Structure of Verbs in Malto

Chaithra Puttaswamy, *The School of Oriental and African Studies*

Abstract

Malto is a North Dravidian language spoken in Eastern India. It is an agglutinating language with SOV word order and suffixing morphology. The finite verb word in Malto maximally carries information about valence adjusting operations, tense-aspect-mood, negation and gender-number-person agreement with the subject. The non-finite verbs take suffixes marking adverbialisation, complementation, relativisation, participialisation and relative tense. Syntactically, there is only one finite verb in a sentence and all the other verbs preceding it are non-finite. This paper is a descriptive analysis of the structure of Malto verbs and an outcome of a language documentation project with the intention of describing the formal structure of the Suariya Pahariya variety of Malto. This work is a follow up on grammatical accounts on Malto by Doerse (1884), Das (1973) and Mahapatra (1979).

1   Introduction

Malto is a North Dravidian language which has been poorly documented. There are about 108,000 Malto speakers living on the Rajmahal Hills in eastern India. Their language is endangered due to limited scope of use under pressure from Hindi and Santali, the dominant languages of the region and temporary and permanent migration of Malto speakers from their villages to towns in pursuit of employment and education. The language is often referred to as Pahariya since that is how the people of the Malto speaking community are recognised in the region. Malto speakers are trilingual in Malto, Hindi and Santali, often using Malto only within the confines of their villages. Since Malto speakers wish to be a part of the mainstream economic lifestyle of modern India, propagation and preservation of their language has not been their primary concern. Malto has no indigenous tradition of writing and hence no script has been associated with the language. Printed publications in Malto have been produced by religious and non-governmental organisations involved in activities related to community development. Malto is not used in the formal education system either as a medium of instruction or as a language of study.

The north Dravidian branch, to which Malto belongs, is geographically isolated from the rest of the language family and hence scholars speculate that Malto may have retained some proto-Dravidian forms. This paper is a descriptive analysis of the structure of Malto verbs. The first section in this paper introduces the minimal unit that can be considered as a verb in Malto and then discusses the formal structure of the verb (Section 2). The structure of finite verbs in Malto and the three levels of verb word formation are discussed in detail in Section 3. Non-finite verbal suffixes (Section 4) and the various functions associated with them, namely conditional (Section 4.1), causal adverbial (Section 4.2), relative past (Section 4.3), simultaneity marking (Section 4.4), conjunct participle (Section 4.5), infinitive (Section 4.6) and adnominal (Section 4.7) are explained in the third part of this paper.

The fourth part of this paper is dedicated to a discussion of category changing derivational processes (Section 5) involving verb roots (Section 5.1) and verb stems are derived from nouns and borrowed roots (Section 5.2).

2   Formal Structure of the Verb

The Malto verb word minimally consists of a verb stem. A stem is a form from which a word is derived by the addition of one or more affixes. A verb stem in Malto can be obtained by the addition of a stem formative suffix (Section 2.1.1) to the verb root or by the addition of a derivational or inflectional suffix. A verb root is a form from which words or parts of words are derived. A root is not itself derivable from any smaller or simpler form. All verb roots in Malto are bound forms that either undergo stem alternations in case of the past tense forms or take a suffix. However, the Malto verb in its stem form is restricted to compound verb constructions and cannot appear as the head of an independent clause. In order to appear as the head of an independent clause a verb stem in Malto has to take at least one suffix from a set of inflectional suffixes (Section 2.1.3) that includes negative suffixes, tense/mood suffixes and gender-number-person agreement suffixes. Verb stems can also appear as the head of a dependent clause by taking at least one suffix from a set of non-finite verbal suffixes (Section 4). Verbs that appear as the head of an independent clause are called finite verbs (Section 3) and verb words that appear as the head of a dependent clause are called non-finite verbs. The following example shows a verb stem that appears with another verb word to form a compound verb. This compound verb is a non-finite verb which is the head of a dependent clause and depends on a third verb word which is the head of an independent clause.[1]

(1) [os   ṭunheki]   hec-aːḏ
     cut.Pst collect-Ep-Rp-3Sg.Nm tie-3Sg.F
     'Having cut and collected (the bamboo), she tied them up.'   Story C2

In the above example *os ṭunheki* is a compound verb word where *os* is the past stem of the verb *oy* 'cut'. The second nucleus of the compound *ṭunh*, carries the relative past tense marker (Section 4.3) which has scope over the whole compound word. The finite verb *hecaːḏ* consists of the verb root *hec* 'tie' and the gender-number-person agreement suffix.

2.1   Levels of Verb Word Formation

Malto is an agglutinating language and verbs are formed by adding suffixes to the verb root with little morphophonemic change. Malto verb word formation maximally takes place at three levels. The first level is the level of stem formation (Section 2.1.1). It is possible for the verb root to act as a stem or for a stem to be derived by attaching a stem formative suffix to the verb root. The verb stem can act as a meaningful syntactic unit as the first nucleus of a compound verb. The second level of verb word formation is the concatenation of derivational suffixes to the verb stem (Section 2.1.2). It is a typological characteristic of derivational suffixes that they occur closer to the verb root than inflectional suffixes (Bybee 1985). In case of a finite verb, once the verb stem takes a derivational suffix, it is obligatory that it is followed by an inflectional suffix. The third and final level of verb word formation is the concatenation of inflectional suffixes (Section 2.1.3). Steever (1993, 12) compares verbal inflections and derivations by stating that:

> "inflection differs from derivation in that the members of an inflectional opposition are mutually implicating so that, for example, the existence of a past tense in a grammatical system always implies the existence of a non-past tense, and viceversa. Derivation, on the other hand, creates an opposition of two terms, a base and a derived form, whose members are not mutually implicating: while a derived form always implies the existence of a base form, forms that might otherwise serve as base forms need not imply the existence of a derived form."

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[1]Every example in this paper carries a tag at the right end of the free translation line. This tag indicates the file name of the annotated text available at the Endangered Languages Archive, School of Oriental and African Studies.

One way of understanding the structure and function of verbs in Malto is to locate them in the larger perspective of Dravidian verbs and analyse how they conform to or differ from the typical features of the language family. Verb roots in Dravidian languages are known to be monosyllabic with the canonical shape (C) V (C) (Krishnamurti 2003) as shown in the following Malto examples.

ek	'go'
baɾ	'come'
ok	'sit'
men	'be'

TABLE 1

However, some verb roots in Malto have more than one syllable. They may have been monosyllabic historically and retained some suffix that is no longer productive.

ṭunh	'collect'
caḏg	'slip'
muluh	'drown'
cuḍup	'drop'

TABLE 2

The verb stem formation process is discussed in the following section.

2.1.1   Level One: Verb Stem Formation

The first level of verb word formation in Malto involves the addition of the stem formative suffix to a verb root. There are two types of stem formative suffixes in Malto. The first type of stem formatives create a stem that is the past tense alternate of the non-past verb root. The other kind of stem formative suffixes are the tense-transitivising suffixes. Krishnamurti (2003, 278) points out for Dravidian in general that "no meaning can be assigned to the formative suffixes. It is speculated that they represented tense and voice markers at an early stage of Proto-Dravidian and were already losing that significance within Proto-Dravidian in different subgroups" (also see Cladwell 1956). Although both the stem formative suffixes are synchronically non-productive, it is a signification stage in the process of word formation as it explains the verb stem alternations in the case of past stem formation and recurrent phonological endings of some transitive verb stems that deviate from the canonical shape of the Dravidian verb.

Based on the typical phonological structure for Dravidian verbs, which is (C)V(C), it can be deduced that the factor that explains the presence of formative suffixes in Malto is that some of the formatives are relics of Proto-Dravidian inflected verb forms. The verb roots taking past stem formatives are paired with non-past alternates. In contrast, the verb roots with the transitivising NP (nasal + plosive) formatives in Malto do not always have an intransitive correspondent and in such instances the bare root without the stem formative is no longer a meaningful unit. Hence the verb stems with the Proto-Dravidian-NP formatives are derived bases that are now part of the lexicon in Malto. However, there is a productive derivational process in the language that is explained in Section 2.1.2. Krishnamurti (2003, 182) has postulated that:

> "at a very early stage within Proto-Dravidian, sonorant suffixes of the L type (l, ḷ, ẓ, r, w, y) were added to (C)V:- or (C)VC-V-stems to form extended intransitive/middle voice stems. This assumption is based on the observation that verb stems ending in sonorant suffixes tend to be intransitive in the descendent languages. At a later period, -L, -VL lost their identity as grammatical elements and became incorporated into the preceding stems. The P-suffixes signal both tense and voice."

The following Table shows how the tense and transitivity properties combine to form stem formatives in Proto-Dravidian, where the dental vs. non-dental distinction indicates past vs. non-past;

simple (N)P signals intransitive, and geminate (N)PP, transitive:

	Non-Past		Past
Intransitive	*p	*k	*t
	*mp	*nk	*nt
Transitive	*pp	*kk	*tt
	*mpp	*nkk	*ntt

TABLE 3

Based on the diachronic data on Dravidian languages presented by Krishnamurti (2003) and Subrahmanyam (1971), the following non-productive stem formatives can be reconstructed for Malto. The labial series of non-past stem formatives is missing in Malto. In all instances, Malto has replaced the geminates in the proto-form of the suffix by voiced plosives.

i) The /-d̠/ suffix is a weakened form of the proto-Dravidian transitive-causative suffix *-tt. This suffix always attaches to a root ending in /n/.

(2) on 'drink'   ond̠ 'cause to drink'
     pun 'wear'   pund̠ 'cause to wear'

The above example shows intransitive verbs that become derived transitive-causative verbs with the addition of the /-d̠/ suffix. However, not all transitive verbs with /-d̠/ formative suffix have intransitive counterparts.

(3) hon-d̠   'fetch, bring'
     man-d̠   'bury, plant'
     men-d̠   'burn'
     mun-d̠   'wrap'
     pun-d̠   'put'
     nin-d̠   'fill'

ii) The /-j/ suffix is a weakened form of the proto-Dravidian transitive causative suffix *-cc∼ *-kk. These verbs do not have intransitive counterparts.

(4) am-j   'talk'
     an-j   'fruit'
     kun-j   'throw, give birth'
     con-j   'fasten, bind'
     cun-j   'pound'

iii) The /-g/ suffix is the transitive form of the proto-Dravidian paired intransitive and transitive stem with -(N)P/-(N)PP. Synchronically, all the verbs taking this suffix express telic transitive events, but not all of them are punctual.

(5) har̠-g   'climb'
     t̠is-g   'open'
     t̠ir̠-g   'press, apply force'
     is-g   'crack open'
     aḍ-g   'press'
     as-g   'shear'
     bas-g   'peel'
     nus-g   'rub off (scales of a fish)'
     nur̠-g   'drag, slide'
     nun-g   'swallow'

pud̪-g   'pluck'
kuḍ-g   'bend'

Malto has lost the intransitive member of the pair for the above stems and instead uses the productive intransitive suffix /-ɾ/ to derive intransitive stems.

(6) *ad̪g-ɾ-aːd̪*   'It was pressed.'
cad̪g-ɾ-aːd̪   'It slipped.'

The productive process of stem formation is explained in the following section.

2.1.2   Level Two: Derivational Suffixes

The second level of verb word formation is the addition of derivational suffixes. A derivational suffix is not obligatory in forming either a finite or a non-finite verb word. The addition of a derivational suffix changes the argument potential of the verb and creates an idiosyncratic meaning for the resulting verb base. A Malto verb word can include a sequence of two derivational suffixes at most. The first, which is the closest to the verb root, is the suffix that determines the overall transitivity of the verb word. Alternatively, this slot can be occupied by the verbalising suffix that derives verbs from nouns (Section 5.2). Words which can be verbalised are either Malto noun roots or borrowed stems from Indo-Aryan languages. The second derivational suffix in the sequence can be chosen from a set of valence changing operators that include the causative, reciprocal and the passive suffixes.

The following Table shows the productive derivational suffixes in Malto.

Detransitivising/reflexive	*-ɾ*
Causative	*-t̪r / -t̪ar*
Reciprocal	*-nah*
Passive	*-uhɾ*

TABLE 4

Detransitivisation

A transitive verb is changed to an intransitive by the addition of the suffix -ɾ. Krishnamurti (2003) observes that this maybe a relic of Proto-Dravidian forms since such a strategy is not found in the neighbouring Indo-Aryan and Austro-Asiatic languages and adds that "most verbs ending in formative -(V)l/-(V)ɾ in South Dravidian I and South Dravidian II tend to be intransitive." (Krishnamurti 2003, 279). The following examples from Malto, where deriving transitive verbs by a process of suffixation is still productive, support Krishnamurti's hypothesis about transitive verbs in Dravidian languages which was based on his observations from South Dravidian languages.

(7) a. *t̪es-po*   'winding, kneading'
t̪es-ɾ-po   'binding'

b. *t̪aḍic-po*   'slapping'
t̪aḍic-ɾ-po   'clapping'

c. eːn   nam-i-t̪-aːn
1Sg.Nom scold-Ep-Pst-1Sg
'I scolded.'
eːn   nam-ɾ-aːt̪aːn
1Sg.Nom scold-Dtr-Ep-Pst-1Sg
'I was scolded.'

From the above examples I have deduced that the morphological process of detransitivisation applies to all predicates that have a valence more than one.

Valence adjusting operators

Steever (1993) has proposed the concept of Compound Verb Contraction in Dravidian languages. Those syntactic constructions that were compound verbs with the V2 of the compound expressing change in valence diachronically have contracted to become simple verbs synchronically with the V2 of the compound being reduced to a suffix. In other words, the stem combined with the inflected form of the auxiliary verb to form a single verb word. The causative, reciprocal and passive suffixes in Malto are derived by this process. A diachronic account of each of these suffixes along with a reference to the corresponding entries in the Dravidian etymological dictionary is provided in the relevant sections.

It is a typological feature of agglutinative languages that they have fewer lexical causatives and that causation is manifested morphologically by attaching an affix to the verb base (Dixon 2000). Causation in Malto is productively realised by the following suffixes: /-ṭaɾ, ṭɾ/. The causative suffix is possibly an archaic form of what is synchronically the lexical verb form *tara* 'give to 1st or 2nd person recipient' in Tamil/South Dravidian. The Proto-Dravidian form of this verb is *ta/tar* [DED 3098]. Winfield (1928) has recognised this morpheme as the 'transition particle' in Kui (Central Dravidian) and Israel (1979) calls it the 'personal object' suffix for the sister language Kuvi, both of which point to the fact that *ta/tar* is used as a valence increasing morpheme in two other lesser known Dravidian languages. The causative suffix attaches itself to the intransitive verbal stem and makes it a transitive verb. Hopper and Thompson (1980) have observed that this association of causitivity and transitivity is a universal phenomenon. The tense-aspect-mood marker and then the agreement marker follow the causative suffix. The causative suffix does not affect the shape of the verb root.

/-ḏ/ is a relic of the Proto-Dravidian causative-transitive suffix and is no longer productive in Malto but for a few exceptions such as *oːn* 'drink', *oːnḏ* 'cause to drink/serve a drink' (Krishnamurti 2003, 280). The /-ḏ/ suffix acts as a causativiser in example (8a) and as transitiviser in example (8b) where it is then detransitivised by the addition of the suffix /-ɾ/.

(8) a. hani ṭeho-ḏ   man-ḏ-aːḏ   aɾo cila-ḏ   aːɾ gidḏa-ḏ
       then mother-Nom.Nm bury-Caus-3Sg.Nm and eagle-Nom.Nm and vulture-Nom.Nm

       men-ḏ-aːḏ
       burn-Caus-3Sg.Nm

       'Then, the mother buried (one half) while the vulture and the eagle burnt (the other half).'
                                                                                      Story C2

    b. ṭaːni peh-ɾ-a   hon-ḏ-ɾ-aːh
       self   hold-Dtr-Cp bring-Sf-Dtr-3Sg.M
       'He himself brought (them).'   History

The following examples illustrate how a one place predicate in example (9) is converted to a two place predicate in example (10) by the addition of a causative suffix.

(9) hani haː   maa gidɾaː-ḏ   kʰajjaːk ay-aːḏ
     then Dem.Dst Clf   fox-Nom.Nm lot   dry-3Sg.Nm
     'Then, the fox weakened a lot.'   Story C4

(10) eːn   ṭaṭaha-n   aːy-ṭaɾ-iːn
      1Sg.Nom mango-Acc dry-Caus-1Sg
      'I dried mangos.'   Elicitation

The impact of the reciprocal situation is equal on all the participants of the situation and hence there is no hierarchy among the participants. It is due to this phenomenon that the valence of a reciprocal situation is reduced. The reciprocal suffix in Malto is /nah, naʔ/. It is interesting to note that the word *naqe* 'to act or be to one another' [DED 3571] exists only in the two North Dravidian

languages Malto and Kurukh. This form resembles the Hindi nouns *nakal* 'copy' and *nakli* 'duplicate' and hence I suggest that the reciprocal suffix may be a borrowed form. The following examples show how the reciprocal event is expressed by the addition of the */nah, naʔ/* suffix.

(11) giḏɽaː-ḏ   havḏ-aːh
     fox-Nom.Nm speak-3Sg.M
     'The fox spoke.'   Story C4

(12) hani eːr   ma.a-ḏ   havḏ-ɾ-naʔ-iːy-aːḏ
     then hen children-Nom.Nm speak-Dtr-Recp-Pst-3Sg.Nom
     'Then the chicks discussed (with each other).'   Story C4

The transitive verb is detransitivised by the addition of the detransitivising suffix */-ɾ/* and then the reciprocal suffix is added to the verb stem as shown in the following examples.

(13) eːm-u   manḏɽaː-n   aːḏ-a-ṭ-aːm
     1Pl.Nom-En medicine-Acc apply-Ep-Pst-1Pl
     'We applied medicine.'   Elicitation

(14) eːm-u   manḏɽaː-n   aːḏ-ɾ-naʔ-ṭ-aːm
     1Pl.Nom-En medicine-Acc apply-Dtr-Recp-Pst-1Pl
     'We applied medicine to each other.'   Elicitation

Historically passivisation in Malto, just as in other Dravidian languages, might have been realised as an explicator compound. The morphological passive in Malto is marked by the suffix */-uhɾ, -hɾ/*. This suffix is derived from the verb base *uɾqe* 'come out, come forth' [DED 668] by the process of compound verb contraction.

(15) eḏ-du   gaːḏiye-no mand-hɾ-aːd
     leg-Nom.Nm sludge-Loc bury-Pass-3Sg.Nm
     'The foot got buried in the sludge.'   Elicitation

2.1.3 Level Three: Inflectional Suffixes

The third level of verb word formation is the suffixation of inflectional affixes. A Malto verb word can include up to three inflectional suffixes chosen from:

1. a set of negative suffixes
2. tense/mood suffixes
3. gender-number-person (GNP) agreement suffixes

Alternatively an affix from the set of non-finite suffixes can take the place of a tense/mood suffix. Non-finite suffixes are discussed in detail in Section 4 of this paper.

Negation

Negation in Malto is post-verbal. There are two forms that express negation in Malto: the negative verb mala (example 16a) and the negative suffix */-la/* (example 16b). */-le/* is an allomorph of the negative morpheme */-la/* and their distribution is governed by the vowel harmony rules of the language. The concatenation of negative morphemes is also governed by the vowel sandhi rules. These two negative forms undergo some modifications such as appearing with epenthetic vowel */o/* to express negation of existentials and imperatives as shown in example (16c).

(16) a. paːɾe inoɾ aː   saba mala
        but   now Dem.Dst case Neg
        'But that is not the case now.'   Village

      b. haːh-in   ṭunḏ-k-iːḏ   ḏin-su jaːgu-n lap-laː-iːḏ
        3Sg.M-Acc see-Rp-3Sg.Nm day-two food-Acc eat-Neg-3Sg.Nm
        'Having seen him, she did not have food for two days.'   Story C3

    c. holh-oma꞉
      cry-Neg
      'Don't cry.'   Story C3

Tense/Mood

The prevalent strategy among Dravidian languages is to have verb stem alternation in the past tense. Subrahmanayam (1971) points out that this is one of the oldest morphological constructions in Dravidian languages. However Krishnamurti (2003) notes that not all the past stem allomorphs of the proto-language are fully recoverable since some of them have been analogically regularised by the daughter languages. The following Table maps the proto-Dravidian past stem allomorphs to the corresponding manifestations in Malto.

Proto-Dravidian Past Tense Allomorph	Malto Non-Past-Stem	Malto-Past-Stem
*-t-	o꞉n 'drink'	o꞉n-ḍ
*-i-	hek 'go'	hek-iy
*-cc-	men 'happen'	men-j
	baɾ 'come'	baɾ-c
	key 'die'	ke-c
	oy 'cut'	o-s
	hil 'stand'	hi-j

TABLE 5

Malto has regularised these formatives in two ways:

1. placing phonological restrictions on them
2. incorporating them into verb paradigms.

Proto-Dravidian past stem formatives *-i- and *-cc- have been regularised in Malto. -iy- is the past tense marker in the third person and it attaches to stems ending in obstruents. -c- occurs as a stem formative everywhere else. -t̪- as a stem formative remains as a relic in a few exceptional verbs such as o꞉n-ḍ and in most other cases it has been regularised as the past tense suffix in the first and second person. -k- is the fourth type of proto-Dravidian past stem formative (see Table 2) which functions as the relative past tense marker in Malto (Section 4.3).

The past tense paradigms for the verbs o꞉n 'drink', hek 'go' and baɾ 'come' are represented as follows:

- -c for baɾ, -iy for hek in the third person
- -t̪ everywhere else.

1SG	o꞉n-ḍ-t̪a꞉n	hek-t̪a꞉n	baɾ-t̪-a꞉n
1PL	o꞉n-ḍ-t̪-a꞉m	hek-t̪-a꞉m	baɾ-t̪ -a꞉m
2SG M	o꞉n-ḍ-t̪-e	hek-t̪-e	baɾ-t̪-e
2SG F	o꞉n-ḍ-t̪-i	hek-t̪-i	baɾ-t̪-i
2PL	o꞉n-ḍ-t̪-a꞉ɾ	hek-t̪-a꞉ɾ	baɾ-t̪-a꞉ɾ
3SG M	o꞉n-ḍ-iy-a꞉h	hek-iy-a꞉h	baɾ-c-a꞉h
3SG NM	o꞉n-ḍ-iy-a꞉ḏ	hek-iy-a꞉ḏ	baɾ-c-a꞉ḏ
3PL [+HUM]	o꞉n-ḍ-iy-a꞉ɾ	hek-iy-a꞉ɾ	baɾ-c-a꞉ɾ
3PL [-HUM]	o꞉n-ḍ-iy-a꞉ḏ	hek-iy-a꞉ḏ	baɾ-c-a꞉ḏ

TABLE 6

The present tense in Malto describes a situation that takes place simultaneously with the time of utterance. Bybee et al (1994, 126) point out that the present tense does not just have a deictic

temporal reference, but also covers various types of imperfective situations with the moment of speech as the reference point. In Malto, the habitual and the progressive aspects are both expressed using present tense. All verbs in Malto have the same inflectional pattern to mark present tense. The present tense paradigm for the verb *hek* 'go' is represented as follows:

- *-i*: in the first person singular and third person non-masculine
- *-n*: in the third person plural (human)
- *-ḏ*: everywhere else.

1SG	*hek-i-iːn*
1PL	*hek-ḏ-aːm*
2SG M	*hek-ḏ-e*
2SG F	*hek-ḏ-i*
2PL	*hek-ḏ-aːɾ*
3SG M	*hek-ḏ-aːh*
3SG NM	*hek-i-iːḏ*
3PL [+human]	*hek-n-aːɾ*
3PL [-human]	*hek-i-iːḏ*

TABLE 7

The future tense in Malto represents a situation that is predicted to occur after the time of utterance. Bybee et al (1994, 244) "regard the focal use of future as equivalent to a prediction on the part of the speaker that the situation in the proposition, which refers to an event taking place after the moment of speech, will hold." All verbs in Malto have the same inflectional pattern to mark future tense. The future tense paradigm for the verb *hek* 'go' is represented as follows:

- *-en* when it occurs before GNP markers beginning with front vowels
- *-an* everywhere else.

The future tense is haplologised in the first person singular.

1 SG	*hek-aːn*
1PL	*hek-an-aːm*
2SG M	*hek-en-e*
2SG F	*hek-en-i*
2PL	*hek-an-aːɾ*
3SG M	*hek-an-aːh*
3SG NM	*hek-en-iːḏ*
3PL [+human]	*hek-an-aːɾ*
3PL [-human]	*hek-en-iːḏ*

TABLE 8

Tense and the illocutionary force expressed by imperatives and permissives in Malto have scope over the entire clause. Modality, status and illocutionary force are often discussed together under the broad category of mood, as is done in this description of Malto.

Imperative constructions in Malto do not have the typical GNP agreement marking that finite verbs typically carry. The verb ends with the morpheme /-aː/.

(17) a. ledɽa paːsaː paːv koɾ-aː
         left   side   street enter-Imp
         'Enter from the left side!'   Directions

However, the vocative marker also acts as the imperative marker. The vocative is added to the verb stem to specify the identity of the addressee.

(17) b. koɾ-c-i   lag-ḍe
        enter-Pst-Pp approach-Voc.M
        'Approach by entering!'   Story C2

All other modals in Malto are either expressed as compound verbs.

Agreement

All finite verb words in Malto carry gender-number-person marking in agreement with the subject of the clause. The agreement markers are portmanteau morphs that simultaneously mark gender, number and person of the subject. The only exception is the finite verb word carrying imperative marking. Among the non-finite verb forms, the verb form that includes relative past tense marking also carries agreement marking with the subject. The gender-number-person agreement markers in Malto are formally derived from personal pronouns. These kind of inflectional affixes marking agreement are referred to as pronominal affixes in linguistic typology (Corbett 2006). Malto can be called a pro-drop language because it makes allowance for the possibility of omitting the pronominal subject of a clause. Omission of the pronominal subject is, however, not obligatory. The following table lists the gender-number-person suffixes against the corresponding personal pronouns.

	Personal Pronouns	GNP suffixes
1 singular	*eːn*	*-aːn*
1 plural	*eːm*	*-aːm*
2 singular masculine	*niːn*	*-e*
2 singular feminine	*niːn*	*-i*
2 plural	*niːm*	*-aːɾ*
3 singular masculine	*aːh*	*-aːh*
3 singular non-masculine	*aːḏ*	*-aːḏ*
3 plural human	*aːɾ*	*-aːɾ*
3 plural non-human	*aːḏ*	*-aːḏ*

TABLE 9

From the above table we notice that second person plural and third person plural; and third person singular non-masculine and third person plural non-human are homophonous. Sentences containing them are disambiguated by the tense marking in the case of the present tense.

The structure of the verb word in Malto can thus be summarised as follows:

Verb word = Verb root + [stem formative] + [derivational suffixes] + [inflectional suffixes]

Some possible combinations of the above formula are listed below in order of increasing complexity based on how many derivational and inflectional suffixes are attached to the verb base. However this is not an exhaustive list of possible verb word forms in Malto.

a) Verb word = verb root + inflectional suffix

(18) ḍok-aː
        sit-Imp
        'Sit!'   Elicitation

b) Verb word = verb root + stem formative 1 + inflectional suffix

(19) baɾ-c-ah
        come-Sf-3Sg.M
        'He came.'   Elicitation

c) Verb word = verb root + stem formative 2 + inflectional suffix

(20)   ku-nj-ah
       throw-Sf-3Sg.M
       'He threw.'   Story C4

d) Verb word = verb root + inflectional suffix + inflectional suffix

(21) ṱal-ḍ-aːm
     sacrifice-Prs-1Pl
     'We sacrifice.'   Rituals

e) Verb word = verb root + stem formative 1+ inflectional suffix +inflectional suffix

(22) ṱal-c-aː-k-aːm ...
     sacrifice-Sf-Ep-Rp-1Pl
     '(We) having sacrificed... '   Rituals

f) Verb word = verb root + stem formative 2 + inflectional suffix + inflectional suffix + inflectional suffix

(23) ha-nḍ-laː-y-iːḍ
     find-Sf-Neg-Pst-3Sg.Nm
     'It could not find.'   Story C3

g) Verb word = verb root + derivational suffix + inflectional suffix

(24) samjʰ-aːɽ-aːɽ
     understand-Vrb-3Pl
     'They convinced (him).'   History

h) Verb word = verb root + derivational suffix+ derivational suffix + inflectional suffix + inflectional suffix

(25) avḍ-ɽ-nah-iy-aːɽ
     talk-Dtr-Recp-Pst-3Pl
     'They discussed (it) with each other.'   Story C2

3 Finite Verb

The key to deciphering the inter-relation of verbs in multi-verb constructions in Dravidian languages lies in appreciating the meaning of finiteness. Morphologically, the finiteness of verbs in Malto and all other Dravidian languages depends on whether the verb is marked for tense and gender-number-person agreement. Syntactically, finite verbs can appear in independent clauses and they typically occupy the sentence final position. The gender-number-person agreement marker agrees with the subject of the sentence.

(26) sirip mak ḍaːhḍaː-n   hoy-n-aːɽ
     only Mak branch-Acc take-Prs-3Pl
     'They only take the branch of the Mak tree.'   Medicine

Miller (1993, 381) defines a complex verb as one which has undergone some sort of derivation to alter the form, meaning and argument structure of the base verb. A complex stem for a finite verb in Malto will have the derivative suffix preceding the tense marker.

(27) boh-a-ṱɽ-ḍ-aːn
     run-Ep-Caus-Prs-1Sg
     'I am caused to run. '   Elicitation

Compound verbs have two verbal bases — V1+V2. Usually only the second base V2 carries the tense and gender-number-person agreement marker. When compound verbs are positioned clause finally, only the second verb is a finite verb and the verb preceding it is a non-finite verb.

(28) uḏ-ṭaɾ-uḏ-ṭaɾ   hi-j-aḏ
      fix-Caus-Fix-Caus stood-Sf-3Sg.Nm
      '(They) stood with the horns fixed (to each other).'   Story C3

In the above example, the V1 *uḏṭaɾ-uḏṭaɾ* is a reduplicated compound verb word that forms the first base and the V2 *hijaḏ* is the fully inflected finite verb word. This example illustrates compound verb constructions with all their internal complexities in that V1 can itself be a compound verb.

The formal structure of verb-verb compounds in Malto is explained in the section on non-finite verbs (Section 4). In addition to verb-verb compounds, Malto also has noun-verb compounds. The most productive processes of noun-verb compounding in Malto involve using the verb 'to be' to encode stative predicates and the verb 'to do' to encode active predicates.

(29) haḏ-e   saja: nan-iy-a:ɾ   je ke-c-a:ɾ   ha: bic-no   saja
      Dem.Dst-Dat punishment do-Pst-3Pl.H who die-Pst-3Pl.H Dem.Dst between-Loc punishment
      naniya:ɾ
      do-Pst-3Pl.H
      'That, they punished, whoever died in that interval, they punished.'   History

(30) ha:ḍ-inṭe salha: men-j-a:ɾ
      there-Abl consultation be-Sf-3Pl.H
      'From there, they consulted.'   History

nan, the verb 'to do' and *men*, the verb 'to be' are usually used with a borrowed noun as in the above examples where *saja:* and *salha:* are both borrowings from Hindi. The verb 'to be' also appears with nominal predicates in copular constructions as illustrated in the following example.

(31) ha: bi:c-e-no   bahuṭ sa:janga:-manga: men-j-a:ḏ
      Dem.Dst between-Ep-Loc lot of confusion   be-Sf-3Pl.Nm
      'There was a lot of confusion during that time.'   History

However noun-verb constructions are different from copular constructions on two counts. First, and most importantly, unlike the noun-verb construction, the copular construction is not a compound construction and secondly the nouns in noun-verb constructions are always borrowings from dominant languages (examples 29 and 30) whereas the nouns in copular constructions need not necessarily be borrowings (example 31).

Apart from declarative and negative sentences, finite verbs also appear in imperatives. The verb in the imperative clause carries the imperative suffix -*a:* or a vocative suffix that acts as a portmanteau morph combining both imperative mood marking and gender-number marking.

(32) guɾ-a:ɾ-e-k-e   ba:li-n   ṭis-g-a:
      turn-Vrb-Ep-Rp-2Sg door-Acc open-Sf-Imp
      'Having turned, open the door!'   Directions

(33) ḍaḏ-onḏ maɾga-n ka:n-ḍ-ḍe
      Clf-one horn-Acc strike-Sf-Voc.M
      'Strike a horn.'   Story C3

The finite verb form in Malto can stand as an independent clause. Structurally a finite verb word can be reduced or modified by introducing non-finite verbal inflections into the verb word. This involves loss or modification of verbal inflections such as the deictic tense suffix and the gender-number-person agreement marking.

4 Non-finite verbs

Steever (1993, 17) has stated for Dravidian in general that:

> "non-finite verbs are divided into two broad sets according to their combinatoric properties. The first set includes all those non-finite verbs which combine with the following verb, with or without other grammatical material intervening: the conjunctive, the infinitive, the durative, the conditional and

others. Their use implies the existence of another verb elsewhere in the sentence on which the non-finite forms depend. The second set of non-finite verbs includes those which combine with the following nominal to form a variety of structures. When, however, it combines with a following pronoun with a restrictive reading, the two combine and a verbal noun is formed."

The preconditional, temporal conditional, causal adverbial, relative past, simultaneity, infinitive, and conjunct participle forms in Malto combine with the following verb, the adjectival participles combine with the following nouns and the relativised adnominals are formed by combining with a following pronominal suffix. A non-finite verb is the syntactic head of a subordinate clause and functions as durative, perfective or conditional. Morphologically, non-finite verbs are usually differentiated from finite verbs by the absence of the TAM and GNP pronominal markers. But this is not always true in Malto. In the following sections I will discuss instances where the non-finite verb word carries relative tense marking and GNP agreement marking. All non-finite suffixes in Malto are inflectional suffixes since the addition of a non-finite suffix neither changes the meaning of the resultant verb nor does it alter the valence of the verb. The table below lists the suffixes involved in non-finite verb word formation.

Preconditional	*-ṭa*
Temporal Conditional	*-no*
Causal Adverbial	*-ko*
Relative Past	*-k-*
Simultaneity	*-i*
Infinitive	*-oṭ, -oṭi*
Conjunct Participle	*-a*
Adnominal	*-u, -uɾ*
Adjectival Participle	*-i*

TABLE 10

4.1 Conditionals

Conditional clauses are used to describe a situation that is a pre-requisite for another situation to occur. The verb word in the subordinate clause encoding the conditional protasis is a non-finite verb form. The main situation in this complex construction is expressed as a finite verb. The preconditional verb form appears with both the declarative and the negative forms. It is marked by the morpheme */-ṭa/*.

(34) niːn   baj-y-a-ṭa   eːn   olh-aːn
      2Sg.Nom hit-Prs-Ep-Cond 1Sg.Nom cry-1Sg
      'If you beat me, I will cry.'   Elicitation

(35) niːnu   guran aṭ-oma-ṭ-i   ṭa   eːn   olh-aːn
      2Sg.Nom sweet give-Neg-Pst-2Sg.F Cond 1Sg.Nom cry-1Sg
      'If you don't give me sweets, I will cry.'   Elicitation

From the above examples it appears that conditional marker */-ṭa/* can be analysed as a clitic because *bajyaṭa* in example (34) is one intonational unit while *aṭomaṭi ṭa* has two intonational units with *ṭa* pronounced as a separate word form. Clitics are distinguished from suffixes by the nature of the forms with which they combine. Clitics combine with free forms, namely with words that can stand alone without the clitic. Steever (1993, 12) argues that "Dravidian clitics are exclusively postclitic and serve many important syntactic and pragmatic functions from conjunction and subordination to emphasis."

The second type is the temporal conditional clause that describes an entailment relation where an event y is bound to follow upon the completion of event x. The conditional clause is marked by the morpheme */-no/* and the matrix clause contains a finite verb.

(36) caːg-no   haːḏ-inṯi   baːd men-iːd
    sow-Cond Dem.Dst-Abl after be-3Sg.Nm
    'Upon sowing, after that it is available.'   Rituals

Thompson et al (2007, 258) point out that the difference between the 'if' and 'when' clause is simply one of degree of expectability. Malto codes this difference by using two different morphemes to represent the two situations.

4.2 Causal Adverbial

The causal adverbial clause describes the situation where an event y can take place only if another event x occurs. Such a clause is marked by the morpheme */-ko/*. The clause describing the resulting situation y is the matrix clause and it contains a finite verb.

(37) han-no   mahaɾe hi-l-aː   haːn-ko, hi-j-ah
    there-Loc facing   stand-Sf-Imp say-Adv stand-Sf-3Sg.M
    'Upon telling him to face that way and stand, he stood.'   Story C4

4.3 Relative Past Tense

The verbs suffixed by the relative past tense marker denote situations that would have occurred prior to the situation described by the finite verb in the matrix clause. The suffix */-k/* marks the relative past. This maker is employed to give the sense of 'x having occurred'. Malto places no restrictions as to how many events can occur before the event described in the matrix clause. Hence this proves to be a productive process for clause chaining. The clauses occur in the sequential order which mirrors the event order in the sentence. The verb word in the matrix clause is a finite verb. The relative past marker is followed by GNP agreement marking. It also agrees with the GNP marker on the finite verb in the matrix clause.

(38) ninjaːriː   nan-k-aːm bevaː-n   uṯ-aː-ṯaɾ-aː-k-aːm   haːḏ-inṯe   baːḏu kuriː
    invitation do-Rp-1P donation-Acc raise-Ep-Caus-Ep-Rp-1Pl Dem.Dst-Abl later   worship

    ṯhan-ek   baɾ-c-aː-k-aːm,   kuɾi   kuṯi-no aḏi-ḏ-aːm
    place-Dat come-Sf-Ep-Rp-1Pl worship place-Loc worship-Prs-1Pl
    'Having invited (people), having collected donations, then having reached the place of worship,
    we worship at that place.'   Ritual

The verb word containing the relative past tense marker is the only non-finite word form that takes GNP agreement marking. A plausible explanation for this exception is that relative past form was diachronically a compound word form that has contracted by reducing the V2 of the compound to a suffix. The possible contender for the V2 position in this case is *ek* 'go' since Kachru (1993, 117) generalises for South Asian languages that the verb 'go' as a vector regularly expresses the deictic meaning of completion.

4.4 Relative Present Tense/Simultaneity

Simultaneity is a relative tense marking on the verb where the speaker intends to express two events taking place at the same time. The verb bearing the simultaneity marker precedes the main verb in the matrix clause. The simultaneity marker in Malto is */-i/*.

(39) hani ɾaːja: ṯahaːnḏi-ḏ   ṯunḍ-i-ṯunḍ-i   mecaː haɾg-k-iː   ṯunḍ-iy-aːḏ   haːh-in
    then king   daughter-Nom see-Sim-see-Sim up   climb-Rp-3Sg.Nm see-Pst-3Sg.Nm 3Sg.M-Acc
    'Then the king's daughter seeing (it), climbed up and saw him.'   Story C3

In example (39) the two simultaneous situations of *ṯunḍ* 'seeing' and *haɾg* 'climbing' are represented in two different clauses that are chained together.

4.5 Conjunct Participle

The conjunct participle in Malto is expressed by the suffix */-a/*. The clause with the verb word containing the conjunct participle precedes the finite verb in the matrix clause. This kind of construction

is also called a 'conjunct participle construction' because of the syntactic nature of the construction. The conjunct participle links two verb words that together describe one complex situation.

(40) haːɖ-en-u   baːhɾe-no   hoc-a   kun-j-ɖ-aːm
     Dem.Dst-Acc-En outside-Loc take-Cp throw-Sf-Prs-1Pl
     'We take it out and throw it.'   Medicine

4.6 Infinitive

/-oṱ , -oṱi/ is the infinitive marker. The verb form in an infinite clause is not inflected to agree with any subject and is understood to be co-referential with the matrix clause subject. From the temporal point of view, the infinitive suffix expresses the relative future tense in Malto. The infinitive word form is used as a purposive and as the complement of modal auxiliary verbs. The auxiliary verb expresses grammatical distinctions that are not expressed by the main verb. Example (41) shows the infinitive functioning as a purposive and example (42) shows the infinitive with the obligatory modal.

(41) orṱonḓ ṱeho-ḏ   aɾaː-n   oy-oṱ ʔek-iy-aːḏ
     one   mother-Nom bamboo-Acc cut-Inf go-Pst-3Sg.Nm
     'A mother went to cut bamboo.'   Story C2

(42) haːɖ-en   saːgoɾ moḍaː-ḏ   haːn-oṱi meni
     Dem.Dst-Acc Sagar turn-Nom say-Inf Oblig
     'It is called the Sagar Turning.'   Directions

Infinitives are also used as complements of the declarative and negative ability modals. The following example shows the infinitive with the negative ability modal.

(43) maː-onḏ saɾve-saɾve eːɾ mo.o lol-laː-iːḏ   boh-oṱi
     Clf-one small-small hen child can-Neg-3Sg.Nm run-Inf
     'One little chick couldn't run.'   Story C4

The default word order in Malto has the finite verb in the clause final position. However, the only exceptional case of a non-finite verb word occupying the clause final position is that of the infinitive wordform, as shown in the above example.

4.7 Adnominals

Adnominal clauses serve to modify a head noun. There are two kinds of adnominal constructions in Malto that contain verbal forms:

1. Restrictive relative clauses
2. Adjectival (relative) participle constructions

Headless relative clauses are formed by combining the relativised verb and the pronominal suffix that agrees with the head noun that it replaces. These constructions are used as restrictive relative clauses. When it is restrictive the relative clause restricts the potential reference of a head noun. */-uh, -uɾ/* are the relativising suffixes in Malto that attach to the verb stem (example 45). The suffix */-u/* is used when relativised verbal is followed by a noun (example 44). The suffix */-u/* is also the relativiser in the non-past forms and the relativised forms in the past tense take the suffix */-pa/* as shown in example (46).

(44) horṱu ḍahḍaː guɾ-aː-ṱaɾ-u   maaː-h   hok-ḏ-aːh
     one   branch roam-Ep-Caus-Rel child-Nom.m be-Prs-3Sg.M
     'There is a boy who takes the branch around.'   Medicine

(45) pahaːḍi-no ḍok-uɾ, maleɾ-in   moa-n-aːɾ, han-iy-aːɾ
     hill-Loc   live-Rel people-Acc eat-Prs-3Pl say-Pst-3Pl
     'The ones living on the hills eat people, they said.'   History

(46) heng-inti pahle paḍ-i-pa-aːɾ   ne   jahaː bey-oː-ɾ
     1Sg-Abl before study-Ep-Rel-3Pl.H who Indef be-Neg-3Pl.H
     'There is no literate person before me.'   History

Krishnamurti (2003, 444) states that "all Dravidian languages change tensed finite verbs into adjectival (relative participles) by replacing the personal suffixes with adjectival markers *-a* or *-i*." The suffix */-i/* in Malto marks a verb in the attributive position that modifies the following noun. Syntactically this is an adjectival or relative participle construction.

(47) piːṭ-i: jaːnvaːraː men-no hem-e haːḍ-ki-in   seɾomaːn hem-e kos-n-aːɾ
     kill-Pp animal   be-Cond 1Pl-Dat Dem.Dst-Gen-Acc portion   1Pl-Dat share-Prs-3Pl
     'Upon finding a killed animal, they share a portion with me from that.'   Medicine

5   Category Changing Derivational Processes

Malto uses suffixation to derive verbs from nouns and nouns from verbs.

5.1   Nominalisation: Deriving nouns from verbs

/-po/ is the nominalising suffix in Malto and is added to verb stems to derive nominals. They are the citation forms of verbs in Malto.

Verb Root	Derived nominal
hiːl 'stand'	*hiːl-po* 'standing'
ok 'sit'	*ok-po* 'sitting'
oṭ 'break'	*oṭ-po* 'breaking'

TABLE 11

Nominalised verbals function as gerunds in a dependent clause, as shown in the following example.

(48) haːḍ-inṭe   saːtʰ-saːtʰ   haɾ-hiː joḍs-ṭiːn jen malaː guɾaːr-po   poɾcaːr naːn-oːṭi
     Dem.Dst-Abl together-together and-Emp pair-three Clf men   wander-Nomr publicity do-Inf
     'Then, together with the wandering of two or three people, to publicise (the event).' History

5.2   Verbalisation

/-aːɾ/ is the verbalising suffix in Malto. The verbalising suffix is used to convert non-verbal roots into intransitive verb stems in Malto.

Non-verbal root	Derived Verb
alsi 'sweat'	*als-aːɾ* 'be irritated'
kaːkli 'misery, pain, predicament'	*kaːkl-aːɾ* 'to be distressed'
ḍagɾahaː 'bad, wrong'	*ḍagɾ-aːɾ* 'do wrong'

TABLE 12

The suffix */-aːɾ/* is also used to verbalise borrowed words from Hindi. The borrowed root can either be a verb root or a predicate nominal. The verbalising suffix is mandatory even if the borrowed word is a verb in the source language.

Borrowed root	Derived Verb
samajʰ 'understand'	*samjʰ-aːɾ-aːɾ* 'they convinced (him/her)'
bana 'make'	*ban-aːɾ-aːh* 'he made'

TABLE 13

Example (48) shows both the category changing derivational processes on the borrowed root guɾ. The borrowed word is first verbalised into a Malto verb stem by adding the /-aːɾ/ suffix and then nominalised by the /-po/ suffix.

The /-aːɾ/ suffix is replaced by the /-ey/ or /-es/ suffix to derive transitive verbs from nouns and borrowed stems. The following example set shows the derivation of a transitive verb from a noun.

(49) a. *alsi* 'sweat'
      b. *als-aːɾ* 'to be irritated'
      c. als-es-iy-aːh
          worry-Tr-Pst-3Sg.M
          'He irritated (it).'   Elicitation

6   Conclusion

This paper has explained the formal structure of the verb word in Malto in terms of the levels of word formation and the role and place of each morpheme within a verb word. Malto has three main levels of word formation namely, stem formation, derivational suffixation and inflectional suffixation. We have had a close look at the classification of verb roots, stem formation strategies and category changing derivational processes involving verbs in Malto. Although the information provided on the formal structure can be claimed to be exhaustive, the functional aspects of the verbal forms are beyond the scope of this paper.

Acknowledgments

Abbreviations

Abl	Ablative	Neg	Negative
Acc	Accusative	Nm	Non Masculine
Ad	Adnominal	Nom	Nominative
Add	Additive Particle	Nomr	Nominaliser
Adv	Adverbial	Oblig	Obligatory
Caus	Causative	Opt	Optative
Clf	Classifier	Pass	Passive
Comp	Comparative	Pl	Plural
Cond	Conditional	Pp	Past Participle
Cp	Conjunct Participle	Prf	Perfective
Dtr	Detransitiviser	Prs	Present
Ep	Epenthetic	Pst	Past
Emp	Emphatic	Q	Question
En	Enunciative Vowel	Recp	Reciprocal
Fut	Future	Rel	Relativiser
Gen	Genitive	Rp	Relative Past
H	Human	Sf	Stem Formative
Imp	Imperative	Sg	Singular
Indef	Indefinite Particle	Sim	Simultaneous
Inf	Infinitive	Tr	Transitiviser
Loc	Locative	Voc	Vocative
M	Masculine	Vrb	Verbaliser

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