

Forms with(out) meaning: What can we learn from morphemes?

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Introduction

The morphological component of grammar is usually conceived as a bridge from meaning to form (or viceversa). A morpheme should therefore consist of form and meaning:

somos, andemos, tuvimos, amaríamos (Spanish)

These various forms share both segmental (/mos/) and semantic (1PL) partials. On this evidence, morphologists isolate a morpheme *-mos* with a meaning 1PL.

Things, however, are not always so simple.

Introduction

A well-known case is English -s (/z/, /s/, /ɪz/), which can be used as a 3SG, plural or genitive marker:

screams, dogs, Michael's

The formal identity of these elements is usually regarded as accidental (e.g. Haspelmath 2003: 5) so that they would count as unrelated morphological objects -s₁, -s₂, -s₃.

The few who have argued the opposite (e.g. Leiss 1997) do so by proposing some shared semantic core meaning of all uses.

Introduction

We often seem to think it impossible for a single unitary morphological object to have more than one meaning.

Morphological theory incorporates that assumption into formal models. Mechanisms like blocking or rules of referral are thought up by linguists to account for forms whose distribution does not correspond to a natural class:

	<i>be</i> , present		<i>be</i> , past	
	SG	PL	SG	PL
1	am	are	was	were
2	are	are	were	were
3	is	are	was	were

Table 1: Present and past forms of the verb *be*

But, is this the right approach?

The morphome

Some linguists (e.g. Aronoff 1994) have realized that a single morphological object can map into several different meanings.

“Recurrent phonological formatives (...) which are not correlated with any homogeneous semantic or morphosyntactic property and which cannot be derived phonologically but whose distribution (...) is coherent and can be proved to be nonaccidental.” (O'Neill 2013: 228)

	SG	DU	PL
1	-ve	-'ve	-pe
2	-pe	-'ve	-ve
3	-ve	-'ve	-ve

Hua verb suffixes (Stump 2015:128 after Haiman 1980)

Morphomes vs morphemes

Are morphomes and morphemes any different?

Work by various linguists (e.g. Martin Maiden) shows that morphomes can be diachronically stable and provide a model for analogical change.

	PRES			PAST		
	SG	DU	PL	SG	DU	PL
1	bas-áv	biss-in	bass-ep	biss-iv	bis-ijmen	bis-ijmä
2	bas-á	bass-ebähten	bass-ebähtet	biss-e	bis-ijden	bis-ijdá
3	bass-a	bass-eba	biss-e	bis-ij	bis-ijga	biss-in

Pite Sami *basset* 'fry' (Wilbur 2014: 174)

	PRES		PAST	
	SG	PL	SG	PL
1	kuul-am	kuull-âp	ku'll-em	kuul-im
2	kuul-ak	kuull-ve'ted	ku'll-iĳ	kuul-id
3	kooll	ko'll-e	kuul-i	ku'll-e

Skolt Sami *kuullâd* 'hear' (Feist 2010: 115)

	PRES			PAST		
	SG	DU	PL	SG	DU	PL
1	boadán	bohte	bohtit	bohten	bođiime	bođiimet
2	boadát	bohtibeahtti	bohtibehtet	bohtet	bođiide	bođiidet
3	boahotá	boahotiba	bohtet	bođii	bođiiga	bohte

North Sami *boahtit* 'come' (Kahn & Valijärvi 2017: 117, 121)

	PRES		PAST	
	SG	PL	SG	PL
1	jäl-a	jëll'-ep'	jïll'-e	jïl'-em'
2	jäl-al	jëll'-bedt'e	jïll'-ek'	jïl'-et'
3	jäll	jëll'-ev	jïl'-e	jïll'-en'

Kildin Saami *jëll'-e* 'live' (Rießler to appear: 4)

Morphemes vs morphemes

A continuum on the meaning side

	SG	PL
1	təmən	təmdən
2	nəmən	nəmdən
3	gəmən	gəmdən

g-: 3
-dan: PL

Kusunda verb *əm* 'eat', realis (Watters 2006: 60)

	SG	PL
1	lahem	lahemi
2	lahesh	laheni
3	lahet	lahen

-sh: 2SG
-n: 3PL

Albanian 'laj' 'wash' present non-active (Newmark et al. 1984: 59)

Morphemes vs morphemes

A continuum on the meaning side

	SG	PL
M	rabotal	rabotali
F	rabotala	
N	rabotalo	

Russian past tense forms of the verb 'work'

-i: PL
-a: F.SG

	SG	DU	PL
1	wun	an	ñan
2.FEM	ñən	bər	gwur
2.MASC	mən		
3.FEM	lə		dəy
3.MASC	də		

Manambu personal pronouns (Aikhenvald 2008: 66)

dəy: 3.PL
bər: 2/3.DU

Morphomes vs morphemes

A continuum on the meaning side

	SG	PL
NOM/VOC	aqua	aquae
ACUS	aquam	aquās
GEN	aquae	aquārum
DAT		aquīs
ABL	aquā	

Latin aqua 'water' first declension

-What is the feature structure? GEN/DAT or DAT/ABL? 1/2 or 1/3?

	Object suffixes	Subject suffixes	
		Realis	Irrealis
2SG	-o	-lu	-le
1SG		-ie	-fe
3SG	-fo	-lee	-be
2PL	-mo	-mo	-bule
1PL		-ne	-bile
3PL	-te		

Irreconcilable
syncretisms

Kwomtari person agreement suffixes (Honsberger et al. 2008: 107)

Morphomes vs morphemes

Identity of form cannot always be due to some extra-morphological affinity.

	I	II	III	IV
SG	che:	tósè-gɔ	k'on-dɔ	tòn
DU		tósè	k'on	
PL	che:-gɔ		k'on-dɔ	

Kiowa number marking (Wunderlich 2012: 178 after Wonderly et al. 1954)

Bidimensional distributions:

	SG	DU	PL
1	fecemin	fecohul	fecomun
2	fecem	fecebil	
3	feceb		

Amele verb 'see' perfect switch reference (Roberts 1987)

Morphosyntactic affinity (i.e. a unitary meaning) explains the distribution of many elements.

Morphemes vs morphemes

But there will always be some limit beyond which accounts based on morpho-syntactic affinity will be inadequate: morphologically stipulated

	1SG.O	1PL.O	2SG.O	2PL.O
1SG.S	-	-	-tan	-tadiż
1PL.S	-	-	-tadiż	-tadiż
2SG.S	-samak	-samiż	-	-
2PL.S	-samiż	-samiż	-	-
3SG.S	-samam	-samiż	-tanzat	-tadiż
3PL.S	-samiż	-samiż	-tadiż	-tadiż

-miż: 1 person object &
Plural argument

Erzya subject-object conjugation, partial paradigm (Rueter 2010)

	SG	DU	PL
1	bu-ʔohube	bu-ʔohuʔibe	bu-ʔohune
2	bu-ʔahane	bi-ʔehaʔibe	bi-ʔehabe
3	bu-ʔehibe	bi-ʔehaʔibe	bi-ʔehabe

Referred as monofocal vs polyfocal

Verb 'go' in Benabena, past tense (Young 1964:48)

Morphomes vs morphemes

	clambering	No clambering
upward	climb	climb
Not upward	climb	-

Meaning features of *climb* (Jackendoff 1985)

	SG	PL
1	nenbilen	genbiltzan
2	zenbiltzan	zenbiltzaten
3	zebilen	zebiltzan

Basque *ibili* 'walk' past

	SG	DU	PL
1	-onji	-ontae	-ontone
2	-onji	-onji	-ontifi
3	-i	-onji	-ontifi

Same-subject non-future medial verb agreement in *Wojokeso* (West 1973:10)

Note that (lexical) meanings are not always straightforward

- Climb: move in a clambering fashion and/or upwards
- -tza: 2 and/or PL / 2SG, PL
- -onji: 1/2SG & 2/3DU

Morphomes vs morphemes

	SG	PL
ILL	maddja	maddjid
LOC	maddjest	maddjin
COM	maddjin	maddjuvui'm
ABE	madditää	maddjitää

Skolt Saami *maadd* 'base', partial paradigm (Feist 2010:146)

But even morphologically stipulated distributions are often unmistakably non-accidental: e.g. the distribution is extended analogically, diachronically stable or repeated across exponents.

	SG	PL
1EX	seđ	sieti
1INC		seđ
2	sieti	sieti
3FEM	sieti	seđ
3MASC	seđ	seđ

Interim conclusion: language-specific unmotivated categories can constitute the meaning side of the morphological minimal sign.

Subject agreement of 'walk' in Dhaasanac (Baerman et al. 2005:106 after Tosco 2001)


Measuring the morpheme-morphome continuum

Internal morphosyntactic coherence (based on Esher 2014:344): average proportion of feature values which are shared by every possible pair of morphosyntactic contexts in which an element appears.

Some clarifications:

- If a single morphosyntactic value exhausts its distribution the measure cannot be calculated and we are dealing with a morpheme.
- Every morphosyntactic context has to make reference to the same number of features.
- The description of the distribution must be minimal (i.e. it must omit values that are shared by all the contexts and distinctions which are irrelevant for the distribution of the formative).

Measuring the morpheme-morpheme continuum

	PRES.IND		PRES.SUBJ				IND		SUBJ	
	SG	PL	SG	PL			SG	PL	SG	PL
1	pong-	pon-	pong-	pong-		1	pong-	pon-	pong-	pong-
2	pon-	pon-	pong-	pong-		-1	pon-	pon-	pong-	pong-
3	pon-	pon-	pong-	pong-					pong-	pong-

Stem of the Spanish verb *poner* 'put' in different morphosyntactic contexts

L-morpheme: 5 morphosyntactic contexts {1.SG.IND, 1.SG.SBJV, -1.SG.SBJV, 1.PL.SBJV, -1.PL.SBJV} and just ten pairings, whose average cell similarity is 46%

English *are*: {2.SG, 2.PL, -2.PL}. Average cell similarity 33%

Measuring the morpheme-morphome continuum

External morphosyntactic coherence (based on Trommer & Bank 2017): minimum number of false positives and false negatives that an actual distribution gives rise to under the most efficient meaning hypothesis. It is the 'distance' between a given distribution and a morpho-syntactically natural one.

	SG	PL
1	sin	sin
3	as	sin
2	bas	sid

Luxembourgish *sin* 'be', present. (Nübling 2000)

If -2, then 1 wrong prediction: 3SG

If 1, then 1 wrong prediction: 3PL

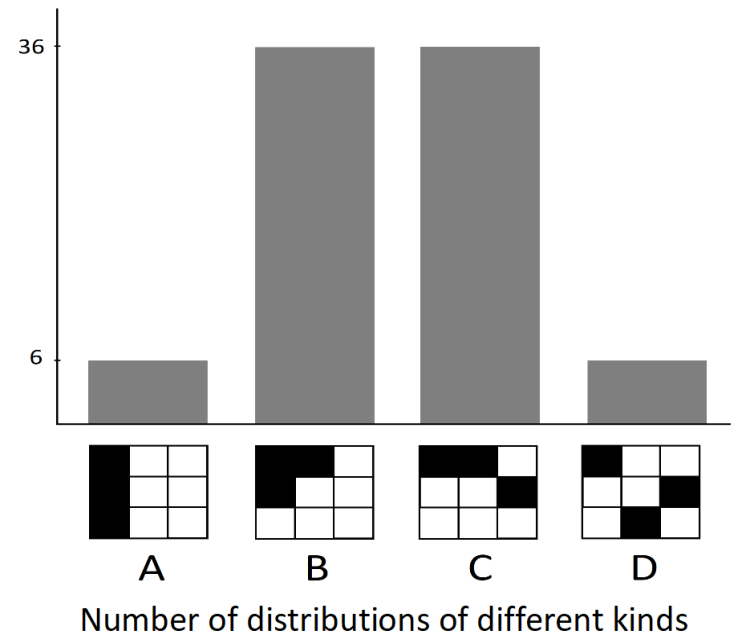
So in any case = 1

Measuring the morpheme-morphome continuum

Paradigmatic constraints: number of morphosyntactic values shared by all the contexts where a form appears.

'Randomness' of the distribution:

a 3-cell formative within a 3x3 paradigm can adopt 84 different configurations. 6 of them will be completely natural (i.e. describable as a single morphosyntactic context) and another 6 will be in the exact opposite pole, which we may call 'anti-naturalness' (internal morpho-syntactic coherence = 0)



Conclusion

- Trying to classify morphological elements as morphemes or morphemes is not the best approach.
- There exists a continuum from the most simple meanings/distributions (e.g. PL) to the most complex ones (e.g. COM.SG or LOC.PL).
- Morphologists and typologists have to develop measures and tools to explore the diversity of form-meaning mappings.

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