

SOME PHONOLOGICAL CHANGES IN MALTESE REFLECTED IN ONOMASTICS

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Abstract: The present paper evaluates the onomastic evidence for some of the changes affecting consonants in the history of Maltese. The analysis is based on a rich corpus of surnames, nicknames and place-names recorded between early 15th century and late 18th century. Onomastics is shown to offer valuable insights into the gradual emergence of the system of consonantal phonemes of Modern Maltese and of some of its specific phonological rules. It is also shown that evidence from onomastics disconfirms previous claims regarding the chronology of some of the changes affecting the consonants of Maltese.

Keywords: Maltese, surnames, nicknames, place-names, historical phonology

1. Introduction

The relevance of onomastics for the history of Maltese has not gone unnoticed by researchers. Previous studies have looked into a number of issues, such as the distribution of surnames (Wettinger 1968; Wettinger 1969), the origin of surnames (Fiorini 1987-1988, Wettinger 1999, Cassar 2005), lexical items found or preserved in surnames and nicknames (Aquilina 1964), the origin of nicknames (Wettinger 1971), the semantics of nicknames (Camenzuli 2002), social aspects reflected in nicknames (Cassar Pullicino 1956), the distribution and origin of place-names (Wettinger 2000), the comparison of Maltese and Arabic place-names (Dessoulavy 1957), the influence of Arabic on place-names (Aquilina 1961), some morphological and syntactic characteristics of place-names (Wettinger 1983).

The present paper discusses the relevance of onomastics for the study of some developments affecting consonants in the history of Maltese. The corpus of data consists of Maltese surnames, nicknames and place-names recorded between the 15th and the 18th centuries. All entries include the year of the attestation and the source. When an exact year could not be established a hyphen is used to indicate approximate dates: a year preceded by a hyphen reads 'in or before', if followed 'in or after'. Relevant portions appear in boldface. Some of the original translations into English have been slightly amended; original translations into Italian are reproduced in the footnotes.

2. Analysis

2.1 Neutralization of voicing in word-final position

Modern Maltese exhibits devoicing of obstruents in word-final position (Cohen 1966: 13, Cohen 1967: 165, Borg 1975: 19-20, Borg 1997: 250, Cardona 1997: 103-104).

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Evidence from surnames and from nicknames of Arabic origin shows that the rule of word-final devoicing was not part of the phonology of 15th century Maltese:

(1)	a.	<i>busalib</i>	1419	(Wettinger 1968: 33)
	b.	<i>mifsud</i>	1419	(Wettinger 1968: 42)
	c.	<i>muhamud</i> / <i>muhumud</i>	1419	(Wettinger 1968: 42)
	d.	<i>said</i> / <i>sayd</i>	1419	(Wettinger 1968: 44)
	e.	<i>haiuz</i>	1419	(Wettinger 1968: 30)
	f.	<i>Cathaldus Muhumud</i>	1467	(Wettinger 1983: 39)
	g.	<i>mifsud</i>	1480-	(Wettinger 1968: 42)
	h.	<i>said</i> / <i>sayd</i>	1480-	(Wettinger 1968: 44)
	i.	<i>L-Chiccu labiad</i> 'Chiccu the white one'	1483	(Wettinger 1971: 40)

A devoiced word-final obstruent occurs in only one form:

(2)	<i>aius</i>	1480-	(Wettinger 1968: 30)
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The spelling of place-names also points to the continuous occurrence of voiced obstruents in word-final position until much later, towards the end of the 16th century:

(3)	a.	<i>mita Ilchaded</i> 'of the iron'	1461	(Wettinger 1983: 53)
	b.	<i>bita muezeb</i> 'of the gutter'	1486	(Wettinger 1983: 32)
	c.	<i>ta michammed</i> 'of Muhammad'	1500	(Wettinger 1983: 40)
	d.	<i>ta misged</i> 'of the synagogue'	1537	(Wettinger 1983: 33)
	e.	<i>ta mihauueg</i> ¹ 'of the bent one'	1544	(Wettinger 1983: 40)
	f.	<i>il mueyed</i> 'tablelands'	1590	(Wettinger 1983: 37)

The following are exceptions:

(4)	a.	<i>gebel labiath</i> 'the white rock, the white hill-side'	1501	(Wettinger 1983: 64)
	b.	<i>merhelet ilmohos</i> 'the goats' pen'	1523	(Wettinger 1983: 34)

However, the digraph <th> in *labiath* 'white' appears to be simply an idiosyncratic spelling. In addition, the same place-name is also recorded with final <d>

¹ Where <g> presumably stands for [dʒ]; cf. Modern Maltese *mghawweg*, in which <g> represents [tʃ].

- (5) *ta gebel labiod* 1538 (Wettinger 1983: 64)
 ‘of the white rock, of the white hill-side’

Clear instances of word-final devoiced obstruents are attested in surnames, nicknames and place-names from the 17th century onwards:

- (6) a. *Mihammet* 1632 (Wettinger 1983: 40)
 b. *Mitahlep* 1647 (Abela 1647: 65)
 ‘place where the cows are milked’²
 c. *Kibur elihut* 1647 (Abela 1647: 82)
 ‘the graves of the Jews’³
 d. *Andar l’Jsuet* 1773 (Wettinger 1983: 65)
 ‘Iswed’s [= the dark-skinned’s] threshing floor’
 e. *ta’ Lisuet* -1798 (Camenzuli 2002: 322)
 ‘of black complexion, dark-skinned’
 f. *ta’ Supperf*⁴ -1798 (Camenzuli 2002: 323)
 ‘proud, arrogant’

As shown by example (6f), word-final obstruent devoicing is also attested in nicknames of Romance origin.

To sum up, evidence from surnames, nicknames and place-names shows that obstruents did not undergo devoicing in word-final position in the 15th century. This is confirmed by textual evidence such as Pietru Caxaru’s *Cantilena*⁵ (c. 1450), which contains no instance of devoiced word-final obstruents⁶. On the other hand, the occurrence in surnames, nicknames and place-names beginning with the 17th century of devoiced word-final obstruents accords well with the fact that these are already attested in 1588, in Hieronymus Megiser’s word-list⁷, where devoiced word-final obstruents occur in 10 forms out of 13. Voiced word-final obstruents still outnumber devoiced ones in Philip Skippon’s word-list⁸, published in 1664, and in Giovan Francesco Buonamico’s *Sonnet*⁹ (c. 1675), out of five potential occurrences, only two forms exhibit a devoiced word-final obstruent.

2.2 Voicing assimilation

In Modern Maltese, regressive voicing assimilation occurs when voiced and voiceless obstruents occur in adjacent position; consequently, adjacent obstruents agree in voicing, i.e. they are all either voiced or voiceless (Borg 1975: 15-16, Borg 1997: 250,

² Cf. the translation into Italian ‘luogo, oue si mungeua il latte’ (Abela 1647: 65).

³ Cf. the translation into Italian ‘Sepulchri de’ Giudei’ (Abela 1647: 82).

⁴ Spelled *supperv* in Modern Maltese.

⁵ The text is reproduced in Wettinger and Fsadni (1968: 36) and in Wettinger and Fsadni (1983: 47).

⁶ See also Cohen and Vanhove (1991: 181).

⁷ First published in 1601. See Cowan (1964) and Cassola (1987-1988).

⁸ Reproduced in Cachia (2000: 34-40).

⁹ See the text in Cachia (2000: 18).

Cardona 1997: 104). The spelling of the following nickname suggests that regressive voicing assimilation did not operate in 15th century Maltese:

- (7) *Nardus Curmi dictu casbije* 1499 (Wettinger 1971: 45)
 ‘Nardus Curmi called Stubble’

The absence of regressive voicing assimilation in this form is not surprising in view of data provided by later textual evidence. Thus, regressive voicing assimilation is first attested in 1588 in Megiser’s word-list. As for the 17th century, either the rule had not run its full course or perhaps it was still subject to variation. Thus, only a minority of the relevant forms recorded by Skippon in 1664 exhibit regressive voicing assimilation, while in Buonamico’s *Sonnett* (c. 1675), obstruents undergo devoicing via regressive assimilation in all three relevant forms.

2.3 The interdental fricatives *t̪* and *d̪*

The interdentals *t̪* and *d̪* are not found in any of the earliest attestations of surnames, nicknames or place-names. Instead, their stop reflexes occur, as can be seen in the place-name below:

- (8) *habel Jtikil* 1525 (Wettinger 1983: 64)
 ‘the field-strip of the heavy man [nickname]’

The absence of *t̪* and in particular of *d̪* points to their quite unstable status at the time. The voiceless interdental *t̪* occurs – some 75 years earlier – in only one form, spelled with <th> in the *Cantilena* (c. 1450), and – 53 years later – in eleven forms, spelled with <f> (six occurrences), <h> (one occurrence), <s> (one occurrence) and <sf> (three occurrences), in Megiser’s word-list, recorded in 1588. While the occurrence of *t̪* in the *Cantilena* is dismissed by Cohen and Vanhove (1991: 1979) as being “undoubtedly already an exception in the epoch”, Dessoulavy (1937: 1182) writes that “the words [in Megiser’s word-list] seem to show that the soft *th* sound was still heard in Malta in the sixteenth century”. On the other hand, the only known occurrence of *d̪*, debatable at all that, is in 1588, in Megiser’s word-list. Thus, it may well be that *t̪* survived longer than *d̪* and was still present in some varieties of 16th century Maltese.

The spelling of the place-names below is certainly interesting, since it raises the question of whether *t̪* may have survived in (some varieties of) 17th century Maltese:

- (9) a. *Ghar Buthomna*¹⁰ 1647 (Abela 1647: 73)
 b. *Ben Varrath*¹¹ 1647 (Abela 1647: 71)
 ‘the heir’s son’¹²

¹⁰ Cf. Modern Maltese *tomna* ‘measure (of corn)’.

¹¹ Cf. Modern Maltese *werriet*.

¹² Cf. the translation into Italian ‘figlio dell’ Herede’ (Abela 1647: 71).

- c. *Ghar el Methkub* 1647 (Abela 1647: 22)
 ‘the drilled cave’¹³

If the digraph <th> stands indeed for *t*, these would be the last known occurrences in (some varieties of) Maltese of the voiceless interdental fricative. Only slightly later, in Skippon’s word-list from 1664, all reflexes of **t* are spelled with <t>.

2.4 The voiceless uvular stop *q*

The Modern Maltese reflex of **q* is the voiceless glottal stop ’ (Cohen 1966: 15, Cohen 1967: 166). The various spellings in surnames, nicknames and place-names show that earlier Maltese still had the voiceless uvular stop *q*.

One frequently occurring spelling is <c>. Consider first 15th and 16th century surnames and nicknames:

- (10) a. *Gullielmu Staferagi cuchede* 1420s (Wettinger 1971: 45)
 ‘Gullielmu Staferagi a louse just hatched’
 b. *Lucas Baldakin alias miseuhac* 1512 (Wettinger 1971: 44)
 ‘Lucas Baldakin the variegated’
 c. *Joannes Vella Carchille* 1531 (Wettinger 1971: 46)

Note in example (10c) the use of <c> in early Romance loanwords, in which Maltese *q* is a reflex of an etymological /k/¹⁴.

The use of <c> for *q* is also attested in 15th and 16th century place-names. These include the examples below:

- (11) a. *mahanuc* 1419 (Borg 1976: 22)
 ‘the strangled’
 b. *calet il habid* 1487 (Wettinger 1983: 56)
 ‘the slave’s fort’
 c. *il chubejleth ricac* 1530 (Wettinger 1983: 63)
 ‘the narrow field-strips’
 d. *il hofra fucanie* 1587 (Wettinger 1983: 61)
 the upper depression’

The same is also true of a 17th century place-names:

- (12) a. *Ghar Barca* 1647 (Abela 1647: 65)
 ‘the Cave of the Blessing’¹⁵
 b. *ta sicayac* 1659 (Wettinger 1983: 47)
 ‘of the small street’

¹³ Cf. the translation into Italian ‘grotta pertugiata, ò forata’ (Abela 1647: 22).

¹⁴ Compare *Carchille* to Modern Maltese *qarçilla*.

¹⁵ Cf. the translation into Italian ‘Grotta della Benedittione’ (Abela 1647: 65).

Another spelling is <q>, which occurs in the following nicknames:

- | | | | | |
|------|----|----------------------------|------|----------------------|
| (13) | a. | <i>Luca Lukis beraq</i> | 1525 | (Wettinger 1971: 40) |
| | | ‘Luca Lukis the lightning’ | | |
| | b. | <i>Lumejna bita saqora</i> | 1483 | (Wettinger 1971: 46) |
| | | ‘Lumejna of the sack’ | | |

Also attested is <k>, in the 16th century place-names below:

- | | | | | |
|------|----|---|------|----------------------|
| (14) | a. | <i>Jl harke il chamra</i> | 1523 | (Wettinger 1983: 65) |
| | | ‘the red field’ | | |
| | b. | <i>gued kleya</i> | 1533 | (Wettinger 1983: 55) |
| | | ‘the valley at Qleigha’ | | |
| | c. | <i>habel Jtikil</i> | 1538 | (Wettinger 1983: 64) |
| | | ‘the field-strip of the heavy man [nickname]’ | | |

With very few exceptions, Abela (1647) uses <K> for reflexes of *q. Consider some of his examples of place-names:

- | | | | | |
|------|----|--|------|-------------------|
| (15) | a. | <i>Blat el Kamar</i> | 1647 | (Abela 1647: 88) |
| | | ‘the boulders of the moon’ ¹⁶ | | |
| | b. | <i>Ghar BaKar</i> | 1647 | (Abela 1647: 73) |
| | | ‘the cave of the cows’ ¹⁷ | | |
| | c. | <i>MaKluba</i> | 1647 | (Abela 1647: 100) |
| | | ‘the overturned’ ¹⁸ | | |
| | d. | <i>Tal eenieK</i> | 1647 | (Abela 1647: 99) |
| | | ‘of the young she-goats’ | | |

Yet another spelling is <ch>, attested in the following nickname:

- | | | | |
|------|--|------|----------------------|
| (16) | <i>Joanna filia Blasii Ketcuti alias manja bachira</i> | 1532 | (Wettinger 1971: 44) |
| | ‘Joanna daughter of Blasius Ketcuti alias ate a cow’. | | |

The digraph <ch> also occurs, more frequently, in place-names:

- | | | | | |
|------|----|---|------|----------------------|
| (17) | a. | <i>machalube</i> | 1547 | (Borg 1978: 22) |
| | | ‘overturned’ | | |
| | b. | <i>Jl charcha Jisighire</i> | 1574 | (Wettinger 1983: 62) |
| | | ‘the small field’ | | |
| | c. | <i>Ichens ta fuch Jl gued Jl chibir</i> | 1581 | (Wettinger 1983: 66) |
| | | ‘the land on long lease above the big valley’ | | |

¹⁶ Cf. the translation into Italian ‘Roccam della luna’ (Abela 1647: 88).

¹⁷ Cf. the translation into Italian ‘grotta delle vacche’ (Abela 1647: 73).

¹⁸ Cf. the translation into Italian ‘Riuoltata’ (Abela 1647: 100).

Again, these spellings differ from those in other contemporary sources, such as late 18th sermons, whose authors resort to <ck> and <cq> (Bonelli 1897).

To conclude, the surnames, nicknames and place-names recorded in the 15th through the 18th centuries show that Maltese still had the voiceless uvular stop *q*.

2.5 The voiceless velar fricative *h*_L and the voiceless pharyngeal fricative *h*_∅

Modern Maltese has lost the distinction between the voiceless velar fricative *h*_L and the voiceless pharyngeal fricative *h*_∅.

As shown below, reflexes of **h*_L are mostly spelled with <h> or <ch> in 15th century surnames and nicknames. These competing spellings are found even in variants of the same form, as in (22a):

- | | | | | |
|------|----|----------------------------|-------|----------------------|
| (22) | a. | <i>haxixe</i> | 1419 | (Wettinger 1968: 31) |
| | | <i>chaxixe</i> | 1480- | (Wettinger 1968: 31) |
| | b. | <i>Jacoba bita challas</i> | 1483 | (Wettinger 1971: 43) |
| | | ‘Jacoba of the pay master’ | | |

The same hold true for 16th century place-names. Consider the pairs of variants below, in which the same noun is spelled either with <h> or with <ch>:

- | | | | | |
|------|----|--------------------------------|------|----------------------|
| (23) | a. | <i>il chireybeth</i> | 1509 | (Wettinger 1983: 50) |
| | | <i>ilhireybet</i> | 1527 | (Wettinger 1983: 42) |
| | | ‘the small ruins’ | | |
| | b. | <i>habel ta mneihor</i> | 1537 | (Wettinger 1983: 48) |
| | | ‘the field of the little nose’ | | |
| | | <i>mineychor</i> | 1543 | (Wettinger 1983: 48) |
| | | ‘little nose’ | | |

The following example illustrates a rare spelling, namely, the use of <c>:

- | | | | | |
|------|--|-------------------------|------|----------------------|
| (24) | | <i>ta xueyac</i> | 1539 | (Wettinger 1983: 43) |
| | | ‘of the little old man’ | | |

The reflexes of **h*_∅ in 15th and 16th century surnames and nicknames display the same alternation in the use of <h> or <ch>. This is illustrated below with orthographic variants of several forms:

- | | | | | |
|------|----|-------------------------------|-------|----------------------|
| (25) | a. | <i>buhaiar</i> | 1419 | (Wettinger 1968: 33) |
| | | <i>buchaiar</i> ²² | 1480- | (Wettinger 1968: 33) |
| | b. | <i>hakem / hakim / chakim</i> | 1419 | (Wettinger 1968: 40) |
| | | <i>hakim</i> | 1480- | (Wettinger 1968: 40) |

²² Literally ‘big stones’. Cf. the Modern Maltese form *Buhagiar*.

c.	<i>mihallef</i> / <i>mihallif</i>	1419	(Wettinger 1968: 42)
	<i>Gullielmu Mahallif Simine</i>	1420-	(Wettinger 1971: 43)
	‘Gullielmu Mahallif [called] Fatness’		
	<i>michallif</i>	1480-	(Wettinger 1968: 42)
d.	<i>mellahi</i>	1419	(Wettinger 1968: 42)
	<i>mellachi</i> ²³	1480-	(Wettinger 1968: 42)
e.	<i>muhamud</i> / <i>muhumud</i> /		
	<i>muhumudi</i>	1419	(Wettinger 1968: 42)
	<i>Cathaldus Muhumud</i>	1467	(Wettinger 1983: 39)
	<i>michammed</i>	1500	(Wettinger 1983: 40)
	<i>Mihammet</i>	1632	(Wettinger 1983: 40)

The pairs of orthographic variants below attest to the alternation of <h> and <ch> in 15th and 16th century place-names as well:

(26)	a.	<i>mirachil</i>	1467	(Wettinger 1983: 34)
		<i>mirahel</i>	1487	(Wettinger 1983: 34)
		‘the animal yards’		
	b.	<i>ta bir il-chamem</i>	1508	(Wettinger 1983: 58)
		<i>ta bir il hammem</i>	1558	(Wettinger 1983: 58)
		‘of the well of the bathhouse’		
	c.	<i>ta chumayra</i>	1530	(Wettinger 1983: 45)
		<i>ta humayra</i>	1543	(Wettinger 1983: 45)
		‘of the small donkey’		
	d.	<i>il chofra fucanie</i>	1548	(Wettinger 1983: 61)
		<i>Jl hofra Jl fucanie</i>	1587	(Wettinger 1983: 61)
		‘the upper depression’		

The digraph <ch> is also found in 17th century place-names, in which it represents a reflex of either *h_l∅, in (27), or of *h∅, in (28):

(27)	<i>tal machnuch</i>	1610	(Wettinger 1983: 39)
	‘of the hoarse person’		
(28)	<i>tal moftech</i>	1611	(Wettinger 1983: 38)
	‘of the key’		

In addition, the reflex of *h∅ is also spelled with <c>, as in the following example:

(29)	<i>il miseyrac</i>	1611	(Wettinger 1983: 38)
	‘the small open place’		

The spellings of the surnames, nicknames and place-names considered so far suggest that the two fricatives *h_l and *h∅ had already merged as early as the 15th

²³ Literally from *Mellieha* [melliəha], a town in Malta.

century. Contemporary textual evidence also seems to point to the same conclusion. Thus, in the *Cantilena* (c. 1450) reflexes of *h_L are represented by <c> (one occurrence), <h> (two occurrences) and <ch> (two occurrences), while reflexes of *h_Ø are spelled with <h> (one occurrence) and <ch> (three occurrences). In the words recorded in 1588 by Megiser reflexes of *h_L are rendered with <c> (one occurrence) and <ch> (eight occurrences), whereas reflexes of *h_Ø are represented by <c> (one occurrence), <h> (two occurrences), <k> (one occurrence), <ch> (four occurrences) and Ø (one occurrence). Skippon uses only two spellings in his 1664 word-list: <h> (one occurrence) and <ch> (16 occurrences) for reflexes of *h_L, <h> and <ch> (13 occurrences) for reflexes of *h_Ø. In Buonamico's *Sonnet* (c. 1675) the following spellings are found: <ch> (three occurrences) for reflexes of *h_L, <h> (four occurrences) and <ch> (five occurrences) for reflexes of *h_Ø. However, in Abela (1647) – whose relevance to the study of Maltese proper names is unanimously acknowledged – with one single exception all reflexes of *h_L are spelled with <ch>, whereas all reflexes of *h_Ø are spelled with <h>. Consider some of the place-names recorded by Abela (1647), containing reflexes of *h_L, in the examples under (30), and of *h_Ø, in the forms under (31) respectively:

(30)	a.	<i>Vyed l'Ahierief</i> ²⁴ 'valley of the lambs' ²⁵	1647	(Abela 1647: 73)
	b.	<i>Dachlet</i> 'entrance' ²⁶	1647	(Abela 1647: 25)
	c.	<i>Ras chanzir</i> 'the cape of the pig'	1647	(Abela 1647: 16)
	d.	<i>Tal Cherba</i> 'of the ruined building' ²⁷	1647	(Abela 1647: 98)
	e.	<i>Vyed el Charrub</i> 'the valley of the locusts' ²⁸	1647	(Abela 1647: 73)
(31)	a.	<i>Bir el Hut</i> 'the water tank of the fish'	1647	(Abela 1647: 85)
	b.	<i>L'Aharasce</i> 'rough terrain' ²⁹	1647	(Abela 1647: 25)
	c.	<i>Bir Miftuh</i> 'the open water tank'	1647	(Abela 1647: 103)
	d.	<i>Taht el gebel</i> 'under the rock' ³⁰	1647	(Abela 1647: 28)

²⁴ This is the only exception, in which a reflex of *h_L is spelled with <h>.

²⁵ Cf. the translation into Italian 'valle d'agnelli' (Abela 1647: 73)

²⁶ Cf. the translation into Italian 'entrata' (Abela 1647: 25).

²⁷ Cf. the translation into Italian 'del edificio rouinato' (Abela 1647: 98).

²⁸ Cf. the translation into Italian 'valle delle carrobbe' (Abela 1647: 73).

²⁹ Cf. the translation into Italian 'terreno aspro, e ruuido' (Abela 1647: 25).

³⁰ Cf. the translation into Italian 'sotto la rocca' (Abela 1647: 28).

Finally, in late 18th century nicknames an identical spelling <h> is used for reflexes of both h_{\perp} and $*h_{\diamond}$, as in the examples under (32) and (33) respectively:

- | | | | | |
|------|----|---|-------|-----------------------|
| (32) | a. | <i>Hanfus<u>u</u></i> | -1798 | (Camenzuli 2002: 324) |
| | | ‘grumpy person’ [lit. ‘beetle’] | | |
| | b. | <i>il-Haddi<u>l</u>a</i> | -1798 | (Camenzuli 2002: 322) |
| | | ‘paralyzed’ | | |
| | c. | <i>Moh<u>h</u>u Blil<u>l</u>a</i> | -1798 | (Camenzuli 2002: 322) |
| | | ‘ignorant’ [lit. ‘his brains are with water’] | | |
| | d. | <i>ta’ Har<u>h</u>at</i> | -1798 | (Camenzuli 2002: 323) |
| | | ‘destroyer’ | | |
| | e. | <i>tal-Mish<u>h</u>t</i> | -1798 | (Camenzuli 2002: 323) |
| | | ‘the cursed’ | | |
| (33) | a. | <i>Mah<u>h</u>rus</i> | -1798 | (Camenzuli 2002: 322) |
| | | ‘kept in custody’ | | |
| | b. | <i>ta’ Har<u>h</u>arasci</i> | -1798 | (Camenzuli 2002: 323) |
| | | ‘the harsh one’ | | |
| | c. | <i>tal-Hob<u>h</u>la</i> | -1798 | (Camenzuli 2002: 322) |
| | | ‘pregnant’ | | |

The use of <h> for reflexes of both fricatives at issue is attested in late 18th century texts (Bonelli 1897) as well.

To sum up, evidence from 17th century place-names (in Abela 1647) suggests that the voiceless velar fricative h_{\perp} and the voiceless pharyngeal fricative h_{\diamond} had not as yet merged in the 17th century. Late 18th century spellings of nicknames already point to the tendency towards the merger of these two fricatives.

2.6 The voiced velar fricative g and the voiced pharyngeal fricative ’

As is well known, Modern Maltese no longer has the voiced velar fricative g and the voiced pharyngeal fricative ’ (Borg 1997: 246, Cardona 1997: 22-23). As mentioned by Borg (1997: 246), Modern Standard Maltese exhibits the outcome of “the reinterpretation of the OA [= Old Arabic] velar and pharyngeal fricative pair [δ] and [γ], chiefly as vocalic length”.

The two consonants still occur in 15th and 16th century place-names. In the case of g , the most frequent spelling is, by far, <g>, as in the examples below:

- | | | | | |
|------|----|---------------------------------|------|----------------------|
| (34) | a. | <i>gar Ilke<u>g</u>bir</i> | 1467 | (Wettinger 1983: 62) |
| | | ‘the big cave’ | | |
| | b. | <i>tal magalac</i> | 1500 | (Wettinger 1983: 37) |
| | | ‘of the enclosure’ | | |
| | c. | <i>gulejca</i> | 1514 | (Wettinger 1983: 43) |
| | | ‘small field’ | | |
| | d. | <i>tal gureife</i> | 1537 | (Wettinger 1983: 44) |
| | | ‘of the small upper floor room’ | | |

- | | | | |
|----|---|------|----------------------|
| e. | <i>gadiret J xorraf</i>
'Xorraf's lake' | 1564 | (Wettinger 1983: 56) |
| f. | <i>il galca Jseude</i>
'the black field' | 1584 | (Wettinger 1983: 65) |

In a number of place-names *g* is rendered by <h>:

- | | | | |
|---------|---|------|----------------------|
| (35) a. | <i>xaret il hadiri</i>
'the scrubland at the lake' | 1487 | (Wettinger 1983: 56) |
| b. | <i>misirach sihjr</i>
'the small open place' | 1521 | (Wettinger 1983: 62) |
| c. | <i>Jl harke il chamra</i>
'the red field' | 1523 | (Wettinger 1983: 65) |

The use of digraphs is also attested. One is <gh>, in the following 16th century place-names:

- | | | | |
|---------|---|------|----------------------|
| (36) a. | <i>il galca sighire</i>
'the small field' | 1508 | (Wettinger 1983: 62) |
| b. | <i>el ghuleica</i>
'the small field' | 1542 | (Wettinger 1983: 43) |
| c. | <i>Jl charcha Jissighire</i>
'the small field' | 1574 | (Wettinger 1983: 62) |

Moreover, the same spelling is found in 17th century place-names and it is the only one used by Abela (1647):

- | | | | |
|---------|---|------|----------------------|
| (37) a. | <i>el ghilechi sighar</i>
'the small fields' | 1611 | (Wettinger 1983: 62) |
| b. | <i>Gebel el Ghzara</i>
'the rock of abundance' | 1647 | (Abela 1647: 71) |
| c. | <i>Ghar Ghliem</i>
'the serf's cave' ³¹ | 1647 | (Abela 1647: 72) |
| d. | <i>Hal Seyegh</i>
'the village of the silversmith' ³² | 1647 | (Abela 1647: 101) |

Another digraph is <ch>, which occurs in the 16th century place-name below:

- | | | | |
|------|--|------|----------------|
| (38) | <i>Jl charcha Jisighire</i>
'the small field' | 1574 | (Wettinger 62) |
|------|--|------|----------------|

The same spelling is found in one 17th century place-name, in word-final position:

³¹ Cf. the translation into Italian 'Grotta del Seruo' (Abela 1647: 72).

³² Cf. the translation into Italian 'Casale dell' Argentiere' (Abela 1647: 101).

- (39) *Sebbiech* 1647 (Abela 1647: 69)
 ‘painter’³³

Given Abela’s consistency in transcribing reflexes of *ġ with <gh>, in this form <ch> stands for the voiceless velar fricative [x]. This is an allophone of ‘, a result of obstruent devoicing in word-final position. Finally, in the corpus there is just one exception, in which a reflex *ġ is not spelled with a consonant letter:

- (40) *zayra* 1419 (Borg 1976: 194)
 ‘small-FEM’

In all likelihood, this apparent exception can be dismissed as a misspelling, where <a> should read <g>. As shown above, all reflexes of *ġ are rendered with a consonant letter or a digraph, and there is no case of the use of double vowel letters suggestive of the reinterpretation of *ġ as vocalic length.

A comparison with other early texts yields the following results. Caxaru uses <g> (one occurrence) in his *Cantilena* (c. 1450). Megiser writes ġ with <r> (one occurrence) in 1588. Buonamico uses <gh> (two occurrences) in his *Sonnet* (c. 1675). Finally, in 1664 Skippon is remarkably consistent in the almost exclusive use of <g> (12 occurrences), with one exception when he uses <h>, in word-final position. As in the place-names considered above, in all these early sources, *ġ is always transcribed by a consonant letter. On the other hand, <h> and <ch> are used to render ġ only in place-names, in which the use of <r> is not attested

In sum, evidence from place-names recorded until the 17th century – corroborated with the one provided by other contemporary sources – shows that ġ still occurred in Maltese, in various phonological environments, including word-final position.

In late 18th century nicknames, while <g> no longer appears, <h> continues to be used:

- (41) a. *il Bahal* -1798 (Camenzuli 2002: 324)
 ‘the bastard’³⁴
 b. *ta’ Berhuda* -1798 (Camenzuli 2002: 322)
 ‘with fleas’

Of the two digraphs formerly used, <gh> and <ch>, only the latter is found:

- (42) *ta’ Misbuch* -1798 (Camenzuli 2002: 322)
 ‘the outstripped’³⁵

Given that <ch> occurs in word-final position, it reflects a phonetic realization as a voiceless velar fricative [x], explicitly noted and commented upon by contemporary

³³ Cf. the translation into Italian ‘Tintore’ (Abela 1647: 69).

³⁴ Cf. Modern Maltese *bagħal* ‘mule’.

³⁵ Cf. Modern Maltese *mizbugħ* ‘painted’.

writers³⁶. On the other hand, <gh> continues to occur in other late 18th sources, such as sermons (Bonelli 1897).

Consider next the fate of the voiced pharyngeal fricative ʕ. In 15th century surnames and 16th century place-names, the most frequently found spelling is <h>, both word-initially and word-medially, as illustrated by the examples under (43) and (44) respectively:

- | | | | | |
|------|----|---|------|----------------------|
| (43) | a. | <i>habdille</i> | 1419 | (Wettinger 1968: 30) |
| | b. | <i>haius</i> | 1419 | (Wettinger 1968: 30) |
| | c. | <i>harabi</i> | 1419 | (Wettinger 1968: 30) |
| | d. | <i>calet il habid</i>
'the slave's fort' | 1487 | (Wettinger 1983: 56) |
| (44) | a. | <i>tal husayfar</i>
'of the small bird' | 1507 | (Wettinger 1983: 47) |
| | b. | <i>merhelet ilmohos</i>
'the goats' pen' | 1523 | (Wettinger 1983: 34) |

The digraph <ch> appears in one 16th century place-name:

- | | | | | |
|------|--|---------------------------------------|------|----------------------|
| (45) | | <i>bital charab</i>
'of the Arabs' | 1529 | (Wettinger 1983: 52) |
|------|--|---------------------------------------|------|----------------------|

The reflex of word-initial *ʕ is not transcribed with any consonant letter in several surnames and nicknames recorded in the 15th century:

- | | | | | |
|------|----|----------------|-------|----------------------|
| (46) | a. | <i>abdille</i> | 1480- | (Wettinger 1968: 30) |
| | b. | <i>aius</i> | 1419 | (Wettinger 1968: 30) |

Similarly, in the following 16th century place-name word-initial ʕ is not rendered in the orthography by any consonant letter:

- | | | | | |
|------|--|---|------|----------------------|
| (47) | | <i>te gued bir abdalla</i>
'of the valley of Abdilla's well' | 1542 | (Wettinger 1983: 57) |
|------|--|---|------|----------------------|

Word-medial ʕ, if transcribed, is spelled also spelled with <h>, as in the following nickname, in (48), and place-names, under (49):

- | | | | | |
|------|----|--|------|----------------------|
| (48) | | <i>Jacobo Chirmel alias mehze</i>
'Jacobo Chirmel alias the goat' | 1494 | (Wettinger 1971: 44) |
| (49) | a. | <i>macahad ilme</i>
'the place where water collects' | 1504 | (Wettinger 1983: 32) |
| | b. | <i>merhelet il mohos</i>
'the goats' pen' | 1523 | (Wettinger 1983: 34) |

³⁶ See Vassalli (1796: 314).

- | | | | |
|----|--|------|----------------------|
| c. | <i>ta lahueyn</i>
'of the small spring' | 1549 | (Wettinger 1983: 43) |
|----|--|------|----------------------|

On the other hand, intervocalic ‘ is not represented by any consonant letter in variants of the place-name *Qleigha*, cf. Ar. *quley* ‘a ‘small fort’³⁷:

- | | | | | |
|------|----|--|------|----------------------|
| (50) | a. | <i>gued il culeja</i> | 1488 | (Wettinger 1983: 55) |
| | b. | <i>gued il culaya</i> | 1500 | (Wettinger 1983: 55) |
| | c. | <i>gued kleya</i>
'the valley at Qleigha' | 1533 | (Wettinger 1983: 55) |

Mention should also be made of word-final *‘ in the various reflexes of Ar. *mitā*³⁸. In 15th and 16th century nicknames and place-names three such reflexes occur: *bita* and, more rarely, *mita*, and *ta / tha / te*, the latter replacing the first two before the end of the 16th century³⁹. The spelling of these reflexes – i.e. the absence of any consonant letter – suggests that the voiced pharyngeal fricative ‘ no longer occurred in word-final position, if preceded by /a/. Consider the nicknames under (51) and the place-names under (52) respectively:

- | | | | | |
|------|----|--|-------|----------------------|
| (51) | a. | <i>Francza bita sible</i>
'Francza of the dung' | 1483 | (Wettinger 1971: 46) |
| | b. | <i>Lumejna bita saqora</i>
'Lumejna of the sack' | 1483 | (Wettinger 1971: 46) |
| | c. | <i>Palma et Catharina bita gilidi</i>
'Palma and Catherina of the skin' | 1485 | (Wettinger 1971: 43) |
| | d. | <i>Luchia bita lispital</i>
'Luchia from the hospital' | 1498- | (Wettinger 1971: 46) |
| (52) | a. | <i>mita Jlchaded</i>
'of the iron' | 1461 | (Wettinger 1983: 53) |
| | b. | <i>bita muezeb</i>
'of the gutter' | 1486 | (Wettinger 1983: 54) |
| | d. | <i>ta ilculeyat</i>
'of the small forts' | 1496 | (Wettinger 1983: 50) |
| | d. | <i>tha Jlmreychilet</i>
'of the small animal yards' | 1542 | (Wettinger 1983: 34) |
| | e. | <i>te gued bir abdalla</i>
'of the valley of Abdilla's well' | 1542 | (Wettinger 1983: 57) |

Reflexes of word-initial and word-medial *‘ are almost consistently spelled with a double vowel letter by Abela (1647):

³⁷ In the Modern Maltese spelling the digraph <gh> represents here an etymological ‘.

³⁸ Cf. Algerian Arabic *ntā*‘, Moroccan Arabic *mtā*‘ / *ntā*‘, Tunisian Arabic *mtā*‘ / *mtē*‘ and Modern Maltese *ta*‘.

³⁹ According to Wettinger (1983: 54), “the last known use of *bita* occurs in 1539”.

- (53) a. *Hal dheef* 1647 (Abela 1647: 84)
 ‘the weak [man]’s village’⁴⁰
 b. *Kalaa tàl Miggiär* 1647 (Abela 1647: 68)
 ‘the fortress of Miġar’
 c. *Oosc el Hamiema* 1647 (Abela 1647: 27)
 ‘the dove’s nest’⁴¹
 d. *Tal eenieK* 1647 (Abela 1647: 99)
 ‘of the young she-goats’
 e. *Vyed el Aasel* 1647 (Abela 1647: 71)
 ‘the stream of honey’⁴²

There are several exceptions. These include a form spelled with a single vowel letter in word-initial position, but which also has a variant with a double vowel letter. Compare the spellings of ‘slaves’ and ‘slave’ respectively in the following place-names:

- (54) a. *Kalaa tal Abid* 1647 (Abela 1647: 71)
 ‘the slaves’ fort’⁴³
 b. *Vyed tà Bir Aabd Alla* 1647 (Abela 1647: 100)
 ‘the valley with the well of God’s serf’⁴⁴

Abela’s spellings of the reflexes of Ar. *mitā* ‘ confirm that ‘ no longer occurred in this position if preceded by the vowel /a/:

- (55) a. *tà Bunachla* 1647 (Abela 1647: 68)
 ‘of the big palm tree’
 b. *Ta Lahgiar* 1647 (Abela 1647: 106)
 ‘of the stones’⁴⁵

It appears, then, that ġ and ‘ had not as yet merged in Abela’s time. This is further confirmed by the following place-name which contains reflexes of both *ġ and *‘, in the same, word-initial position:

- (56) *Aayn Ghrab* 1647 (Abela 1647: 66)
 ‘the raven’s spring’⁴⁶

While Abela’s spellings of reflexes of word-initial and word-medial *‘ with a double vowel letter are suggestive of vocalic length, reflexes of *‘ continue to be rendered with

⁴⁰ Cf. the translation into Italian ‘Casale del macilente, ò debole’ (Abela 1647: 84).

⁴¹ Cf. the translation into Italian ‘nido della Colomba’ (Abela 1647: 27)

⁴² Cf. the translation into Italian ‘torrente di Mele’ (Abela 1647: 71).

⁴³ Cf. the translation into Italian ‘forte [dei] schiaui (Aabid detti in Arabo)’ (Abela 1647: 71).

⁴⁴ Cf. the translation into Italian ‘valle ou’ è il pozzo del seruo di Dio’ (Abela 1647: 100).

⁴⁵ Cf. the Italian translation ‘delle pietre’ (Abela 1647: 107).

⁴⁶ Cf. the translation into Italian ‘Fontana del coruo’ (Abela 1647: 66).

consonant letters as well. For example, the reflex of *‘ is spelled with <h> in the following 17th century place-name:

- (57) *gudia el halia* 1654 (Wettinger 1983: 61)
‘the high hillock’

Other 15th, 16th and 17th century sources also display a great variety in the spelling of reflexes of *‘. Thus, in the *Cantilena* (c. 1450), <h> stands for ‘ word-initially (four occurrences) and word-medially (four occurrences); in word-medial position ‘ is also transcribed with <g> (one occurrence); ‘ is not represented by any letter in intervocalic (five occurrences) and word-final position (two occurrences). In 1588, Megiser uses in his word-list <h> (one occurrence) and <ch> (one occurrence) for ‘ in word-medial position; on the other hand, ‘ is also represented by Ø: word-initially (four occurrences), word-medially (one occurrence) and word-finally (three occurrences). By far the widest range of orthographic options is found in Skippon’s word-list in 1664: Ø (10 occurrences), a double vowel letter (two occurrences) or a vowel letter (one occurrence) in word-initial position; <h> (one occurrence), a double vowel letter (three occurrences) or Ø (one occurrence) in intervocalic position; a vowel (two occurrences) or Ø (nine occurrences) in other word-medial contexts; <h> (three occurrences), <ch> (two occurrences) or Ø (three occurrences) in word-final position⁴⁷. Finally, Buonamico does not use any consonant letter in his *Sonnet* (c. 1675): reflexes of ‘ are transcribed with a double vowel letter both word-initially (two occurrences) and word-medially (two occurrences); one word-initial ‘ is not represented by any letter. The occasional use of a double vowel letter by both Skippon and Buonamico might suggest that the gradual reinterpretation of Ar. ‘ as vocalic length had already started, not only in word-initial, but also in word-medial position.

The voiced pharyngeal fricative ‘ is still attested in word-medial position in a late 18th century nickname:

- (58) *tal-mhallach* -1798 (Camenzuli 2002: 322)
‘the hanged’

The use of <h> is rather surprising since in other contemporary texts, if transcribed, ‘ is spelled with <gh> both word-initially and word-medially, e.g. in late 18th century sermons (Bonelli 1897). As in earlier nicknames and place-names, ‘ does not occur word-finally, if preceded by the vowel /a/. In this case, *‘ appears as <’>, as in the reflex of Ar. *mitā*‘

- (59) a. *ta’ Fattar* -1798 (Camenzuli 2002: 321)
‘stout person of awkward figure’
b. *ta’ Coleriti* -1798 (Camenzuli 2002: 322)
‘angry, enraged’

⁴⁷ This variety of spellings clearly disconfirms Cachia’s (2000: 41) claim that Skippon spelled “words with ‘ayn [...] with double vowels”.

- | | | | |
|----|---|-------|-----------------------|
| c. | <i>ta' Fitta</i>
'importunate person' | -1798 | (Camenzuli 2002: 323) |
| d. | <i>ta' Gamiema</i>
'grumbling person [lit. 'turtle-dove']' | -1798 | (Camenzuli 1798: 324) |

To conclude, the spelling of surnames, nicknames and place-names is further confirmation of the fact that both the voiced velar fricative *g* and the voiced pharyngeal fricative ' survive to some extent in most dialects of Maltese, i.e. they are still two different phonemes, at least until the end of the 18th century⁴⁸. The use of <h> for both consonants may be indicative of the tendency towards their merger, which also accords with explicit descriptions and comments in contemporary sources⁴⁹.

2.7 The voiceless laryngeal fricative *h*

The inventory of consonantal phonemes of Modern Maltese does not include the laryngeal fricative *h* (Cohen 1967: 164, Borg 1973: 8, Borg 1975: 11, Cardona 1997: 23).

The following 15th and 16th century place-names show that *h* still occurred in Maltese, including in intervocalic position:

- | | | | | |
|------|----|---|-------|----------------------|
| (60) | a. | <i>zahara</i>
'blossom' | 1480- | (Borg 1976: 194) |
| | b. | <i>siheyem</i>
'small allotment' | 1514 | (Wettinger 1983: 42) |
| | c. | <i>siheyem</i>
'small allotment' | 1530 | (Wettinger 1983: 42) |
| | d. | <i>ysihyem</i>
'the small allotment' | 1558 | (Wettinger 1983: 42) |

This accords with the situation reflected by 15th and 16th century texts. In the *Cantilena* (c. 1450), 11 out of 12 possible occurrences of *h* are reflected in the spelling, invariably <h>: all eight instances of word-initial [h], three out of four cases of word-medial [h], two of which in intervocalic position. Similarly, in Megiser's word-list (1588), *h* is rendered with <h> in three out of four possible cases: two word-initially and one word-medially in intervocalic position; the only word-final **h* is not reflected in the spelling.

Relevant forms in 17th century place-names show that *h* continued to occur, including in intervocalic position. Consider the following examples:

- | | | | | |
|------|----|---|------|-------------------|
| (61) | a. | <i>Bir el dheeb</i> [= <i>deheb</i>]
'well of gold' ⁵⁰ | 1647 | (Abela 1647: 107) |
| | b. | <i>Kibur elihut</i>
'the graves of the Jews' | 1647 | (Abela 1647: 82) |

⁴⁸ And possibly in early 19th century as well.

⁴⁹ Such as Vassalli (1796: 239 and 314).

⁵⁰ Cf. the translation into Italian 'pozzo d'oro' (Abela 1647: 107).

- | | | | |
|----|--|------|------------------|
| c. | <i>ras e Raheb</i>
'the cape of the monk' ⁵¹ | 1647 | (Abela 1647: 24) |
| d. | <i>Ta Buha</i>
'of her father' ⁵² | 1647 | (Abela 1647: 97) |

Corroborating evidence is provided by other samples of 17th century Maltese. Thus, seven forms in Skippon's word-list (1664) testify to the occurrence of *h*: two word-initially and five word-medially, of which four in intervocalic position; in two cases, *h* is represented in intervocalic position by Ø; however, in one of these forms it is also spelled with <h>. Finally, in Buonamico's *Sonnet* (c. 1675), *h* is represented in the spelling with <h> in all four possible instances: twice word-initially and twice word-medially in intervocalic position.

Word-initial *h* is also found in late 18th century nicknames:

- | | | | |
|------|---|-------|-----------------------|
| (62) | <i>ta' Hafif</i>
'silly, mentally defective' | -1798 | (Camenzuli 2002: 322) |
|------|---|-------|-----------------------|

The occurrence of word-initial *h* is corroborated by evidence provided by late 18th texts (Bonelli 1897), in which *h*, rendered by <h>, which is well attested not only word-initially, but also word-medially, and which apparently still occurs even in word-final position.

To sum up, evidence from pre-19th century nicknames and place-names confirms that the voiceless laryngeal fricative *h* was still part of the phonological system of Maltese.

3. Conclusions

In many cases, onomastics corroborates evidence gleaned from other early sources, and confirms the absolute and relative chronologies suggested in the literature on the historical phonology of Maltese. For instance, both onomastics and other textual evidence show that the rules of word-final devoicing of obstruents and of regressive voicing assimilation, discussed in sections 2.1 and 2.2 respectively, start operating towards the end the 16th century.

In other cases, however, evidence provided by the transcriptions of proper names points to rather different conclusions. For instance, as shown in section 2.3, (some varieties of) Maltese may have still had the interdental fricative *t̪* in the first half of the 17th century. Corroborated with the occurrence of *t̪* in Megiser's word-list recorded in 1588, this refutes a recurrent claim in the literature. Thus, Cohen (1966: 13) states that "the confusion of these two articulations [dental and interdental] may go back to a pre-Maltese stage". The same claim is repeated in Cohen (1967: 168): "one can assign to a pre-Maltese stage the confusion of dentals and interdentals". More recently, Vanhove

⁵¹ Cf. the translation into Italian 'Capo, ò Promontorio del monaco' (Abela 1647: 24).

⁵² Cf. the translation into Italian 'di suo padre' (Abela 1647: 97).

(1994: 170) also writes that “the absence of interdentalals goes back to the pre-historical period of Maltese”. Clearly, the demise of \underline{t} occurred at a much more recent date than hitherto assumed.

As is well known, the current phonetic realization of the reflex of $*q$ as a voiceless glottal stop has been taken by some linguists as proof of the Oriental origin of Maltese (Stumme 1904) or of the influence of an alleged Punic substrate (Aquilina 1981). The evidence provided by the spellings of nicknames discussed in section 2.4 demonstrates that the reflex of $*q$ was still realized phonetically as a voiceless uvular stop. This clearly rules out a Punic substratal effect, which would have manifested itself much earlier in the history of Maltese. Moreover, as put by Cohen and Vanhove (1991: 181), “the change from /q/ to /ʔ/ is not contemporary with the Arabicization of the island”. Finally, the fact that Maltese did have the voiceless uvular stop q also disconfirms Krier’s (1976: 35) claim that in the adaptation of Romance loanwords “the strangest case of mutation is represented by “the glottal stop” which replaces voiceless and voiced velars”. Krier (1976: 35) writes that this distinguishes Maltese from the Arabic dialects spoken in the Maghreb, in which “Romance /k/ is borrowed under the form of /q/”. In fact, exactly as in the Maghrebian dialects, /k/ in early Romance loanwords is first rendered by [q]. It is only at a later stage that the phonetic realization of the reflex of $*q$ shifted to [ʔ], the voiceless glottal stop of Modern Maltese

According to Borg (1997: 259), “the unconditional merger of $*h$ and $*x$ had probably already occurred in Medieval M [= Maltese]”. In support of this claim, Borg (1997: 259) mentions “the use of the digraph *ch* for the reflex of both OA [= Old Arabic] sounds in the late 15th century poem, Peter Caxaro’s *Cantilena*”. However, as shown in section 2.5, the different orthographic choices in the transcription of reflexes of $*g$ and $*ʕ$ suggests that at least until the 17th century the two fricatives had not merged yet and had not been reinterpreted as vocalic length. Under the circumstances, Cantineau’s (1960: 72) claim that “in Maltese, undoubtedly under the influence of the Punic substrate, the old h became $h\emptyset$ and the old g turned into ’ ” cannot be upheld.

Proper names have thus been shown to represent a source worth tapping into in search of insights into the gradual emergence of the system of consonantal phonemes of Modern Maltese and of some of its specific phonological rules.

References

- Aquilina, J. 1961. Influenze arabe sulla toponomastica maltese. In *Atti del VII congresso internazionale di scienze onomastiche*, 131-146. Florence-Pisa.
- Aquilina, J. 1964. A comparative study in lexical material relating to nicknames and surnames. *Journal of Maltese Studies* 2: 147-176.
- Aquilina, J. 1981. *Papers in Maltese Linguistics*. La Valetta: The University of Malta.
- Bonelli, L. 1897. Il dialetto maltese. *Archivio Glottologico Italiano* VI: 37-70.
- Borg, A. 1973. The segmental phonemes of Maltese. *Linguistics* 109: 5-11.
- Borg, A. 1975. Maltese morphophonemics. *Journal of Maltese Studies* 10: 11-28.
- Borg, A. 1976. The *imaala* in Maltese. *Israel Oriental Studies* 6: 191-223.
- Borg, A. 1978. Historical aspects of auxiliary vowels in Maltese. *Wiener Zeitschrift für die Kunde des Morgenlandes* 70: 15-34.
- Borg, A. 1997. Maltese phonology. In Alan S. Kaye (ed.), *Phonologies of Asia and Africa*, vol. 1, 245-285. Winona Lake: Eisenbrauns.

- Cachia, L. 2000. *Habbew l-ilsien Malti*. Malta: Veritas Press.
- Camenzuli, A. 2002. Defamatory nicknames and insults in late eighteenth century Malta: 1771-1798. *Melita Historica* 13 (3): 319-327.
- Cantineau, J. 1960. *Cours de phonétique arabe*. Paris: Librairie C. Klincksieck.
- Cardona, T. 1997. *Introduzzjoni għal-lingwistika Maltija*. L-Imsida: Mireva Publications.
- Cassar, M. 2005. Vestiges of Arabic nomenclature in Maltese surnames. Paper presented at XXII Congresso Internazionale di Scienze Onomastiche / 22nd International Congress of Onomastic Sciences, 28.8 – 4.9.2005, Pisa.
- Cassar Pullicino, J. 1956. Social aspects of Maltese nicknames. *Scientia* XII (2): 66-94.
- Cassola, A. 1987-1988. Una edizione diversa della lista di voci maltesi del seicento di Hieronymus Megiser. *Journal of Maltese Studies* 17-18: 72-86.
- Cohen, D. 1966. Le système phonologique du maltais. Aspects synchroniques et diachroniques. *Journal of Maltese Studies* 3: 1-26.
- Cohen, D. 1967. Contribution à la phonologie diachronique du maltais. In *Verhandlungen des zweiten internationalen Dialektologenkongresses*, 164-171. Wiesbaden: Steiner.
- Cohen, D. and Vanhove, M. 1984-1986. La Cantilène maltaise du 15ème siècle: remarques linguistiques. *Comptes-rendus du Groupe linguistique d'études chamito-sémitiques XXIX-XXX* : 177-200.
- Cowan, W. 1964. An early Maltese word-list. *Journal of Maltese Studies* 2: 217-225.
- Cowan, W. 1966. Loss of emphasis in Maltese. *Journal of Maltese Studies* 3: 27-32.
- Cowan, W. 1975. Caxaru's *Cantilena*: A checkpoint for change in Maltese. *Journal of Maltese Studies* 10: 4-10.
- Dessoulavy, C. L. 1937. Review of Edmund Sutcliffe, *A Grammar of the Maltese Language with Chrestomathy and Vocabulary*. *Bulletin of the School of Oriental Studies* VIII (4): 1175-1188.
- Dessoulavy, C. L. 1957. Quelques noms propres maltais. *Journal of the Faculty of Arts* 1 (1): 40-47.
- Fiorini, S. 1987-1988. Sicilian connexions of some medieval Maltese surnames. *Journal of Maltese Studies* 17-18: 87-103.
- Krier, F. 1976. *Le maltais au contact de l'italien*. Hamburg: Helmut Buske Verlag.
- Stumme, H. 1904. *Maltesische Studien. Eine Sammlung prosaischer und poetischer Texte in maltesischer Sprache nebst Erläuterungen*. Leipzig: Hinrichs'sche Buchhandlung.
- Vanhove, M. 1994. La langue maltaise un carrefour linguistique. *Revue du monde musulman et de la Méditerranée* 71 (1): 167-183.
- Vassalli, M. A. 1796. *Ktyb yl klym Malti 'mfysser byl-latin u byt-talyân*. *Lexicon Melitense-Latino-Italum*. Rome: Antonio Fulgone.
- Wettinger, G. 1968. The distribution of surnames in Malta in 1419 and in the 1480s. *Journal of Maltese Studies* 5: 25-48.
- Wettinger, G. 1969. The Militia List of 1419-20: A new starting point for the study of Malta's population. *Melita Historica* 5 (2): 80-106.
- Wettinger, G. 1971. Late medieval Maltese nicknames. *Journal of Maltese Studies* 6: 34-46.
- Wettinger, G. 1983. Some grammatical characteristics of the place-names of Malta and Gozo in early modern times. *Journal of Maltese Studies* 15: 31-68.
- Wettinger, G. 1999. The origin of Maltese surnames. *Melita Historica* 12 (4): 333-344.
- Wettinger, G. 2000. *Place-names of the Maltese Islands: Ca. 1300–2000*. M'Scala: PEG Publications.
- Wettinger, G and Fsadni, M. 1968. *Peter Caxaru's Cantilena. A Poem in medieval Maltese*. Malta.
- Wettinger, G and Fsadni, M. 1983. *L-għanja ta' Pietru Caxaru. Poeżija bil-Malti medjevali*. Malta.

