Man - Land Relations in Temple Period Gozo

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Introduction

Islands are much more than a source of inspiration for romantic narratives. They are home to the hard-wearing and innovative islanders engaged in a perennial struggle for survival in their restricted and isolated homelands. By their very nature, small islands are less ecologically variable than larger land masses and can support fewer species diversity and smaller numbers of flora and fauna.[1] Besides, adverse environmental conditions like drought, epidemics, and related calamities can generate disproportionately great impacts on all parts of the ecosystem,[2] while the islands' fragile economies have a limited capacity to respond to and recover from such disasters.[3]

In several instances, this innate sense of vulnerability and isolation triggered the inception of closely-knit social groups dominated by fervent and intricate religious beliefs that were in turn manifested via the creation of distinctive and awe-inspiring artistic outputs. Some of the better-known examples are the monumental sculptures of Easter Island and the British Channel Islands, and the megalithic compounds of Majorca and the Maltese islands. A potential explanation for these grand artistic achievements is that they were not simply something pleasing to look at, but a powerful tool to work magic and guarantee their survival.[4]

Malta's Prehistoric Temples

The huge investment required for the erection and eventual running of the Maltese megalithic complexes highlights their central role in the temple builders' communal life.[5] Their construction and layout qualify them as theatres for ceremonial and ritual deeds for the invocation of supernatural forces, namely some form of being or beings related to fertility and the regeneration of life. In this respect, the said temples must have had a strong link with agriculture, the backbone of the temple builders' subsistence economy, to the extent that their location seems to have been dictated by the footprint of the most favourable crop-cultivation

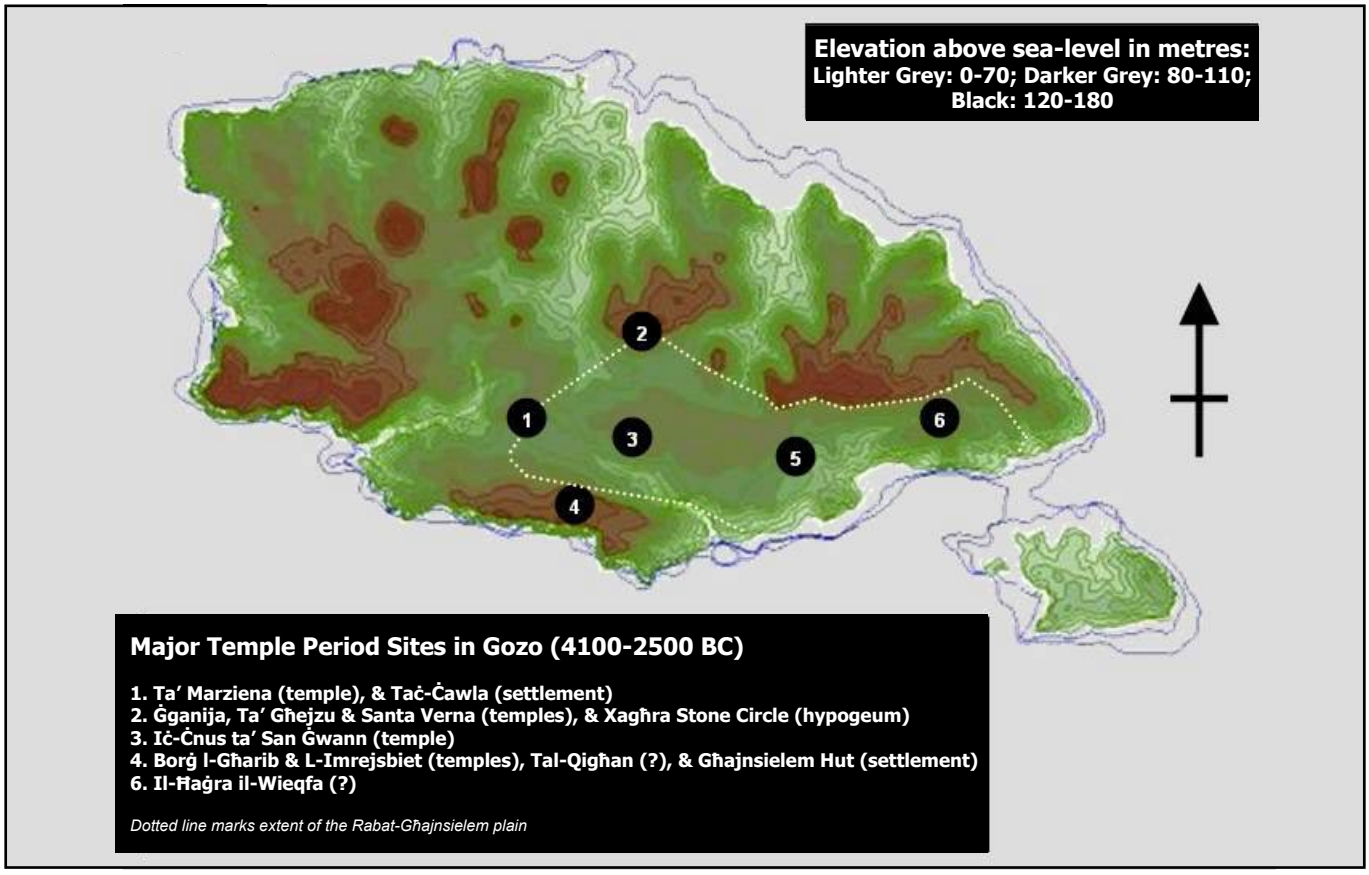

Figure 1: Major Temple Period Sites in Gozo (4100 - 2500 BC)

plains in the Maltese islands, defined by Grima as 'ecological windows of opportunity'.[6]

This distribution pattern is particularly evident in Gozo (Figure 1), where, besides the well-known and imposing twin temple complex of Ġgantija, one comes across several more contemporaneous sites, including five more temple ruins, two settlements, and a hypogeum.[7] These sites are all sitting within or along the perimeter of the fertile and vast plain extending from Rabat to Għajnsielem.[8]

The Rabat-Għajnsielem Plain

The Rabat-Għajnsielem plain has a surface area of some 10 km^2, and consists of an undulating district lying at heights between 85 and 105 metres above sea level. It is dominated by the Xagħra and the Nadur mesas on the northern side and by the Ta' Ċenċ upland running along the south-facing flank. Apart from being the most extensive area of level land in Gozo, the Rabat-Għajnsielem plain is also of prime agricultural importance because of the prevailing soil types.

Soil is earth material which, after being acted upon by chemical, physical, and biological agents, is able to support rooted plants.[9] Maltese soils are characterized by their close similarity to their parent rock, and are classified under three main categories: terra soils, carbonate raw soils, and xerorendzinas.[10]

Terra soils are relic soils formed during the Pleistocene (circa 1.8 million to 10,000 BP) and little affected by the present climatic region. They are found mainly on the karst-landscapes of the Upper and Lower Coralline Limestone. The terra soils are rather fertile, but occur mainly as small and shallow pockets that are generally dry, compact, and difficult to cultivate.

Carbonate raw soils develop on weathered Green Sands and Blue Clay. Clays enhance the soil's inherent capabilities of water retention and aeration.[11] Besides, in several instances the carbonate raw soils outcrops are aided by spring seeps, thus supporting the most productive arable plots in the Maltese islands.

Xerorendzinas form mainly on Globigerina Limestone and provide a rather meagre soil mantle on the gently rolling landscape. In most cases, the fields in which this soil is found are strongly terraced with rock-cut faces at the back of the terraces. Many of such fields were partly produced by mining, while the resultant soil cover is usually very loose, dry, and has poor water conservation capabilities.

The soil cover of the Rabat-Għajnsielem plain is fairly deep and consists of a well-balanced mixture of carbonate raw soils and xerorendzinas. This excellent blend is reflected also in the detailed crop cultivation survey carried out by the University of Durham between 1955 and 1958, whereby it was confirmed that the Rabat-Ghajnsielem plain is the most appropriate region in Gozo for the cultivation of a varied mix of cereals, fruits, and vegetables.[12]

Abundant Water Supplies

Fresh water resources and human settlement have an enduring relation. Gozo's only fresh water source is the rainfall.[13] As in all Mediterranean areas nearly 70 per cent of the Maltese islands' annual rainfall occurs in the six months period October-March. Moreover, a closer look at the mean annual figures reveals drastic contrasts between the respective years and notable regional variations.[14] The latter is of particular relevance for Gozo despite the islands' surface area of only 67 km^2.

The rainfall of the Maltese islands originates mainly from rising currents in turbulent air-masses and the configuration of the Gozitan land-mass with its maximum height of circa 190 metres above sea level, stimulates or delays the yield from a precipitating or unstable cloud. The sheer-cut cliffs characterizing the south-west coast delay rainfall, while the more gently rising uplands running along the north-east coast encourage precipitation. As a matter of fact, western Gozo receives an average annual rainfall of 500mm, whereas the north-east mesas and adjoining Rabat-Għajnsielem plain get about 600mm. (Figure 2)

A substantial amount of rainwater is eventually absorbed by the porous rock and accumulated in the aquifers or water tables from where it either seeps out or is pumped up by man. The Maltese islands have two types of water tables, one in the Upper Coralline and another in the Globigerina and Lower

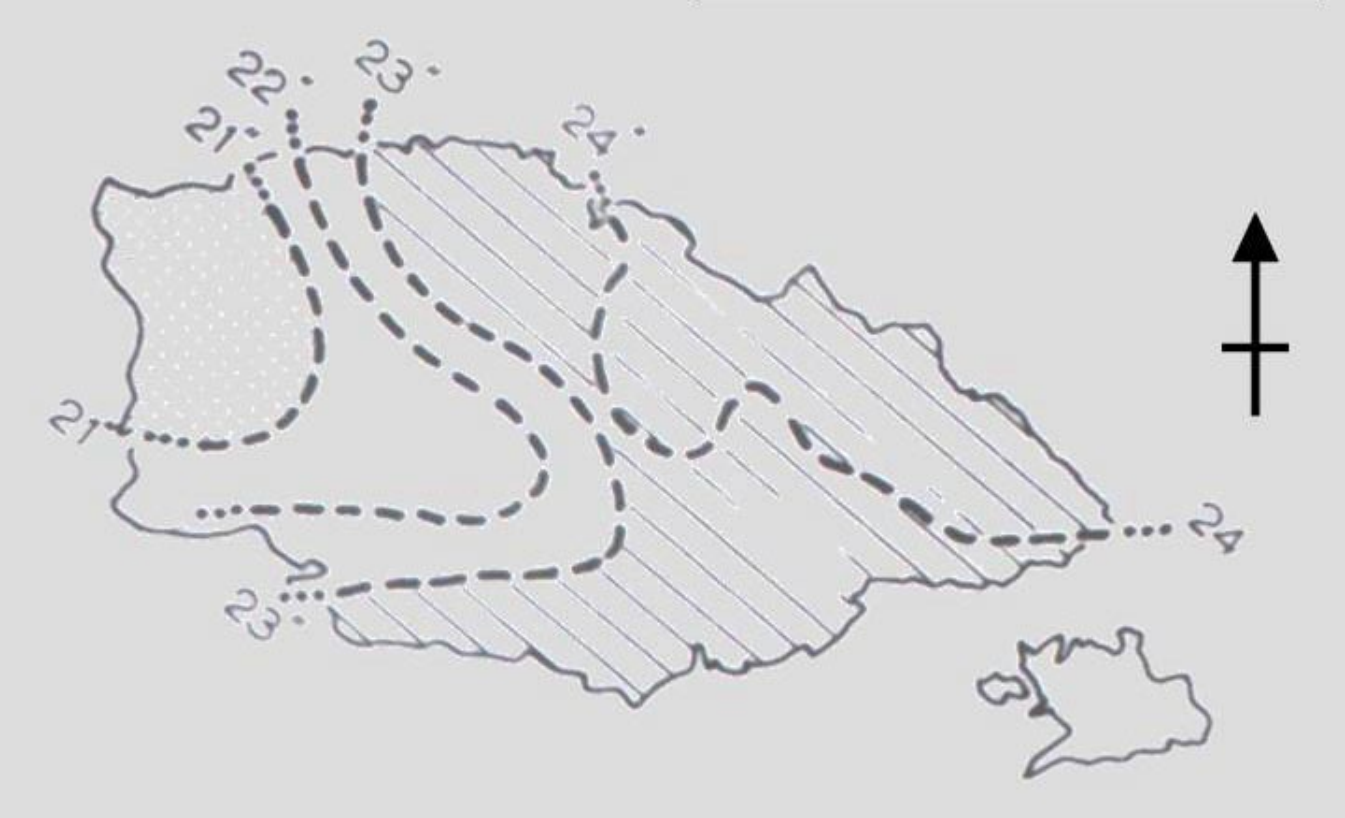

Figure 2: Distribution Pattern of Mean Annual Rainfall in Gozo (after P. K. Mitchell, 1962)

Coralline formations. The largest aquifer is stored in the Globigerina and Lower Coralline layers better known as the mean sea-level or lower water table. However, no effort seems to have been made for organised public exploitation of this fresh water supply until the mid-nineteenth century.[15]

The upper or perched water tables consist of accumulated rain water that after percolating through the Upper Coralline and Green Sand layers is prevented from infiltrating any further by the impervious Blue Clays. Consequently, whenever the Upper Coralline / Green Sands and Blue Clay interface is exposed, water seepage in the form of fresh water springs is likely to occur.

Nonetheless, the storage capability of the perched aquifers depends on the surface area and thickness of the Upper Coralline / Green Sand blocks forming the respective mesas. The ones to the west of Xagħra are relatively restricted in surface area to store any appreciable quantity of water, whereas the extensive Upper Coralline / Green Sands caps overlooking the Rabat-Għajnsielem plain have the capability to store much larger volumes of water (Figure 3). As a result, many of the water springs in western Gozo have a heavily reduced or insignificant flow during the dry summer months,[16] while the ones running at the base of the Xagħra, Nadur, and Qala mesas maintain an abundant flow throughout the year.[17]

Again, this overview on the island's annual rainfall pattern and distribution of water springs confirms that the Rabat-Għajnsielem plain features the most favourable combination of fresh water resources in Gozo.

A Natural Choice

The aforementioned distribution pattern of temple period sites in Gozo suggests that the agro-economy of the temple builders was greatly dependent on the highlighted favourable environmental conditions of the Rabat-Għajnsielem plain. The said plain offered also good accessibility to the sea, particularly through the wide-floored valleys leading down to the north-facing bays of Marsalforn and Ir-Ramla, and the more sheltered havens characterizing the southern coastline. Significantly, the respective temples are located in strategic locations close to the main valleys leading down to the sea and, as suggested by Pace,[18] this set-up may infer an attempt to define the central land-bound resources as opposed to the coastal frontier zone. Within

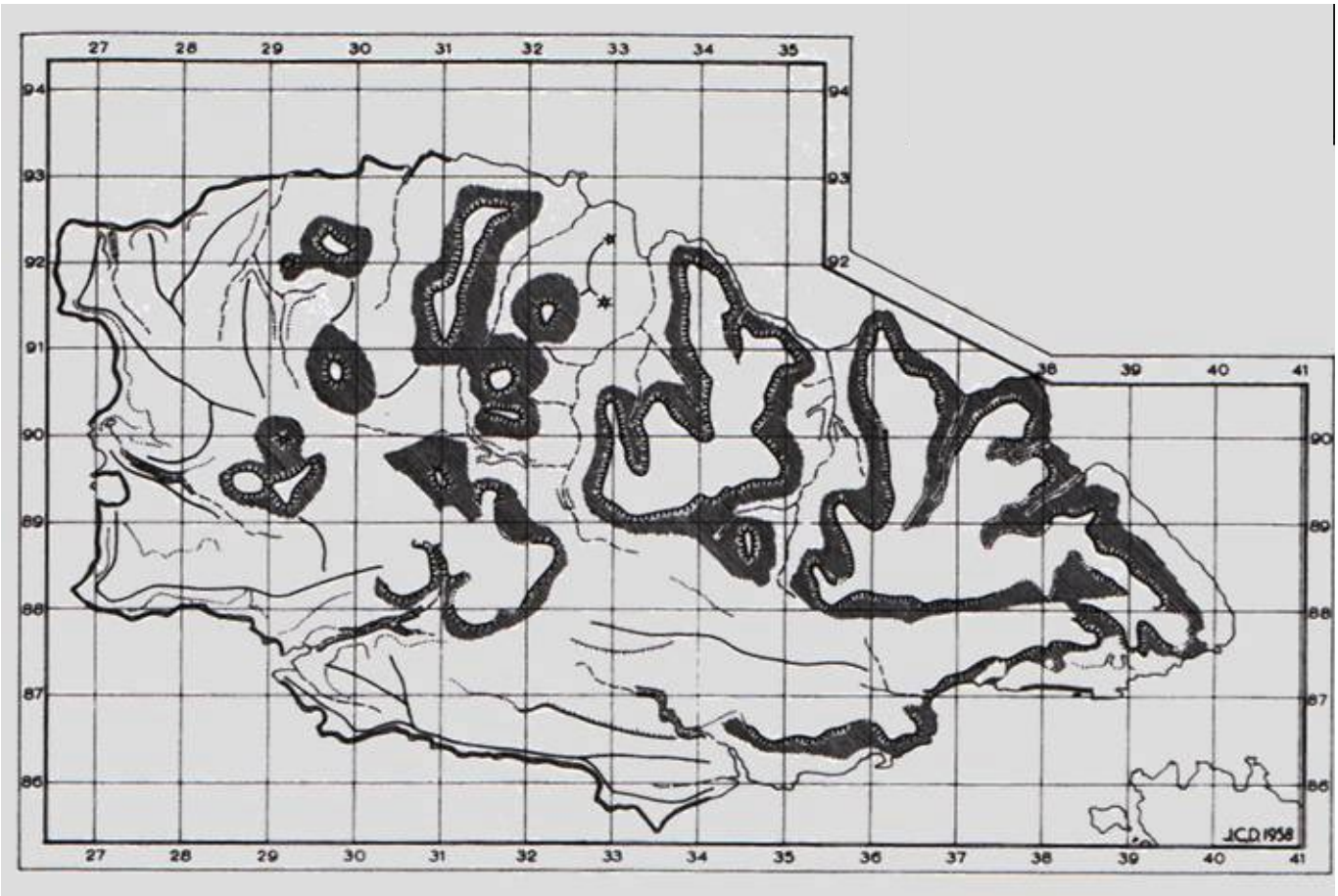

Figure 3: Pearched Water Tables (after J. C. Dewdney, 1962). The extensive Xagħra (3490) and Nadur (3789) Upper Coralline / Green Sands caps support voluminous perched water tables.

this scenario, the advantageously-located Xagħra plateau, particularly the southern lip, seems to have been the socio-religious hub of the island

The temple builders' strong dependence on the Rabat-Għajnsielem plain was eventually echoed in the settlement patterns of the successive periods, even though the political and economic centre of gravity was shifted to the Rabat plateau during the successive Bronze Age. A series of settlement growth maps for the years 1530, 1842 and 1956 respectively (Figure 4), show a consistent concentration in the immediate environs of the Rabat-Għajnsielem plain.[19]

Another recurrent trait is the unproportionally high number of temple units. As illustrated in Figure 1, the temple builders erected at least six megalithic temples on Gozo. Likewise, a late Punic inscription in the Gozo Museum of Archaeology makes reference to the existence of at least four Classical temples, while Agius De Soldanis lists well over a hundred late Medieval / early Modern churches and chapels.[20] Throughout the ages, the people of Gozo invested huge efforts to worship their deities. The strong urge to establish an effective communications link with the almighty seems to have stemmed from the predominant sense of vulnerability and isolation highlighted in the introduction.

The End of the Temple Culture

Towards the middle of the third millennium BC, the highly-sophisticated temple culture disappeared abruptly and mysteriously. One of the most convincing hypothetical explanations points towards over-exploitation of the Maltese islands' natural resources.

The process of deforestation, land reclamation, and consequential soil erosion initiated by the Għar Dalam settlers in the early stages of the fifth millennium accelerated drastically by the temple builders.[21] As a result, the soil cover must have become increasingly thinner and poorer in nutrients and micro-organisms, and seems to have lost its ability to generate sufficient food supplies and support the ever-growing population. Famine,

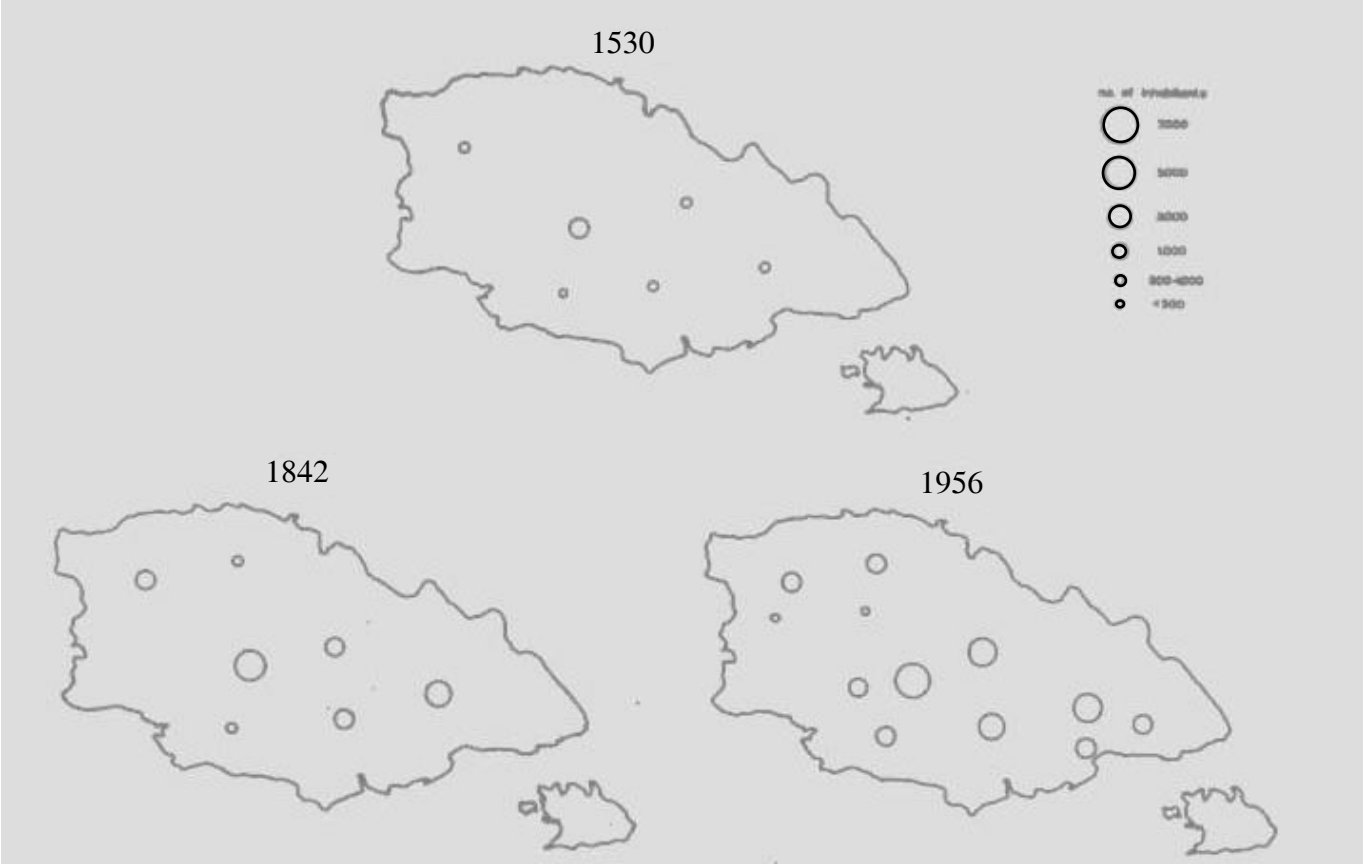

Figure 4: Settlement Growth in Gozo (after M. Richardson 1962)

poverty, and poor health prevailed, and social and political breakdown was inevitable. In a nutshell, the population grew too much and in no way proportionate to the real material possibilities of Malta and Gozo.

Notes:

[1] J.F. Cherry, 'Pattern and Process in the Earliest Colonization of the Mediterranean Islands', *Proceedings of the Prehistoric Society*, No. 47 (1981), 41-68.

[2] *Gozo Statement of Vulnerable Small States*, Commonwealth Heads of Government Meeting (Malta), 25-27 November 2005.

[3] Report of the Global Conference on the Sustainable Development of Small Island Developing States, United Nations General Assembly (Barbados), 25 April – 6 May 1994, 4.

[4] E.H. Gombrich, *The Story of Art*, 14th ed. (Oxford, 1988), 20.

[5] J. Evans, 'What went on in a Maltese Megalithic 'Temple'?, in Anthony Pace (ed), *Maltese Prehistoric Art 5000 - 2500 BC* (Malta, 1996), 19-30.

[6] R. Grima R., 'The Landscape context of Megalithic Architecture', in Daniel Cilia (ed.), *Malta before History* (Malta, 2004), 347-64.

[7] The temple sites are Ta' Ġhejżu, Sta. Verna, Ta' Marżiena, Borġ l-Ġharib, l-Imrejsbiet, and Iċ-Ċnus ta' San Ġwann. The settlements are Taċ-Ċawla and the Ġhajnsielem Hut, while the said hypogeum is the Xagħra Stone Circle. Other contemporaneous sites that cannot be classified securely on the basis of the available archaeological data include Il-Ħaġra l-Wieqfa, Tal-Qiġħan, Borġ l-Imramma, and il-Pergla.

[8] G. Vella, 'Man-Land Relations in Prehistoric Gozo', Unpublished BA (Hons.) dissertation presented to the University of Malta, 1995

[9] G., Zammit Maempel, *An Outline of Maltese Geology* (Malta, 1997), 36.

[10] D.M. Lang , 'Soils of Malta and Gozo', in H. Bowen-Jones *et al.* (eds.), *Malta: Background for Development*, (Durham, 1962), 83-98.

[11] K.W.,Butzer, *Archaeology as Human Ecology* (Cambridge – USA 1982), 147.

[12] H. Bowen-Jones & J.C. Dewdney 'Crop Distribution', in H. Bowen-Jones *et al.* (eds.),, 195-233.

[13] G., Clark, *Economic Prehistory* (Cambridge, 1989), 10.

[14] P.K. Mitchell & J.C. Dewdney, 'The Maltese Climate and Weather', in H. Bowen-Jones *et al* (eds.), 48-82.

[15] H.P.T, Hyde, *Geology of the Maltese Islands* (Malta, 1955), 101.

[16] The only abundantly flowing water springs in western Gozo are sited at the foot of the Ghar Ilma and Il-Mixta mesas respectively.

[17] The neighbourhood of Ġgantija is known as ta' l-Ġħejjun (abounding in springs).

[18] A. Pace, 'The Artistic Legacy of Small Island Communities: the Case of the Maltese Islands (5000-2500 BC)', in Pace (ed.), 1-12.

[19] M. Richardson, 'Population Migration', in H. Bowen-Jones et al. (eds.), 133-63.

[20] G.P.F. Agius De Soldanis, *Gozo: Ancient and Modern, Religious and Profane* (Malta, 1999) ii, 57-94.

[21] Surveying work conducted by the Anglo-Maltese team engaged in the Xagħra Stone Circle excavation confirmed that the landscape was cleared rapidly of its climax vegetation; A. Bonanno *et al.*, Monuments in an Island Society; The Maltese Context', *World Archaeology*, 22, 2 (1990), 190-205.

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