Chapter 13

Maltese Morphology

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1. Introduction

Two-and-a-half centuries of Arab rule (about 870 to 1127) sufficed to establish Arabic as the language of the Maltese islands, and the following nine centuries of European Christian political and cultural dominance have not seen it replaced by another language (Wettinger 1986; Cremona 1994). Malta is culturally European but linguistically basically Arabic (*Randân*, from Arabic *ramaḍaan*, means 'Lent'). Maltese has inherited the bulk of its vocabulary and morphology from Arabic, North African vernacular Arabic to be precise. Most descriptions of Maltese morphology therefore describe it as if it were in fact Arabic, and treat the more recent layers of vocabulary and morphology, acquired through subsequent contact with Sicilian, Italian, and, in the last fifty years or so, English, as discrete embellishments on a basically Arabic system. I will try to avoid this temptation by focusing on those morphological features that are productive, or at least pervasive, in Maltese, especially in the open-list lexical classes (nouns, adjectives, and verbs), while slighting pronouns, adverbs, numerals, the definite article, and the like. This means paying little attention to what would be especially significant to the historical linguist: isolated, fossilized, relic features that show a particular affinity with Arabic. In viewing modern Maltese synchronically, and in order to avoid the etymology-is-destiny fallacy, I prefer to err on the side of assuming the homogeneity of Maltese as a language "où tout se tient."[1]

In no aspect of the Maltese language is its Arabic foundation more obvious than in its morphology, yet it is in its morphology that Maltese also shows the most elaborate and deeply embedded influence from the Romance languages, Sicilian and Italian, with which it has long been in

1. In addition to the sources that are cited in the relevant places in this essay, I have obtained much useful information from the following sources: Ambros 1998; Aquilina 1959, [1965] 1995; Borg and Azzopardi-Alexander 1997; Schabert 1976; Vanhove 1993; and the Colour Image dictionary.

intimate contact. (From here on I will use the term "Romance" as an abbreviation for "Sicilian and Italian.") The disparate elements are to a large extent integrated in a single system, in which Romance and English vocabulary items are manipulated within a framework of Semitic origin, while the Semitic framework itself is influenced by the borrowings. As a result Maltese is unique and different from Arabic and other Semitic languages. The role of non-concatenative, prosodic morphology is much reduced, though still present and somewhat productive, while new morphological structures, not found in Arabic, Romance, or English, have arisen.

Though Maltese is deviant from the point of view of Arabic, it provides one of the most important bodies of data for the linguistic study of Arabic. Almost all other varieties of Arabic exist in a situation of diglossia: each speaker's mother tongue is a variety of colloquial, vernacular Arabic quite different from Modern Standard Arabic, which is almost identical to the Classical Arabic of over a thousand years ago. Naturally some colloquial dialects confer much more prestige on their speakers than others, but no colloquial dialect is respected as a model of correctness. Standard or Classical Arabic provides the sole acknowledged norm: it is the only written form, its grammar and vocabulary are studied in school, and elements of Standard Arabic exist in the colloquial speech of every individual, even illiterates. As a result, a linguist examining Arabic speech usually finds variation between more vernacular and more classical patterns, and when examining processes of historical change one wonders how the language might have changed had it not had constant input from Classical Arabic. Maltese is the chief exception: Classical or Standard Arabic is irrelevant in the Maltese linguistic community and there is no diglossia. (Dialectal differences within Maltese are relatively minor.) In Maltese the Arabist finds a kind of experimental control on the diglossic history of mainstream Arabic dialects and can examine colloquial developments independently of the influence of Classical Arabic norms.

2. Orthography and transcription

Ordinary Maltese orthography represents the phonology of the language admirably.[2] The letters are pronounced more or less with their IPA values (e.g., *j* [j]), except for *ċ* [tʃ], *ġ* [dʒ], *q* [ʔ], *x* [ʃ], *ż* [z], *z* [ts, dz]. The orthography is abstract in that it ignores the effects of several automatic phonological processes, among them final-consonant devoicing and voicing

2. Where necessary I add a broad phonetic (surface-phonemic) transcription, using symbols with their IPA values and selecting, when options exist, those that match or at least do not conflict with conventional Maltese orthography. For example, the phoneme represented in Maltese orthography by the letter *ħ* has the variants [h], [ħ], and [x]. Transcribing it as [ħ] (rather than *h* or *x*, which have different roles in the orthography) has the advantage of matching the orthography and so avoiding ambiguity and confusion. Similarly, for the phoneme [iə ≈ ɪː], which is represented orthographically by the digraph *ie,* I use [ie]. I part with IPA conventions in indicating stress with an acute accent and pharyngealization with an underdot.

assimilation, but on the other hand there are processes, such as vowel syncope and epenthesis, for which the orthography shows the phonetic output rather than an abstract underlying form. For these and all other aspects of the phonology of Maltese, see the descriptions of Borg 1997 and Schabert 1976.

Three important aspects of the phonology, however, are not indicated in the ordinary orthography:

1. Vowel quantity is phonemic but is mostly not indicated. I will supplement the orthography by marking long vowels with a circumflex, making systematic use of a convention that is used but rarely and inconsistently in ordinary writing and dictionaries. Thus I will write *qâleb* for [ʔáalep] 'wicker basket', as opposed to *qaleb* for [ʔálep] 'he overturned', both of which are normally written *qaleb*.

2. Word-stress is generally predictable from syllable structure: a final superheavy syllable is stressed; otherwise word stress is on the penultimate syllable. Thus stress is on the final syllable in *nadîf* 'clean', *oġġett* 'object', *oħrajn* 'others', but penultimate in *kiteb* 'he wrote', *difnitu* 'she buried him', *jiddispjačîni* 'it displeases me, I'm sorry!'. Exceptions are marked: *virtù* 'virtue', *elèttriku* 'electric'. Unstressed vowels are always short, and when an underlyingly long vowel loses the stress because of the addition of a suffix it is shortened: *jûm* [júum] 'day', jumejn [juméjn] 'two days'. Therefore vowels marked with a circumflex are both long and stressed.

3. The letter *h* and the digraph *għ* can be considered "virtual consonants": depending on the environment, they mark length of an adjacent vowel or represent [ħ] (the same sound as the letter *ħ*) or have no phonetic realization at all. The letters *h* and *għ* are the ghosts of Arabic *h, ʕ* and *ɣ*, and are the crux of some complex morphophonological problems which will be discussed in 7 below.

3. Affixes of Arabic origin

In any Maltese text most of the morphological work is done by affixes of Arabic origin, not by templatic processes or by Romance or English affixes, and most Arabic-origin affixes apply to Maltese words regardless of their etymology. This is especially prominent in verbs: all verbs are inflected for the gender, number, and person of the subject with prefixes and suffixes of Arabic origin. Here, for example, is the conjugation of the recently borrowed verb *iddawnlowdja* 'download'. (Arabists will recognize specifically North African vernacular innovations in the paradigm.)

		Perfect	Imperfect	Imperative
Sg.	1	iddawnlowdjajt	niddawnlowdja	
	2	iddawnlowdjajt	tiddawnlowdja	iddawnlowdja
	3 m.	iddawnlowdja	jiddawnlowdja	
	3 f.	iddawnlowdjat	tiddawnlowdja	
Pl.	1	iddawnlowdjajna	niddawnlowdjaw	
	2	iddawnlowdjajtu	tiddawnlowdjaw	iddawnlowdjaw
	3	iddawnlowdjaw	jiddawnlowdjaw	

Many other Arabic affixes are fully productive.

The *definite article* has the underlying form /l/ (with automatic epenthesis of *i* in many environments): *l-oħt* 'the sister', *il-bidu* 'the beginning', *tal-bidu* (*ta'* + *l-bidu*) 'of the beginning', *il-karozza* 'the car'. The /l/ assimilates to coronal consonants, just as in Arabic: *iż-żmien* 'the time', *ir-repubblika* 'the republic', *it-terroriżmu* 'the terrorism', *ix-xîħ* [iʃʃíeħ] 'the old man'. However, Comrie (1980) pointed out an odd asymmetry: although this /l/ assimilates to the coronal fricative /ʃ/ (*ix-xîħ*) and affricate /tʃ/ (*iċ-ċertifikazzjôni* 'the certification', *huma ċ-champions* 'they are the champions'), it does not assimilate to /dʒ/ (*il-ġustizzja* 'the justice').

Pronominal suffixes are affixed to nouns to mark a possessor (*isem* 'name', *ismek* 'your name'; *missier* 'father', *missierek* 'your father'; *dâr* 'house', *dârna* 'our house'; *ziju* 'uncle', *zijuna* 'our uncle'), to prepositions (*kontra* 'against', *kontrih* 'against him'), and to verbs marking a direct or indirect object (*saqsu* 'ask [pl.]', *saqsûh* 'ask [pl.] him'; *kitbu* 'they wrote', *kitbûlha* 'they wrote to her [fem.]', *kitbuhielha* 'they wrote it to her'; *indentjahieli* 'he dented it for me'; Bovingdon 2001: 85). The full set of pronominal suffixes, together with the independent (free word) pronouns are listed here:

| | Free forms | | Suffixed[a] | |
	Basic	Negative		
Sg. 1	jien(a)	m'iniex	+ni	object of verb
			+i	elsewhere
2	int(i)	m'intîx	+ek	
3 m.	hu(wa)	m'huwiex,	+u	/C___
		m'hûx	+h	/V___
			+hu	/___ indirect object suffix
3 f.	hi(ja)	m'hijiex,	+ha	
		m'hîx		
Pl. 1	aħna	m'aħniex	+na	
2	intom	m'intomx	+kom	
3	huma	m'humiex	+hom	

a. Minor phonologically conditioned variants are ignored here.

Examples of the suffixed pronouns affixed to nouns and prepositions:

	missier 'father'	*ta'* 'of'	*għand* 'at'	*m'għand- . . . -x* (negative)	*fi* 'in'
Sg. 1	missieri 'my father'	tiegħi 'my, mine'	għandi 'I have'	m'għandîx 'I don't have'	fîja 'in me'
2	missierek	tiegħek	għandek	m'għandekx	fîk
3 m.	missieru	tiegħu	għandu	m'għandûx	fîh
3 f.	missierha	tagħha	għandha	m'għandhiex	fîha
Pl. 1	missierna	tagħna	għandna	m'għandniex	fîna
2	missierkom	tagħkom	għandkom	m'għandkomx	fîkom
3	missierhom	tagħhom	għandhom	m'għandhomx	fîhom

Suffixes on verbs mark direct objects; preceded by *l* the suffixes mark indirect objects*:*

	jagħti 'he gives'	*jiftakar* 'he remembers'	*kiteb* 'he wrote'
Sg. 1	jagħtîni 'he gives me'	niftakarni 'I remember myself'	kitibli 'he wrote to me'
2	jagħtîk	tiftakrek	kitiblek
3 m.	jagħtîh	jiftakru	kitiblu
3 f.	jagħtîha	tiftakarha	kitbilha
Pl. 1	jagħtîna	niftakarna	kitbilna
2	jagħtîkom	tiftakrûkom	kitbilkom
2	jagħtîhom	jiftakrûhom	kitbilhom

Direct and indirect object suffixes may co-occur: *kitibhûli* 'he wrote it to me', *kitbuhielha* 'they wrote it to her', *tibgħathomlna* 'you will send them to us', *ma sraqnihilhiex* (*sraq-na-ha-l-ha-x*) 'we did not steal it from ('to') her' (Borg 1997: 272), *indentjahieli* 'he dented it for me' (Bovingdon 2001: 85).

The other Arabic affixes that apply regardless of the etymology of the stem are these:

- the negative *ma . . . -x* (e.g., *kitbitlu* 'she wrote to him', *ma kitbitlûx* 'she didn't write to him'; *ikanta* 'he sings', *ma jkantâx* 'he doesn't sing'), *ma jsaqsihx* (*j-saqsi-h-x*) 'he doesn't ask him'.[3]

- the "construct state" marker *+(e)t,* which marks the bound form of a feminine noun when followed by a pronominal suffix or another noun in a construct phrase: *lejla* 'night', *lejlet il-kunċert* 'the night of the concert'; *mara* 'wife', *martu* 'his wife'; *zija* 'aunt', *zitu* 'his aunt'; *spalla* 'shoulder', *spalltu* 'his shoulder'.

- the suffix *+a* which forms individuated count nouns from collective or mass noun bases: *tuffieħ* 'apple (as a material, or generically)', *tuffieħa* 'an apple'; *ġobon* 'cheese', *ġobna* 'a piece of cheese'; *injâm* 'wood', *injâma* 'a piece of wood' (pl. *injamiet* 'pieces of wood'); masc. sg. *siġar* 'tree(s)', fem. *siġra* 'a tree' (pl. *siġriet* 'trees'); *frott* 'fruit', *frotta* 'a (piece of) fruit'; *fjûr* 'flowers', *fjûra* 'a flower'.

- There is a large variety of plural suffixes in the Arabic Maltese component; which suffix any particular noun takes must be lexically specified, though there are some prevalent tendencies. Some examples are given in the table on p. 262. Some of these suffixes also occur on Romance and English nouns; see the second table on p. 262. Most Romance and English nouns, however, either have templatic "broken" plurals or Romance or English plural suffixes. These are discussed in the relevant sections below.

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3. This is not a true circumfix because *ma* and *-x* can each occur without the other, in specific syntactic environments.

Suffix	Singular	Plural	Gloss
în	maħbûb	maħbubîn	'beloved'
	tajjeb	tajbîn	'good'
	Mâlti	Maltîn	'Maltese'
at	werqa	werqât	'leaf'
iet	mħadda	mħaddiet	'pillow'
	mgħażqa	mgħażqiet	'spade'
ijiet	art	artijiet	'land'
	isem	ismijiet	'name'
ejn	riġel	riġlejn (also rġûl)	'leg'
ajn	sieq	saqajn	'foot'
a	sajjied	sajjieda	'fisherman'
ien (with stem ablaut)	ġar	ġirien	'neighbor'
	bieb	bibien	'door'
	sabi	subien	'lad'
	ħasi	ħosjien	'capon'
an (with stem ablaut)	qiegħ	qigħan	'bottom'
	ħajt	ħitan	'wall'

Suffix	Singular	Plural	Gloss
ijiet	missier	missierijiet	'father(s)'
	tîm	timijiet	'team(s)'
a	xufier	xufiera	'chauffeur(s)'
iet	frotta	frottiet	'piece(s) of fruit'

4. Templatic morphology and ablaut

4.1. *The impact of historical phonological changes on templatic morphology in Maltese*

Templatic morphology of the typical Semitic kind remains productive in Maltese. By "templatic morphology" I mean word-formation processes that effect regular, patterned changes in stems (and not merely automatic phonological changes): they impose prosody (the number or weight of syllables) and/or vocalism (vowel quality). In Maltese, several templatic processes impose both prosody and vocalism. Others impose prosody alone, with the vocalism of the base stem remaining invariant, and in this respect Maltese is quite different from Arabic.

In Arabic, most templates impose both prosody and vocalism. For example, one broken plural pattern is *CaCaaCi(i)C*, as in sg. *ṭaadʒin,* pl. *ṭawaadʒin* 'frying pan(s)'; *kawkab*, *kawaakib* 'star(s)'; *qirṭaas, qaraaṭiis* 'paper bag(s)'. Historical sound changes in Maltese have had the effect of loosening the rigidity of the vocalism in every surviving template, so that the same three plurals in Maltese have a single prosody but different vocalisms: *twâġen, kwiekeb, qrâtas*).[4] The main sound change that led to this diversity of vocalism was the loss of the pharyngealization feature of cer-

4. The two Arabic templates *CaCaaCiC* and *CaCaaCiiC* have collapsed into one (CCV-VCVC) in Maltese as in North African colloquial Arabic.

tain Arabic consonants. Old Arabic had four pharyngealized consonants, and the set of pharyngealized consonants varies somewhat among the different Arabic dialects; proto-Maltese had *ṭ, *ḍ, and *ṣ, plus marginal *ḷ and *ṛ (Schabert 1976: 50–52). In Arabic, vowels in the vicinity of pharyngealized consonants are backed or lowered, so that the phonetic difference between /ṭa/ and /ta/, for example, is located in both the consonant and the vowel, approximately as [ṭɑ] versus [tæ] respectively. In Maltese the pharyngeal articulation of these consonants has been lost while the associated vowel differences have become phonemic: the Arabic front allophones [æ, ææ] have become Maltese *e, ie,* respectively, and the back allophones [ɑ, ɑɑ] have become Maltese *a, aa.* Thus Arabic ḍamm [ḍɑṃṃ] 'gather' and *dam* [dæm] 'blood' have become Maltese *damm, demm,* respectively. Moreover, the Arabic short high vowels *i* and *u* lowered to *e* and *o* in many environments. These changes were supported by the importation of numerous words from Romance, in which *e* and *o* were distinct phonemes, so that Maltese ended up with five short vowel phonemes (*i, e, a, o, u*) and six long ones (*ii, ie, ee, aa, oo, uu*), in place of the three long and three short of Old Arabic. This expansion of the vowel inventory has had profound consequences for Maltese morphology, in that the stringent constraints of the Arabic templatic system were considerably loosened and stems borrowed from Romance or English could be integrated complete with their original vowels.

Templatic morphology operates productively in the formation of comparative adjectives, causative/transitive verbs, gerunds, and the plurals of many nouns and adjectives. Furthermore, in verbs of Theme I, which is the most numerous form-class of verbs though perhaps not a productive one, the marking of aspect and the formation of gerunds and participles is templatic. A few additional templatic processes that are no longer productive are nonetheless well enough represented in the existing vocabulary that the patterning is salient: diminutives, deverbal agent nouns, and gender and number marking for a small class of adjectives that refer to color and undesirable personal features.

4.2. *Adjectives of colors and defects*

As an illustration of the historical factors that made Maltese templatic morphology quite different from that of Arabic we will deviate from our plan to focus on productive morphology and examine the closed set of adjectives that denote colors and undesirable personal characteristics, traditionally termed "colors and defects." These have three templates, marking gender and number: in Arabic they are masculine singular ʔaCCaC, feminine singular CaCCaaʔ, plural CuCC, for example ʔaḥmar, ḥamraaʔ, ḥumr 'red' corresponding to Maltese *aḥmar, ḥamra, ḥomor.* But compare the Arabic and Maltese forms in the table on p. 264 (focusing only on the masculine singular).

In this template Maltese has *a* near consonants that in Arabic were pharyngealized, uvular, pharyngeal, or laryngeal (though not initial ʔ), otherwise *e* in final closed syllables and *i* elsewhere (plus sporadic, unexplained

Arabic	Maltese	Gloss
ʔabjaḍ	abjad	'white'
ʔaswad	iswed	'black'
ʔakħal	ikħal	'dark blue'
ʔaxʃan	oħxon	'stout'
ʔablah	iblah	'foolish'

shifts to *o*). Where Arabic has only one pattern, *ʔaCCaC*, Maltese has four, *aCCaC, iCCeC, iCCaC, oCCoC*. Synchronic phonological conditioning within modern Maltese (the consonants *ħ, q*, and *r* select *a*, rather than *i* or *e*) accounts for only part of the variation. This is typical of the fragmentation, or loosening, of templatic patterns in Maltese. Add to this the huge influx of Romance vocabulary, in which vowels have no special morphological status but are distributed freely. These two factors, which were undoubtedly not independent of each other, have led to a reduction in the extent to which productive templatic processes impose vocalism.

4.3. Comparative adjectives

Many adjectives have comparative forms of the shape VCCVC. The default vocalism is iCCeC, but *ħ, q*, and *r* tend to lower adjacent vowels. Here are some examples of Arabic origin:

Base adjective	Comparative	Gloss
smîn	ismen	'fat'
qarîb	eqreb, aqreb	'near'
fqîr	ifqar	'poor'
qawwi	aqwa	'strong'
dejjaq	idjaq	'narrow'
tajjeb	itjeb	'good'
ġdîd	iġded	'new'
għani	ogħna	'rich'
għażîż	egħżeż	'dear'
ħafîf	eħfef	'light'
ħelu	oħla	'sweet'
nadîf	indaf	'clean'
rħîs	irħas, orħos	'cheap'
għoli	ogħla	'high'
nieqes	anqas, inqas	'lacking'
ħażîn	aħżen, eħżen	'bad'
kbîr	akbar	'big'
qasîr	iqsar	'short'

A few adjectives of Romance origin form comparatives in the same way:

Base adjective	Comparative	Gloss
ċkejken	iċken	'small'
ċâr	iċar	'clear'
brâvu	ibrav	'capable, clever'

This process is still quite productive. In the non-standard Maltese spoken by emigrés in Australia, described by Bovingdon (2001), comparatives are formed from English adjectives:

English adjective	Maltese comparative
dear	idjer
quiet	ikwet
polite	iplet
smart	ismart
sneaky	isnek
cheap	iċ(j)ep
cheeky	iċ(j)ek

The pattern ʔaCCaC is shared by comparatives and color and defect adjectives, and in Arabic some items are ambiguous: *ʔabjaḍ* 'white, whiter', *ʔaħmaq* 'stupid, stupider' (Wright [1896–98] 1967: 1.143). But Maltese takes advantage of its liberal vocalism to distinguish them in some cases:

Base adjective	Gloss	Comparative	Gloss
aħrax	'fierce'	eħrex	'fiercer'
oħxon	'stout'	eħxen	'stouter'
abjad	'white'	ibjad	'whiter'
agħmi	'blind'	agħma	'blinder'

4.4. Broken plurals

Noun plurals are formed either by suffixation, which was discussed above, or by the imposition of a "broken plural" template. Both types are frequent and productive, and it is not possible to predict for a given noun whether its plural will be suffixed or broken, and if suffixed with which suffix, or if broken which of several available broken plural templates. In most cases it is, however, possible to narrow down the possibilities: for a given noun, taking into account its prosodic shape, any suffixes that are present, and some aspects of its meaning (especially whether it is inanimate, animate, or human), usually only one or two suffixes or one or two broken plural patterns would be productively available. All this is essentially similar to pluralization in Arabic.

What is noteworthy is that in Maltese broken plurals are quite common in the Romance vocabulary. Here are a few examples:

Singular	Plural	Singular	Plural
forn 'oven'	*frân*	*birra* 'beer'	*birer*
vers 'verse'	*vrûs*	*katîna* 'chain'	*ktajjen*
serp 'snake'	*sriep*	*vers* 'verse'	*vrejjes*
kitla 'kettle'	*ktieli*	*ċerna* 'grouper (fish)'	*ċeren, ċerni, ċerniet*
banda 'band'	*baned*	*villa* 'villa'	*vilel*
borsa 'purse'	*boros*	*niċċa* 'niche'	*niċeċ*
birra 'beer'	*birer*		

The plural pattern *CCVVCVC* is particularly frequent (cf. Borg 1997: 272–73):

Singular	Plural
furketta 'fork'	*frieket*
ċavetta 'key'	*ċwievet*
kappell 'hat'	*kpiepel*
dublett 'skirt'	*dbielet*
kamra 'room'	*kmâmar*
fardâl 'apron'	*frâdal*
sunnâra 'fishing hook'	*snânar*
bastûn 'walking stick'	*bsâten*
kaxxûn 'drawer'	*kxâxen*
xâbla 'sword'	*xwâbel*

Maltese nouns borrowed from English, unlike some of those from Romance, virtually always form their plurals by suffixation. It is not simply that English nouns take the English plural suffix, however; English Maltese nouns may have plural suffixes of Arabic, Romance, or English origin:

Singular	Plural	Singular	Plural
buldogg	*buldoggjiet*	*brigadier*	*brigadieri*
buldowżer	*buldowżrijiet*	*bankier*	*bankieri*
buli	*bulijiet*	*brakit*	*brakits*
briks 'brick'	*briksijiet*	*stejġ*	*stejġis*
drednot	*drednotijiet*	*ċermen*	*ċermens*
xeff	*xeffijiet*	*dami*	*damis*
stejk	*stejkijiet*	*lejn*	*lejns*
ċekk	*ċekkijiet*	*lejżer*	*lejżers*
kowt	*kowtijiet*	*skôr*	*skôrs*
xutt 'shot'	*xuttijiet*	*suvenîr*	*suvenîrs*
tajpist	*tajpisti*	*ċarġ*	*ċarġis*
dranaġġ 'drainage'	*dranaġġi*	*swiċċ*	*swiċċijiet, swiċis*
daga 'dagger'	*dagi*	*kuxin*	*kuxins*
bobin	*bobini*	*bankier* 'banker'	*bankieri*
bust 'bust'	*busti*	*bankûn* 'big bench'	*bankûni*

The following items highlight the largely lexical nature of plural formation:

Singular	Plural
ħajt 'wall'	*ħitan*
ħajt, ħajta 'thread' (mass, count)	*ħjut, ħajtiet*
bank 'bench'	*bankijiet*
bank '(savings) bank'	*banek*
banka 'stool'	*banek*

Most descriptions of Maltese state that broken plurals do not occur in the English-origin vocabulary. However, there are a couple in standard Maltese: *kitla* 'kettle'; pl. *ktieli, skûna* 'schooner', pl. *skejjen* (Aquilina 1959: 310–11; Drewes 1994: 91); and in the Maltese spoken by immigrants to Australia: *bordûra* 'boundary', pl. *brieder; fens* 'fence', pl. *fniesi; farma* 'farmer', pl. *friema* (Bovingdon 2001: 127).

4.5. Verb stems

All verbs are inflected with Arabic affixes, as was illustrated above. In terms of their stem shapes and derivational potential, however, Maltese verbs can be divided synchronically into two classes, templatic and non-templatic. The templatic verbs are more Arabic-like in several ways, and all verbs of Arabic origin are templatic, but in addition a great many verbs of Romance origin are fully assimilated to the templatic class.

The differences between templatic and non-templatic verbs are as follows:

	Templatic verbs	Non-templatic verbs
stem shape (prosody and vocalism)	limited to a small number of canonical shapes	may be of any phonologically permitted shape
passive participle	formed by prefix *m+*	formed by suffix *+ât, +ût, +ît*
gerund	formed by templatic change, the particular template determined by prosodic type of stem	borrowed infinitives or nominalizations, formed by suffixation
present participle	exists for a small number of verbs, mainly verbs of motion	no
causative formation by prosodic change	yes	no
intransitive/passive formation by prefix *t+, n+, st+* or infix *+t+*	yes	no

Templatic verbs are limited (with a few exceptions) to a small set of canonical stem shapes, which are classified in a smaller number of "themes."[5] The themes are listed in the table on p. 268, with the Roman numeral labels that are traditionally used for Arabic. (The Arabic theme IV does not occur in Maltese except for a few fossilized forms.) In each stem template, a C slot may be filled by one consonant or may be empty. Most of these examples are verbs of Romance origin which have assimilated to the Arabic templatic types. The perfect stem is illustrated.

5. For what I call *theme,* various other words have been used in the linguistic literature on Semitic languages: *form, pattern, conjugation, stem, binyan.* I choose *theme* as the least polysemous. Aronoff (1994) has demonstrated that the Semitic themes are inflectional classes analogous to the "conjugations" of European languages such as Latin, so if my use of *theme* brings to mind the "thematic" vowels characteristic of the "conjugations" of European languages the association is appropriate, not pernicious.

Theme	Prosody	Vocalism	Romance examples
I	CVCVC	i-e, a-a, a-e, e-e, e-a, o-o	*ziden* 'undo a knot', *faga* 'choke'
II	CVCCVC	a-a, a-e, e-a, e-e, i-e	*biċċer* 'slaughter', *sefter* 'wait upon someone in a servile manner', *keċċa* 'chase away', *gawda* 'enjoy'
III	CVVCVC	ie-e, ie-a, aa-e, aa-a	*ċiegħek* 'pave with stones', *kâva* 'hollow out'
V	tCVCCVC	a-a, a-e, i-e	*tbiċċer* 'be slaughtered', *tfaċċa* 'appear suddenly'
VI	tCVVCVC	ie-e, aa-a	*ċċiegħek* (/t+ċiegħek/) 'be paved with stones'
VII	nCVCVC	a-a, e-a, i-e	*nbaraġ* 'be piled up'
VIII	CtVCVC	aa, ee, ea	*ftaqar* 'become poor', *xteħet* 'throw oneself'
VII/VIII hybrid	nCtVCVC	a-a, e-a	*instama'* 'be heard', *insteraq* 'be stolen'
IX	CCVVC	aa, ie	*flâz* 'become false', *qrâb* 'approach', *qriegħ* 'be bald', *ċkien* 'become small'
X	stVCCVC	a-e,	*stenbaħ* 'wake up', *staġna* 'stagnate'
II/X hybrid	stCVCCVC	e-a	*stkerrah* 'loathe', *stħarreġ* 'investigate'

Romance-origin verbs have somewhat more diverse possibilities of vocalism than Arabic-origin ones: *poġġa* 'put, sit down', *vîra* 'tack (in sailing)'.

Theme I is different from the other themes in three ways. (1) Most theme I verbs are basic, underived stems, while nearly all the verbs of the other themes are derived, either from nouns or as the passive or causative of basic verbs. (2) A theme I verb has three stems (perfect, imperfect, and participle) which are different in prosody and in some cases also in vocalism (the perfect stem is what is indicated in the table), while in the other themes a verb generally has just one stem for all three functions. (3) Theme I has a greater variety of vocalisms than the other themes, at least superficially. Although six vocalisms are listed in the table for theme I (*aa, ae, ee, ea, ie, oo*), this is deceptive. Three of them (*ae, ee, ea*) occur only in the neighborhood of the gutturals *għ, ħ, h, q*, and one (*oo*) occurs almost exclusively with gutturals. This leaves only two vowel patterns, *aa* and *ie,* freely available for verbs that contain none of the guttural consonants. (This is true of verbs that have all three C positions filled; for verbs with unfilled C positions, or those in which the second and third C are identical, the sets of possible vocalisms are slightly different but similarly restrictive.) As a fair approximation we can say that a basic templatic verb (triconsonantal, without a guttural consonant) has a perfect stem with one of two shapes: *CaCaC* or *CiCeC*. The exceptions are few.

4.6. Aspect in Theme I verbs

The bare imperfect stem is the imperative, and with person/gender prefixes it forms the imperfect aspect. While the perfect stem of a Theme I verb has the shape CVCVC, the imperfect stem has the shape VCCVC (e.g. perfect *niżel* 'he descended', imperfect stem [= imperative] *inżel* 'descend!', imperfect *jinżel* 'he descends'). Looking next at the vocalism, the first vowel of any stem is predictable, given the second stem vowel and the consonants (thus, given a lexical representation /sraq/ 'steal', we can correctly predict the stems *seraq, israq*). We will therefore ignore the first stem vowel in the following discussion and focus on the second vowel. For most verbs, the two stems have the same second vowel: *niżel inżel* 'descend', *fadal ifdal* 'remain', *ħotof oħtof* 'become empty', *sebaħ isbaħ* 'dawn'. Some verbs exhibit ablaut, but there is only one common ablaut pattern: perfect *CVCaC*, imperfect *VCCoC*, as in *daħal idħol* 'enter'. To summarize, in Theme I verbs, aspect is marked templatically by a change of prosody and in some cases by ablaut, but not by imposition of templatically-determined vocalism. In all other verbs, both templatic verbs of Themes II–X and non-templatic verbs, aspect is marked only by the fact that the perfect and imperfect take different affixes to mark person, number, and gender.

4.7. Participles of Theme I verbs

Most or all verbs have a passive/stative participle, and a few also have an active participle. In the themes other than Theme I the participles are formed by prefixing *m-* to the verb stem (with automatic epenthesis of *i* in many cases: *siefer* 'travel abroad', *imsiefer* 'gone abroad'; *kisser* 'smash', *imkisser* 'smashed'). In Theme I the participle stems differ from the stems of the finite verb:

Gloss	Perfect	Imperfect	Active participle	Passive participle
'get dressed'	libes	ilbes	liebes	milbûs
'free, be freed'	ħeles	eħles	ħieles	meħlûs
template	CVCVC	VCCVC	CieCeC, CieCaC	mVCCuuC

4.8. Gerunds

Each Maltese verb has an associated gerund, a noun with the same reference as the verb. The gerunds of Theme I verbs have stem shapes that are templatically different from the verb stem; there are a variety of such patterns, inherited from Arabic, so the gerund for each verb must be listed lexically, and they often acquire lexicalized meanings as well. For Theme II the inherited gerund pattern is *tVCCîC*, where the first vowel is almost always the same as the corresponding vowel in the verb stem (see table on p. 270).

For the remaining themes, the specific Arabic gerund shapes have been lost, and gerunds are formed in a uniform manner: the second stem vowel of the verb stem is replaced with /ii/ (entailing stress shift and shortening of a long first vowel), and a prefix /t/ is added to all verbs that do not have a theme-prefix (i.e., Theme III). Verbs of Theme VII, VIII, and IX do not have gerunds (Aquilina 1965: 160–63, Schabert 1976: 140; see table on p. 270).

Theme	Imperfect	Gerund	Gloss
I	ji-dħol	dħûl	'enter'
	ji-nżel	nżûl	'descend, set'
	j-bîgħ	bejgħ	'sell'
	j-dûr	dawran	'turn'
	ji-mxi	mixi	'walk'
	ji-bki	biki	'cry'
	ja-ħxi	ħaxu	'stuff'
II	j-qassam	taqsîm	'distribute'
	j-kisser	tiksîr	'break'
	j-hedded	teħdîd	'threaten'
	j-laqqam	tilqîm	'graft, inject'
	j-sajjar	tasjîm	'cook'
	j-biddel	tibdîl	'change'
	j-faddal	tafdîl	'save'
	j-għarref	tagħrîf	'notify'
	j-saqqa	tisqîja	'irrigate'
	j-ħeġġeġ	teħġîġ	'ignite'
	j-għabba	tagħbîja	'load'

Theme	Imperfect	Innovative Gerund	Gloss
III	j-bierek	tberîk	'bless'
	j-wieled	twelîd	'give birth'
	j-qiegħed	tqegħîd	'set, seat'
	j-biegħed	tbegħîd	'remove'
	j-bata	tbatîja	'suffer'
	j-ġiegħel	ġġegħîl (/t+ġiegħîl/)	'compel'
V	ji-tkabbar	tkabbîr	'grow proud'
	ji-tħeġġeġ	tħeġġîġ	'be stimulated'
	ji-tmelles	tmellîs	'be caressed'
	ji-tkisser	tkissîr	'be broken'
	ji-tfisser	tfissîr	'be explained'
VI	ji-tqabad	tqabîd	'oppose'
	ji-tmiegħek	tmegħîk	'wallow'
	ji-tniehed	tnehîd	'sigh'
	ji-triegħed	tregħîd	'tremble'
X	ji-stenbaħ	stenbîħ	'wake up'
	ji-stieden	stedîn	'invite'
	ji-stenna	stennîja	'wait'
	ji-stagħġeb	stagħġîb	'be amazed'
X/II	ji-stħarreġ	stħarrîġ	'investigate'
	ji-stkerraħ	stkerrîħ	'loathe'
	ji-stħajjel	stħajjîl	'imagine'

This innovative gerund formation process—replacement of the second stem vowel by /ii/ and prefixing /t/—was clearly abstracted from the original Theme II gerund (*tVCCiiC*). The same innovative process applies to many Theme II verbs as well, and for some verbs both the conservative and the innovative gerunds exist.

Theme	Imperfect	Conservative Gerund	Innovative Gerund	Gloss
II	j-qassam	taqsîm	tqassîm	'distribute'
	j-kisser	tiksîr	tkissîr	'break'
	j-hedded	tehdîd	theddîd	'threaten'
	j-laqqam	tilqîm		'graft, inject'
	j-ħaddem		tħaddîm	'utilize'
	j-laqqam		tlaqqîm	'nickname'
	j-rabba		trobbîja / trabbîja	'raise (a child)'

Finally, gerunds with /ii/ have spread to some Theme I verbs too. In the following table, the column labeled Conservative Gerund includes examples, marked with an asterisk, of the expected, but non-occurring, Maltese gerund that would be the direct descendent of the Arabic gerunds:

Theme	Imperfect	Conservative Gerund	Innovative Gerund	Gloss
I	ji-nżel	nżûl	nżîl	'descend'
	ji-xhed	xhûd	xhîd	'testify'
	ji-dfen	*defen	dfîn	'bury'
	ja-qbad	*qabad	qbîd	'take'
	ji-sma'	*sema', *smiegħ, *smiegħa, *misma'	smîgħ	'hear'

Non-templatic verbs, which are all borrowings from Romance or English, form their gerunds by affixation (see section 5.3).

4.9. Causative/transitive formation

Theme I verbs frequently form causatives (or if the basic verb is intransitive, transitives), and sometimes intensives, by conversion to Theme II. This entails a change of prosody, from perfect CVCVC, imperfect VCCVC, to CVCCVC, but not, in general, a change in vocalism. (Here, as before, our focus is on the second stem vowel.)

$i \rightarrow i$ (no change)
    niżel 'descend'   *niżżel* 'cause to descend'
    kiser 'break'   *kisser* 'smash'

$e \rightarrow e$ (no change)
    deber (imp. *jidbor*) 'negotiate'   *debber* 'order'
    beżaq (imp. *jobżoq*) 'spit'   *beżżaq* 'spit often'
    hebeż 'go backward'   *hebbeż* 'cause to recede'

a → a (no change)

daħak 'laugh'	*daħħak* 'make someone laugh, amuse'
sabar 'bear with patience'	*sabbar* 'console'
fetaħ jiftaħ 'open'	*fettaħ* 'enlarge, keep opening'
fetaq joftoq 'rip, unstitch'	*fettaq* 'rend'

Incidentally, the same is true of derivation of Theme II verbs from nominals:

xemx 'sun'	*xemmex* 'expose to sun'
baħar 'sea'	*baħħar* 'navigate'

In some cases the base vowels are not retained. In all such cases the change is from a higher vowel in the base (Theme I or nominal) to a lower vowel in the derived Theme II verb: the derived form shows lowering following the hierarchies *i > e > a* and *o > a*. The vowels *o* and *u* do not occur in verbs of themes other than Theme I, so all verbs derived from bases with *o* or *u* must show vowel lowering or fronting.

i → e

firex 'spread'	*ferrex* 'scatter'
dilek 'smear'	*dellek* 'cause to smear'
żifen 'dance'	*żeffen* 'make one dance'
fitel 'become tepid; twist coarsely'	*fettel* 'make lukewarm; twist'

e → a

siker 'get drunk'	*sakkar* 'cause to get drunk'
għereq jegħreq 'sweat, sink'	*għarraq* 'cause to sweat or sink'
ħebel jeħbel 'become confused'	*ħabbel* 'confuse'
weħel jeħel 'be joined, get stuck'	*waħħal* 'stick, join together'

o → a or e

ħolom 'dream'	*ħallem* 'cause to dream'
boloq 'grow old'	*bellaq* 'ripen'
qorob 'approach'	*qarrab* 'bring near'
xorob 'drink'	*xarrab* 'cause to drink'
għoxa 'faint'	*għaxxa* 'cause to faint'
għola 'rise (price)'	*għalla* 'raise (price)'

Denominals:

ġdîd 'new'	*ġedded* 'renew'
iebes 'hard'	*webbes* 'harden'
sadîd 'rust'	*saddad* 'cause to get rusty'
tqîl 'heavy'	*taqqal* or *taqqel* 'make heavy'
qasîr 'short'	*qassar* 'shorten'
saddieq 'just'	*saddaq* or *seddaq* 'make just'
ħoxba 'beam'	*ħaxxeb* 'make thick and long'

4.10. *Integrated loan-verbs*

Maltese has a huge number of verbs of Romance and English origin. Some are integrated into the system of templatic verbs, and others are non-templatic; on the whole the non-templatic ones are historically more recent than the templatic loan-verbs. The processes of borrowing and integration have been treated exhaustively by Mifsud (1995), and re-examined by Hoberman and Aronoff (2003).

Loan-verbs integrated into the templatic system have been exemplified above. In most cases what was borrowed from Romance was a noun or adjective, and the verb was derived from it within Maltese (Mifsud 1995: 58). These are thoroughly integrated into the templatic system in most respects, and they participate in the derivational processes available to native verbs:

- *pîpa* 'pipe' > *pejjep* 'smoke' > *tpejjep* 'be smoked'
- *poġġa* 'place' > *tpoġġa* 'be placed'
- *pinġa* 'draw, paint' > *tpinġa* 'be painted'
- *ziek* 'subject someone to oblique, annoying remarks' > *nziek* 'be subjected to . . .'
- *pittûr* 'painter' > *pitter* 'paint (pictures)' > gerund *tpittîr* 'painting', *tpitter* 'be painted'
- *perċa* 'perch, washing-line' > *perreċ* 'exhibit, air' > gerund *tperrîċ*, agent noun *perrieċ*, *tperreċ* 'expose oneself to a draft'
- *fond* 'bottom, deep' > *fannad* 'dig deep' > *tfannad* 'be deepened', *fnâd* 'become deep' (Theme IX)

There are, however, some limits to their integration. Few loan-verbs are of the Theme I; Mifsud's exhaustive corpus includes only eight (plus a few more that are dialectal or obsolete), for example, *garr* 'hurl (stones)', *geżż* 'milk', *leqq* 'shine', *ziek* or *ċiek* 'subject someone to oblique, annoying remarks', *fada* 'trust', *rama* 'set up', *gaża* 'accuse', *faga* 'choke'. Only two Theme I loan-verbs are triconsonantal, and both are non-standard: *rexaq* 'strike off excess at top of a grain measure' and *żiden* or *żodon* 'undo a knot in a fishing-line'. Some Theme II loan-verbs have vowel patterns that are not found in the Arabic-Maltese vocabulary, such as *korra* 'be injured', *poġġa* 'sit down, put, place'; plus a few items labeled as vulgar: *pixxa* 'urinate', *fotta* 'cheat'; and a few items of child language: *ċiċċa* 'sit', *ninna* 'sleep', *xoxxa* 'blow one's nose'. Finally, among the closed set of verbs that have active participles there are no loan-verbs (Mifsud 1995: 70).

4.11. *Diminutives*

There are a fair number of templatically-formed diminutives, both nouns and adjectives. The sources disagree as to whether diminutive formation is productive: Schabert (1976: 165) states that it is fully productive, while Ambros (1998: 207) denies it:

fqajjar 'pitifully poor'	*fqir* 'poor
ġnejna 'small garden'	*ġnien* 'garden'

dwejra 'small house'	*dar* 'house'
dgħajjef 'weak'	*dgħif* 'thin, lean'
xtajta 'beach'	*xatt* 'shore'
bħajra 'pond'	*baħar* 'sea'
tfajjel 'young boy'	*tifel* 'boy'

5. Affixal morphology of Romance and English origin

Romance and English affixes as a rule occur only with borrowed stems, and to a large extent these represent not processes productive in Maltese but rather the borrowing of related pairs of words. Clearly, a set of words like *bilanċ* 'balance' (noun), *żbilanċ* 'unbalance', *bilanċjât* 'balanced', *żbilanċjât* 'unbalanced' does not show that there is a Maltese negative prefix *ż+*, since the words could have been borrowed individually from Italian *bilàncio, sbilàncio, bilanciato, sbilanciato*, just as the set *galvanòmetru, galvanoplàstika, galvàniku, galvanist, galvaniżmu, galvanizzat, galvanizzazzjoni* is evidence neither for compounding in Maltese nor for derivational processes involving the suffixes *+iku, +ist, +iżmu, +izz, +azzjoni*, even though compounds and words with *ż+, +iku, +ist, +iżmu, +izz, +azzjoni*, are plentiful in Maltese. (On the other hand, the verb *iggalvanizza* is the product of a truly Maltese, productive process; see 5.2.)

5.1. Romance derivational affixation

There are, however, a few items in which Romance derivational affixes appear on Arabic stems:

Affix	Derived word	Base
+*âta*	*xemxâta* 'sunstroke'	*xemx* 'sun'
	bluhâta 'an act of folly'	*blûha* 'foolishness'
	kruhâta 'an ugly deed'	*krûha* 'ugliness'
	ġennâta 'act of folly'	*ġenn* 'madness'
	miġnunâta 'an act of folly'	*miġnûn* 'crazy'
	fenkâta 'cooked rabbit'	*fenek* 'rabbit'
+*ûż*	*nkejjûż* 'annoying, spiteful'	*nkejja* 'vexation'
+*ûn*	*għajdûn* 'rigmarole'	*għîd* 'say'
	ħmarûn 'a great ass (fool)'	*ħmâr* 'donkey'
	ġibjûn 'reservoir'	*ġiebja* 'cistern'
+*ût*	*ghajdût* 'saying, rumor'	*għîd* 'say'
+*erîja*	*ħbiberîja* 'friendship'	*ħabîb*, pl. *ħbieb* 'friend'
+*azz*	*sakranazz* 'drunkard'	*sakrân* 'drunk'
+*u*	*ħamiemu* 'a dove'	*ħamiem* 'doves' (collective)
	wiżżu 'a gander'	*wiżż* 'geese' (collective)
+*nett*	*l-ewwelnett* 'in the first place'	*l-ewwel* 'the first'

Note also *maċurità* 'maturity' and *opporċunità* 'opportunity', attested in Maltese in Australia (Bovingdon 2001), where the *-ċ-* reflects English influence on the stems (/tj/→[tʃ]) but the suffix is Romance.

One or two Arabic-Maltese words take a Romance-Maltese plural suffix: *nkejja* 'vexation, teasing', pl. *nkejji* (a stem which also takes a Romance derivational suffix in *nkejjuż* 'annoying, spiteful'), *mistoqsija* 'question', pl. *mistoqsiji.*

5.2. Nontemplatic verbs[6]

Of the Maltese verbs of Romance origin, those which are integrated into the templatic system are, as we have said, generally those which were derived within Maltese from nouns or adjectives that had been borrowed at a relatively early period of history. There is also a large stock of loan-verbs that are either relatively late or borrowed directly as verbs, and these are nontemplatic. Nontemplatic loan-verbs "are in fact the most numerous class of M[altese] verbs, . . . [and] represent the only really productive channels for the integration of verbs into modern M[altese]" (Mifsud 1995: 141). All non-templatic stems end in *-a*, but they may otherwise be of any phonotactically licit shape (*żviluppa* 'develop', *standarizza* 'standardize', *approfondixxa* 'deepen') and may have lexically marked location of stress (*ippènetra* 'penetrate', *iġġustìfika* 'justify', *ikkoàgul*a 'coagulate'). They are inflected for gender, number, and person with the native Maltese prefixes and suffixes, and in particular the suffixes have the allomorphs that are found with vowel-final verb stems. Here is the conjugation of *studja* 'study' (Ambros 1998: 154):

		Perfect	Imperfect
sg.	1	studjajt	nistudja
	2	studjajt	tistudja
	3 m.	studja	jistudja
	3 f.	studjât	tistudja
pl.	1	studjajna	nistudjàw
	2	studjajtu	tistudjàw
	3	studjàw	jistudjàw

Italian verbs with the *-isc-* [-isk- ~ -ʃʃ-] augment are generally borrowed into Maltese with *-ixx-* [-iʃʃ-]. Many of these verbs have *-isc-* or *-ixx-*, respectively, in some but not all of their conjugational forms, and what is especially interesting is the conditioning. In Italian, *-isc-* appears just on those forms which would otherwise have stress on the stem, i.e., where the suffix is unstressed, as in these imperfect forms: 1 sg. *suggerìsco*, 2 sg. *suggerìsci* [-iʃʃi], but 1 pl. *suggeriàmo*. The same rule determines when *-ixx-* appears in Maltese: Perfect 1 sg. *issuġġerèjt,* 3 m. sg. *issuġġerìxxa*, 3 pl. *issuġġerèw,* Imperfect 1 sg. *nissuġġerìxxi*, 1 pl. *nissuġġerìxxu* (Mifsud 1995: 176). Suffixes that affect stress, such as those marking pronominal objects and negation, similarly condition *-ixx-*, though with less consistency: *issuġġerìxxa* 'he suggested', *ma ssuġġerîx* 'he did not suggest', *issuġġerîk* 'he suggested you'

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6. This section is based on Hoberman and Aronoff (2003).

(Mifsud 1995: 180). Mifsud's extensive treatment of -*ixx*- (1995: 169–81) is no longer than it needs to be to explore the many interesting aspects of the lexical and phonological distribution of -*ixx*- and the channels through which it was borrowed.

Typical of non-templatic verb stems is gemination of an initial consonant. (This does not apply to stems beginning in a vowel or a consonant cluster.) Gemination frequently distinguishes a verb from the Maltese noun or adjective it is derived from: *faċilità* 'ease, facility', *iffaċilita* 'to facilitate'; *differenti* 'different', *iddifferixxa* 'to differ'; *divrenzja* 'difference', *iddivrenzja* 'to discriminate against'; *sensja* 'permission, discharge', *issensja* 'to discharge from work'; *rapport* 'report', *irrapporta* 'to report' (the initial *i* is epenthetic). Initial gemination, which evidently arose from phonological gemination common in Sicilian and southern Italian dialects, has in Maltese the morphological function of forming denominal and deadjectival verbs. Verbs of English origin are characterized not only by initial gemination but also by another morphological feature: the derivational suffix -*ja*: *iddawnlowdja* 'download', *illandja* 'land (airplane)', *igglajdja* 'glide', *ipparkja* 'park (a car)', *ixxutja* 'shoot', *ittajpja* 'type(write)', *iwwoċċja* 'watch'. This derivational process is quite productive in the non-standard Maltese of emigrants in Australia (Bovingdon 2001): *ibbeltappja* 'belt up (seat-belt)', *ibblowdrajja* 'blow-dry', *iċċejsja* 'chase' (note the gerund *ċejsjatûra* with a Romance suffix but without gemination), *ibbajja* 'buy', *ibbulxittja* 'bluff', *ixxavilja* 'tell lies'. These are fully inflected: *tiwwippjaha* 'you whip it', *tixxittjanîx* (*t-ixxitt-ja-ni-x*) 'don't get on my nerves', *jiwwornjawlek* 'they will get worn out on you', *jissnużjâx* 'he doesn't snooze', *ikkensiljahûli* 'cancel it for me', *ma kkompensejtjawni* 'they didn't compensate me'.

5.3. *Romance gerunds and participles*

The gerunds and (passive) participles of non-templatic verbs are formed not with the native Arabic Maltese morphology (partly templatic and partly affixal) but with Romance affixes. The participles are formed with the suffixes +*ât*, +*ît*, or +*ût* (fem. +*âta*, +*îta*, +*ûta*, pl. +*âti*, +*îti*, +*ûti*): *studja* 'study', *studjât*; *ittajpja* 'type', *(it)tajpjât*; *ittradixxa* 'betray', *(it)tradût*; *stabilixxa* 'stabilize', *stabilît*. The gerunds are more varied, corresponding to the variety of verbal nouns in Romance: *studjâr*, *(it)tajpâr*, *vjaġġâr*, *ippumpjâr*, *skidjâr*, *salvazzjoni*, *ubbidjenza*, *trattament*. As some of these examples show, the Romance sufixes are applied to English-origin verbs as well; additional examples are *smexxjatûra* 'car crash', *kikkjatûra* 'kick' (cf. the verb *ikkikkja*) (Bovingdon 2001).

The same Romance suffixes form gerunds and participles of many verbs which are in other respects assimilated to the templatic system, and some verbs have both types: *falla* 'go bankrupt', imperfect *jfalli*, participle *mfalli* or *fallût*, gerund *tfallîja* or *falliment* or *fallâr*. Sporadically, gerunds and participles are formed with both the Arabic and Romance affixes simultaneously (*mpinġût* 'painted' from *pinġa jpinġi*, *tranġâr* 'arranging' from *irranġa jirranġa*); according to Mifsud (1995: 135) these are judged nonstandard ("ungrammatical") but are nonetheless frequent.

6. Innovations in the numeral system

Though the focus of this essay is on productive morphology, some interesting aspects of the numeral system are worth mentioning.

The numeral 'one' has gender-specific forms: masc. *wieħed*, fem. *waħda,* while the other cardinal numerals do not vary for gender. On the other hand 'two' through 'nineteen' have two or three forms each, distinguished by syntactic environment. The short form appears before a counted noun (*ħames persuni* 'five people'), the long form otherwise (*Kemm persuni? Ħamsa.* 'How many people? Five.').[7]

	Long form	Short form	
		Base	Base + *t*
'two'	tnejn	żewġ	żewġt
'three'	tlieta	tliet	tlitt, tlett
'four'	erbgħa	erba'	erbat
'five'	ħamsa	ħames	ħamest
'six'	sitta	sitt	sitt
'seven'	sebgħa	seba'	sebat
'eight'	tmienja	tmien	tmint
'nine'	disgħa	disa'	disat
'ten'	għaxra	għaxar	għaxart
'eleven'	ħdâx	ħdâx-il	
'twelve'	tnâx	tnâx-il	
'thirteen'	tlettâx		tlettâx-il
'fourteen'	erbatâx		erbatâx-il
'fifteen'	ħmistâx		ħmistâx-il
'sixteen'	sittâx		sittâx-il
'seventeen'	sbatâx		sbatâx-il
'eighteen'	tmintâx		tmintâx-il
'nineteen'	dsatâx		dsatâx-il

The short-form numerals from 'three' through 'ten' have variants with a final *t*, which appear before nouns of a certain class. Membership in the class is somewhat variable. Core members of the class are Arabic vowel-initial dissyllabics, like *ilsna* 'tongues', *aħwa* 'brothers/sisters' (*ħamest ilsna, ħamest aħwa*), and this includes those in which the first vowel is epenthetic, conditioned by a sonorant-initial consonant cluster (*rġiel* 'men', *tmint irġiel* 'eight men'). Monosyllabic plurals also take the *t*-form numeral; though the phonetic conditions for epenthesis are lacking they acquire an initial *i,* which renders these words vowel-initial and hence appropriate for selecting the *t*-form numeral: *djâr* 'houses', *żewġt idjâr* 'two houses'; *bniet* 'daughters', *erbat ibniet* 'five daughters'; *jiem* 'days', *ħamest ijiem* 'five days'. The same applies, though optionally, to dissyllabic plurals beginning with consonant clusters: 'five horses' may be *ħames żwiemel* or *ħamest iżwiemel,*

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7. For 'four', 'seven', and 'nine', the short and long forms are identical in the standard, urban pronunciation: [érba, séba, dísa].

and 'ten rooms' is *disa' kmâmar* or *disat ikmamar;* in a single paragraph one finds *żewġt imqadef* 'two oars' and *erba' mqâdef* 'four oars'. A quick search of Maltese internet documents turns up additional instances of *t*-forms that do not match these conditions: *żewġt* appearing before *isqfijiet* 'bishops', *naħat* 'sides', and *pajjiżi* 'two countries'.

Though the added *t* is written as a suffix to the numeral, Schabert (1976: 204) treats it as the onset of following noun: [ħames tartaal] 'five ratals' (*ratal*, pl. *rtâl*, is a native unit of weight); the difference is in the location of stress: *ħamest* implies [ħamést], while *ħames* implies [ħámes]. Schabert's representation gains support from novel spellings one finds on the internet, even in official documents: *żewġ t'itfal* 'two children' (for normative *żewġt itfâl*), *erbgħa t'elef* 'four thousand' (for normative *erbat elef*), *seba' tijiem, sebat t'ijiem,* and even *seba't t'ijiem* 'seven days' (for normative *sebat ijiem*).

7. The ghost consonant *għ*

The digraph *għ* (called *għajn* [aajn]) represents the Maltese reflex of Arabic ʕ and ɣ. For modern Maltese viewed synchronically, one could describe *għ* as the orthographic flag for an elaborate set of regular, systematic phonological and morphological peculiarities. The phonological status of *għ* in modern Maltese is controversial: grammars invariably treat it as an abstract consonant, which Brame (1972) showed must be a voiced sonorant pharyngeal consonant /ʕ/, thereby simplifying the morphophonology, while Comrie (1986) has argued that the properties peculiar to words with *għ* are better understood as lexically listed morphological idiosyncrasies.[8]

The phonetic realizations of *għ* vary by phonological environment and dialect and will only be sketched here. In most positions *għ* has no sound itself but indicates that the adjacent vowel is long: *għaġġeb* [áaddʒep] 'he astonished', *għanqbûta* [aanʔbúuta] 'cobweb', *għoqda* [óoʔda] 'knot', *għeneb* [éenep] 'grapes', *żagħżûgħa* [zaazúua(a)] 'young woman'. At the end of a word *għ* is [ħ]: *żagħżûgħ* [zaazúuħ] 'young man', pl. *żgħâżagħ* [záazaħ], *żebagħ* [zébaħ] 'he painted'. In some environments *għ* also changes the quality of an adjacent vowel, in ways which are not all indicated in Maltese orthography, for example, *semgħu* [sémoow] 'they heard' (cf. *lemħu* [lémħu] 'they perceived'), *disgħîn* [diséejn] 'ninety' (cf. *ħamsîn* [ħamsíin] 'fifty'; *disgħa* [dísa] 'ten', *ħamsa* [ħámsa] 'five'). The preceding description is for normative, standard Maltese. In many dialects, including some which are in other respects representative of standard Maltese, the vowel

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8. Many of the anomalies associated with *għ* appear also in words spelled with *h,* though there are some differences (Schabert 1976: 48–50). These facts point to a stage of early Maltese in which there were two consonants, *ʕ and *h, which conditioned similar vowel changes and subsequently elided. However, even if one adopts the underlying-/ʕ/ analysis for *għ* in modern Maltese, there is no need to posit yet another abstract underlying consonant corresponding to *h*. The deviations of the *h*-class words from the *għ*-class can be treated as lexical exceptions, especially as the number of words with *h* is relatively small.

whose length is indicated by *għ* is also pharyngealized: *żagħżûgħa* [zaạzúuạạ], *semgħu* [sémạạw] (Schabert 1976: 9–10).

Brame (1972) showed that a wide variety of phonological and morphological anomalies, which are exceptions to otherwise pervasive phonological patterns in Maltese, can be subsumed under regular phonological processes if one postulates an underlying /ʕ/. Take for example these forms: *tilgħab* [tílaap] 'you (sg.) play', *tilagħbu* [tiláabu] 'you (pl.) play', *ma tilagħbûx* [matilaabúuʃ] 'you (pl.) do not play', *ilgħabt* [iláapt] 'I played'. These exhibit the following apparent exceptions to regular Maltese phonology: the unstressed long vowels in [tílaap] and [matilaabúuʃ] (unstressed vowels normally shorten), the vowel in the open syllable after the *t* prefix in [tílaap], [tiláabu], and [matilaabúuʃ] (cf. the corresponding forms for 'want': *trîd, trîdu, ma tridûx*), and the epenthetic *i* in [iláapt] (epenthesis is regular before a consonant cluster if the first consonant is a sonorant; cf. *ilħaqt* 'I reached', *bgħadt* [baatt] 'I hated'). All these anomalies can be seen as derived by automatic phonological processes from the underlying or intermediate forms /tilʕab/, /tilʕabuu(ʃ)/, /lʕabt/. A slightly different set of anomalies appear in words where the /ʕ/ is stem-final; compare the following:[9]

/jismaʕ/ 'hear'	/jilmaħ/ 'perceive'	/jitħan/ 'grind'
jisma' [jísma] 'he hears'	*jilmaħ* [jílmaħ]	*jitħan* [jítħan]
jismagħhom [jismáħħom] 'he hears them'	*jilmaħhom* [jilmáħħom]	*jitħanhom* [jitħánom]
jisimgħu [jisímoow] 'they hear'	*jilimħu* [jilímħu]	*jitħnu* [jítħnu]

Words like *jilgħab* 'play' and *jisma'* 'hear' are not marginal items; the same alternations characterize a great many verbs and also nouns, such as the words for 'young (wo)man/men' mentioned above. The phonologically anomalous forms could certainly be treated, as Comrie proposed, as simply lexically listed forms, but the cost is that stress placement, epenthesis, syncope, unstressed vowel shortening, and several other phonological patterns, which are otherwise exceptionless (or nearly so, at least in native words) must be morphologically or lexically specified in a large number of items. Note especially the failure of long vowels to shorten when unstressed; the long vowel in [trí̲idu] 'you (pl.) want' is shortened in [matridúuʃ] 'you (pl.) don't want' but the long vowel in [tilá̲abu] 'you (pl.) play' is not shortened in [matila̲abúuʃ] (*ma tilagħbux,* /ma tilʕabuuʃ/) 'you (pl.) don't play'. This failure to shorten would probably be the strongest evidence for underlying /ʕ/ because shortening is phonetically simple, natural, transparent, and otherwise exceptionless (though it may be variable, Borg 1997: 266). On the other hand, at least some speakers do shorten the vowels that are lengthened by the hypothetical /ʕ/

9. When word-final underlying /ʕ/ is silent, the orthography requires an apostrophe instead of *għ*, so [jísma] is *jisma'* rather than **jismagħ*.

(Hume and Venditti 1998), so the lexical approach may well be more reflective of the contemporary language. Borg's brief discussion of these issues (1997: 261–62) contains many important observations.

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