

Mass-count coercion with the Universal Sculptor in Seri*

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We present a previously undescribed type of mass-count alternation which plays a pervasive role in the Seri (isolate) nominal lexicon. Previous research on mass-to-count conversions has focused on effects of quantificational triggers in a broad sense (determiners, numerals, classifiers, mensuratives, plural marking, etc.) which induce either kind interpretations (*wines*; Bunt's "Universal Sorter") or quantity unit interpretations (*a slice of pizza*; *a pizza*; Pelletier's "Universal Packager"). In contrast, the Seri process we call the Universal Sculptor is triggered by spatial descriptors such as posture roots (*eenim cop* 'knife', lit. 'standing metal'), motion verbs (*hant queemej* 'dune', lit. 'slow-moving land'), dimensional terms (*hant quipcō* 'sand dune', lit. 'thick land'), and meronyms (*xepe quih iteel* 'beach', lit. 'edge of the seawater'). It is involved in the interpretation of (semi-)transparent complex terms with mass noun heads. These complex terms denote kinds of spatially-delimited objects generally consisting of the material described by the mass noun.

1 Introduction

This paper presents a previously undescribed type of mass-count alternation which plays a pervasive role in the nominal lexicon of Seri, a linguistic isolate spoken by around 900 people along the coast of the Sea of Cortez in Sonora, Mexico (Lewis 2009). Previous studies on mass-to-count conversions have focused on the effects of quantificational triggers in a broad sense (determiners, numerals, classifiers, mensuratives, plural marking, etc.) which induce either kind interpretations by mapping substances into kinds of them (Bunt's (1985: 11) "Universal Sorter") as in (1) or quantity unit interpretations that map substances into portions of them ("Universal Packager", Pelletier 1975) as in (2); cf. also Chierchia 1998; Davis & Matthewson 1999; Gillon 1999; Borer 2005; Michaelis 2005; Wiese & Maling 2005; Wilhelm 2006; Wiltschko 2008.

- (1) *The store sells seventeen coffees, each from a different country.*
(Jackendoff 1991: 25)
- (2) *I'll have a coffee/three coffees.*
(Jackendoff 1991: 24)

In contrast, what we call the Universal Sculptor, based on data from Seri, is triggered by spatial descriptors such as posture roots like *cop* 'stand' in *eenim cop* 'standing metal', 'knife' in (3), dimensional terms such as *quipcō* 'thick' in *hant quipcō* 'thick land', 'dune' (4), and relational nouns such as *-teel* 'edge' in *xepe quih iteel* 'edge of the seawater', 'beach' in (5). When spatial descriptors combine with substance terms in Seri, the resulting interpretation is that of a kind of spatially bounded object, as

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opposed to a quantity of a particular substance, as in the case of the Universal Packager, or a kind of substance, as in the case of the Universal Sorter.

- (3) *Eenim cop me t-acózit?*¹
 metal DEF.ART.SG.stand 2 INTERR-pay
 ‘Did he pay you with **a knife** (lit. standing metal)?’
 (Moser & Marlett 2005: 91)

- (4) *Hant qu-ipcö quih yeen*
 land SBJ.NMLZ-thick DEF.ART.SG.UNSPEC 3POSS.face
i-icp quih hant qu-ipcö hantx
 3POSS-side DEF.ART.SG.UNSPEC land SBJ.NMLZ-thick base
moca max comcaac quih
 SBJ.NMLZ.come even Seri.people DEF.ART.SG.UNSPEC
i-ti yaii...
 3POSS-on DP.be.PL
 ‘The front of the **dune** (lit. land that is thick) is where the Seris of old times (lit. that come from the base) lived...’

- (5) *Haxöl Iihom hac i-ti m-p-ij,*
 El.Desemboque DEF.ART.SG.LOC 3POSS-on 2-IRR-sit
m-p-otax, xepe quih i-teel
 2-IRR-go seawater DEF.ART.SG.UNSPEC 3POSS-edge
tintica mi-aao i-ti x
 DEF.ART.SG.AWAY.DIST RP-pass(?) 3POSS-on UNSPEC.TIME
 ‘If you are in El Desemboque, you will continue, you will pass by **the beach** (lit. edge of the seawater)...’

The Universal Sculptor is involved in the interpretation of (semi-)transparent complex terms with mass noun heads (as in (3)-(4)) or mass noun possessors (as in (5)). The complex terms denote kinds of spatially delimited objects generally consisting of the material described by the mass noun. The nominal lexicon is dominated by such complex terms, with fewer monomorphemic noun roots than complex terms. To illustrate this point, we estimate that at least 60% of concepts in the nominal lexicon are expressed by complex terms such as the ones under consideration here. We draw in particular, but not exclusively, on examples from the landscape domain.

In the following sections we provide an overview of the relevant aspects of Seri grammar as well as some basic information regarding the Seri people and where the Seri language is spoken. Section 3 presents introductory information regarding the Universal Sculptor, specifically what triggers it. Section 4 includes more detail on the Universal Sculptor in Seri and how it works. Section 5 contains a discussion of the typological implications of the Universal Sculptor and its potential for occurring in other languages of the world. Finally, Section 6 presents some concluding remarks.

2 The Seri language and its speakers

Seri is a linguistic isolate, known by its speakers as *cmiique iitom* ‘that which a Seri person speaks’, spoken in northwestern Mexico in the state of Sonora, in two villages located along the coast of the Gulf of California. The two villages where the Seri people primarily live are called *Haxöl Iihom* (El Desemboque del Río San Ignacio, lit. ‘where there are multicolored clams’) and *Socaaix* (Punta Chueca).

¹ Abbreviations used here include: ABS – absolutive; ART – article; AUX – auxiliary; CAUS – causative; DECL – declarative; DEF – definite; DEM – demonstrative; DEP – dependent; DIST – distal; DP – distant past; DS – different subject; IMPER – imperative; IMPF – imperfective; IND – indirect; INDEF – indefinite; INTERR – interrogative; IRR – irrealis; LOC – locative; OBJ – object; OBL – oblique; NEG – negative; NMLZ – nominalizer; PASS – passive; PL – plural; POSS – possessive; REAL – realis; RP – recent past; SBJ – subject; SG – singular; UNSPEC – unspecified.

As of 2007, there were reported to be around 900 Seri speakers (Lewis 2009). See the map of the location of the Seri territory in Figure 1.



Figure 1. Approximate location of the Seri territory (adapted from Moser & Marlett 2005).

Typologically, Seri shows signs of polysynthesis, with morphology combining agglutinative and fusional traits (Marlett 2005: 65). There is no morphological case marking on DPs/NPs. Marlett (2005) describes Seri as head-final. However, while clauses are generally head-final, DP dependents surface right-branching, as is shown in (6) with *hehe iti icoohitim com* ‘the table’.

- (6) *Hehe i-ti icoohitim com m-aziim.*
 wood 3POSS-on OBL.NMLZ.ABS.POSS.eat DEF.ART.SG.lie RP-pretty
 ‘The table (lit. wood on which one eats) is pretty.’

The data presented in this paper primarily come from the nominal lexicon in Seri. Consequently, this section contains some background information on the properties of the nominal lexicon and some structural aspects of nominals and complex nominal expressions. In general, the nominal lexicon contains few monomorphemic noun roots. Most nominal concepts are expressed by complex NPs/DPs. These complex expressions often involve nominalized verb forms functioning as adnominal modifiers. For ease of reference, these nominalized verb forms are called ‘relative participles’ in this work. An example of a complex NP is provided in (7) with *ziix cooha* ‘cow’, lit. ‘thing that cries’, see also *hehe iti icoohitim* in (6) for a further example of a complex NP.

- (7) *Ziix c-ooha quih iiholx*
 thing SBJ.NMLZ-cry DEF.ART.SG.UNSPEC 3POSS.cud
i-yo-canal-im.
 3;3-DP-chew-IMPF
 ‘The cow (lit. thing that cries) was chewing the cud.’
 (Moser & Marlett 2005: 406)

Such complex nominal expressions can occur with both compositional and lexicalized interpretations, as can be seen in (8), where *ziix cooha* ‘thing that cries’ has a compositional interpretation.² This example

² We found that compositional interpretations are sometimes hard to obtain, which we assume is due to preemption by salient lexicalized interpretations.

comes from a text in which Glutton Giant returns to camp very upset, crying in an abnormal way. As such, he was described as crying in a way that is different from how humans cry. In his agony, he is reported to have made the noise *hitzihi* as a sort of crying noise (Moser & Marlett 2006: 82).

- (8) *Ziix c-ooha z an*
 thing SBJ.NMLZ-cry INDEF.ART 3POSS.in
i-m-oofin iha,
 SBJ.NMLZ-NEG-happen DECL
cöhipon-im hac.
 IND.OBJ.OBL.NMLZ.vocalize-IMPF DEF.ART.SG.LOC
 ‘It was not like how any thing cries (lit. it is not how **a thing that cries** makes sound).’ (Moser & Marlett 2006: 82)

Lexicalized complex nominals occur with both mass and count noun constituents. For instance, compare *ziix cooha* with the nominal expressions in (9), all of which contain *hax* ‘fresh water’.

- (9) a. *hax an icam* ‘mosquito larva’ (lit. water in which one has life)
 b. *hax an iisi* ‘radiator’ (lit. fresh water with which it is drunk)
 c. *hax an imasi* ‘small intestine’ (lit. fresh water in which it is not drunk)
 d. *hax ano xpanéezj* ‘fresh water alga’ (lit. alga in fresh water)
 e. *hax caacoj* ‘lake’ (lit. water that is big)
 f. *hax cactim* ‘puddle’ (lit. water that is retained/cut)

Universal Sculptor interpretations are found in lexicalized complex nominals. This is illustrated in (10) with *hax quimej* ‘river’, lit. ‘fresh water that flows’.

- (10) *Hax qu-imej quih taax*
 fresh.water SBJ.NMLZ-flow DEF.ART.SG.UNSPEC DEM
hax quih cö-t-imij,
 fresh.water DEF.ART.SG.UNSPEC IND.OBJ-DEP.REAL-flow
cö-c-ajöc ha.
 IND.OBJ-SBJ.NMLZ-always DECL
 ‘Water always flows in **the river** (lit. fresh water that flows).’

However, Universal Sculptor interpretations occur with compositional complex nominals as well, as is shown by *hast com* ‘rock’ in (11) and *hast quij* ‘rock’ in (12). Example (11) comes from a story where giants take a big long *metate* (grinding stone) and try to drop it on some people who were sleeping. Since the rock or bolder is wider than it is tall, the determiner *com*, derived from the relative participle form *coom* ‘that lies’, occurs. The lexicalized interpretation of *hast com* ‘mountains’ in (12) seems to not be available here, since the giant is described as picking up a grinding stone and not a mountain range, which would be a very difficult entity (or collection of entities) for even a giant to pick up and drop on someone else. However, when native speaker consultants were asked during elicitation whether someone could use *hast com* in reference to a rock lying on a table top, they said that such a description would not be acceptable.

- (11) *Hast com ica s-ah-jiit itax, qu-iim.*
 stone DEF.ART.SG.lie DIR IRR-CAUS-fall AUX SBJ.NMLZ-sleep
 ‘He was asleep while the stone was about to be dropped on him.’ (Moser & Marlett 2005: 884)

- (12) *Ctam ticop hast quij hi-icp*
 man DEM.stand stone DEF.ART.SG.sit 1POSS-side
hac i-ic i-y-apaainj.
 DEF.ART.SG.LOC 3POSS-side 3;3-DP-roll
 ‘That man rolled **the rock** (lit. sitting stone) this way.’ (Moser & Marlett 2005: 128)

- (13) *Francisca quih hast com*
Francisca DEF.ART.SG.UNSPEC stone DEF.ART.SG.lie
i-pac hac contiya.
3POSS-back DEF.ART.SG.LOC IND.OJB.TOWARD.DP.move
‘Francisca came from the back of **the mountains** (lit. lying stone).’

One of the triggers of Universal Sculptor interpretations in Seri is posture verbs. In particular, an aspect of Seri grammar that is especially relevant is a set of articles and adnominal demonstratives derived from relative participles of posture verbs. A subset of the definite articles and adnominal demonstratives is shown in Table 1, excluding the definite articles and adnominal demonstratives that are derived from nominalized forms of motion verbs.

property of referent classified by the verb root	definite article singular	definite article plural	proximal demonstrative	medial demonstrative	distal demonstrative
‘standing’ (support at end of dominant vertical axis)	<i>cop/cap</i>	<i>coyolca</i>	<i>hipcop, hizcop</i> [liquid]	<i>ticop,</i> <i>tacop</i> [liquid]	<i>himcop</i>
			<i>hizcoyolca</i>	<i>tacoyolca</i>	<i>himcoyolca</i>
‘sitting’ (support at end of non-dominant vertical axis)	<i>quij</i>	<i>coxalca</i>	<i>hipquij</i>	<i>tiquij</i>	<i>himquij</i>
			<i>hizcoxalca</i>	<i>tacoxalca</i>	<i>himcoxalca</i>
‘lying’ (support along dominant vertical axis)	<i>com</i>	<i>coitoj</i>	<i>hipcom</i>	<i>ticom,</i> <i>tacom</i> [group]	<i>himcom</i>
			<i>hizcoitoj,</i> <i>hizcom</i> [group]	<i>tacoitoj</i>	<i>himcoitoj</i>
unspecified	<i>quih,</i> <i>cah</i> [focus]	<i>coi</i>	<i>hizquih</i>	<i>taquih,</i> <i>tiquihtim</i> [movement]	<i>himquihtim</i>
			<i>hizcoi</i>	<i>tacoi</i>	<i>himcoi</i>
flexible material			<i>hipquih</i>	<i>tiquih,</i> <i>ticah</i> [focus]	<i>himquih</i>
			<i>hizquihtolca</i>	<i>taquihtolca</i>	<i>himquihtolca</i>
referent is a place	<i>hac</i>		<i>hizac</i>	<i>tahac</i>	<i>himcac</i>
				<i>tacahjoj</i>	<i>himcahjoj</i>

Table 1. A subset of the definite articles and demonstrative adjectives in Seri (based on Moser and Marlett 2005: 843 and taken from O’Meara 2010)

The selectional restrictions of the verb roots produce a classificatory effect. However, the determiners are selected according to the actual spatial disposition of the object, which is particularly apparent with animate entities.

Mass and count nouns can be distinguished in Seri using plural marking and its semantic interpretation as criterion. With count nouns, plural is obligatorily marked either on the head, as is shown with the plural suffix *-j* in (14), or on a dependent, as is shown with the plural form of *-aacoj* ‘big’, which is *-aacöl* in (15). *Sahmees*³ ‘orange’ does not have a distinct plural form. In cases such as this, where the nominal does not have a distinct plural form, plural is marked on dependents.

(14) *Hateeya-j taax himcoi ha toc yaii.*
 bottle-PL DEM.PL DEM.DIST.PL DECL there DP.lie.PL
 ‘These **bottles** are sitting there.’

(15) *Sahmees c-aacöl pac he t-amlajc ma...*
 orange SBJ.NMLZ-big.PL some 1 REAL.DEP-bring.PL DS
 ‘They brought me some **large oranges**...’
 (Moser & Marlett 2005: 475)

There is no numeral classification in Seri. Numerals are lexicalized as verbs, which generally occur adnominally as relative participles. This is shown in (16) with *-oocj* ‘two’.

(16) *Xiica hacaapxom quih*
 thing.PL SBJ.NMLZ.PASS.fatten DEF.ART.SG.UNSPEC
c-oocj i-mozitcoj quih
 SBJ.NMLZ-two 3POSS-middle.PL DEF.ART.SG.UNSPEC
ano yoop
 3POSS.in DP.stand
 ‘He is between the **two pigs** (lit. things that have been fattened).’

Mass nouns do not have plural forms (Marlett ms.). However, even though plural is not marked on mass nouns, they can co-occur with the plural definite article *coi* and the plural indefinite article *pac*. This is illustrated in (17) with the mass noun *hamt* ‘dirt’ and the plural definite article *coi*, which results in the interpretation ‘sand’.

(17) *Xapij c-aanlam quih*
 reedgrass SBJ.NMLZ-cover.IMPF DEF.ART.SG.UNSPEC
cacaalam coi zo toc
 SBJ.NMLZ.CAUS.play.IMPF DEF.ART.PL INDEF.ART there
cö-t-ij, xapij quih hamt
 IND.OBJ-REAL.DEP-sit reedgrass DEF.ART.SG.UNSPEC dirt
coi an i-miiquim.
 DEF.ART.PL 3POSS.in 3;3-RP.put
 ‘Someone puts **sand** into the tube in the game of the closed tubes.’
 (Moser & Marlett 2005: 529)

Bare mass nouns have exclusively non-referential interpretations. An example of this is provided in (18) with the mass noun *xepe* ‘seawater’.

³ This could be a loanword for a non-native object, but it does not have uncommon characteristics for a Seri word and there are no known correspondences in the documented neighboring languages. One proposed etymology is *zauh emis* ‘what is like the sun’ (Marlett ms.).

- (18) *Xepe* *m-poosi* *ta* *x*,
 seawater 2-IRR.drink DS UNSPEC.TIME
 ma *s-amiipala* *ha*.
 2 IRR-cause.bad AUX.DECL
 ‘If you drink **seawater**, it will make you sick.’ (Marlett ms.)

Negation, as in *mhaa* ‘is not’ in (19), disfavors bare mass nouns even in non-referential contexts.

- (19) *Xepe* *com* *tiix* *xepe* *ha*,
 seawater DEF.ART.SG.lie DEM seawater DECL
 hax *zo* *mhaa* *ha*.
 fresh.water INDEF.ART NEG.be DECL
 ‘The sea (lit. lying seawater) is **seawater**, it’s not **fresh water**.’

Referential uses of mass nouns require determiners and determiners in this case may trigger Universal Packager (20) or Universal Sculptor interpretations.

- (20) *Hap* *ipxasi* *zo* *h-t-asni*, ...
 mule.deer 3POSS-flesh INDEF.ART 1SG-REAL.DEP-roast
 ‘I roasted **a piece of mule deer meat**, ...’ (Marlett ms.)

Determiners are required even in intensional contexts, as can be seen in (21).

- (21) *Hax* *pac* *he* *h-aas!*
 fresh.water some 1 IMPER-cause.drink
 ‘Bring me **some water** to drink!’ (Marlett ms.)

The extension of determination with mass nouns to non-referential contexts points to an extension of the use of determiners to mark, not merely (in)definiteness, but quantization or perhaps individuation. It can be speculated that a difference in the functional category of determiners in Seri and better studied languages such as English could perhaps explain why the Universal Sculptor does not seem to occur in English, but does occur in Seri.

3 The Universal Sculptor’s workshop

The Universal Sculptor is triggered by at least four different classes of spatial descriptors in Seri, namely, posture verb roots, motion verb roots, dimensional terms and meronyms, including postpositions. Examples of such types of spatial descriptors in Seri are provided in (22).

- (22) a. posture verb roots and determiners based on them
 eenim cop ‘standing metal’ > ‘knife’
 hant com ‘lying stone’ > ‘mountains’
- b. motion verb roots
 hant queemej ‘slow-moving land’ > ‘dune’
 hax quimej ‘fresh water that flows’ > ‘river’
- c. dimensional terms
 hant quipcö ‘thick land’ > ‘dune’
- d. meronyms and postpositions
 xepe quih iteel ‘edge of the seawater’ > ‘beach’
 hamt inoosj ‘dirt’s fingernail’ > ‘a small bush in the daisy family’
 hehe iti icoohitim ‘wood on which one eats’ > ‘table’

One environment in which these descriptors trigger Sculptor coercions is predicative uses, as illustrated with *eenim* ‘metal’ in (23).

- (23) *Eenim zo toc cö-t-ap, ...*
 metal INDEF.ART there IND.OBJ-REAL.DEP-stand
 ‘There was (lit. stood) a knife, ...’ (Marlett ms.)

Such occurrences in predication appear less common, possibly due to the constraint barring bare mass nouns from referential contexts. As a result of this constraint, the existentially quantified mass noun in (23), *eenim* ‘metal’, already requires individuating determiners. This need for determiners makes predicative uses “heavier”, thereby perhaps favoring the expression of the same information in a determiner alone.

Much more commonly, spatial descriptors trigger Universal Sculptor effects when occurring as nominal dependents, e.g., classificatory determiners based on relative participle forms of posture and motion verbs, such as *cap*, derived from *caap* ‘that stands’, in (24) and *com*, derived from *coom* ‘that lies’, in (25).

- (24) *...hast cap i-tacl hac*
 stone DEF.ART.SG.stand 3POSS-top DEF.ART.SG.LOC
ano s-c-afp ha...
 3POSS.in IRR-SBJ.NMLZ-arrive DECL
 ‘...if we want to arrive at the top of the **mountain** (lit. standing stone)...’

- (25) *Xepe com ano coi-y-aaiti hac...*
 seawater DEF.ART.SG.lie 3POSS.in IND.OBJ-DP-lie.PL DEF.ART.SG.LOC
 ‘And when they were in **the ocean** (lit. lying seawater)...’

Motion verbs also trigger Universal Sculptor effects when occurring as relative participles. This is shown in (26) with *-eemej* ‘moves slowly’ as it combines with *hant* ‘land’ to refer to a ‘dune’ and in (27) with *-imej* ‘flow’ in combination with *hax* ‘fresh water’ to refer to a river.

- (26) *hant qu-eemej*
 land SBJ.NMLZ-moves.slowly
 ‘**dune**’ (lit. land that moves slowly)

- (27) *hax qu-imej*
 fresh.water SBJ.NMLZ-flow
 ‘**river**’ (lit. fresh water that flows)

Universal Sculptor effects are also triggered by dimensional terms in Seri. These terms are lexicalized as verbs in Seri. Relative participle forms serve as nominal dependents. Such dimensional terms include *-ipcö* ‘be thick’ in the expression in (28) and *-aacoj* ‘be big’ in the expression in (29).

- (28) *hant qu-ipcö*
 land SBJ.NMLZ-thick
 ‘**dune**’ (lit. land that is thick)

- (29) *hax c-aacoj*
 fresh.water SBJ.NMLZ-big
 ‘**lake**’ (lit. fresh water that is big)

Another class of triggers for Universal Sculptor interpretations found in the Seri data is meronyms, terms that refer to object parts and spatial regions projected from such parts. Examples are shown in (30) and (31) with *-teel* ‘edge’, and in (32) with *-icot* ‘middle’.

- (30) *xepe* *quih* *i-teel*
 seawater DEF.ART.SG.UNSPEC 3POSS-edge
 ‘beach’ (lit. edge of the seawater)
- (31) *hant* *quih* *i-teel*
 land DEF.ART.SG.UNSPEC 3POSS-edge
 ‘coast’ (lit. edge of the land)
- (32) *hast* *quih* *i-icot*
 stone DEF.ART.SG.UNSPEC 3POSS-middle
 ‘valley’ (lit. middle of the stone)

Finally, spatial adpositions likewise appear to be possible triggers. Example (33) illustrates this with the postposition *-ti* ‘on’ and example (34) illustrates this with the postposition *ano* ‘in it’:

- (33) *hehe* *i-ti* *icoohitim*
 wood 3POSS-on OBL.NMLZ.ABS.POSS.eat
 ‘table’ (lit. wood on which one eats)
- (34) *hax* *an* *icam*
 fresh.water 3.POSS.in OBL.NMLZ.live
 ‘mosquito larva’

4 How the Universal Sculptor works

The Universal Sculptor, like the Universal Packager, maps substances into (sets of) individuals. This can be described by Jackendoff’s (1991) COMP, which maps unbounded [-b] substances into bounded [+b] individuals. In the case of the Universal Packager, though not in that of the Universal Sculptor, these individuals still lack internal structure [-i], i.e., atoms.

$$(35) \quad a \text{ coffee} = \left(\begin{array}{c} +b, -i \\ \text{COMP} \\ \text{Mat} \end{array} \left(\begin{array}{c} -b, -i \\ \text{COFFEE} \\ \text{Mat} \end{array} \right) \right) \quad \begin{array}{l} \text{“a portion} \\ \text{of coffee”} \\ \text{(Jackendoff 1991: 25)} \end{array}$$

$$(36) \quad eenim \text{ cop} = \left(\begin{array}{c} +b, +i \\ \text{STAND} \\ \text{COMP} \\ \text{Mat} \end{array} \left(\begin{array}{c} -b, -i \\ \text{METAL} \\ \text{Mat} \end{array} \right) \right) \quad \begin{array}{l} \text{“a standing thing} \\ \text{of metal”}, \\ \text{“a knife”} \end{array}$$

But applying this account to the analysis of the Universal Sculptor leaves many questions open: Why does the Universal Packager yield portions, but the Universal Sculptor yields objects? How does the classificatory article *cop* and its posture meaning STAND trigger the Universal Sculptor? How does this triggering function generalize to the other triggering environments?

The analysis we present here treats Universal Sculptor coercions as instances of enriched composition within Pustejovsky’s (1991, 1995) Generative Lexicon theory. All of the triggers of Universal Sculptor interpretations are or involve spatial descriptors: posture and motion roots, dimensional terms, meronyms, and postpositions, e.g., in the case of *eenim cop* ‘knife’ (lit. standing metal), the base of the classificatory article *cop* is *-oop* ‘stand’. Such descriptors select for a figure/theme

argument which is bounded and shape-permanent. The lexical semantic representation ('Lexical Conceptual Structure' LCS) of *-oop* 'stand' in the format assumed in the Generative Lexicon approach is represented in Figure 1:

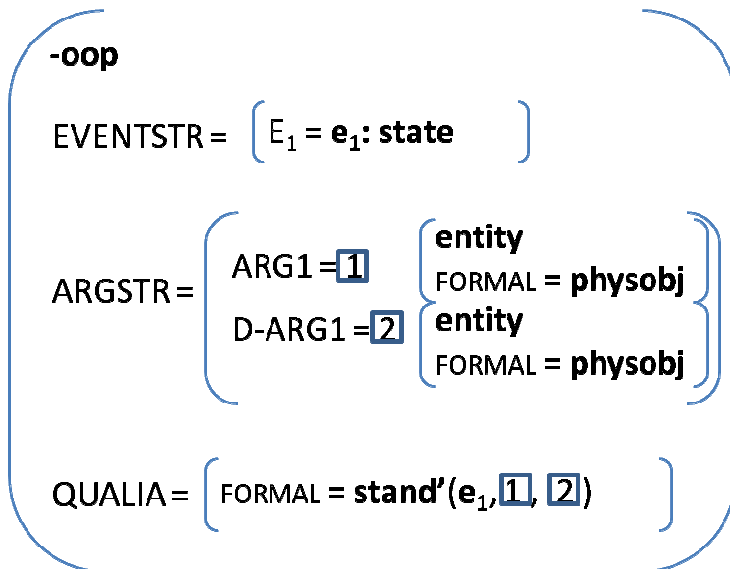


Figure 2. LCS for *-oop* 'stand': figure and ground are specified for the *physobj* type

The figure argument of *-oop* designates a spatially bounded entity. This is represented in Figure 2 by the formal 'quale' assigning the *physobj* type to the figure argument. (The same holds for the ground argument, which is, however, treated as a D-argument, i.e., an argument that may remain unexpressed.) When combining with a mass noun head, the selection of the *physobj* type extends to it, as sketched in Figure 3:

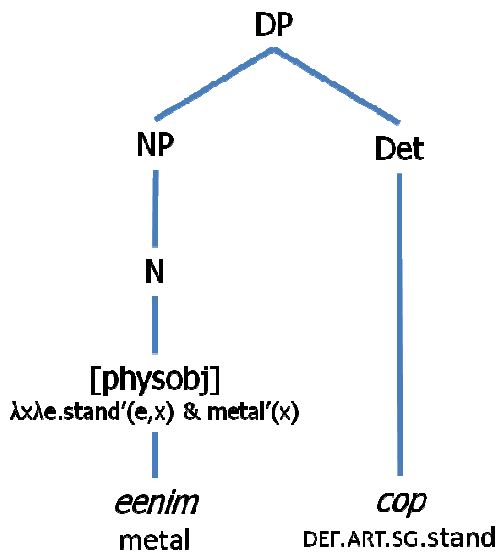


Figure 3. Selection in the example *eenim cop* 'knife' (lit. standing metal): the classificatory article *cop* requires the head to have the *physobj* type

The sense of the head can be treated as a 'dotted' type. It combines two different basic senses, that of a substance ('mass' or 'material') and that of a physical object ('*physobj*'). The consistency relationship between these two is specified in the formal quale.

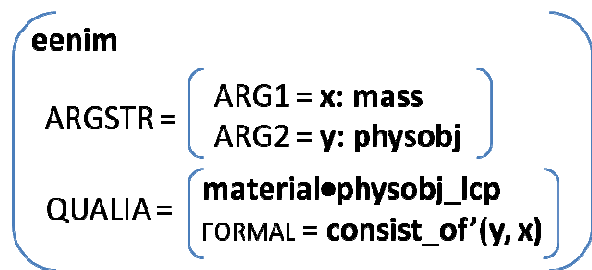


Figure 4. LCS for *eenim* ‘metal’

The *physobj* type is selected via a type pumping rule, which is illustrated in (37).

- (37) *Type pumping:*
 $\Sigma[\text{material}\bullet\text{physobj}]$: *physobj*

A further illustration of the enriched composition analysis is provided for *xepe quih i-teel* ‘beach’ (lit. edge of seawater) in Figure 5. In this case, the meronym *-teel* ‘edge’ imposes the *physobj* type onto its possessor, the substance term *xepe* ‘seawater’. The mereological relation between the two entities⁴ is specified in the qualia structure of *-teel*.

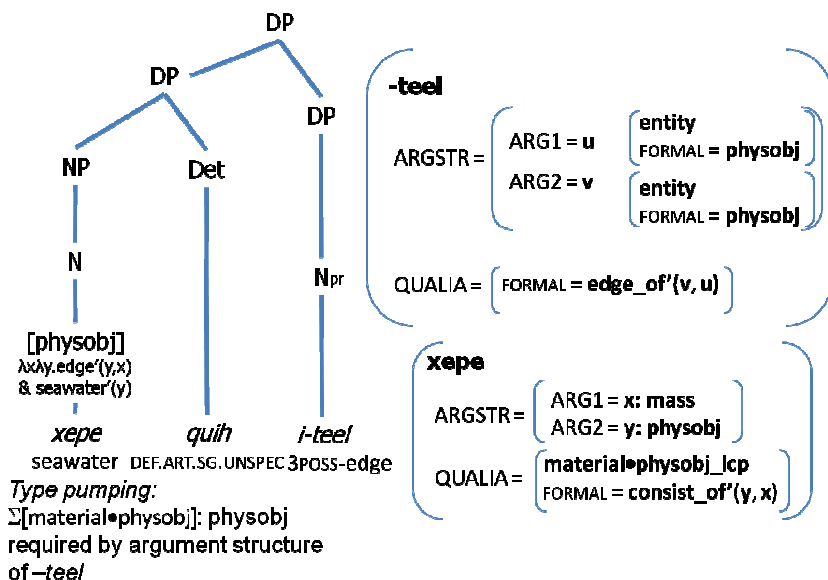


Figure 5. Enriched composition of *xepe quih i-teel* ‘beach’ (lit. edge of seawater)

An important prerequisite of the enriched composition analysis is, of course, compositionality. On the account sketched here, the Sculptor coercion effect occurs as a byproduct of ordinary semantic composition, in the form of type shifting operations that enable such composition. Thus, if the effect were restricted to complex nominals with exclusively lexicalized interpretations, there would be no grounds for treating it in terms enriched composition. Hence it is important to reference our analysis of the existence of compositional interpretations such as those illustrated in (8) and (11) above.

5 The Universal Sculptor in Seri and beyond

⁴ Spatially defined parts of objects such as edges and surfaces are as much regions of space as they are entities. This dual nature can again be represented in terms of dotted types. We ignore this wrinkle here.

An important typological question about Universal Sculptor coercions is whether they are a phenomenon that is unique to Seri and if not, just how widespread they are in other languages. For instance, it does not seem as though this interpretation occurs with any regularity in Germanic languages, although there are some close misses, as are illustrated in the English examples in (38)-(40), which feature substance terms co-occurring with posture verbs.

- (38) *Why do I have **water lying** in the bottom of my refrigerator?*
(<http://www.managemylife.com/mmh/questions/>)
- (39) *What is the course of **water standing** in the dishwasher?*
(<http://snippets.com>)
- (40) *Why is there still **water sitting** at the bottom of my dishwasher after the cycles have finished?*
(<http://askville.amazon.com>)

In these English examples, there is no actual object coercion; instead, the posture verb assumes a special sense of absence of motion. But consider now the German examples provided in (41)-(43), which likewise feature substance terms in combination with posture verbs.

- (41) *Das **Mehl** **steht** auf dem Tisch*
the flour stands on the table
'The flour is on the table (in a package or can)'
- (42) *Die **Milch** **steht** im Kühlschrank*
the milk stands in the fridge
'The milk is in the fridge (in a bottle or carton)'
- (43) *Der **Wein** **liegt** im Keller*
the wine lies in the cellar
'The wine is in the cellar (in a bottle on a shelf)'

These examples do feature object coercions of sorts. However, instead of kinds of objects consisting of the material described by the substance term, as in the case of Sculptor coercion, the coerced interpretations describe containers filled with the substance in question.⁵

Since we have so far been unable to find examples of Universal Sculptor coercions in Germanic languages, we should consider the question of why they might be absent. We see three possible factors that might be responsible. The first is lexical semantics: Sculptor coercions might occur in Seri, but not in Germanic languages due to semantic differences between mass nouns in Germanic and Seri. Suppose, for instance, that Germanic mass nouns denote sets of individuals without atomic parts, whereas Seri mass nouns denote a separate ontological category of substances (perhaps in the sense of Parsons 1970). However, we are presently unaware of evidence for such differences. Nor is it obvious how such differences might favor or disfavor the occurrence of Sculptor coercions.⁶ The second possible factor we should consider is semantic composition. Sculptor coercions may be more common in Seri than in English or German due to differences in syntax and/or the functional category system (on an account such

⁵ We are grateful to Benjamin Bruening for bringing another type of examples with properties similar to those of Sculptor coercions to our attention: English compounds such as *snowdrift* and *waterspout*. We suspect that the e-type interpretation is due to nominal compounding, not coercion, in such expressions since the only relevant interpretations of the putative head outside the compounds are eventive and the verbs expressing these eventive meanings do not by themselves coerce e-type interpretations (as in *Snow was drifting*, *Water was spouting*).

⁶ Some natural kind terms in Yucatec Maya have properties reminiscent of Parsons' pure substance terms. For example, Yucatec uses the same noun for 'wax' and 'candle', distinguishing between these interpretations in terms of the numeral classifiers and mensuratives they occur with (see Lucy 1992). In Seri, however, such effects are absent, as far as we know, and the language lacks numeral classifiers.

as that developed in Borer 2005). For instance, perhaps the presence of the Universal Sculptor and the absence of bare mass nouns with referential interpretations in Seri have a common source. Currently, this is mere speculation, but we think this possibility merits further research. The third possible factor is lexicalization. It seems conceivable that the Universal Sculptor is universally available in all languages and that its application is simply more conventional in Seri than in Germanic languages. Frequent use of the Sculptor may be motivated in Seri due to scarcity of noun roots. The Sculptor may thus serve to fill what from a European perspective are gaps in the Seri lexicon. In contrast, in English and German, Sculptor coercions may be preempted by root lexicalization of the meanings it makes expressible in Seri. It is not clear to us at present how to test this hypothesis. However, one necessary prerequisite would seem a more comprehensive investigation of the Seri lexicon.

6 Conclusions

This paper presents a previously undescribed type of mass-to-count coercion, the Universal Sculptor, which maps substances into sets of objects consisting of them. Unlike the previously studied Universal Packager and Universal Sorter coercions, the Universal Sculptor is triggered by spatial descriptors such as posture and motion verb roots, dimensional terms, meronyms and adpositions. Spatial descriptors trigger Universal Sculptor interpretations both in predication and as dependents of mass noun heads or possessors of mass nouns. However, Universal Sculptor coercions are much more prevalent in the latter two configurations. Their occurrence in these environments appears to be favored by a conspiracy of several typological properties of Seri – the paucity of noun roots, which are compensated for by complex nominals; the absence of bare mass nouns from referential uses and the use of classificatory determiners based on posture and motion roots, which trigger Universal Sculptor coercions.

The analysis of the Sculptor coercion effect we have sketched has to remain preliminary due to the limited knowledge of the Seri lexicon available today. The most urgent questions to be addressed in future research are those of the systematicity and predictability of Sculptor interpretations across mass nouns and semantic domains and the extent to which Sculptor effects co-occur with compositional interpretations. As mentioned in section 4, the enriched composition analysis we propose here entails that compositionality is a necessary ingredient of Sculptor interpretations. The first author intends to tackle these questions in the field through a systematic study of the possible combinations of mass nouns and spatial descriptors. Meanwhile, the search for Sculptor effects in languages other than Seri must continue and intensify, as must the examination of possible explanations for differences in the use of the Sculptor across languages.

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