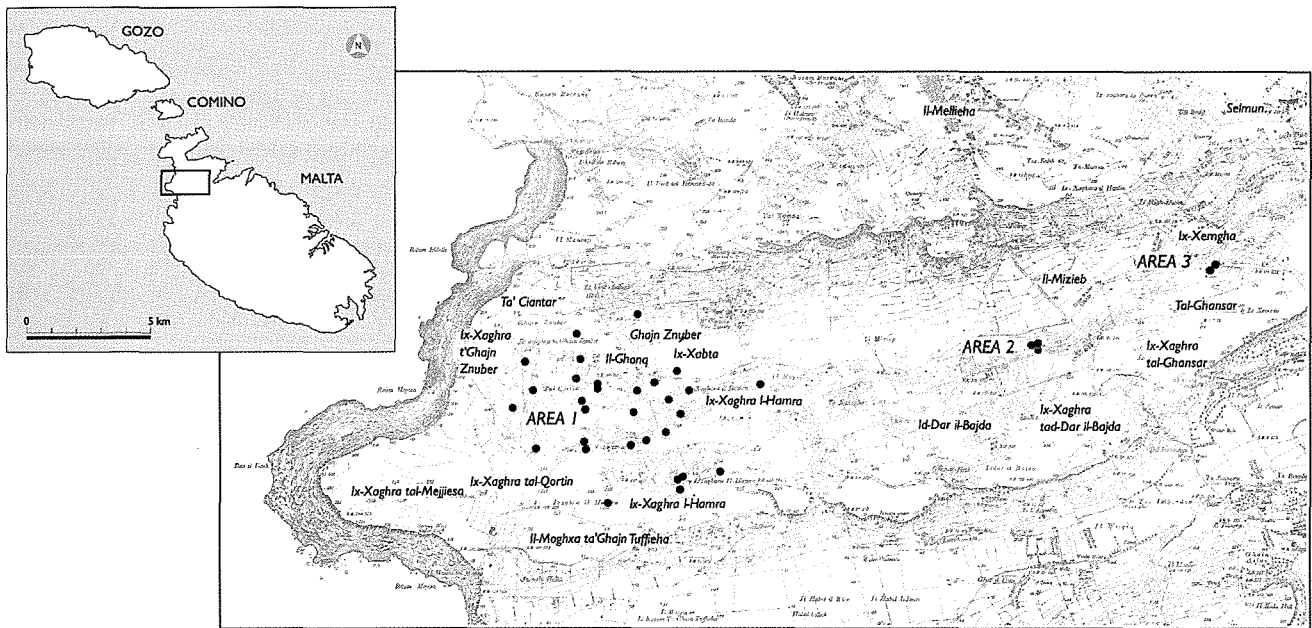


Figure 1. (a) A map of Malta highlighting the three areas under study as an inset; (b) inset showing the Bajda Ridge with place-names mentioned in the text and the distribution of *giren* superimposed on a 6 inches to the mile map (1971).

using the corbelling technique. The stones are laid in courses so that the upper course slightly overhangs the underlying course. Thus succeeding courses curve inward gradually until they almost meet at the top. The final layer ends with a single capstone if the hut has a circular plan or with several slabs if it has a quadrangular plan (Rohlf 1963, 11; Cassar 1961, 67; Thake 1987, 32; Fsadni 1992, 15; Jaccarini 2002, 169). Furthermore the stones are laid without the help of binding agents such as mortar or cement (Cassar 1961, 65; De Lucca 1984, 13; Fsadni 1992, 15, 81; Juvanec 2004, Lassure n.d.). In fact, all corbelled huts in different regions share these three main features although they may differ in plan and in elevation. Different types of corbelled hut can be found throughout Europe, the Mediterranean, North Africa and on the Levantine coast (Rohlf 1963; Fabinić 1987, 334; Gnesda 1996, 24; Micati 2001, 8,15; Di Rosa 2002, 184-5; Lassure 2002, 1; Juvanec 2004, 6).

The study of the *girna*

In order to put this study into context, a cursory overview will be given of earlier studies about the *girna*. The first scholarly study was written

by the medical historian Paul Cassar in 1961. His work concentrated on the origins of the Maltese corbelled hut. He approached this by investigating the architecture of the *girna* (Cassar 1961). Maltese scholars who took an interest in this subject followed suit and remained preoccupied with the origins and functions of the *girna*. They continued to emphasize an architectural approach towards the study of the Maltese corbelled hut (e.g. Thake 1987; Fsadni 1992; Jaccarini 1998; Buhagiar 1993, M. Buhagiar 2005). Meanwhile, Italian and French researchers started to apply historical analysis to the corbelled huts found in their respective countries (e.g. Artigues 1979, 41-44; Mirizzi 1987, 467; Lassure 2001, 1). Research in notarial deeds, terriers and other cartographic sources, contracts and photographs started unearthing answers about the function and sometimes the origins of particular corbelled huts. Such documents revealed, for instance, that the *trulli* of the Puglia region in Italy were already being built in Calabria by the late fourteenth century, and corbelled huts in France were also being constructed during the seventeenth century and up to the early twentieth century (Mirizzi 1987, 466-88; Lassure 2001, 11; Micati 2001, 55). Through the decades, spanning from the 1970s to the early 1990s, corbelled huts

were being excavated in Vaucluse, Gard and Uzège, in France. These excavations demonstrated that the earliest layers of occupation in these huts dated to the middle of the nineteenth century (Lassure 1979, 6; Chevalier-Devron 1994; Lassure 2002, 1-2).

This development in the study of corbelled huts confirmed the need to take a multidisciplinary approach to the study of the *girna*, mainly through the disciplines of archaeology and history. It is being proposed that the *girna* should be understood not only as an architectural building on its own, but also as a cultural unit within its context, that is, its surrounding landscape (Vella 2010, 44). In this article a cultural unit is taken to mean any artefact, structure or feature that stands above the surface.

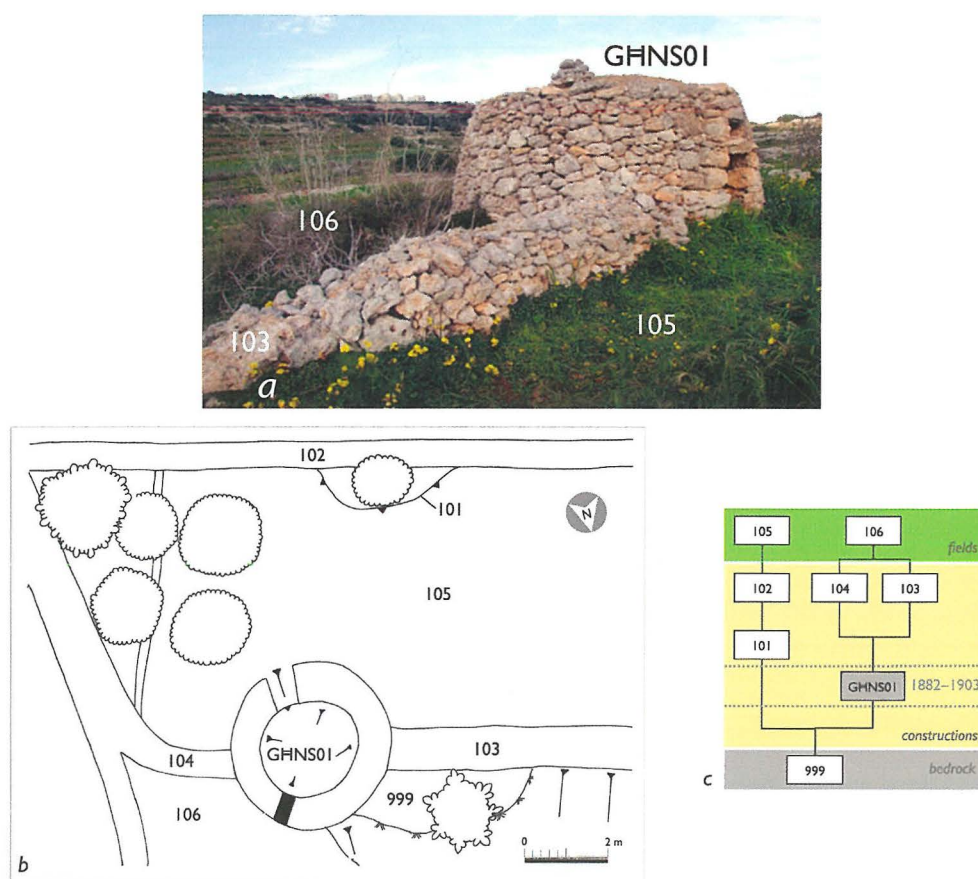
A proposed methodology for the study of the Maltese *girna*

This approach entails considering the landscape (the context of the *girna*) as a palimpsest that can be investigated through the principles of archaeological stratification. Hence, if the landscape is seen to be

an ancient parchment that has been written over and erased imperfectly between successive uses, then the visible written text on the parchment is the most recent cultural material in a landscape, whilst the traces of erased text are the earlier phases of past actions (Crawford 1953, 52; Roberts 1996, x; Johnson 2007, 5; Vella & Spiteri 2009, 16). Like the signs of erased text, remains of early structures or deposits may be partially obliterated or hidden within the present landscape (Crawford 1953, 51-52; Johnson 2007, 57). This makes it possible to study the cultural units present on the surface of the landscape retrogressively, peeling layer by layer from the most recent to the most ancient, following the principles of archaeological excavation (Rippon 2004, 10). Consequently, matrices of such stratifications may be compiled.

To test this methodology, the *giren* in the area of Ix-Xaghra l-Hamra, Id-Dar il-Bajda and tal-Għansar, in the north-western region of Malta, were surveyed systematically (Fig. 1). Meanwhile the history of the area was investigated through documentary sources, namely archival records, in an effort to understand the development of land-use in the area over the

Figure 2. *Girna* GHNS01 (a) and adjoining features (b) with stratigraphic matrix (c). Photograph and drawings by Ernest Vella. Digital elaboration by Maxine Anastasi.



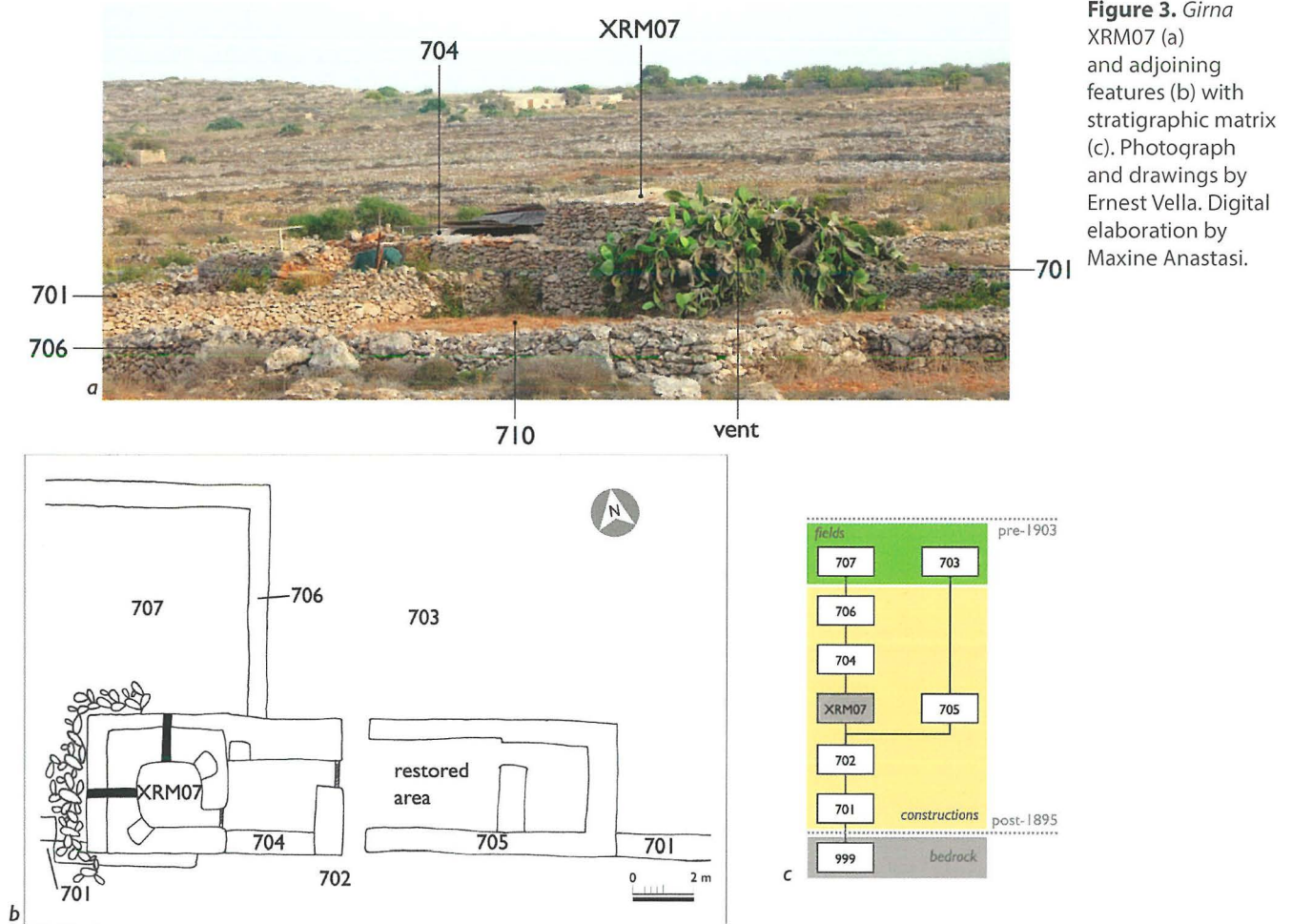


Figure 3. Giren XRM07 (a) and adjoining features (b) with stratigraphic matrix (c). Photograph and drawings by Ernest Vella. Digital elaboration by Maxine Anastasi.

last 325 years. Finally, a Harris matrix was drawn up for a select number of *giren*. These matrices were compared to the accounts recorded in the archival records. Through this exercise it was possible to understand better the role that the *giren* played in the development of the rural landscape. Moreover, this correlation provides sufficient evidence to posit an absolute date for a number of *giren* (Vella 2010, 54, 238).

The field survey

The survey was conducted in August 2007, February and March 2008. In all 37 *giren* were identified, recorded and studied. Each field survey exercise started from a particular *giren* and proceeded to the surrounding area. The field survey recorded the place name, the geographical position of the site, the relief, geology and pedology of the area surrounding the *giren*, and also the natural vegetation cover. Any

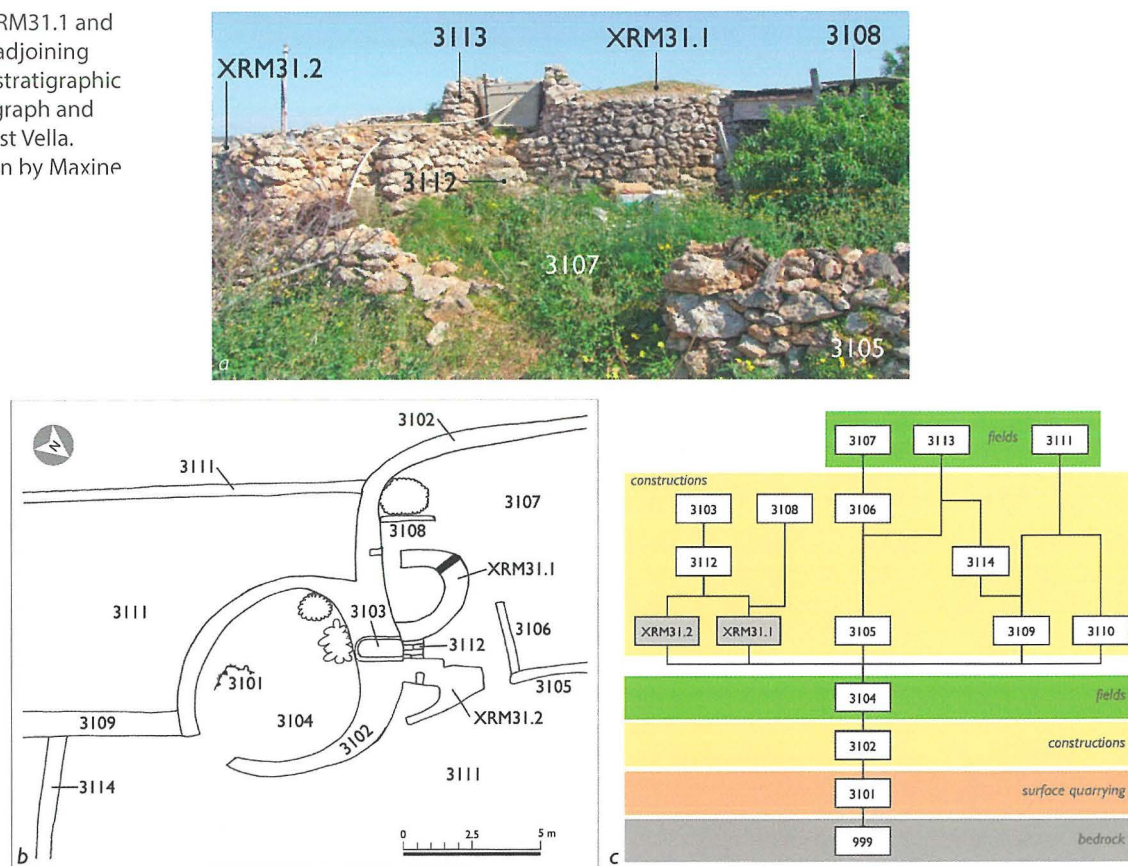
hydrological systems as well as type of land use were also noted. Furthermore, cultural units, including rubble walls, surface quarrying, water catchment systems and field patterns were also recorded and given a stratigraphic unit. These units were recorded in apposite plans, sections, elevations and photographs that were produced (Vella 2010, 71-72).

A brief description of the areas surveyed

The areas are found lying along the northern slopes of the Bajda Ridge in northern Malta. The Bajda Ridge is a part of a series of ridges and basins that were formed by tectonic movements (Scerri 2005, 27; Camilleri 2002, 12). The areas where the field survey was conducted are located in the Miżieb basins nestled between the Mellieħa ridge to the north, and the Bajda ridge to the south.

The Ix-Xaghra l-Hamra area dips eastwards towards the Miżieb syncline and climbs westwards

Figure 4. *Giren* XRM31.1 and XRM31.2 (a) and adjoining features (b) with stratigraphic matrix (c). Photograph and drawings by Ernest Vella. Digital elaboration by Maxine Anastasi.



at Tal-Qortin. Here the land rises into a promontory that breaks into the Il-Majjiesa cliffs. Weathering and the Blue Clay have eroded the sheer cliffs into boulder scree cliff sides (Scerri 2005, 31). The fields at Id-Dar il-Bajda are situated on the north-western side of the Bajda ridge. These fields are located where the Mizieb basin starts to rise southwards to form the sides of the Bajda Ridge (House *et al.* 1961, 38). The other fields, at Tal-Għansar on the eastern part of the Bajda Ridge, are located on the northern side of the limestone ridge that dips into the Mizieb basin (Hunt & Vella 2005, 62).

The rock surface of the areas surveyed is made up of Upper Coralline Limestone. The rock surface of Ix-Xaġhra l-Hamra is of the Ġebel Imbark Member, whilst the rock at Id-Dar Il-Bajda and Tal-Għansar is of the Tal-Pitkal Member (Scerri 2005, 26). The rock typical of these areas is known to be a thin layer, referred to by farmers as *tal-inforra* (J. Buhagiar 2005, 15). This rock allows for water percolation and root penetration, which help the farmers to sustain good crops in spite of the shallow soil (J. Buhagiar 2005, 15).

A brief history of the area

A retrogressive approach was adopted for the study of the history of the area. Thus, the historical analysis started from the latest document, being the 1971 survey sheets to the earliest, that of the property book or *cabreo* of the Order of St John's Fondazione Lascaris dating to 1646 (Vella 2010, 81). The cartographic material showed how land use was recorded during the last three hundred years. For instance, in the latter half of the nineteenth century, two tenements were reorganized and renamed. This implies a change in tenement ownership probably because of the increase in the number of tenants working the area. This change occurred during the period when the tenement that pertained to the Fondazione Lascaris was partitioned into smaller allotments. It is against this background that the first standing *giren* in this area appear to have been built.

All the 37 *giren* under study, except for three niche *giren* were marked on the 1971 Survey sheets. These niche *giren* are built within rubble walls that are marked on the 1971 survey sheets. Of the 37 *giren*, 14 corbelled huts are marked on the Ordnance Survey

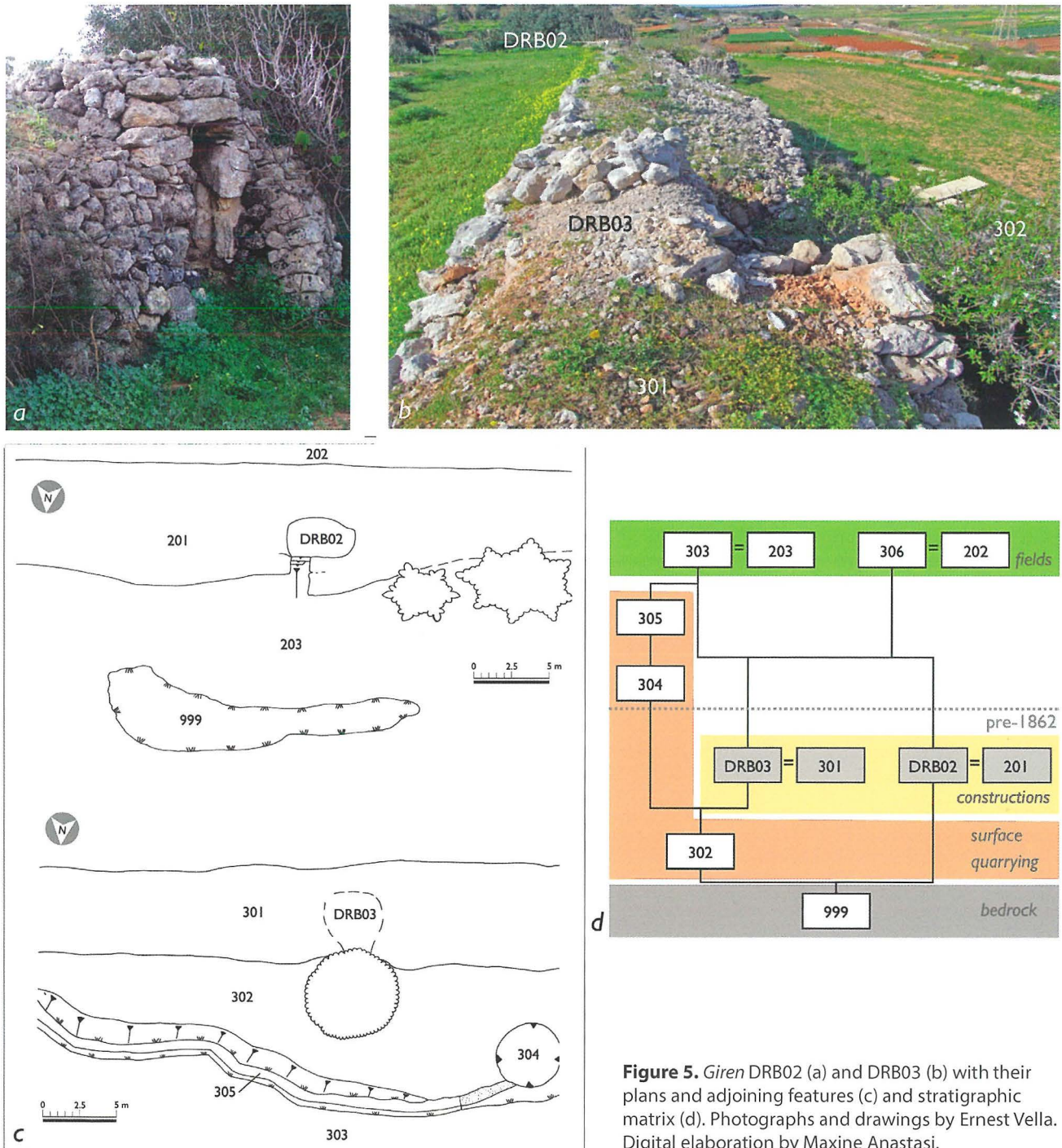
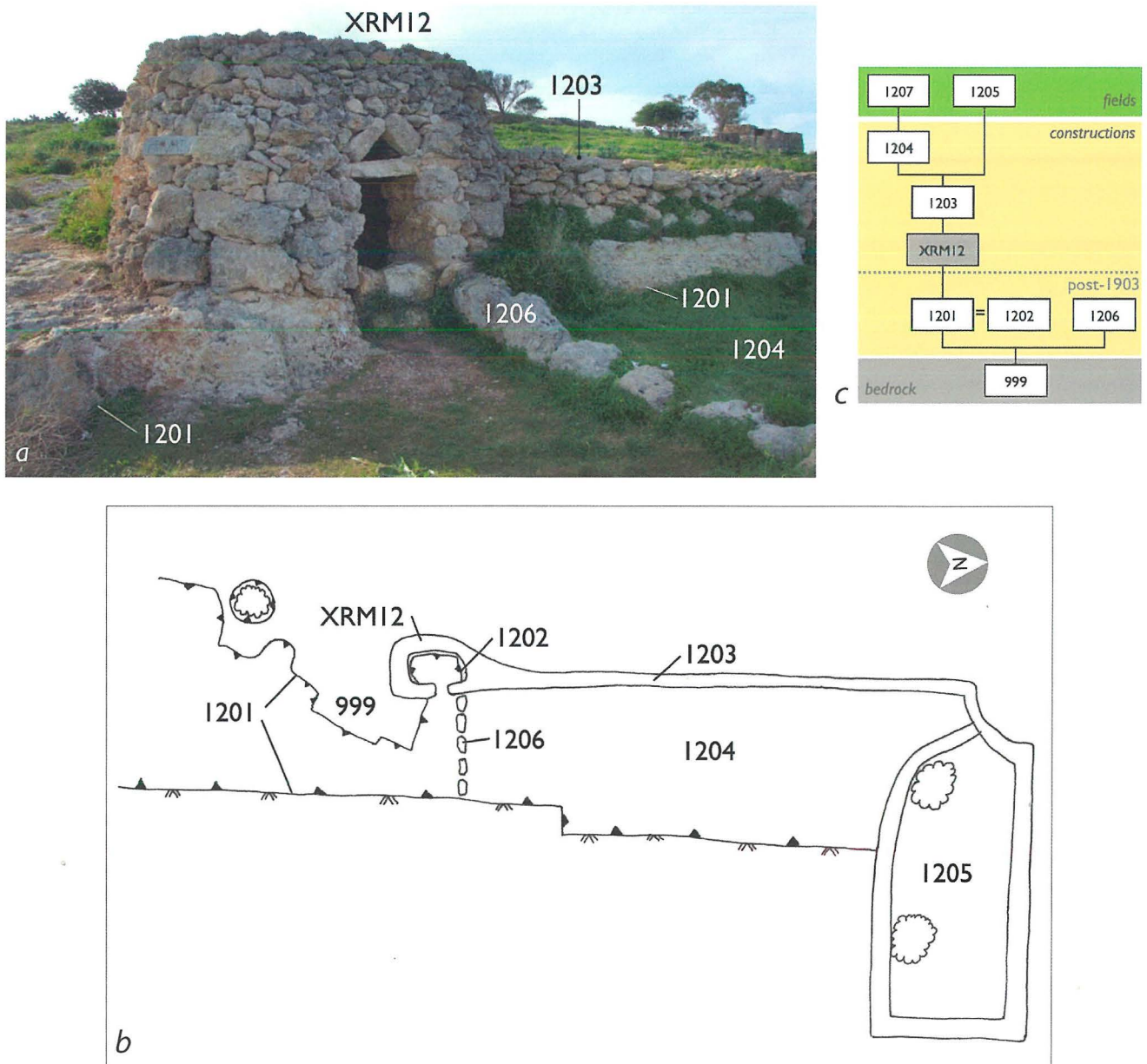


Figure 5. *Giren* DRB02 (a) and DRB03 (b) with their plans and adjoining features (c) and stratigraphic matrix (d). Photographs and drawings by Ernest Vella. Digital elaboration by Maxine Anastasi.

sheet of 1903. Unfortunately in the Crown Property plans dating back to 1866 no structure could be identified with the existing *giren*, except for two niche *giren* built into a rubble wall at Id-Dar il-Bajda.

The nineteenth-century portioning system of the land is well documented in archives, particularly in the notarial contracts pertaining to this area. These contracts show that by 1862 the areas had already

been divided into several portions and between 1862 and 1863, most of the portions were leased (NAV, Not. Luigi Vella 1862-63, Vols 91-96). The contracts stipulated several conditions, one of which was that in the first five years of the lease, the tenant was obliged to turn the leased land into fields. Rocky terrain had to be quarried in order to create fields (NAV, Not. Luigi Vella 1862, Vol. 91, ff. 1060-1372).



It seems that the nineteenth-century colonial government had followed the Order of St John in trying to improve these tenements. In 1784 the Fondazione Lascaris compiled the second *cabreo* (NLM, Treas. B 301 and 302), mentioning structures such as animal folds, known as '*ricetti di animali*', and enclosures or '*clausure*' (Blouet 1963, 108). In 1652, five years before Grand Master Lascaris died, the Fondazione Lascaris acquired the land known as il Cortino di Hain Toffieha. The land was described in 1658 as surrounded by walls of which 26 salme consisted of mediocre arable land. There was also a threshing floor or '*ayra*' and an enclosure for animals (NI M, Libr. Ms. 1302 ff. 20-21; Blouet 1963, 107).

Figure 6. *Girna* XRM12 (a) and adjoining features (b) with stratigraphic matrix (c). Photograph and drawings by Ernest Vella. Digital elaboration by Maxine Anastasi.

A general description of the *giren* surveyed

The *giren* were divided according to their layout, with the first group comprising single structures and the second group forming part of a complex, usually having an enclosure. In two complexes, two *giren* shared the same enclosure. Of the 37 *giren*, 10 form complexes and 17 are single units with no other structures added to them (Vella 2010, 129). The corbelled huts surveyed were also grouped according

to their plan. These fell into three categories: those *giren* which have the same external plan, those which have the same internal plan, and the *giren* which have the same external and internal plans (Vella 2010, 133). Of the 39 *giren*, 14 have a circular external plan and 13 have an oval plan, taken to include *giren* which do not have a perfect circular plan either intentionally, unintentionally or because the structure had suffered damage. Eight have a rectangular plan, three are built into the rubble wall and one has a rectangular plan.

In order to identify each *girna*, a site code was given to each corbelled hut. The site code included a part of the place-name: XRM (Xagħra l-Ħamra), DRB (Dar il-Bajda) and ĠHNS (Tal-Ġħansar), and the number of the *girna*. Thus, the first *girna* to be surveyed at Ix-Xagħra l-Ħamra was numbered XRM01.

The stratigraphic matrices of the *giren*

As pointed out earlier, the aim of this study was to establish if the application of the the notions of archaeological stratification to the *girna* and other cultural units would make it possible to obtain their relative dating. Consequently the matrices of seven *giren* were compiled. The choice of these *giren* was based on the location, the cultural units related to the individual *girna*, and the availability of data retrieved from the documentary sources. Each matrix was then validated against the absolute dating pegged to the cultural units as obtained from an analysis of the archival material.

The *giren* were chosen from the three study areas so that each area is represented at least by one *girna*. All the *giren* chosen are related to cultural units including surface quarrying, rubble walls, fields, and tracks. These *giren* were also chosen so as to represent the different groups as marked on the plans. The first group consists of *giren* that are depicted on the 1903 Ordnance Survey sheets. These are *giren* ĠHNS01 (Fig. 2), XRM07 (Fig. 3) and XRM31 (Fig. 4), the latter being made up of a complex of two *giren* identified as XRM31.1 and XRM31.2. The second group, DRB02 and DRB03 (Fig. 5), is associated with a cultural unit marked on a plan before 1863. The third group, made up of *giren* XRM12 (Fig. 6) and XRM19 (Fig. 7), is not marked on the 1903 Ordnance Survey sheet (see Vella 2010, 203 for details).

In all the matrices, except those produced for XRM31, DRB02 and DRB03, the *giren* occupy the

lower part of the matrix. In the matrix for XRM31, XRM31.1 and XRM31.2 are found in the middle part of the matrix, directly above cultural unit 3102, which is a rubble wall, and the field numbered as cultural unit 3104 (Fig. 4c). In the matrix representing DRB02 and DRB03 (Fig. 5d), the *giren* are contemporary with rubble wall 201 (201 and 301 are the same rubble wall). In the matrix for XRM07 (Fig. 3c), the *girna* stands above rubble wall 701. Conversely, in the matrix for ĠHNS01 (Fig. 2c), the *girna* is represented directly above bedrock 999. In the case of ĠHNS01, surface quarry 101 also stands directly above bedrock 999. The matrices of XRM12 (Fig. 6b) and XRM19 (Fig. 7c) represent the *giren* directly above surface quarrying, 1201 and 1901 respectively.

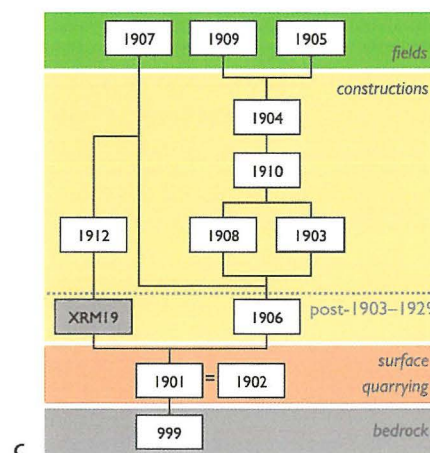
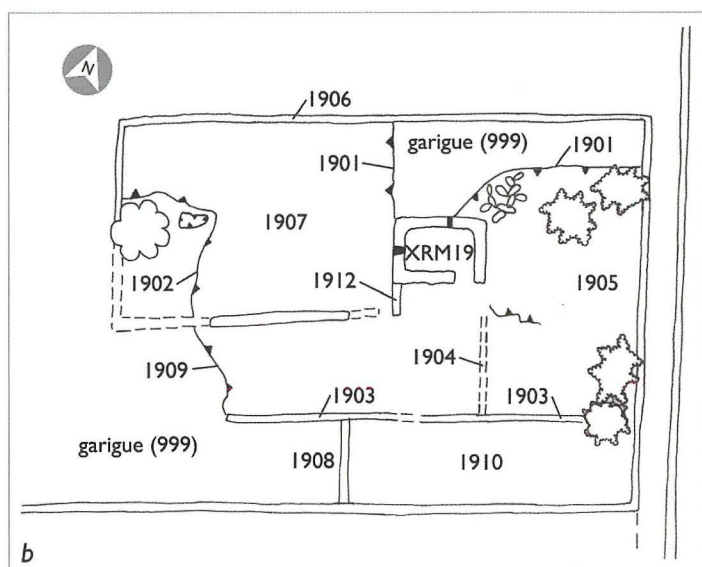
Of the seven matrices, four – XRM07 (Fig. 3c), XRM12 (Fig. 6b), XRM19 (Fig. 7c) and ĠHNS01 (Fig. 2c) – show that rubble walls are in the unit above the *giren*. In the case of matrix DRB02 and DRB03 (Fig. 5d), fields are found to be in the unit directly above the *giren*, whilst in XRM31 a group of steps is in the “layer” above the *giren* (Fig. 4c). The stratigraphic matrices show that these *giren* are related to a set of cultural units, consisting of bedrock, surface quarrying, rubble walls and fields.

In the case of XRM31 the matrix shows that the *giren* were built at a later stage, after the land was quarried and rubble walls enclosing the fields were already built. In fact, the *giren* are directly associated with structure 3102 and rubble wall 3104 (Fig. 4b, c). The matrix reveals that the *giren* were built after the rubble walls, which do not appear on the 1903 Ordnance Survey sheet. This means that the structure depicted on the 1903 Ordnance Survey sheet, interpreted as being XRM31, was an earlier structure that was probably destroyed in order to make space for the new complex of circular rubble walls and *giren* XRM31.1 and XRM31.2.

The matrix for *giren* DRB02 and DRB03 shows that the rubble wall and the *giren* were built before the fields and the water catchment system 304 and 305 (Fig. 5d). In fact the *giren* are situated in rubble walls 201 and 301 which is the same rubble wall (Fig. 5c). This wall is already indicated in the contract dating to 1862. This demonstrates that the rubble wall together with the *giren* was already built by this time.

In the stratigraphic context of ĠHNS01, the *girna* together with the surface quarrying 101 was built before the rubble walls and the fields (Fig. 2c). This indicates that the *girna* was built in the early stages

Figure 7. *Girna* XRM19 (a) and adjoining features (b) with stratigraphic matrix (c). Photograph and drawings by Ernest Vella. Digital elaboration by Maxine Anastasi.



of the reclamation of the area. Wall 102 was depicted in the plan of the contract dating to 1863. However the quarrying of fields 105 and 106 took place after this date as the area is shown completely bare and rocky. According to oral information gathered (Vella 2010, 206), the *girna* was constructed by a certain John Micallef whilst extending the complex of fields. Micallef, who was born in 1858 (Mellieħa Parish Archives 1858), acquired this portion through marriage to Carmela Vella in 1882 (Borg n.d., 1). Hence *girna* GHNS01 would have been built between 1882 and 1902, that is, in the first 10 years of the extension of the fields. However, as mentioned above, contracts usually stipulated that the rocky terrain had to be rendered fertile in the first five years. If Micallef

did follow this obligation, then the *girna* should have been built between 1882 and 1887.

In the stratigraphic matrix of XRM07 the *girna* is again built in the early stages of the development of the area (Fig. 3c). In fact it was preceded by rubble wall 701 which defines track 702. In reality, the *girna* and enclosure 704 cut into 701. As in DRB02 and DRB03, and in GHNS01, *girna* XRM07 is situated in the early layers of the matrix, meaning that the *girna* was built before the fields. Comparing the matrix with the Ordnance Survey sheet it is possible to date layers from 701 to 703 to the years between 1895 and 1903.

In the matrix of XRM12, the *girna* features as a unit directly above the quarrying and beneath the fields. As in the other cases the *girna* was built in the

early stages of the reclamation of the portion (Fig. 9b) However the quarrying does not appear on the early twentieth-century map, hence this *girna* post-dates 1903.

The matrix of XRM19 also shows that the *girna* is the second unit from bedrock. Hence like the other *giren*, XRM19 was built after the quarrying in the initial stages of the reclamation (see *infra*) (Fig. 7c). This complex does not appear on the Ordnance Survey sheet of 1903 but the date inscribed on the entrance of the *girna* suggests that XRM19 was already built by 1929. Hence the lowest units starting from XRM19 downwards to 1902 can be tentatively dated to the years between 1929 and 1904.

The results of the matrices show that the *girna* forms a stratigraphic relationship with surface quarries, rubble walls and fields. Moreover the position of the *giren* in the matrix supports the evidence that the *girna* was built during the process of reclamation in which the karstland was being quarried to reclaim it into fields.

Conclusion

The matrices and the cartographic evidence demonstrate that the earliest surviving *giren* investigated in this field survey were built after 1784 and before 1862, and between 1882 and 1903. The nineteenth-century contracts and the 1903 Ordnance Survey sheet provided absolute dating for some cultural units, including the *giren*, quarrying and rubble walls. Historical documentation shows how the increase in the Maltese population in the nineteenth century led to the expansion of the cultivation of marginal land in north-west Malta including the areas of Ix-Xagħra l-Hamra, Id-Dar il-Bajda and Tal-Għansar. Furthermore, the portioning of the tenements earmarked for improvement coincided with the construction of the nearby settlement of Mellieħa. The notarial contracts related to those areas under scrutiny revealed that the quarrying of the surface rock was part of the process of land reclamation. Traces of quarrying were confirmed through the field survey. Furthermore, from the field survey there emerged a pattern in the species of trees clustered in spots near the *giren*, mainly carob, fig, olive, almonds trees, prickly pears and palm trees. This reflects the agricultural practices that characterize landscapes of the late eighteenth and nineteenth century, planted by

such trees in shallow, rocky, windy fields (Vella 2010, 115-16, 174-76).

The representation of the strata in the landscape through matrices showed that in most cases the *girna* was one of the earliest cultural units present in the landscape. This study showed that, contrary to popular opinion, the *giren* were not built solely of naturally occurring stones but mostly from stones produced by quarrying activity (Fsadni 1992, 92). Neither were the *giren* in the area under investigation built in the farmers' free time. Furthermore, the matrices and archives provide evidence that the *giren* were planned by the farmers as they tried to reclaim fields from the karstic areas.

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Ernest Vella
33, Il-Miġbel
Triq il-Barriera
Hal Balzan 1201
MALTA
ernest.13vella@gmail.com

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- Ernest VELLA** graduated B.A.(Hons) in Archaeology from the University of Malta in 1998. In 2010 he was awarded a Masters (Research) in Archaeology from the same university with a dissertation entitled: *A Landscape Archaeological Approach to the Maltese Girna: A case study based on the areas of Ix-Xagħra l-Hamra, id-Dar il-Bajda and Ta' l-Għansar in Northern Malta*. He has contributed to a study on the archaeology of Mellieħa in *Mellieħa Through the Tides of Time* (Mellieħa Local Council, 2002) and co-authored, with Marlene Borg and Anthony Bonanno, *L-Arkeologija ta' Malta* (PIN, 2004). He is a founder and member of the ASC (Archaeology Services Coop) which offers various professional services in Archaeology. He is also a founder and member of the Fondazzjoni Arkeo which is currently managing the Selmun-Imġiebah Visitor Centre.