1 THE ASSOCIATIVE PHRASE

The associative phrase is a construction in which two nouns are syntactically associated with each other. The form of such a phrase can be represented by the formula in Figure 1.

Figure 1

$$\text{AssP} \quad = \quad N_1 \quad \text{AM} \quad N_2 \quad \text{(ART)}$$

The associative phrase (AssP) has three obligatory parts:

a) the noun number 1 (N_1),

b) the associative marker (AM),

c) and the noun number 2 (N_2).

An article (ART) of one of the nouns can optionally be present at the end of the phrase. It agrees in its noun class concord with that noun which is made definite by it, either N_1 or N_2.

The associative marker agrees with the noun class of N_1. This fact is indicated by the arrow in Figure 1. The associative marker is constructed of two elements: the concord tone and the associative vowel (see section 1.1 below).

Example (0) illustrates an AssP and its parts.

(0)	€bi¡n	€µ	m ¹f,¹n	zeµ
	dance	*AM*	*chiefs*	*ART*
	the dance of chiefs			

The syntactic association is formally expressed by two elements:

1. **a syntactic morpheme called Associative Marker (AM)**

2. **the tone rule of Prefix Lowering affecting N_2**

This rule is a **morphophonemic** rule. It can only operate on the N_2 prefix of an associative phrase. It can be stated as follows:

> **In an Associative Phrase the underlying tone of the N_2 prefix is lowered to |L|.**

In example (0) above the associative marker has the form ï€µ . The citation form of the word for *chiefs* is m   ³f,²ín, it is realised with the surface tone sequence [D-HL]. As the N_2 of this associative phrase, it is realised with the tone sequence [L-L] owing to tone changes caused by the morphophonemic tone rule **Prefix Lowering**.

1.1   The Associative marker

The associative marker (AM) is determined by the noun class of N_1, and consists of a syllable and its concord tone melody. For all classes except noun class 10, the segmental part consists of a vowel, for noun class 10 it consists of a CV sequence. The segmental material as well as the underlying and surface tones of the AM are displayed in Table 1.

Table 1

The Associative Marker

Noun class	Segmental	Concord Tone	Surface Tones
1, 6a, 9		|L|	[L, M, D, H]
2, 3, 6, 8, 13, 19			
7	€	|H|	[H, D, M]
10	t		

The following generalisations can be abstracted from examples (0a-h) and (0a-h) further below:

The tonal realisation of the AM is determined by the immediately preceding tone sequence.

An AM with an underlying |L| tone is realised as

- **[H]**   **after a [H] tone**
- **[D]**   **after a [D] tone**
- **[M]**   **after a underlying |LŽH| sequence[1]**
- **[L]**   **after all other tones**

An AM with an underlying |H| tone is realised as

- **[H]**   **after a [H]**
- **[D]**   **after a [D] or [LD]**
- **[M]**   **after all other tones**

Note: The |H| tone of the associative marker can never be realised as [L].

The |L| Associative Marker

The AM for the Noun classes 1, 6a, and 9 is underlyingly |L|. Its different surface realisations are illustrated in examples (0a-h), (0e-h), and (0a-h). A full paradigm of noun tone patterns for each of these classes has not yet been found, but all three classes taken together cover all possible noun tone patterns.

Noun class 1:

No	Tones of N_1	Tone of AM	Example	Meaning
(0)	(|L-LL|	[L]	¹ta¹r€¹ (¹) m€¹gwe¹	*wine pot of scouts*
	(|L-LH|	[M]	¹g€¹n μ m€¹gwe¹	*bride of scouts*

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[1]   depending on the tone of the prefix this sequence is realised either as [M] or as [L] followed by a floating |H| tone

(	|L-HL|		- - -	*(not yet found)*
(	|L-HH|	[D]	Š¹gu»m ³ M ¹f€µd	*Ngum of Bafut*
(	|H-LL|	[L]	³s€²† ¹ m€¹gwe¹	*friend of scouts*
(	|H-HL|	[L]	³no±m ¹ M ya²ƒ	*husband of Miyang*
(	|H-LH|	[M]	³ƒg,µb µ m€¹gwe¹	*mother of scouts*
(	|H-HH|	[H]	³wi¡ ± M€¹ka¹r€¹	*wife of Mekare*

Noun class 6/6a:

No		Tones of N1	Tone of AM	Example	Meaning
(0)	(e)	|H-LL|	[L]	m ³no²† ¹ m€¹gwe¹	*palmwine of scouts*
	(f)	|H-LH|	[M]	m ³naµƒ µ m€¹gwe¹	*lies of scouts*
	(h)	|H-HH|	[H]	m ³wu±d ± m€¹gwe¹	*oil of scouts*

Noun class 9:

No.		Tones of N₁	Tone of AM	Example	Meaning
(0)	(a)	|L-LL|	[L]	m¹ba¹ƒ ¹ m ¹niª	*walking stick of rumours*
	(b)	|L-LH|	[M]	m¹b,¹n µ M ¹s,¹ƒ	*property of Misong*
	(c)	|L-HL|	[L]	m¹baµn ¹ M ¹s,¹ƒ	*nail of Misong*
	(d)	|L-HH|	[D]	ƒ¹g€»n ³ M ¹s,¹ƒ	*storehouse of Misong*
	(e)	|H-LL|	[L]	fi¥ƒ ¹ M ¹s,¹ƒ	*heart o Misong*
	(f)	|H-LH|		---	*(not yet found)*
	(g)	|H-HL|	[L]	ja±m µ M ¹s,¹ƒ	*axe of Misong*
	(h)	|H-HH|	[H]	ju± ± M ¹s,¹ƒ	*honey of Misong*

The underlying |L| tone of the associative Marker is subject to tone rules described elsewhere[2] which are triggered by the preceding tonal context, i.e. by the various tone melodies associated with N_1. The output of these rules are summarised in the introductory part of section 1.1 above and illustrated by the examples given in this section.

The |H| Associative Marker

As shown in Table 1, all noun classes except the three classes treated in section 1.1.1 occur with an associative marker bearing an underlying |H| tone which is realised, according to the preceding tone configuration, as [H], [D] or [M]. Examples (0a-h) illustrate the tonal realisations of the associative marker for a N_1 of the noun class 7 and examples (0a-h) illustrate them for a N_1 of noun class 3.

Ncl 7:

No.		Tones of N_1	Tone of AM	Example	Meaning
(0)	(a)	|L-LL|	[M]	€¹w,¹m €µ kyeµd	*bow of arrow*
	(b)	|L-LH|	[D]	€¹f,¹n €³ nya²m	*leopard of animal[3]*
	(c)	|L-HL|	[M]	€¹noµb €µ nyaµm	*rat of animal[4]*
	(d)	|L-HH|	[D]	€¹to¹ƒ €³ ƒ¹gaµb	*ear of antelope (kind of herb)*
	(e)	|H-LL|	[M]	€³fa² €µ ƒ¹guµb	*sacrifice of fowl*
	(f)	|H-LH|	[D]	€³gh µ €³ ƒ¹gw¹ed	*thing of yam set (seedling)*
	(g)	|H-HL|	[M]	€³n€± €µ w€´d	*blood of man*
	(h)	|H-HH|	[H]	€³d,±† €±	*desire of water*

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[2]   See Spreda 1986

[3]   this form, though grammatically correct, has no real meaning in the Metta language. It is cited here merely as an illustrative example of the application of the grammatical rules.

[4]   see fn 1

m   ±ni£b   *(thirst)*

Ncl 3

No.		Ntp of N₁	Tone of AM	Example	Meaning
(0)	(a)	|L-LL|	[M]	¹bi¨ï¨ µ j,µ	*liver of snake (kind of twine)*
	(b)	|L-LH|	[D]	¹ƒg,¹m ³ ju³	*plantain of bees (wild plantain)*
	(c)	|L-HL|	[M]	- - -	*(not yet found)*
	(d)	|L-HH|	[D]	¹za¹n ³ ³ €³wu¹	*joint of food (ankle)*
	(e)	|H-LL|	[M]	³ba² µ n¹gyw ³	*wing of cloth*
	(f)	|H-LH|	[D]	³ko³n ³ ƒ ±bi¦	*tail of knife*
	(g)	|H-HL|	[M]	³bi¡ µ m¹b€¹ƒ	*knife of rain (lightening)*
	(h)	|H-HH|	[H]	³ƒ€±n ³ jaµm	*handle of axe*

In the same way as the associative marker with a low concord tone (see section above) is subject to tone rules, so is the concord marker with a high tone. The tone processes are summarised in

1.2 The N2

The N_2 of an associative phrase undergoes the tone rule **Prefix Lowering.** This rule changes the underlying tone of the N_2 prefix to |L|. The different noun tone patterns are then realised as follows:

- **nouns with a |L| tone prefix remain unchanged**

- **nouns with a |H| tone prefix are realised like the corresponding tone patterns with a |L| prefix**

So, all nouns with |H| tone prefixes only display the tones of their lexical prefixes when they are in the N_1 position.

N₂ with a |L| prefix tone

Since nouns with such a tone melody already have an underlying |L| prefix tone, the rule **Prefix Lowering** has no effect on them, and their tonal realisations are the same as in isolation. This is so whether the prefix is overt and its tone associated (examples (0a-d)) or whether the prefix consists of a floating tone (examples (0a-d).

No.		Tones of N₂	N₂ in isolation	Example	Meaning
(0)	(a)	|L-LL|	mɛ¹gwe¹	¹gɛ¹n µ mɛ¹gwe¹	*store of scouts*
	(b)	|L-LH|	f ¹nɛ¹n	m¹bo¹b ¹ f ¹nɛ¹n	*huckleberry of birds (kind of wild vegetable)*
	(c)	|L-HL|	n¹d,µ*f*	³gwe±d ± n¹d,µ*f*	*lazy fellow of horn (super lazy fellow)*
	(d)	|L-HH|	m ¹niᵃ	m¹ba¹*f* ¹ m ¹niᵃ	*walking stick of rumours*

No.		Tones of N₂	N₂ in isolation	Example	Meaning
(0)	(a)	|L-LL|	kwe¹	m¹ba¹*f* ¹ kwe¹	*walking stick of kind of bush*
	(b)	|L-LH|	cu¹	m ³no²† ¹ cu¹	*palmwine of giant raffia*
	(c)	|L-HL|	toµm	wɛ¹d ¹ toµm	*person of message*
	(d)	|L-HH|	sa¹m ³	wɛ¹d ¹ sa¹m ³	*man of dancing field (owner of …)*

N₂ with a |H| prefix tone

Nouns with an underlying |H| lexical tone on the prefix are subject to the **Prefix Lowering** rule in N₂ position. This not only affects the prefix but also

the tones of the stem during the tone derivation. The surface realisation of the N$_2$ is the same as the one of the corresponding tone patterns which have a |L| tone prefix (see examples (0)a-d).

No.		Tones of N$_2$	N$_2$ in isolation	Example	Meaning
(0)	(a)	|H-L|	³f,²n	€¹ba¹m €¹ ¹f,¹n	*bag of chief*
	(b)	|H-LH|	€³nuµn	³w€±ƒ ± €¹nu¹n	*firewood of age (saving for old age)*
	(c)	|H-HL|	€³jwi¡	f€¹ƒ r ³ €¹jwi¦	*ventilation holes of noses (nostrils)*
	(d)	|H-HH|	€³t€±n€ ±	f ³kyi£ƒ ³ €¹t€³n ³	*pot of iron*

The same tonal process takes place on nouns with a floating prefix tone (see examples (0)(a-d)

No.		Tones of N$_2$	N$_2$ in isolation	Example	Meaning
(0)	(a)	|H-L|	b€´d	m ³no²† ¹ b€¹d	*wine of people*
	(b)	|H-LH|	- - -		*(not yet found)*
	(c)	|H-HL|	n€±b	€³c ± €µ n€µb	*foundation of house*
	(d)	|H-HH|	wa±n	€³ja± €µ wa³n	*empty shell of child (stillborn child)*

1.3   Interaction of constituents

Since the associative phrase is made up of three constituents, up to three vowels can occur in sequence, i.e. the N$_1$ can have a final vowel, the associative Marker can consist of a vowel, and the N$_2$ can have a prefix consisting of a vowel. As vowels undergo elision, their own tones as well as neighbouring tones are affected. In general, tones of the adjacent constituents affect each other. The following generalisations have been found:

- **if vowels elide, the highest tone of the two is realised on the remaining vowel**

- **the vowel of a final stressed syllable cannot be deleted**

- **the vowel of a noun class prefix cannot be deleted**

- **a final stressed vowel and a prefix vowel can fuse if the vowel quality and the surface tone are identical**

- **stem tones of the tone patterns |(H)-L| and |(H)-H| in N_2 position are affected only after a |H| tone of the associative marker (i.e. the floating |H| tone is associated to the N_2 stem, creating a glide)**

- **prefixes of N_2 consisting of a syllabic nasal lose their syllabicity and their tone becomes ineffective**

The N_2 has a prefix consisting of a vowel

In the following examples (0) to (0), the noun ^{3}f,^{2}n *'chief'* with the underlying prefix | ±-| is contrasted with the noun €^{1}f,^{1}n *'leopard'* which has the underlying prefix |€^{1}-| in N_2 position. The nouns €^{3}gh μ *'thing'* and ^{3}gh€± *'eye'* occur in N_1 position. The final syllables of these nouns are stressed. These examples show all the possible combinations of the two vowels and € in sequences of three vowels.

(0) (a) €^{3}gh ^{3} €^{3} [€^{3}gh ^{3}f,^{1}n] *thing of chief*
       ^{1}f,^{1}n

    (b) €^{3}gh ^{3} €^{3} [€^{3}gh ^{3} *thing of leopard*
       €^{1}f,^{1}n   €^{3}f,^{1}n]

(0) (a) ^{3}gh ^{3} ^{3} [^{3}gh ^{3}f,^{1} *things of chief*
       ^{1}f,^{1}n   n]

    (b) ^{3}gh ^{3} ^{3} [^{3}gh ^{3} *things of*
       €^{1}f,^{1}n   €^{3}f,^{1}n] *leopard*

(0) (a) ^{3}gh€± μ [^{3}gh€± *eye of chief*
       ^{1}f,^{1}n   μf,^{1}n]

| | (b) | ³gh€± µ | [³gh€± | *eye of leopard* |
| | | €¹f,¹n | €µf,¹n] | |

(0)	(a)	€³gh€± €µ	[³gh€±	*eyes of chief*
		¹f,¹n	µf,¹n]	
	(b)	€³gh€± €µ	[³gh€±	*eyes of leopard*
		€¹f,¹n	€µf,¹n]	

Examples (0), (0), (0) and (0) show that neither the final stem vowel of a stressed syllable nor the initial prefix vowel can be deleted except if they are identical in vowel quality and their tones are identical, in which case they fuse (examples (0) and (0) above.

The N_2 has a prefix consisting of a floating tone

While the stems of the N_2 with a prefix consisting of a vowel do not undergo tone changes affected by the tone of the preceding associative marker, nouns in N2 position with a prefix consisting of a floating tone are, under certain circumstances, affected by an underlying |H| tone of the associative marker.

If the prefix is an underlying |L| tone, the stem of the N_2 is generally not affected. Examples (0 a-d) show several instances with different tone patterns of N_2 which are all considered to have a floating |L| prefix tone.

| No. | | Tones of N_2 | | Example | Meaning |
		underlying	surface		
(0)	(a)	|L-LL|	[L]	€³j,³d €³ kyw ¹	*husk of maize*
	(c)	|L-HL|	[M]	³s,³ƒ ³ s€µn	*tooth of elephant*
	(d)	|L-HH|	[LD]	³bu± µ sa¹m ³	*corner of playing field*
	(d')	|L-HH|	[LD]	³ba³n ³ sa¹m ³	*side of playing field*

There are, however, nouns ocurring in N_2 position the surface tones of which show the influence of a prededing |H| tone of the associative marker. One of the tone patterns that has several such nouns showing this phenomenon is the pattern |L-LL|. Examples (0a-d) show [HL] and [ML] realizations of the stem which should not happen, if the N_2 has a |L| prefix tone as in the case of examples (0a-d'), which also has this tone pattern.

No.		Tones of N_2		Example	Meaning
		underlying	surface		
(0)	(a)	|L-LL|	[HL]	³wi£d ³ ƒwi¡€¹	*gun of god*
	(b)	|L-LL|	[ML]	€³zwi¢ €µ ƒwi¦€¹	*breath of god*
	(c)	|L-LL|	[HL]	¹ƒga¹m ³ w€²d	*speech of person*
	(d)	|L-LL|	[ML]	€³tuµ €µ w€¸d	*head of person*

The examples (0a-e) illustrates instances of a noun in N_2 position with a floating |H| prefix tone. The underlying pattern is thought to be |H-L|. This noun is affected by the |H| tone of the associative marker.

No.		Tones of N_2		Example	Meaning
		underlying	surface		
(0)	(a)	|H-L|	[HL]	€³gh ± €± nya²m	*thing of animal*
	(b)	|H-L|	[HL]	€¹f¸n €³ nya²m	*leopard of animal*
	(c)	|H-L|	[HL]	€¹na»ƒ €³ nya²m	*cocoyam of animal*
	(d)	|H-L|	[ML]	€¹ba¹m €µ nya¸m	*bag of animal*
	(e)	|H-L|	[ML]	nyo´ƒ r µ nya¸m	*hair of animal*

However, if the preceding tone of the associative marker is an underlying |L|, this noun is realized as if it undergoes the **Prefix Lowering** rule in a regular

manner. This is illustrated by examples (0a-d). Although the surface tone of the associative marker is realized as [H] in (0), this does not affect the stem of the N_2.

No.		Tones of N_2		Example	Meaning
		underlying	surface		
(0)	(a)	|H-L|	[L]	s€±m ± nya¹m	*desire of meat*
	(b)	|H-L|	[L]	m ³n ±b ± nya¹m	*water of meat (gravy)*
	(c)	|H-L|	[L]	€¹wa¹a¹r ¹ ¹ nya¹m	*butcher of animal*
	(d)	|H-L|	[L]	m no²† ¹ b€¹d	*palmwine of people*

Another tone pattern which is affected by the tone of the associative marker is |H-HH|. The examples (0) are realised with the expected [LH] glide tone after the rule of **Prefix Lowering**. In these cases the tone of the associate marker is an underlying |L|, because the N_1 is of the group of noun classes 1, 6/6a 9. In the examples (0), the N_1 is of other noun classes which have an underlying |H| associative marker. In these cases, the underlying |H| stem tone of N_2 is affected. It is realized as [D].

No.		Tones of N_2		Example	Meaning
		underlying	surface		
(0)	(a)	|H-HH|	[H]	¹cwï€³ ³ bu»†	*duiker of forest*
	(b)	|H-HH|	[H]	toµ† ¹ fo»ƒ	*cup of buffalo*
	(c)	|H-HH|	[H]	ƒ¹g,¹m ¹ ju»	*drum of bee (beehive)*
	(d)	|H-HH|	[H]	€³tu± €µ fo³ƒ	*head of buffalo*
	(e)	|H-HH|	[H]	¹ƒg,¹m ³ ju³	*plantain of bee*

Nouns with the tone pattern |H-HL| which in isolation are realised with a [M] tone are consistently realised like that in N_2 position, irrespective of the underlying tone of the associative marker. Examples (0)(a-b) have an underlying |L| associative marker tone, examples (0)(a-e) a |H| one.

No.		Tones of N_2		Example	Meaning
		underlying	surface		
(0)	(a)	|H-HL|	[M]	m ³wu±d ± buµ	*oil of dog (kind of weed)*
	(b)	|H-HL|	[M]	€³yi¡ (±) t,µ†	*woman of palace*
(0)	(a)	|H-HL|	[M]	³b ±g ± ± j,µ	*pit of snake*
	(b)	|H-HL|	[M]	€³za±† €µ buµ	*castrate of dog*
	(c)	|H-HL|	[M]	³cu² µ n€µb	*mouth of house*
	(d)	|H-HL|	[M]	¹bi¨ï¨ µ j,µ	*liver of snake*
	(e)	|H-HL|	[M]	³f€±n µ jaµm	*handle of axe*

If the N_2 prefix consists of a syllabic nasal

Prefixes that consist of a syllabic nasal occur in noun classes 9 and 10. The syllabic nasal always bears an underlying |L| tone. In N_2 position, the syllabic nasal loses its syllabicity and its tone becomes ineffective. This is illustrated by examples (0).

(0)	(a)	€³tu± €µ m¹baµn	[€³tu± €µmbaµn]	*head of nail*
	(b)	³bi¡ µ m¹b€¹ʃ	[³bi¡ µmb€¹ʃ]	*knife of rain*
	(c)	ʃ¹g,¹m ¹ n¹du¹d	[ʃ¹g,¹m ¹ndu¹d]	*drum of kind of drum*

(d)	³gwe±d ± n¹d,µ*f*	[³gwe±d ±nd,µ*f*]	*lazy fellow of horn*	
(e)	³gh€± µ *f*¹guµb	[³gh€± µ*f*guµb]	*thing of fowl*	
(f)	€³j,³*f* €³ *f*¹guµb	[€³j,³*f* €³*f*guµb]	*young male of fowl*	

1.4   Semantic and syntactic considerations

Different semantic relationships can exist between N_1 and N_2.[5] Example (0) can mean *'the thief who is a dog'* or *'the thief who steals dogs'*. Which of these meanings is intended can only be determined by the context.

One of the questions that needs to be answered for certain associative phrases is which of its two nouns is modified by any definite article, if present. The definite article which follows the N_2 helps to decide this, if the two nouns belong to different noun classes. In example (0) the article used is the one of noun class 1 and therefore refers to the noun   ³j   ±. In example (0) the article is of noun class 9 and refers to **buµ**.

No.	Example	Meaning	Ncl of article
(0)	j ± ¹ buµ weµ	*thief of dog (a thief who is a dog)*	1
(0)	³ko³n ³ buµ zeµ	*tail of dog*	9

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5   These will have to be the subject of a later study.