The Semantic Core of Determiners: Evidence from Sḵwx̱wú7mesh[*]

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In this paper, I argue that definiteness is not a universal feature, based on the different behaviour of determiners in English and Sḵwx̱wú7mesh (Salish).[1] However, I also argue that, despite overt differences between the determiner systems of English and Sḵwx̱wú7mesh, determiners in both languages share one property in common: domain restriction (cf. Westerståhl 1984). Further, I argue that the behaviour of English *the* can be explained in terms of its uniqueness requirement and domain restriction. I also argue that the determiners in Sḵwx̱wú7mesh lack a uniqueness requirement, and this is the sole reason that they behave differently from English *the*. On the basis of the behaviour of determiners in these two languages, I speculate that all determiners cross-linguistically are associated with domain restriction.

1 Introduction

Cross-linguistically, determiners are associated with very different properties. As is well known, the English determiner *the* is associated with definiteness (Frege 1997[1892]; Russell 1998 [1905]; Christophersen 1939; Hawkins 1978, 1991; Heim 1988; Abbott 1999; Kadmon 1992; Prince 1981, 1992, among many others). Samoan determiners have been argued to be associated with (non-)specificity (Mosel and Hovdhaugen 1992). Salish determiners are associated with (non-)deixis (Matthewson 1998; Gillon 2006). Determiners clearly can vary quite a bit in their meaning, and can be associated with many different meanings. The question then is: do they have any common semantic core?

In this paper, I claim that determiners do have a common semantic core: domain restriction (cf. Westerståhl 1984; von Fintel 1994; Stanley 2002; Giannakidou 2004; Martí 2003, among many others). The position D must have domain restriction; other features may also be present. I argue that in English, the interaction of domain restriction and uniqueness results in definiteness. In Sḵwx̱wú7mesh, uniqueness is lacking entirely, and, as a result, the determiners behave differently. They are not associated with definiteness.

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[1] Sḵwx̱wú7mesh, also known as Squamish, is a Coast Salish language spoken in the Burrard Inlet area of British Columbia, Canada. Fewer than 20 speakers remain, and the language is extremely endangered.

1.1 The problem

Determiners in English and Sḵwx̱wú7mesh do not behave like a homogenous class. The English definite determiner *the* is associated with definiteness. Singular indefinite nominals are introduced by *a* and definite DPs are introduced by *the*.

(1) a. I saw **a** magnolia tree. (indefinite)

b. I saw **the** magnolia tree. (definite)

However, in Sḵwx̱wú7mesh, determiners are not associated with definiteness. Any determiner can be used for the equivalent of indefinite or definite interpretations.[2]

(2) Chen kw'ach-nexw **ta/ti/kwa/kwi** stsek̲.[3]
1sg.s look-tr(lc) det tree[4]
'I saw a/the tree.'

Do determiners belong to a completely heterogenous class? Or can we say something unified about all determiners? In this paper, I argue that determiners can be unified by domain restriction.

1.2 Definition of determiner

In this paper, I propose a semantic definition of a determiner, which I crucially link to the syntax. In the traditional semantics literature, 'determiner' refers to anything that creates a generalized quantifier from a predicate (see, e.g. Barwise and Cooper 1981). That analysis makes no reference to the syntax of determiners. For example, *more than one* is treated as a determiner. This is unexpected if all determiners occupy the same head (since *more*, *than*, and *one* are all themselves heads). I will argue in this paper that there *is* a link between the syntax and the semantics of determiners: if an element has a particular semantics, it occupies D, and if an element occupies D, it will have that particular semantics. For example, *all* cannot be a determiner because it does not occupy D. We can see this in (3) below. Assuming that *the* occupies D, *all* may not also occupy D.

(3) All **the** men walked.

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[2] All data is from original fieldwork, unless otherwise noted.

[3] I use the Squamish orthography throughout, as all Sḵwx̱wú7mesh data gathered must be presented in the Squamish orthography. The Squamish symbols have the same values as IPA symbols, with the following exceptions: ch = tʃ, ch' = tʃ', e = ə, i = i, e, or ɛ, k̲ = q, k̲' = q̓, k̲w = qʷ, k̲w' = q̓ʷ, lh = ɬ, sh = ʃ, tl' = tɬ', u = u, o, or ɔ, xw = xʷ, x̱ = χ, x̱w = χʷ, y = j, and 7 = ʔ. I also have translated Kuipers' orthography into the Squamish orthography for consistency.

[4] I use the following abbreviations in this paper: 1=1st person, 2 = 2nd person, 3 = third person, appl = applicative, caus = causative, comp = complementizer, det = determiner, dem = demonstrative, dir = directed towards, erg = ergative, f = feminine, imper = imperative, impf = imperfective, indep = independent pronoun, irr = irrealis, lc = limited control, loc = locative predicate, nom = nominalizer, o = object, obl = oblique, pass = passive, pl = plural, poss = possessive morphology, prox = proximal, pst = past, Q = yes/no question, redup = reduplicant, rl = realis, sbj = subjunctive/conjunctive morphology, s = subject, sg = singular, and tr = transitive.

I argue that the position D is strictly tied to one particular meaning.

(4) Domain restriction (in the nominal domain) is only introduced by determiners.

I thus argue that determiners have a semantic 'core'. Some researchers have claimed that the syntactic position D is associated with certain distinctions (definiteness, specificity, etc.), but do not share a particular core semantics (see Matthewson 1998, for example). Unlike English determiners, Salish determiners (including Skwxwú7mesh) do not encode definiteness (Matthewson 1998; Gillon 2003, 2006; see also §3.2). This led Matthewson to conclude that the position D does not have the same semantics across all languages. Here I argue against this and instead argue that all determiners share something in common. That is, even though determiners may not have the exact same semantics (as they can vary with respect to assertion of uniqueness, for example), they share a core semantics.

1.3 Core semantics of determiners

I argue that the position D can be associated with (at least) the following configurations:

(5) a. D = {assertion of uniqueness + domain restriction} = definiteness

b. D = {deictic features + domain restriction} = no definiteness, ability to take wide scope

c. D = {domain restriction} = no definiteness, obligatory narrow scope

I also argue that the core semantics of determiners is domain restriction; much of the rest of the semantics may vary. In (6) below, I give the denotations for English *the*, and Skwxwú7mesh deictic determiners and the non-deictic determiner. All contain domain restriction (represented by C(x)).

(6) a. [[the]] = λP max(λx [P(x) ∧ **C(x)**]) (definite determiner)

b. [[ta]] = λP f(λx [P(x) ∧ **C(x)**]) (deictic determiner)

c. [[kwi]] = λP λx [P(x) ∧ **C(x)**] (non-deictic determiner)

While it is difficult to distinguish between the theories of definiteness on purely English grounds, Skwxwú7mesh provides us with evidence that domain restriction is part of the denotation of *the.*

2 Background assumptions

In this section, I provide the background assumptions necessary to understand the analysis provided in this paper. I discuss theories of definiteness in English (familiarity and uniqueness), familiarity, uniqueness and deictic features in Sḵwx̱wú7mesh DPs, modes of semantic composition, and the background on domain restriction.

2.1 Background on definiteness in English

The source of definiteness in English has been in dispute for over a century. Many argue that familiarity is the defining feature of definiteness (Christophersen 1939, Heim 1988, and Prince 1981, to name a few). Others argue that the defining feature is uniqueness (Frege 1892, Russell 1998, Kadmon 1992, and many others). Still others or claim that other features, or combinations of features are to blame (Hawkins 1978, de Jong 1987). Here I will only address theories of familiarity and uniqueness.

2.1.1 Novel/familiar distinction in English

In most cases, *the* can only be used in familiar contexts, contexts where both the speaker and the hearer are aware of the referent of the DP. In most novel contexts, contexts where the hearer is not aware of the referent, *a* must be used instead (Heim 1988).

(7) A: I saw **a** cat lurking around my garden last night. (novel)
B: Where is **the** cat now? (familiar)

If a DP does not have an antecedent in the discourse, *the* is usually illicit.

(8) # I saw **the** cat lurking around my garden last night. (novel)

If a DP does have an antecedent in the discourse, *the* must be used.

(9) A: I saw **a** cat lurking around my garden last night. (novel)
B: # Where is **a** cat now? (familiar)

There are well-known exceptions to the claim that definites must always be familiar. Not every definite has a referent that is familiar.

(10) Watch out, **the** dog will bite you. (Heim 1988)

The sentence in (10) can be used in a context where there was no previous mention of a dog, even if the dog is not in sight, or the hearer does not know that the dog exists. Heim argues that in this case, the hearer accommodates the presupposition of familiarity (following work by Lewis 1979). The speaker assumes that the hearer will be able to accommodate the new information provided by 'the dog'. The definition of accommodation is given below.

(11) Accommodation:
if at time t something is said that requires presupposition p to be acceptable, and if p is not presupposed just before t then - ceteris paribus - presupposition p comes into existence. (Lewis 1979: 172)

If accommodation is available to the hearer in some cases, how do we decide when it is not available? Accommodation obviously does not happen in all cases, or the speaker should be able to use (8) out of the blue.[5] My analysis avoids this issue, as I do not appeal to accommodation.

2.1.2 Assertion of uniqueness in English

In the philosophical literature, both of the original analyses of definiteness (Frege 1997 [1892] and Russell 1905 [1998]) viewed uniqueness as being relevant to the interpretation of any definite description. In Russell's case, the uniqueness of the referent was asserted, and in Frege's case, it was presupposed (in modern terms). Here I assume that uniqueness is asserted, following Link (1983) and von Fintel and Heim (2001).[6]

The fact that uniqueness is relevant to definiteness in English can be seen in examples like (12).

(12) a. **The** king visited me.

b. **A** king visited me.

In (12)a, there can only be one king in the context; in (12)b, there can be many different kings. It would be infelicitous to use (12)b in when there is only one king. This same effect can also be seen in negative contexts.

(13) a. I didn't visit **the** king.

b. I didn't visit **a** king.

In (13)a, there must be a unique king; in (13)b, there does not. In fact, there may not even be any kings.

This effect can also be seen with plural and mass definite DPs.

[5] The DP *the cat* in (8) can be accommodated if the hearer has reason to believe the speaker has a cat (that perhaps ran away). However, if the hearer knows of no cat that could be part of the discourse context, the hearer has a right to ask "which cat?"

[6] The analysis is not changed in any significant way if presupposition of uniqueness is assumed instead. I assume assertion of uniqueness, rather than presupposition of uniqueness, as presupposition is unnecessary to obtain the facts in English. The presence of domain restriction in the denotation of *the* has the same effect as a presuppositionaal analysis.

(14) a. Yesterday a bunch of children were playing in the yard. I saw **the** children again today.

b. A: I bought some milk today. I don't want it to go bad. Did you put away the groceries?
B: Most of them, but I drank **the** milk.

In (14)a, the DP *the children* must refer to the entire set of children, and in (14)b, the DP *the milk* must refer to the entire mass of milk.

To capture this uniqueness effect, I adopt the analysis by von Fintel and Heim (2001). In the formula in (15)a below, anything before the period is presupposed, and anything following is asserted (following the notation in Heim and Kratzer 1998).

(15) a. $[[\text{the}]] = \lambda P_{<e,t>}: \exists x_e\ P(x) = 1.\ \max(P)$

b. $\max(P) :=$ the unique x such that $P(x) = 1\ \&\ \forall y[P(y) = 1 \rightarrow y \leq x]$

Max(P) is the maximal individual (i.e., the supremum) that P is true of; it is undefined if there is no unique individual.

I adapt this formula by adding domain restriction (C) to the representation. I do not assume that *the* presupposes existence; instead, I only adopt the assertion of uniqueness.

(16) $[[\text{the}]] = \lambda P\ \max(\lambda x\ [P(x) \wedge \mathbf{C(x)}])$

I do not adopt the presuppositional part of their analysis because, once I adopt domain restriction, presupposition of uniqueness is redundant. C is inherently presuppositional; it is a free variable, which is linked to the context.

2.2 Background on S<u>k</u>w<u>x</u>wú7mesh determiners

Unlike English *the*, S<u>k</u>w<u>x</u>wú7mesh determiners do not distinguish between novel and familiar contexts, nor do they assert uniqueness. The distinction between non-deictic and deictic determiners is not related to either of these potential analyses.

2.2.1 No novel/familiar distinction in S<u>k</u>w<u>x</u>wú7mesh

All determiners can be used in novel or familiar contexts, regardless of whether they are deictic or non-deictic. In (17)a, the DP occurs in a novel context, where the referent has not been previously mentioned. This same effect is found in (17)b, where the DP is used in an existential context. (17)c can be used following either of (17)a or (17)b. Here the hearer is familiar with the referent, as it has already been introduced. The use of the DPs in novel or familiar contexts is not affected by the choice of determiner.

(17) a. Chen kw'ách-nexw **ti/ta/kwa/kwi** swí7ka.
1sg.s look-tr(lc) det man
'I saw a man.' (novel context)

b. Tsí7 **ti/ta/kwa/kwi** swí7ka ná7 ta lám'.
exist det man loc det house
'There's a man in my house.' (novel context)

c. Na kw'áy' **ti/ta/kwa/kwi** swí7ka.
rl hungry det man
'The man is hungry.' (familiar context)

This effect can also be seen in the texts. The deictic determiner *ta* can be used to introduce both novel and familiar referents. In the example below, 'the barrel (full of molasses)' *ta k'ek'i7as* and 'molasses' *ta mlashis* are first introduced in the story, using the determiner *ta*.[7]

(18) Uyulh-shit-em-wit **ta** k'ek'i7as si7ich' **ta** mlashis.
canoe-appl-pass-3pl det barrel full det molasses
'A barrel of molasses was put aboard for them.' (novel)
(Kuipers 1967: 238)

In the next example, the referent 'the big basket' is introduced using demonstrative *kwetsi*. Later in the text, the deictic determiner *ta* is used to refer back to the now-familiar basket.

(19) Na mi uys kwelhi hiyi slhanay', chem-chem'a7s-t-as
rl come inside dem.f big woman redup-carry.on.back-tr-3erg
kwetsi hiyi sitn.
dem big basket
'A big woman came in, carrying a large basket on her back.'

...s-e-s men tsexws-t-as ta stá7uxwlh txwta7 t-**ta** sitn.
nom-rl-3poss just throw-tr-3erg det child into obl-det basket
'...and she threw the children in the basket...' (familiar)
(Kuipers 1967: 219-220)

The non-deictic determiners *kwi* and *kwes* may also be used in both novel and familiar contexts.

(20) a. Na7-kw hem'i syetsm kwi-s-e-s hem'i **kwi** stl'alkm
rl-already come report comp-nom-rl-3poss come det monster
wa nan-t-em Sinulhkay'.
impf name-tr-pass Sinulhkay'
'News was received that a monster named Sinulhkay' was coming.'
(novel)
(Kuipers 1967: 230)

[7] All of the deictic determiners in Skwxú7mesh can be used in these same contexts; see Gillon (2006) for details.

b. N-s-na men k̲’anatsut-nit-an kwetsi snexwilh-chet
1sg.poss-nom-rl just return-appl-1sg.erg dem canoe-1pl.poss
s-men tsun-t-an **kwes** n-skw’u7-t: ...
nom-just tell-tr-1sg.erg det.f 1sg.poss-wife-pst
‘Then I returned to our canoe and told my wife: ...’

...N-s-na men k̲’anatsut nam’ t-ta n-snexwilh,
1sg.poss-nom-rl just return go obl-det 1sg.poss-canoe
n-s-na men wilk̲’-t-an **kwes** n-skw’u7 –t: ...
1sg.poss-nom-rl just ask-tr-1sg.erg det 1sg.poss-wife-pst
‘I returned to my canoe and asked my wife: ...’ (familiar)
(Kuipers 1967: 241)

The determiners do not distinguish between novel and familiar contexts.[8]

3.2.2 No assertion of uniqueness in Sk̲wx̲wú7mesh

Unlike English *the*, Sk̲wx̲wú7mesh determiners do not assert the uniqueness of their referent regardless of whether they are deictic or non-deictic. For example, the deictic determiner *ta* can be used in a context where the DP is *not* the unique referent, as in (21) below. There were two cups, equidistant from the speaker. They were exactly the same shape, size and colour. Neither was more salient than the other. In this context, (21) is perfectly felicitous. (It should be noted that the speaker is *not* asking for both of the cups.)

(21) Mí7-shit-[t]s chexw **ta** lapát.
come-appl-1sg.o 2sg.s det cup
‘Bring me one of the cups.’ (translated as ‘bring me the cup’)[9]
Consultant’s comment: “You’re not asking for a specific one.”

The lack of assertion of uniqueness can also be seen with mass nouns and plurals. In (22a), the DP *ta slhum’* ‘the/some soup’ does not have to refer to the entire mass of contextually relevant soup. In (22)a, the DP *ta skwelkwelam* ‘the/some berries’ also does not have to refer to all of the contextually relevant berries.[10]

(22) a. Chen húy’-s **ta** slhúm’. Tsí7-xw **ta** slhúm’ ná7
1sg.s finish-caus det soup exist-still det soup loc
ta nk̲wí7stn.
det pot
‘I ate some soup. There’s still some soup in the pot.’
(translated as ‘I ate the soup and there’s still some soup in the pot.)

[8] See Gillon (2006) for more discussion of novel and familiar contexts. I show that hearer-new and –old and discourse-new and -old distinctions (see Prince 1992) are not made by Sk̲wx̲wú7mesh determiners.
[9] The translations given by the speakers are illicit in the contexts provided. I provide more accurate translations of each sentence that reflect the assertion of uniqueness associated with *the*. As the speakers learned English at a relatively late age, they presumably did not acquire the assertion of uniqueness of *the*.
[10] The other deictic determiners behave the same as *ta* with respect to the lack of uniqueness (Gillon 2006).

b. Chen húy'-s **ta** skwel-kwelám, welh ná7
1sg.s finish-caus det redup-berry conj loc
ta na púkw-i7. S-en men háw k-'an
det rl mould-inch nom-1sg.sbj just neg irr-1sg.sbj
i húy'-s ta na púkw-i7.
prox finish-caus det rl mould-inch
'I ate some of the berries, but some of them were mouldy, so I didn't eat the mouldy ones.'
(translated as 'I ate the berries...')

The non-deictic determiner *kwi* also does not assert the uniqueness of its referent. For example, in (23) below, there may be many cups in the cupboard; the speaker is only asking for any one of the cups.

(23) Mí7-shit-[t]s chexw **kwi** lapát.
come-appl-1sg.o 2sg.s det cup
'Bring me a cup.'

Similarly, in (24a), *kwi slhum'* 'soup' does not have to refer to the entire mass of soup, and in (24b), *kwi skwelkwelam* 'berries' does not have to refer to all of the berries.

(24) a. Chen húy'-s **kwi** slhúm'. Tsí7-xw **ta** slhúm' ná7
1sg.s finish-caus det soup exist-still det soup loc
ta nkwí7stn.
det pot
'I ate some soup. There's still some soup in the pot.'

b. Chen húy'-s **kwi** skwel-kwelám, welh ná7
1sg.s finish-caus det redup-berry conj loc
ta na púkw-i7. S-en men háw k-'an
det rl mould-inch nom-1sg.poss just neg irr-1sg.sbj
i húy'-s ta na púkw-i7.
prox finish-caus det rl mould-inch
'I ate some of the berries, but some of them were mouldy, so I didn't eat the mouldy ones.'
(translated as 'I ate the berries...')

None of the Skwxwú7mesh determiners assert uniqueness, unlike *the*.

2.2.3 Skwxwú7mesh determiners are deictic

Most of the Skwxwú7mesh determiners have deictic features, as shown in the table below. See Gillon (2006, to appear) for evidence of these features.

	Deictic			Non-deictic
	Neutral	Proximal	Distal	
gender neutral	ta	ti	kwa	kwi
feminine	lha	lhi	kwelha	kwes

Table 1: The determiner system of Sḵwx̱wú7mesh.

Deictic determiners (*ta/lha, ti/lhi, kwa/kwelha*) are associated with both deictic features and domain restriction: the features allow them to take wide scope, and the lack of assertion of uniqueness prevents them from behaving like definite determiners like *the*. Non-deictic determiners (*kwi/kwes*) are only associated with domain restriction, and the lack of features forces them to take narrow scope.

2.3 Modes of composition of Sḵwx̱wú7mesh DPs

Chung and Ladusaw (2004) argue that there are two modes of composition for indefinites: Specify and Restrict. While, strictly speaking, I do not analyze Sḵwx̱wú7mesh DPs as indefinite, my analysis of Sḵwx̱wú7mesh DPs draws upon their analysis of Māori indefinites.

2.3.1 Specify

One mode of composition available to indefinites is Specify. Specify is essentially another term for a choice function. It type-shifts the property denoted by the NP to an individual, where the individual is the output of a choice function (Chung and Ladusaw 2004; cf. Reinhart 1997, Winter 1997, Kratzer 1998 and Matthewson 1999, among others). The function variable assigns an individual to the property supplied by the NP. The individual saturates the argument of the predicate.

(25) a. A dog barked.

b. EC (λx [bark'(x)], CF([dog'(y)])) =
∃f [bark'(**f**(dog'))]

Chung and Ladusaw argue that existential closure of the choice function can apply at any point in the derivation.[11] This allows an indefinite to take any scope with respect to an operator.

(26) a. A dog didn't bark.

b. **∃f** ¬[bark'(**f**(dog'))] (wide scope)

c. ¬**∃f** [bark'(**f**(dog'))] (narrow scope)

The existential closure only applies to save the structure. The existential closure takes place at

[11] As they note, for some languages, the existential closure must take place at the highest point. See, for example, Matthewson (1999) for arguments that Stát'imcets DPs are closed off at the highest point.

any point in the derivation (above or below negation), in order to provide closure over the variable over choice functions.

2.3.2 Restrict

The second mode or composition, Restrict, differs from Specify in that it does not saturate the argument position of the predicate. If an argument is composed by Restrict, it is interpreted differently. "In this mode, the property argument is interpreted as a restrictive modifier of the predicate" (Chung and Ladusaw 2004: 6). The domain of the predicate is thereby restricted to elements that have the property introduced by the object.

(27) Restrict (λy λx [feed'(y)(x)], dog')
= λy λx [feed'(y)(x) ∧ dog'(y)] (Chung & Ladusaw 2004: 5)

Restrict does not change the type of the predicate. The verb feed is of type <e,<e,t>>, and the type of feed plus a Restrict DP is still <e,<e,t>>. The internal argument of the predicate must still be saturated via some other process; they do this by appealing to existential closure or by function application of another argument. Chung and Ladusaw also assume that once an argument has been targeted by Restrict, it can be demoted. This has the effect of "flipping" the order of arguments, as in (24a). The argument does not have to be demoted, however. In (24b), the object argument is saturated by the DP Fido before the subject argument is saturated.

(28) a. Restrict (λy λx [feed'(y)(x)], dog')
= λx λy [feed'(y)(x) ∧ dog'(y)]
FA (λx λy [feed'(y)(x) ∧ dog'(y)], John)
= λy [feed'(y)(John) ∧ dog'(y)]
EC λy [feed'(y)(John) ∧ dog'(y)])
= ∃y [feed'(y)(John) ∧ dog'(y)]
"John dog-fed."

b. Restrict (λy λx [feed'(y)(x)], dog')
= λy λx [feed'(y)(x) ∧ dog'(y)]
FA (λy λx [feed'(y)(x) ∧ dog'(y)], Fido)
= λx [feed'(Fido)(x) ∧ dog'(Fido)]
FA (λx [feed'(Fido)(x) ∧ dog'(Fido)], John)
= feed'(Fido)(John)) ∧ dog'(Fido)]
"John dog-fed Fido."

They argue that existential closure can take place at any point before the event argument is closed off (the VP level).

This is different from function application, where the argument saturates the argument position of the predicate.

(29) FA (λy λx [feed'(y)(x)], Fido)
= λx [feed'(Fido)(x)]

It is also different from Specify.

(30) Specify (λy λx [feed'(y)(x)], CF ([dog'(y)]))
= λx [feed'(**f**(dog')(x)]
FA (λx [feed'(**f**(dog')(x)], John)
= [feed'(**f**(dog'))(John)]
EC ([feed'(**f**(dog'))(John)]
= ∃f [feed'(**f**(dog'))(John)]

2.4 Domain restriction

As we saw in §2.1 and §2.2, English *the* and the Skwxwú7mesh determiners appear to belong to a very heterogeneous class. These determiners do not, on the surface at least, behave anything alike. What, if anything, do they have in common?

While Skwxú7mesh and English determiners appear to have nothing in common, I argue that they are both associated with domain restriction. In this section, I provide background on domain restriction, and why it was posited in the first place.

It has long been argued that DPs are sensitive to the context in which they are uttered (Westerståhl 1984; von Fintel 1994, 1998, 1999; Martí 2003, Giannikidou 2004, Etxeberria 2005, among others). This is because DPs (usually) cannot refer to all individuals in the world that match the NP description. For example, in (31)a, *the men* does not (normally) refer to all men in the world. Instead, it refers to the set of contextually salient men. Similarly, in (31)b, *the man* cannot refer to the only man in the world; it can only refer to a man who is unique in the context.[12]

(31) a. The men were laughing.

b. The man was laughing.

Westerståhl (1984) claims that *the* is itself domain restriction, and nothing more. I will not adopt this, as uniqueness (in English) also plays a role.

Quantifiers have been argued to introduce unpronounced domain restriction variables ranging over properties of individuals (Westerståhl 1984; von Fintel 1994, 1998, 1999; Martí 2003).[13] von Fintel claims that strong quantifiers restrict the domain of the NP that is quantified over. In this way, strong quantifiers are context-dependent.

(32) The dinner guests had rhubarb pie for dessert. **Everyone** developed a rash.
(von Fintel 1998:2)

In the example above, *everyone* does not quantify over all the individuals in the world; in fact, it *cannot* quantify over all the individuals in the world. Instead, it is restricted to the dinner guests who had rhubarb pie for dessert.

Formally, the domain of the quantifier is restricted to those dinner guests by an unpronounced element (C) that is introduced by the quantifier. In the example below, the domain

[12] Attempts to make uniqueness more 'realistic' (see Kadmon 1992) involved contextual dependence.
[13] I claim that determiners are (at least in some languages) the pronunciation of this domain restriction. I also do not assume that quantifiers themselves introduce domain restriction, as discussed below.

of the quantifier *every* is restricted to the freshmen in the context.

(33) **Every** freshman is from out of state.
every [C & freshman] [out of state]
every λx [C(x) & freshman (x)] [lx [out of state(x)]] (von Fintel 1999:3)

This unpronounced element C is of type <e,t> and is interpreted via intersective predicate modification with the NP predicate (which is also of type <e,t>). C is the characteristic function of the set of individuals that are under discussion: in this context, this set might include all the participants in the relevant undergraduate semantics class.

3 The interaction of domain restriction and other features of determiners

Domain restriction plays an important role in both English and Skwxwú7mesh. The results are different in each language because domain restriction interacts with other parts of the grammar: specifically assertion of uniqueness in English and deictic features in Skwxwú7mesh.

3.1 Domain restriction + assertion of uniqueness = definiteness in English

I have assumed that English DPs assert the uniqueness of their referent. This assertion interacts with domain restriction to create the familiarity effects we see in English.

I show in the next section that Skwxwú7mesh determiners are also associated with domain restriction. If we assume the same is true in English, along with assertion of uniqueness, the familiarity effects found in English can be accounted for. It is difficult to decide, on English-internal grounds, which analysis (familiarity or uniqueness) works best for definiteness. However, the mechanisms discussed above cannot be extended to Skwxwú7mesh and are therefore not universally valid. Familiarity effects are not found in Skwxwú7mesh, and so any analysis of determiners which crucially rests on familiarity will not be extendable to Skwxwú7mesh. Presupposition or assertion of uniqueness are also not found in Skwxwú7mesh, so any analysis which *only* rests on these effects will also not be extendable to Skwxwú7mesh. However, the analysis in this paper, that all determiners are associated with domain restriction, *is* potentially universally valid.

I argue that the familiarity effects in English arise from domain restriction and the assertion of uniqueness. If a DP must be unique, as with English definite DPs, then the referent will be restricted to the intersection of the domain restriction and the set denoted by the NP. I argue that if a Determiner asserts uniqueness, the DP must refer to the intersection of C and the NP.

This is similar to Kadmon's (1992) analysis of definiteness. She argues that if you use a definite DP in a novel context, the DP has to be assigned a new variable. Since this variable is brand new, there is no way to guarantee that it is unique. Rather than appealing to a DRT representation, as Kadmon does, I argue that the definite Determiner *the* has domain restriction in its representation;[14] this domain restriction must contain the unique element that matches the

[14] Unlike Marti (2003), I do not argue that the domain restrictor occupies a separate syntactic node.

descriptive content of the NP. If it does not contain a unique element that matches the description, the DP is infelicitous. This is because the domain restriction must contain all of D_e.[15] Until the context has been narrowed, C must contain the entire set of individuals in the world. There can be no unique individual that satisfies the NP description.

In what follows, I will consider a number of different cases: novel examples of singular and plural definite DPs, examples with singular and plural definite DPs where C contains one individual, and examples with singular and plural definite DPs where C contains more than one individual.

I begin with a novel use of a singular DP. Here, *the* cannot be used. I assume that the domain restriction includes the entire domain of entities (De), because the domain has not been narrowed by anything in the discourse.

(34) a. # I saw **the** bear. (novel) $C_{\text{the bear}} = D_e$[16]

b. $[[\text{the bear}]] = \max(\lambda x\, [\text{bear}'(x) \wedge C(x)]) = \emptyset$

Because C contains all bears in the domain De, the intersection of *bear* and C contains the same individuals as *bear*. There is no maximal individual that belongs to both *bear* and C.

Plural definites are slightly different. *The* cannot be used in a novel context for plural DPs either, but the result is different.

(35) a. # I saw **the** bears. (novel)) $C_{\text{the bears}} = D_e$

b. $[[\text{the bears}]] = \max(\lambda x\, [{}^{\otimes}\text{bear}'(x) \wedge C(x)]) = D_e$

Here, the context set again contains all bears in the domain D_e; the intersection of *bears* and C is the sum of all bears. The sentence *I saw the bears* then can only be true if I saw all of the bears in the world, which is extremely unlikely. People do not normally have the opportunity to see all the bears in the world, especially at one time. Pragmatically, hearers know that the domain should be narrowed, but without any other information, they do not know how to narrow the domain.

In cases where the domain includes one bear, the DP will refer to that bear. The intersection of C and the set provided by *bear* is the bear in the domain.

(36) a. I saw **the** bear. $C_{\text{the bear}} = \{\text{bear}_i\}$

b. $[[\text{the bear}]] = \max(\lambda x\, [\text{bear}'(x) \wedge C(x)]) = \text{bear}_i$

If the DP is plural, but the domain only includes one bear, the DP cannot refer to that bear. This is because the predicate ${}^{\otimes}$*bear* only provides individual sums of members of *bear*. There are no

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[15] I assume that it includes all of D_e, and not, say, all entities that exist right now, because it is always possible to talk about deceased entities.

(i) The cat liked to walk around. (now deceased cat)

Nothing in the sentence gives us the information that the cat is no longer alive; the only way that the DP could refer to the right cat is if C included deceased entities.

[16] Westerståhl (1984) argues that domain restriction must be different for each DP; for the sake of simplicity I provide the domain restriction for the relevant DP.

atomic individuals in $^{\otimes}$*bear*. There are also no individual sums in C. The intersection of C and $^{\otimes}$*bear* is null.

(37) a. # I saw **the** bears. $C_{\text{the bear}} = \{\text{bear}_i\}$

b. [[the bear]] = max(λx [$^{\otimes}$bear'(x) ∧ C(x)]) = Ø

In cases where the domain includes more than one bear, a singular DP cannot be used. This is because the predicate *bear* only includes atomic individuals. There is no maximal individual in the intersection of C and *bear*.

(38) a. # I saw **the** bear. $C_{\text{the bear}} = \{\text{bear}_i, \text{bear}_j, \text{bear}_k\}$

b. [[the bear]] = max(λx [bear'(x) ∧ C(x)]) = Ø

If the DP is plural, and the domain includes more than one bear, the DP will be felicitous. This is because the intersection of C and $^{\otimes}$*bear* will be individual sums of the predicate *bear*. Max will choose the maximal individual of that set.

(39) a. I saw **the** bears. $C_{\text{the bears}} = \{\text{bear}_i, \text{bear}_j, \text{bear}_k\}$
b. [[the bears]] = max(λx [$^{\otimes}$bear'(x) ∧ C(x)]) = bear_i, bear_j, bear_k

If the hearer is given enough information to decide that the referent is unique, it is no longer necessary that the referent be familiar (cf. Hawkins 1991, Kadmon 1992).

(40) a. Mary went out with **the** man she met yesterday. $C_{\text{the man}} = \{\text{Mary}\}$

b. [[the man she met yesterday]] = max(λx [man-she-met-yesterday'(x) ∧ C(x)]) = man_i $C_{\text{the man}} = \{\text{Mary}, \text{man}_i\}$

Hearers *can* narrow the domain C; but they can only do so if they have enough information to do so. Under most circumstances, they will not be able to tell how to narrow the domain enough for the DP refer to a unique individual. They will not normally accept a definite DP in a novel context, because they feel uncertain as to the contextual domain.

The familiarity effects seen in English derive from domain restriction and the assertion of uniqueness. It is therefore possible that only one feature of *the* (domain restriction or uniqueness) is relevant to other languages. I address such a language below in §3.2. I show that Sḵwx̱wú7mesh determiners are associated with domain restriction, but do not assert the uniqueness of their referent.

Under the analysis provided here, the fact that definites are (usually) used in familiar contexts is no longer part of the lexical entry of *the*. Instead, it falls out from the fact that *the* provides domain restriction over its NP and that it asserts the uniqueness of its referent. The domain C must intersect with the set of the NP. The lexical entry for *the* must include assertion of uniqueness, since any definite DP refers to the unique individual/maximal set matching the description denoted by the NP.

3.2 Domain restriction + deictic features = no definiteness in Skwxwú7mesh

Domain restriction is part of the denotation of determiners in Skwxwú7mesh. Deictic determiners compose via Specify, and it is this combination that allows the DPs to take wide scope.

3.2.1 *The evidence for domain restriction on deictic determiners*

Domain restriction is a necessary part of the denotation of Skwxwú7mesh determiners just as much as they are of the English definite Determiner. This is because DPs in Skwxwú7mesh are also sensitive to the context they are used in. For example, across sentences, DPs must refer to the same individual.

(41) a. Chen nam ch'áatl'am kwi chel'áklh. S-en men
1sg.s go hunt/track det yesterday nom-1sg.sbj just
kw'ách-nexw ta míxalh. S-en men
look-tr(lc) det bear nom-1sg.sbj just
kw'élash-t **ta** míxalh.
shoot-tr det bear
'I went hunting. I saw a bear. I shot the bear.'

b. Sen men kw'áchnexw **ta** míxalh. $C_{ta\ mixalh} = D_e$

c. [[ta mixalh]] = $\{bear_i\}$

d. Sen men kw'élasht **ta** míxalh. $C_{ta\ mixalh} = \{bear_i\}$

d. [[ta mixalh]] = $\{bear_i\}$

In (42)a, the DP *ta slhum'* 'some soup' refers to the same soup under discussion, not another, entirely new, pot of soup. Nor does it mean all of the soup in the world.

(42) a. Chen húy'-s **ta** slhúm'. Tsí7-xw **ta** slhúm' ná7
1sg.s finish-caus det soup exist-still det soup loc
ta nkwí7stn.
det pot
'I ate some soup. There's still some soup in the pot.'
(translated as 'I ate the soup and there's still some soup in the pot.)

b. Chen húy's ta slhúm'. $C_{ta\ slhum'} = D_e$

c. [[ta slhum']] = $\{soup_i\}$

d. Tsí7-xw ta slhum' ná7 ta nkwí7stn. $C_{ta\ slhum'} = \{soup_i\}$

e. [[ta slhum']] = $\{soup_i\}$

Similarly, in (43), the DP *ta mexmixalh* 'the bears' refers to the set of bears already under discussion, not a wholly new set of bears, or the entire set of bears in the world. In (43)b, the DP

tsi xa7utsn mixalh ‘four bears’ is used in a novel context. The domain restriction is the entire domain. However, in (43)d, the DP *tsi mexmixalh* ‘the bears’ is used in a familiar context, and the domain is restricted to the previously introduced bears. The DP refers to all four of those bears, as shown in (43)e.

(43) a. Chen nam ch’áatl’am kwi chel’áklh. Chen kw’ách-nexw
1sg.s go hunt/track det yesterday 1sg.s look-tr(lc)
tsi xa7útsn míxalh. S-en men kwélash-t
det.f four bear nom-1sg.sbj just shoot-tr
tsi mex-míxalh.
det.f redup-bear
‘I went hunting yesterday. I saw four bears. I shot all the/*some of the bears.’

b. Chen kw’áchnexw tsi xa7útsn míxalh. $C_{\text{tsi xa7tsn mixalh}} = D_e$

c. [[tsi xa7útsn míxalh]] = bear_i, bear_j, bear_k, bear_l

d. Sen men kwélasht tsi mexmíxalh. $C_{\text{ta mixalh}} = \{\text{bear}_i, \text{bear}_j, \text{bear}_k, \text{bear}_l\}$

e. [[tsi mexmixalh]] = bear_i, bear_j, bear_k, bear_l

3.2.2 The evidence for Specify

Domain restriction is not enough to capture the facts in Skwxwú7mesh. Some other mechanism is required to get the right results. I analyze the Skwxwú7mesh deictic DPs as composing with the predicate via Specify. The denotation of deictic determiners is given below.

(44) $[[\text{ta}]] = \lambda P\, f(\lambda x\, [P(x) \wedge \mathbf{C(x)}])$

I analyze the deictic determiners as Specify-type determiners for three reasons. First, deictic DPs are able to escape the scope of negation, but do not necessarily take wide scope.[17]

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[17] Most deictic DPs (*ta* and *ti* DPs) can take narrow scope with respect to negation (i), but must take wide scope with respect to other operators (ii) and (iii).

(i) Háw k-’an i yélx-t ta swí7ka.
neg irr-1sg.sbj prox find-tr det man
‘I didn’t find a man.’
∃f ¬ [find’(**f**(*man’))(I)]
¬ **∃f** [find’(**f**(*man’))(I)]

(ii) Chanat-álh s-en melyí **ta** swí7ka.
three-times nom-1sg.sbj get.married det man
‘I married a/the man three times.’
∃f 3times [marry’(**f**(*man’))(I)]
≠ 3times **∃f** [marry’(**f**(*man’))(I)]

(iii) Í7xw slhen-lhanay’ na mukwts ta s7ixwelh.
all redup-woman rl kiss det child
‘Every woman kissed a/the child.’
∃f ∀y [↔woman’(y) ∧ kiss’(**f**(*child’))(I)]
≠ ∀y **∃f** [↔woman’(y) ∧ kiss’(**f**(*child’))(I)]
The scopal behaviour of the deictic DPs is mysterious.

(45) Háw k-'an i yélx-t ta swí7ka.
neg irr-1sg.sbj prox find-tr det man
'I didn't find a man.'
∃f ¬[find'(**f**(*man'))(I)] (wide scope)
¬**∃f** [find'(**f**(*man'))(I)] (narrow scope)

Second, deictic DPs can escape islands. The DP therefore cannot be undergoing QR (see Fodor and Sag 1982 and Ruys 1992).

(46) Í7xw ta nexw7usiálh wa7 ek' seselkw [u k huya7-as
all det teacher impf fut sad if irr leave-3sbj
ta stá7uxwlh].
det child
'All the teachers will be sad if a child leaves.'
∃x [*child'(x) ∧ [leave'(x) → ∀y [*teacher'(y) ∧ sad'(y)]]] (wide scope)

Third, in novel contexts, the choice function is necessary in order for the DP to refer to a particular individual, as discussed in the next section.

3.2.3 The interaction of domain restriction and Specify

Domain restriction normally forces the DP to refer to the set of elements already under discussion. In a context where a bear has been introduced, the DP *ta mixalh* 'the bear' will refer to that same bear.

(47) a. S-en men kw'elásh-t **ta** míxalh.
nom-1sg.sbj just shoot-tr det bear
'I went hunting. I saw a bear. I shot the bear.' $C_{ta\ mixalh} = \{bear_i\}$

b. [[ta mixalh]] = f(λx [*bear'(x) ∧ C(x)]) = $bear_i$

In a context where more than one bear has been introduced, the DP *ta mexmixalh* refers to the maximal individual sum of bears.

(48) a. S-en men kwélash-t **ta** mex-míxalh.
nom-1sg.sbj just shoot-tr det redup-bear
'I shot all the bears.' $C_{ta\ mexmixalh} = \{bear_i, bear_j, bear_k, bear_l\}$

b. [[ta mexmixalh]] = f(λx [$^{\otimes}$bear'(x) ∧ C(x)]) = $bear_i$, $bear_j$, $bear_k$, $bear_l$

I have adopted a Specify analysis of choice functions for Skwxwú7mesh DPs. Choice functions, under a Specify analysis, should either be existentially closed (i) at any point of the derivation, or (ii) at the top-most point, depending on the language (Chung and Ladusaw 2004). However, in Skwxwú7mesh, the existential closure appears to apply either at the top of the clause, or at the top of the sentence. If this is true, I must assume that negative sentences are bi- clausal, as argued by Davis (2005) (contra Gillon 2002), and that the existential closure can apply at the highest level of the embedded clause, or the highest level of the sentence. More research is required into this behaviour. In this paper I focus on the ability of the deictic DPs to take wide scope, and not the exact position of that scope.

In a context where more than one bear has been introduced, the DP *ta mix̲alh* will also usually refer to the maximal individual sum of bears.[18]

(49) a. S-en men kwélash-t **ta** míx̲alh.
nom-1sg.sbj just shoot-tr det bear
'I shot all the bears.' $C_{ta\ mix\underline{x}alh} = \{bear_i, bear_j, bear_k, bear_l\}$

b. $[[ta\ mix\underline{x}alh]] = f(\lambda x\ [*bear'(x) \wedge C(x)]) = bear_i, bear_j, bear_k, bear_l$

If a determiner does not assert uniqueness, the hearer does not need to be familiar with the referent. The hearer does not need to narrow the domain to ensure that the DP is unique. In novel contexts, C includes De, and the function variable assigns an individual to the property supplied by the NP.

(50) a. Chen kwélash-t **ta** míx̲alh. (novel) $C_{ta\ mix\underline{x}alh} = D_e$
1sg.s shoot-tr det bear
'I shot a bear.'

b. $[[ta\ mix\underline{x}alh]] = f(\lambda x\ [*bear'(x) \wedge C(x)]) = bear_i$ $C_{ta\ mix\underline{x}alh} = \{bear_i\}$

In Sḵwx̲wú7mesh, none of the determiners assert the uniqueness of their referents. However, sentences containing deictic determiners carry an implicature of uniqueness. In the example below, *ta mix̲alh* refers to one bear. This sentence carries the implicature that it is the only bear in the context.

(51) Chen kwélash-t **ta** míx̲alh kwi cheláḵlh.
1sg.s shoot-tr det bear det yesterday
'I shot a bear yesterday.'

This implicature of uniqueness can be cancelled, as in (21), repeated below.

(23) Mí7-shit-[t]s chexw **ta** lapát.
come-appl-1sg.o 2sg.s det cup
'Bring me one of the cups.' (translated as 'bring me the cup')
Consultant's comment: "You're not asking for a specific one."

[18] Sḵwx̲wú7mesh 'singular' nouns are not really singular. While plurality is marked on the noun via a CəC-reduplicant (Kuipers 1967) (ii-iii), it is not necessary to produce a plural interpretation (iv).

(i) míx̲alh (ii) **mex̲**-míx̲alh (iii) Chen kw'ách-nexw ta **pesh**-púsh.
bear redup-bear 1sg.s look-tr(lc) det redup-cat
'bear' 'bears' 'I saw (the) cats.'

(iii) Chen kw'ách-nexw ta púsh.
1sg.s look-tr(lc) det cat
'I saw a cat/the cat/cats/the cats.'

(52) a. Chen kwélash-t **ta/tsi** míxalh kwi cheláklh. Chen kw'ách-nexw
1sg.s shoot-tr det bear det yesterday 1sg.s look-tr(lc)
ta/tsi chánat míxalh, welh na tl'íw'-numut-wit.
det three bears conj rl escape-refl-3pl
'I shot a bear yesterday. I saw three bears, but some escaped.'

b. Chen múkwts **kwa** si-wí7ka welh háw k-'an i
1sg.s kiss det redup-man conj neg irr-1sg.sbj prox
múkwts kwa John.
kiss det John
'I kissed some of the men, but I didn't kiss John.'
(translated as 'I kissed the men, but I didn't kiss John.')

I argue that this follows from domain restriction. If the determiner is associated with domain restriction, then the easiest way to interpret the DP is if the intersection of the domain restriction and the set of the NP gives the unique individual that is the referent of the DP.

In cases where an implicature of uniqueness does not even arise, as in (53a), the function variable also assigns an individual to the property supplied by the NP.

(53) a. Mí7-shit-[t]s chexw **ta** lapát. $C_{ta\ lapat} = \{cup_i, cup_j\}$
come-appl-caus 2sg.s det cup
'Bring me one of the cups.'

b. $[[ta\ lapat]] = f(\lambda x\ [*cup'(x) \wedge C(x)]) = cup_i$ or cup_j

I claim that the pragmatics force the speaker to use *ta* to refer to a single cup (but neither one in particular), because it would be strange to ask for more than one cup in the context where I am asking for a cup to use to drink out of.[19]

3.3 Domain restriction = no definiteness and low scope in Skwxwú7mesh

Domain restriction is part of the denotation of determiners in Skwxwú7mesh. Non-deictic determiners compose via Restrict, and it is this combination that forces the DPs to take narrow scope.

3.3.1 The evidence for domain restriction

Non-deictic DPs behave like other DPs in Skwxwú7mesh in that they can refer back to a previously introduced referent. However, unlike the deictic determiner *ta*, *kwi* can easily refer to a part of the set already introduced in the discourse. That is, *kwi* can have a partitive reading, as shown in (54)a and (55).

[19] Under the right circumstances, this sentence *can* be used to refer to both cups (i.e. when I am washing dishes, and want to collect all dirty cups, plates, etc.).

(54) a. X̲a7útsn slhánay' na mi úys.
four *woman* *rl* *come* *inside*
Chen kwíkwi -s **kwi** slhánay'.
1sg.s *talk-caus* *det* *woman*
'Four women came in. I talked to one of women.'

b. X̲a7útsn slhánay' na mi úys.
four *woman* *rl* *come* *inside*
?? Chen kwíkwi-s **lha** slhánay'.
1sg.s *talk-caus* *det.f* *woman*
'Four women came in. I talked to all of the women.'

(55) a. Chen wa lhém-n ta schí7i.
1sg.s *impf* *pick-tr* *det* *strawberry*
Chen húy-s **kwi** schí7i.
1sg.s *finish-caus* *det* *strawberry*
'I picked strawberries. I ate one strawberry.'

b. Chen teh-ím' ta slhúm'.
1sg.s *make-act.intr* *det* *soup*
Chen húy-s **kwi** slhúm'.
1sg.s *finish-caus* *det* *soup*
'I made some soup. I ate some of the soup.'

Crucially, the non-deictic DPs are context-dependent, just as the other determiners in Sk̲wx̲wú7mesh are. The DP *kwi slhanay'* does not introduce a new referent to the discourse; instead, it refers to one member of a set of people who have already been introduced.

(56) a. X̲a7útsn slhánay' na mi úys.
four *woman* *rl* *come* *inside*
Chen kwíkwi -s **kwi** slhánay'.
1sg.s *talk-caus* *det* *woman*
'Four women came in. I talked to one of women.'

b. X̲a7útsn slhánay' na mi úys. $C_{\underline{x}a7utsn\ slhanay'} = D_e$

c. [[x̲a7útsn slhanay']] = $woman_i$, $woman_j$, $woman_k$, $woman_l$

d. Chen kwikwis kwi slhanay'. $C_{kwi\ slhanay'}$ = { $woman_i$, $woman_j$, $woman_k$, $woman_l$}

e. [[kwi slhanay']] = $woman_i$ or $woman_j$, or $woman_k$, or $woman_l$

3.3.2 The evidence for Restrict

I analyze the non-deictic DPs as composing via Restrict. I do this because the non-deictic DPs take obligatory narrow scope.

Any DP introduced by *kwi* takes narrow scope with respect to many different quantifiers and operators. It takes narrow scope with respect to negation. The sentence in (57)a can be continued by the sentence in (57)b, where there can be no possible referent, but not by (57)c.

(57) a. Háw k-'an i kw'ách-nexw **kwi** míxalh.
neg irr-1sg.sbj prox look-tr(lc) det bear
'I didn't see a bear.'

b. Hák míxalh.
be.not bear
'There weren't any bears.'

c. # Na kwáy.
rl hide
'It was hidden.'

It also takes narrow scope under a quantified subject DP (58) or an adverbial quantifier (59).

(58) Na múkst-s-t-as í7xw slhen-lhánay' **kwi** stá7uxwlh.
rl kiss-caus-tr-3erg all redup-woman det child
'Every woman kissed a (different) child.'
(∀ > ∃, *∃ > ∀)

(59) a. Lhík' chen wa múkwts-t **kwi** swí7ka.
always 1sg.s impf kiss-tr det man
'I always kiss a man.'
(always > ∃, *∃ > always)

b. Chanat-alh s-en melyí **kwi** swí7ka.
three-times nom-1sg.sbj get.married det man
'I married a man three times.'
(3X > ∃, *∃ > 3X)

DPs introduced by *kwi* also take narrow scope under intensional verbs, as in (60).The sentence in (60)a can be continued by (60)b, but this sentence can only be interpreted to mean that I was unsuccessful in finding *any* boy, not a specific one.

(60) a. Chen wa yélx-t **kwi** swi7ka-7úllh.
1sg.s impf look.for-tr det man-young
'I am looking for a boy.'

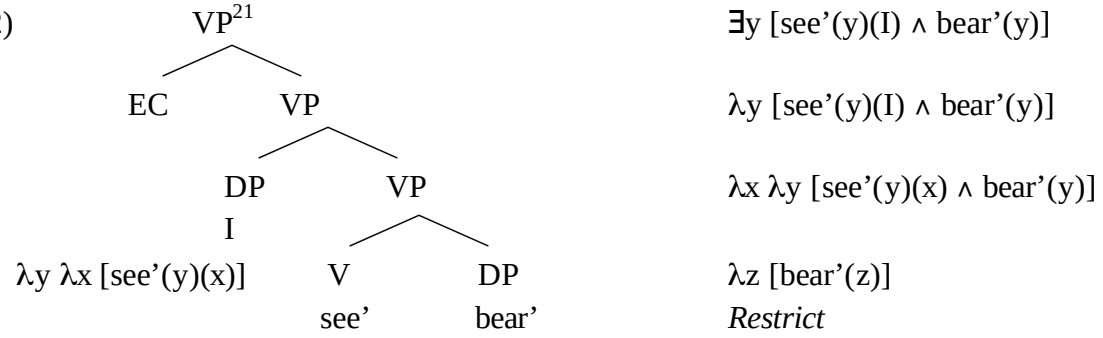
b. Háw chen k-alh mi kw'ách-nexw.
neg 1sg.s irr-times come look-tr(lc)
'I didn't see one.' *narrow*
* 'I didn't see him.' *wide*

Narrow scope nominals in Sḵwx̱wú7mesh are composed via Restrict.[20] In (61), Restrict adds the property of the NP *mix̱alh* (‘bear’) as a restriction on the argument of the predicate *kw’achnexw* (‘see’), leaving that argument unsaturated.

(61) Chen kw’ach-nexw **kwi** mix̱alh.
1sg.s look-tr(lc) det bear
‘I saw a bear.’ (I bear-saw)

Existential closure is required to resolve the unsaturated argument of the predicate.

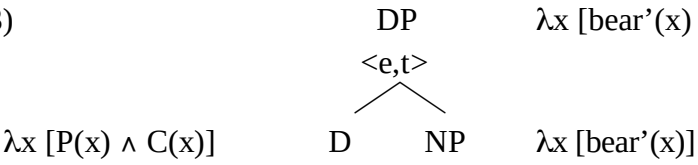
(62)



The DP *kwi mix̱alh* and the verb *kw’achnexw* are composed together in such a way that the predicate becomes something like ‘bear-see’.

Narrow scope nominals, on this analysis, are predicates. The determiner does not change the type of the NP predicate. The type of a Restrict-type nominal is therefore of type <e,t>. The structure of a narrow scope nominal with a featureless determiner is given in (63).

(63)



D in these cases does not change the type of the NP.

The reason why *kwi* DPs compose via Restrict, instead of some other semantic composition (e.g. choice function/Specify) is because *kwi* is a non-deictic determiner. I claim that only featureless determiners can compose via Restrict. If a determiner has deictic features, it must be interpreted via Specify. This is because the deictic features are not compatible with a predicative interpretation.

Non-deictic determiners must be composed via Restrict; anything composed via Restrict must take narrow scope. Deictic determiners cannot be composed via Restrict because they are associated with features that do not allow them to be interpreted as a predicate.
Anything that does not compose via Restrict can have a wide scope interpretation.

[20] Werle (2000) argues that St’át’imcets *ku* is a marker of predicate modification. This is a very similar approach to Restrict. The analysis for *kwi* will also apply to *ku*.

[21] The syntax of the clause in Sḵwx̱wú7mesh still needs more research (see Davis 1999 for a discussion of word order in St’át’imcets); I ignore the clause above the VP level. Obviously, to get verb-initial order from the tree here, the verb must raise past the subject. The issue of word order raises many questions of its own.

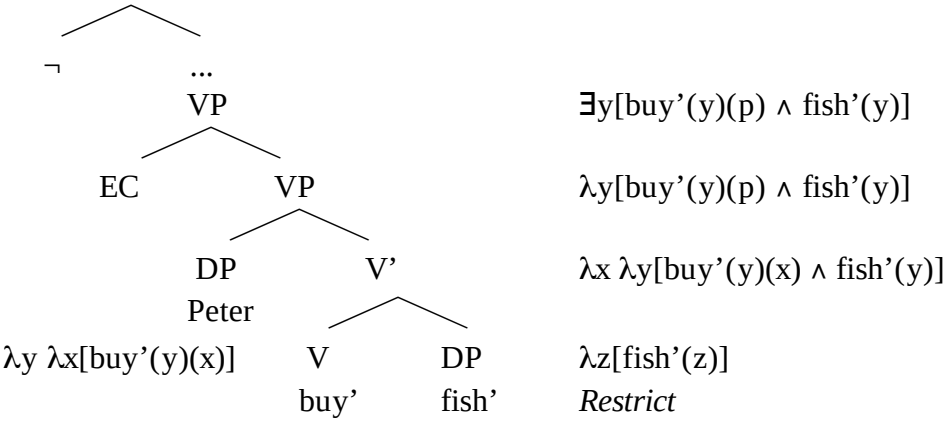
Rullmann and You (2003) argue that bare nouns must take narrow scope. They further argue that bare nouns are number-neutral, and suggest that low-scope indefinites can compose via Restrict because they are number-neutral. I extend this idea to deictic features in Skwxwú7mesh. The data in Skwxwú7mesh provide evidence that deictic features do not allow DPs to compose via Restrict.

Because *kwi* DPs are composed via Restrict, they are forced to take narrow scope. This is because the variable in the predicate must be existentially closed within the VP (following Diesing's 1992 insight). For example, under negation, *kwi* cannot take wide scope.

(64)	Háw	k-'as	i	silh7-án-t-as	**kwi**	sts'úkwi7	ta	Peter.
	neg	*irr-3sbj*	*prox*	*buy-tr-tr-3erg*	*det*	*fish*	*det*	*Peter*

'Peter didn't buy a fish.'
= ¬[∃x[fish (x) ∧ buy (x) (p)]]

(65)



This is because the object must be closed off long before the negation can apply. The nominal is within the nuclear scope of negation.

4 Comparison to other analyses

Parts of my analysis are similar to the analyses of Matthewson (1999) and Giannakidou (2004). My analysis is very much unlike that of Stanley and Szabó (2000). I describe the analyses in Matthewson, Giannakidou and Stanley and Szabó below.

4.1 Matthewson (1999) and Giannakidou (2004)

Matthewson (1999) and Giannakidou (2004) both argue that domain is narrowed by the choice function itself. I argue instead that the choice function does not always narrow the domain. The choice function *can* narrow the domain as well (as we saw in cases like (50) above). However, it will not further narrow the domain unless there is a reason for it to do so.

Matthewson (1999) and Giannakidou (2004) did not address the question of how the

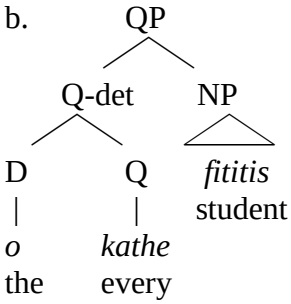
choice function narrowed the domain. Without C, the choice function could theoretically choose any individual, or set of individuals. Having C in the representation of the determiners allows us to predict that the DP will refer to the individual already in the discourse to the property supplied by the NP.

DPs are not definites in Skwxwú7mesh, as I've argued above, but in familiar contexts, they do behave *more* like definites, in that they usually refer to a previously introduced discourse referent. However, I do not adopt Giannakidou's (2004) analysis of St'át'imcets, where she argues that the DPs are definite. DPs in Skwxwú7mesh do not behave like definites. However, they do behave like some intermediate category, with definite-like behaviour in familiar contexts. Giannakidou's intuition that DPs in St'át'imcets are definite-like in familiar contexts is explained by the presence of domain restriction.

Giannakidou (2004) also argues that domain restriction can be either be located on D or on Q, depending on the language. In Greek, for example, she argues that Q is associated with domain restriction.[22]

(66) a. o kathe fititis
det every student
'each student'

b.



(Greek; Giannakidou 2004)

Here, however, I claim that only D can be associated with domain restriction. Note that the structure above is still compatible with my analysis that D (and nothing else) is associated with domain restriction. (See also Etxeberria 2005, who argues that the determiner is associated with domain restriction in Basque.)

In Skwxwú7mesh, quantifiers and determiners can also co-occur.[23]

(67) a. Chen kw'ách-nexw **í7xw** **ta** púsh.
1sg.s look-tr(lc) all det cat
'I saw all the cats.'

b. Chen kw'ách-nexw **kex** **ta** púsh.
1sg.s look-tr(lc) many det cat
'I saw many cats.'

In these cases, I argue that the domain restriction is provided by the determiner.

[22] Giannakidou also appeals to type-shifting, which is irrelevant for the purposes here.
[23] The determiner is not obligatory, but it is preferred.

(68) a. S-en men kwélash-t **í7xw** **ta** me<u>x</u>-mí<u>x</u>alh.
nom-1sg.sbj *just* *shoot-tr* *all* *det* *redup-bear*
'I shot all of the bears.' Cta mexmixalh = {$bear_i$, $bear_j$, $bear_k$, $bear_l$}

b. [[ta me<u>x</u>mi<u>x</u>alh]] = f(λx [$^{\otimes}$bear (x) ∧ C(x)]) = $bear_i$+$bear_j$+$bear_k$+bear,

The quantifier does not provide domain restriction because that is already provided by the determiner itself. I extend this analysis to Greek as well.

4.2 Stanley and Szabó (2000)

In general, DPs appear to be associated with domain restriction. However, there is a debate over where the domain restriction appears. Stanley and Szabó (2000) have argued that nouns are associated with domain restriction. It follows from their analysis that bare nouns are also associated with domain restriction. Here I show that this cannot be correct.

If nouns themselves were to introduce domain restriction, we would expect bare nouns to also introduce domain restriction. However, bare nouns do not seem to show the same sensitivity to the context as other nominals do. In the following example, the bare noun *bears* does not refer back to the set introduced by *some bears*. In the generic case in (69a) *bears* must refer to all the bears in the world. In (69b) and (69c), *bears* must introduce a new group of bears, which sounds strange following a discussion of the first group of bears without some notification of the change in topic.

(69) a. I saw some bears last night. They were wandering around Stanley Park. **Bears** like to hang around the park.

b. I saw some bears last night. They were wandering around Stanley Park. # I shot **bears**.

c. I saw some bears last night. They were wandering around Stanley Park. # **Bears** were eating garbage.

If I want to refer back to the original set of bears, I must use a determiner or demonstrative, as in (70).

(70) a. I saw some bears last night. They were wandering around Stanley Park. **The/those** bears like to hang around the park.

b. I saw some bears last night. They were wandering around Stanley Park. I shot **the/those** bears.

c. I saw some bears last night. They were wandering around Stanley Park. **The/those** bears were eating garbage.

If I want to introduce a new set of bears, I must notify the hearer by using a partitive.

(71) a. I saw some bears last night. They were wandering around Stanley Park. I shot **some other bears**.

b. I saw some bears last night. They were wandering around Stanley Park. **Some other bears** were eating garbage.

Breheny (2003) also argues on independent grounds that nouns cannot introduce domain restriction.

(72) Every fake philosopher is from Idaho. (Kratzer 2004; ascribed to Breheny 2003)

Let the domain for the DP *every fake philosopher* be the set of Americans. The sentence in (72) may only get the interpretation in (73)a. However, if the domain restriction is associated with the noun itself, the sentence should get the interpretation in (73)b. This is an impossible interpretation.

(73) a. Every American fake philosopher is from Idaho.

b. Every fake American philosopher is from Idaho.

Stanley and Szabó's (2000) analysis cannot be correct. The contextual restriction must be introduced by some higher functional projection than the NP. I argue that this position is D.[24]

5 Implications

The analysis presented in this paper has implications for other aspects of English. It also has implications for the nature of definiteness itself.

5.1 Implications for English

The analysis of Sḵwx̱wú7mesh and English determiners in this paper raises some interesting questions as to what counts as a determiner. The term "determiner" is often used as a catch-all for articles, demonstratives[25] and quantifiers, especially in English. In this section, I question whether quantifiers occupy the same position as determiners (D), and whether they have the same semantics as determiners.[26]

[24] Kratzer (2004) argued that quantifiers could not be associated with domain restriction since languages never appear to have overt domain restriction. However in Sḵwx̱wú7mesh the determiners are overt domain restrictors.
[25] While I do not address demonstratives or indefinite articles in this paper, in Gillon (2006) I treat them as semantically and syntactically different from determiners.
[26] Westerståhl (1984) also argued that *the* should be treated differently from the rest of the determiners (i.e. differently from the quantifiers). However, he argued that *the* should not be treated as a determiner, but instead simply domain restriction. I also argue that *the* has domain restriction in its representation, but it also must be more than simply domain restriction. (Some reference to uniqueness is required.) I also argue that *the* is a determiner, and that quantifiers belong to a different domain.

I have argued that determiners in Sḵwx̱wú7mesh have domain restriction in their representations. I also argued that they shared this property with English *the* and extended this to all languages with overt determiners. What about quantifiers? Do they also have domain restriction in their representations?

In §4.1 above, I argued that Sḵwx̱wú7mesh quantifiers do not have domain restriction in their denotation. This is because quantifiers and determiners can co-occur. What does this tell us about English?

There are three possible analyses of English. First, English could be significantly different from Sḵwx̱wú7mesh (and other languages) in that it conflates the D and Q positions into one head (as argued by Szabolcsi 1994). Secondly, English could have the same structure as Sḵwx̱wú7mesh; that is, it could have both Q and D heads, and the D head could introduce domain restriction. The third potential analysis is somewhere in between; some quantifiers could be conflated, while others could not.

I provide data below that suggests that the first analysis is unlikely. There is indirect evidence that some English quantifiers co-occur with a null determiner, in some contexts (see Matthewson 2004, who also argues this). However, it is difficult to determine if *all* quantifiers must behave this way.

In a very gross sense, quantifiers and determiners behave semantically similarly, in that they create arguments out of predicate NPs (at least on the surface) in English. However, on a much more subtle level, they do something quite different. The goal of this paper is to elucidate the special semantics of the determiners. Here I will show that quantifiers do not share the same position or the same semantics, even in English.

In many languages, quantifiers do not create arguments out of predicates (Matthewson 2001, 2004). Determiners, quantifiers and demonstratives (or some subset) can co-occur with each other. If determiners create arguments out of predicates, then surely quantifiers cannot be doing this as well in these languages. Once the determiner has created an argument, the quantifier will not apply to a predicate.

Even in English, determiners and quantifiers behave semantically quite differently. Although Barwise and Cooper (1981) and others treat them as a unified category of functions of type <<e,t>,<<e,t>,t>> (from sets to sets of sets), I make the distinction between quantifiers (which are functions of type <<e,t>,<<e,t>,t>>) and determiners, which are functions of type <<e,t>,e> (from sets to entities), or do not change the type at all (such as *kwi*).

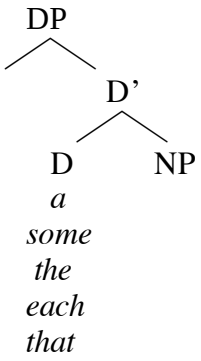
In much of the traditional syntactic and semantic literature on English, what has been considered to be a determiner includes the set of all functional elements that can precede the NP within the nominal domain.

(74) a. I watched **the/a/one/each/every/that** swan swim across the lake.

b. I watched **the/two/those** swans swim across the lake.

For example, (Abney 1987) analyzes all of these elements (cardinal numerals, quantifiers, demonstratives, and articles) as occupying the same position: D.

(75)

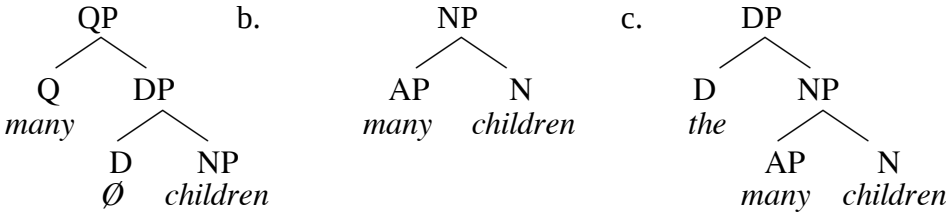


However, I have shown in this paper that this cannot capture the data in Sḵwx̱wú7mesh. Here I extend the claim that determiners occupy a different syntactic position than quantifiers to English.

5.1.1 Evidence from the cardinal/proportional readings of weak quantifiers

I suggest that proportional quantifiers occupy a higher position than determiners do, as shown in (76)a, and that cardinal quantifiers occupy an adjective position (76)b and c. (Partee 1987 argues that weak quantifiers in adjective position are unambiguously cardinal.)

(76)



This analysis can account for two facts: (i) that (some) weak quantifiers can co-occur with D-determiners and (ii) that cardinal quantifiers can occur in existential sentences, and proportional quantifiers cannot.

Most weak quantifiers can co-occur with the determiner *the*, demonstratives, possessors, and pronouns.[27]

(77) a.

D	Q		
Fred's	many		
the	few	dwarfs	
those	several		
which			(Jackendoff 1977: 104)

b. **We few** linguists have a lot of work to do.

Crucially, the determiner can co-occur with most weak quantifiers. This can be captured by the analysis below.

---

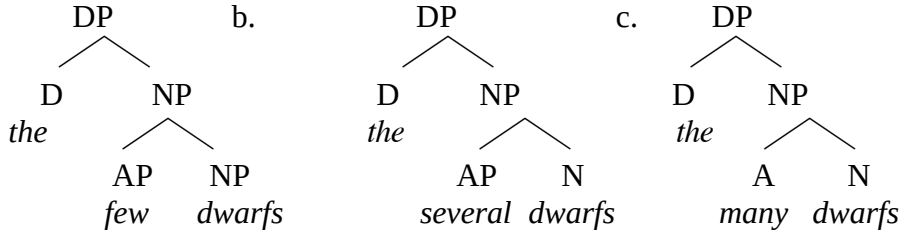
[27] There is at least one case where a strong quantifier can co-occur with a determiner.

(i) The genie granted **his every** wish.

Not all weak quantifiers can co-occur with determiners or demonstratives (Jackendoff 1977).

(ii) * **The some** elves left.

(78) a. b. c.



When a weak quantifier occurs without a determiner, demonstrative, possessor or pronoun, the weak quantifier is ambiguous between a proportional and cardinal reading (Milsark 1979).

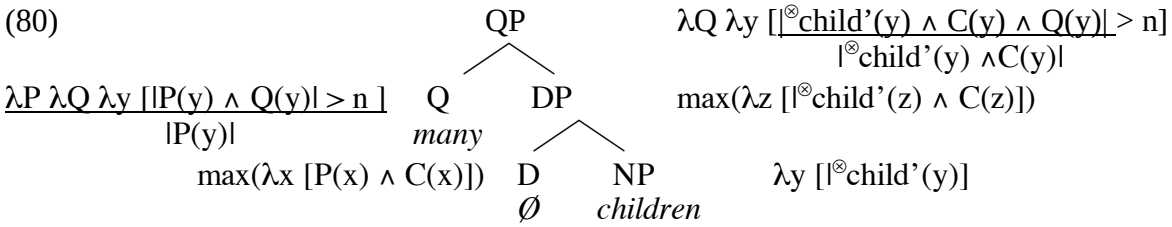
(79) Many children ran around.

i. There were many children who ran around. (cardinal)

ii. Many of the (contextually salient) children ran around. (proportional)

Under the proportional reading, the quantifier quantifies over a contextually salient set of individuals; I argue that the contextual set is introduced not by the quantifier, but by D. In the example below, for expositional clarity I abstract away from the types and treat the DP as type <e,t>. Max has the same denotation as before, but here it returns a set instead of an individual.

(80)



This structure also allows us to understand why the proportional reading of weak quantifiers cannot be used in existential sentences. The null D position is associated with domain restriction and assertion of uniqueness. The existential sentence is incompatible with the assertion of uniqueness.[28]

(81) a. There were **many** children in the garden. (cardinal)

b. # There were **the many** children in the garden.

c. # There were **MANY** children in the garden. (proportional)

Many children is ambiguous between a cardinal reading (which is licit in existential readings) and a proportional reading (which is not) (Milsark 1979).

The proportional reading is, however, not equivalent to *the many X*, as can be seen in

[28] I argue that the existential is incompatible with the assertion of uniqueness of the D position, rather than with the domain restriction because in Skwxwú7mesh, the determiners (which I have already argued are associated with domain restriction) are licit in existential contexts.

(i) Tsi7 **ta/kwa/ti/kwi** sha7yu na7 ta-n lam'.
exis *det* *ghost* *be.there* *det-1sg.poss* *house*
'There's a ghost in my house.'

familiar contexts.

(82) a. I saw children wandering in the halls. **The many** children were chewing gum.

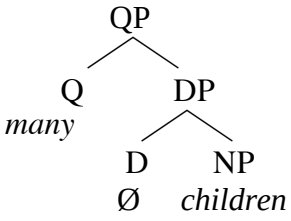
b. I saw children wandering in the halls. **Many** children were chewing gum.

In example (82)a, *the many children* refers to all of the children introduced in the previous sentence. However, in (82)b, *many children* refers to a subset of the set of children introduced in the previous sentence. We therefore must distinguish between weak quantifiers in adjectival position, and those that are higher.

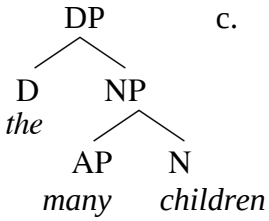
This is not evidence that the weak quantifier (when it has a strong reading) occupies a different position than a determiner, however. The weak quantifier, when it is not adjectival, could be in the head of D. This would be a conflated analysis of the Q and D heads. In the next section, I address the possibility of a conflated analysis, and show that it cannot be correct.

I argue that quantifiers in English can occupy a position above D (in which case they receive a proportional reading), or below D (in which case they receive a cardinal/adjectival reading.)

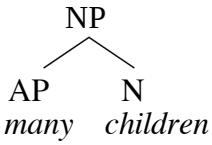
(83) a.



b.



c.



I argue that weak quantifiers can only be associated with a proportional reading if they take a DP complement.

5.1.2 Evidence from domain restriction

I therefore argue against a conflation analysis (cf. Szabolsci 1994) of quantifiers. Quantifiers, in the system developed here, do not occupy a D/Q position, but rather a Q position, separate from D. I claim that strong or proportional quantifiers attach above D.

Indirect evidence that (most) quantifiers cannot occupy a conflated Q/D position comes from Stanley and Szabó (2000). The evidence they present shows that the quantifier itself cannot be associated with domain restriction, and that the domain restriction must be located somewhere lower than the quantifier. They argue that their evidence shows that the NPs themselves are associated with domain restriction, but, as I showed in §4.2, that position is untenable. Bare nouns cannot be used to refer back to a previously mentioned referent. Instead, they can only be used to introduce a new referent.

(84) a. I saw some bears last night. They were wandering around Stanley Park. **Bears** like to hang around the park.

b. I saw some bears last night. They were wandering around Stanley Park. # I shot **bears**.

c. I saw some bears last night. They were wandering around Stanley Park. # **Bears** were eating garbage.

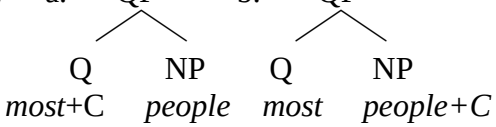
Stanley and Szabó's evidence that quantifiers themselves cannot be associated with domain restriction is given in example (85).

(85) Most people regularly scream. **They** are crazy. (Stanley and Szabó 2000: 257)

There are two readings associated with the second sentence in (85): one where the pronoun *they* refers to all of the people in the domain (a certain village, for example), and one where it refers to those people in the village who regularly scream. They claim that this is evidence that *people* is associated with the domain restriction.

For the first reading, Stanley and Szabó claim that "there is no single node in the logical form whose associated semantic value is the set of people in the village", if the domain variable is associated with *most*. If the nominal is associated with the domain restriction, however, there is a single node (the NP).

(86) a. QP b. QP



Stanley and Szabó also claim that the second reading cannot be captured by having domain restriction associated with *most*. They appeal to Neale's (1990) analysis of *they*, where it is proxy for a description which is reconstructable from the logical form of the first sentence.

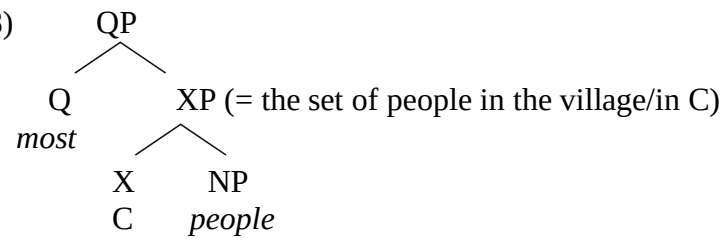
(87) If x is a pronoun that is anaphoric on, but not c-commanded by a non-maximal quantifier '[Dx:Fx]' that occurs in an antecedent clause '[Dx:Fx](Gx)', then x is interpreted as '[the x: Fx&Gx]. (Neale 1990: 266)

According to them, if the domain restriction is associated with *most*, *they* should be interpreted as [the x: person(x) & regularly-scream (x)], which should mean everyone in the universe who regularly screams (rather than everyone in the village who regularly screams).

If NPs cannot be associated with domain restriction, and quantifiers like *most* cannot be associated with domain restriction either, then the question becomes: where is the domain restriction?

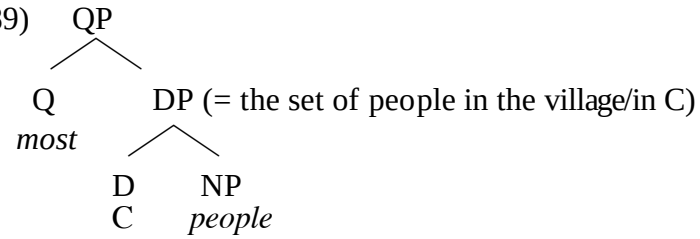
My analysis of Sḵwx̱wú7mesh determiners and quantifiers can be extended to English to solve this problem. For the first reading of (85) (where *they* refers to all of the villagers), we need a single node whose associated semantic value is the set of villagers.

(88)



This single node must be DP: I have already shown that the D position is associated with domain restriction in both English and Sḵwx̱wú7mesh.

(89)



Similarly, the second reading (where *they* refers to the villagers who regularly scream) can be solved by the presence of a D position. *The* (as in [the x: Fx&Gx]) is precisely the element which contains domain restriction under the approach in this paper. The structure provided in (89) accounts for this second reading, assuming that *they* is determined as in (87).

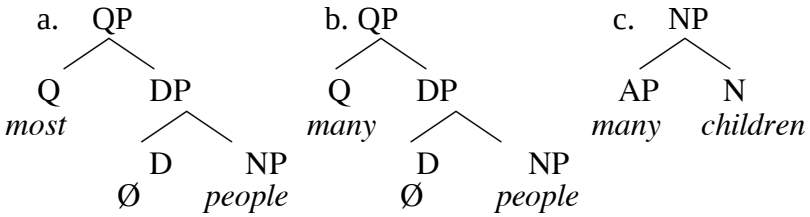
This argument also applies to weak quantifiers, such as *many*.

(90) Many people regularly scream. **They** are crazy.

The second sentence in (90) is ambiguous in the same way that (85) is.

Stanley and Szabó, then, provide us with evidence that domain restriction involves a lower head than Q, but not necessarily the noun itself. Since the nominal can be shown independently not to be associated with domain restriction, we are forced to assume a null D position, which is itself associated with domain restriction. In the case of strong quantifiers, this null D must be obligatory; however, with weak quantifiers, only the proportional reading would be associated with a D position.

(91)



This is contra von Fintel (1994), who claimed that no weak quantifiers introduce C.[29] The analysis of strong quantifiers in (91)a explains why quantifiers and determiners co-occur in some languages; the position is always available.

Matthewson (1998) argues that only a subset of quantifiers introduce domain restriction. She argues that only a subset of quantifiers occupy D, and it is those quantifiers which also introduce domain restriction. Here I argue that no quantifiers introduce domain restriction, because none of them occupy D.

5.1.3 The (lack of) evidence for every

I have argued above that weak quantifiers (like *many*) take DP complements when they are

[29] Strictly speaking, I agree with this. However, I claim that *no* quantifiers restrict the domain by themselves.

interpreted proportionately. I have also argued that at least strong quantifiers (like *most*) also (obligatorily) take DP complements.[30] However, there is a lack of evidence for some strong quantifiers that they occupy a different position from D (like *every*). Some languages do distinguish between the equivalent of *every* and the D position.

(92) D Q
to[31] **kathe** pedhi
det *every* *child*
'every child' (Greek; Szabolcsi 1994: 213)

It is therefore possible that English does as well, covertly.

Matthewson (2001) argues that *every* in English is not itself quantificational and occupies D. In Matthewson (1998), she argues instead that *every* conflates D and Q. I argue for the strongest hypothesis that *every* does not occupy D, and co-occurs with a D position.

5.1.3 Summary

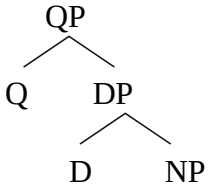
I argue that only elements which occupy D and have domain restriction in their denotations are determiners. I provided indirect evidence that quantifiers do not occupy D, even in English.

I claimed that only elements which are constrained by the context in a very particular way can be called determiners. I make the strong claim that D is sensitive to the context and that nothing else is.

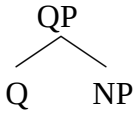
(93) If a nominal is introduced by a D (overtly or covertly), it will be restricted by C.
If a nominal lacks D, it will not be restricted by C.

Bare nouns are not restricted by the domain because they lack a determiner. Only quantifiers under a cardinal reading, indefinite nominals and bare nouns lack a determiner, which in turn means they lack domain restriction.

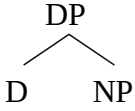
(94) a. strong/proportional Q



b. cardinal Q/indefinite36



c. full DP



d. bare noun
NP

I therefore argue for the special status of D, not only in Skwxwú7mesh, but in English as

[30] I treat *of* as meaningless, introduced for syntactic reasons. However, Giannakidou (2004) argues that *of* is meaningful.
[31] This is the accusative form of the determiner.

well. I argue that determiners occupy a different position from quantifiers and demonstratives.

(95) Determiners are determiners iff they occupy D.

5.2 Implications for the interpretation of definites

It is clear that definiteness, as it is known in English, is not a universal feature. Sḵwx̱wú7mesh determiners behave quite differently from those in English. The data in Sḵwx̱wú7mesh also provide us with evidence for a third category: definite, indefinite and non-definite. Non-definites can be used in both novel and familiar cases, but behave much like definites in familiar contexts.

As I have defined definiteness in this paper, if the denotation of a determiner asserts uniqueness, it is a definite determiner. This, and only this, gives a truly definite interpretation. Other languages which have "definite" determiners need to be examined more carefully to determine whether this they truly involve uniqueness.

The morphological status of definiteness is unclear here, as I have given a purely syntactic account. The uniqueness feature of determiners could, in theory, be introduced by a different morpheme than the morpheme that is associated with domain restriction. In English, at least, the two features of the determiner appear to be fused together.

6 Conclusion

In this paper, I have argued that definiteness is not a universal feature, based on the different behaviour of determiners in English and Sḵwx̱wú7mesh. I have also shown that, despite overt differences between the determiner systems of English and Sḵwx̱wú7mesh, determiners in both languages share one property in common: domain restriction. Further, I argued that the behaviour of English *the* can be explained in terms of its uniqueness requirement and domain restriction, and that the behaviour of the determiners in Sḵwx̱wú7mesh is due to a lack a uniqueness requirement. On the basis of the behaviour of determiners in these two languages, I speculate that all determiners cross-linguistically are associated with domain restriction

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