Scalar exclusives at the top of the scale: Innocent Inclusion and domain widening

December 30, 2020

Abstract

This paper examines the collocation *just every* in English and a parallel collocation of the scalar exclusive *ʔot* with the universal quantifier *ʔuk̓ʷ* in ʔayʔaǰuθəm, a Central Salish language. These collocations are puzzling since scalar exclusives rule out alternatives that are higher/stronger than the prejacent on some scale, but *every* and *ʔuk̓ʷ* are at the top of the scale of quantifiers so any alternatives will necessarily involve lesser quantifiers (e.g. most, some). This means there should be nothing to exclude, and the scalar exclusives should be vacuous. In this paper, I propose that both these scalar exclusives have the semantic contribution of Bar-Lev and Fox's (2017) exhaustivity operator which, in exhaustifying over alternatives, both includes and excludes alternatives. Where the scalar exclusives appear with universal quantifiers, I argue that they include domain alternatives generated through focus on the universal quantifier, and that this results in domain widening.

1 Introduction

Under standard analyses of scalar exclusives such as *just* in English (e.g. Coppock and Beaver, 2014), scalar exclusives exclude alternative propositions that are higher than the prejcent on some contextually or lexically provided scale. Under this approach, a scalar exclusive should be vacuous if associated with a constituent which semantically picks out the top of the relevant scale. The fact that *just* associates with the universal quantifier *every*, as in (1), is therefore surprising. The universal quantifier is the highest on the scale of quantifiers (*every* > *most* > *some* > *few*), which should mean that there are no stronger alternative propositions to exclude.

(1) a. English
Is it ever possible to run away from **just everything**?[1]

b. *Context: Daniel was in charge of bringing food for a gathering. We'd already made a list and set the food aside, but he got worried about whether there would be enough and started to pack more and more things into the car. Gloria was with him while he was doing this, but I was busy upstairs. Finally, Gloria comes to get me, and I ask her if Daniel has gotten everything on the list into the car. She replies:*
Yes, but he's packing **just EVERYTHING** into the car! You need to stop him!

While this co-occurence is quite restricted and perhaps somewhat marginal in English, it is not an isolated phenomenon, as the same juxtaposition of scalar exclusive and universal quantifier also surfaces in ʔayʔaǰuθəm (also known as Comox-Sliammon, ISO 639-3:coo), a Central Salish language, which is, of course, unrelated to English. In ʔayʔaǰuθəm, the scalar exclusive *ʔot* occurs quite frequently associating with the universal quantifier *ʔuk̓ʷ*, as in (2).[2]

[1] https://www.quora.com/Is-it-ever-possible-to-run-away-from-just-everything

[2] The abbreviations used in this paper are as follows: 1 = first person, 2 = second person, 3 = third person, CAUS = causative, CL.DEM = clausal demonstrative, COMP = complementizer, CONJ = conjunction, COP = copula, CTR = control transitive, DEM = demonstrative, DET = determiner, DIM = diminutive, DPRT = discourse particle, ERG = ergative, EXCL = exclusive, FUT = future, INFER =

(2) *Context: You went to the store with a shopping list. The last couple times you've gone, you've forgotten eggs. When you get home, you say:*

ʔuk̓ʷ ʔot	tam	yɛχɛtən	st̓ᶿok̓ʷ.
ʔəwk̓ʷ=ʔut	tam	yaχ-at-an	s=t̓ᶿuk̓ʷ
all=EXCL	thing	remember-CTR-1SG.ERG	NMLZ=day

'I remembered everything today.' (sf | BW.2016/11)

Consultant's comment: You're really emphasizing that you got everything.

In both languages, the addition of the scalar exclusive does not seem to be vacuous. Although the contribution is subtle, the scalar exclusives appear to contribute increased emphasis.

The purpose of this paper is to provide an account of the contribution of a scalar exclusive in combination with a universal quantifier. I propose that the universal quantifier is focused, generating alternatives that vary in the size and composition of the quantificational domain. The scalar exclusive acts as an exhaustivity operator which both includes and excludes alternatives (adopting the semantics for the exhaustivity operator proposed in Bar-Lev and Fox 2017). In the cases where the association of the scalar exclusive with the universal quantifier is felicitous, the alternatives are not ordered with respect to the prejacent. While this prevents the exclusion of alternatives, it does not prevent their inclusion. I argue that this results in domain widening, giving rise to the increased emphasis noted above.

Focus on *every* has been previously proposed to introduce domain alternatives,

inferential, INT = intensifier, IPFV = imperfective, MD = middle, MOD = modal, NCTR = non-control transitive, NEG = negative, NMLZ = nominalizer, OBJ = object, OBL = oblique, PASS = passive, PL = plural, POSS = possessive, PRT = particle, PST = past, Q = question particle, QUEX = quexistenial, RPT = reportative, SBJ = subject, SBJV = subjunctive, SBRD = subordinate, SG = singular, STAT = stative, SUBJ = subjunctive. . In the ʔayʔaǰuθəm examples, the top line is an orthographic representation, the second line shows the underlying forms and morphemic breakdown, the third line gives the glosses, and the fourth line the translation. 'vf' stands for 'volunteered form': a form volunteered by the consultant. 'sf' stands for 'suggested form': a form suggested to the consultant by the researcher.

with the effect of domain widening (Shank, 2004). Similarly, (Chierchia, 2006) argues that *any* introduces alternatives (as part of its lexical specification rather than tied to focus), also resulting in domain widening. With both these analyses, there is a question concerning why evoking alternatives should result in domain widening. Both authors assume that in the presence of alternatives, the resource domain of the quantifier will have the widest possible interpretation, but it is not clear why this should be the case. One could argue that the widest domain is chosen because the choice of the widest domain leads to the strongest possible interpretation (as in Kadmon and Landman 1993); however, we know that domain widening does not always lead to a stronger assertion (e.g. Kratzer and Shimoyama 2002), and does not do so for free choice *any* (e.g. Chierchia, 2006). This means that the strength of the proposition cannot always be the motivating factor. In this paper, I argue that the widest domain is not automatically chosen. Instead, domain widening comes about through a covert or overt instantiation of Bar-Lev and Fox's (2017) exhaustivity operator, which contributes domain widening through including alternatives involving alternate resource domains for the quantifier.

The analysis can be extended to *just any* in English (ʔayʔaǰuθəm does not have an equivalent to *any*). When *just any* is used, it is not clear that there are any stronger propositional alternatives to exclude; instead *just* seems to reinforce the domain widening associated with *any*.

(3) a. *Context: My roommate is complaining that I invited someone extra to a party we were intending to keep small. I defend myself since it is my own brother that I invited.*
I didn't invite **just anyone**. I invited my own sibling.

b. *Context: My dog is super friendly:*
He loves **just anyone** who will pet him.

In line with the proposal for *just every*, I propose that *any* introduces domain alternatives, but does not automatically achieve domain widening. It combines with an overt or covert exhaustivity operator in order for domain widening to occur (cf. Chierchia 2006 who also proposes the domain widening associated with *any* comes about through enrichment operators in the semantics, but differs in the specific operators adopted). *Just* is the overt realization of this exhaustivity operator in English.

While the direction of the analysis is motivated by a similarity between ʔayʔaǰuθəm and English, namely the ability of a scalar exclusive to associate with a universal quantifier, there are important differences between the two languages that also shed light on the analysis. In ʔayʔaǰuθəm, the the scalar exclusive and the universal quantifier co-occur quite freely, whereas this combination is relatively unusual in English. I tie this difference to differences in the semantics of the restrictor between the two languages. In ʔayʔaǰuθəm, the universal quantifier combines with full DPs, as shown in (4). Determiners are therefore involved in setting the domain of the quantifier, as previously proposed for St’át’imcets Matthewson (2001).

(4) *Context: Mink is a trickster and has been misbehaving. The people had a plan to capture Mink and punish his misbehavior, but he escaped.*

χałɛt	**ʔuk̓ʷ**	**tə** qayɛmɪxʷ
χał-it	**ʔəwk̓ʷ**	**tə**=qayiwmixʷ
get.angry-STAT	all	DET=FN.people

‘All the people were angry.’ (sf | BW.2020/09/15)

In ʔayʔaǰuθəm, as in St’át’imcets (Matthewson, 1998, 1999), determiners are indefinite, lacking familiarity and maximality effects familiar from English *the*. Since the restrictor of the quantifier in the prejacent never enforces familiarity or maximality relative to the context, domain widening is always possible.

In contrast, in English the restriction of the quantifier is usually interpreted as both familiar and maximal, ruling out domain widening. There are certain exceptions where the restrictor does not pick out a specific set of individuals in the world, either because it contains modality, as in (5), or is deliberately vague, as in (2b) – the latter cases involve nonspecific restrictors such as *body*, *one*, or *thing* and may involve a special intonational contour;[3] it is with these cases that domain widening can occur and the scalar exclusive is found.[4]

---

[3]This paper is not about intonation, so it would take us too far afield to properly analyze the intonation contours involved. Since intonation may play a role in signalling the vague cases, I would like to just point to the potential differences between a typical case of focus on *every* (5a) and a parallel 'vague' case (2b). While both examples involve focal stress on the initial syllable of *every* followed by a fall on the second syllable + *thing*, the contour in the second example seems to be exaggerated, resulting in a greater pitch excursion, while the pitch contour preceding the focal stress to be somewhat compressed compared to the first.

(5) a. *Context: At the beginning of the COVID 19 pandemic, it was difficult to obtain Lysol wipes and toilet paper. I went to the grocery store with a list that included those two items. When I got home, my partner asked me: 'Were you able to find toilet paper and Lysol wipes?' I told him:*
Yes, I managed to get EVERYTHING this time.

b. *Context: I'm really fed up with global affairs and the pandemic. My partner asks me if something's wrong, and I say:*
Yes, I want to run away from EVERYTHING right now!

[4]The co-occurrence of *just* with *all* in English seems even more restricted. Since *all* takes a definite DP restrictor except when interpreted generically (Partee, 1995, 583), its domain is presupposed to be maximal and familiar. A domain widening reading for *just all* is therefore not generally available. Cases where *just all* does occur typically involve the exclusion of alternatives rather than domain widening:

(6) I'd like to know how to translate just all the posts, but nothing else.
https://wpml.org/forums/topic/hi-id-like-to-know-how-to-translate-just-all-the-posts-but-nothing-else-thx/.

Since these cases can be handled by a standard scalar exclusive analysis, I do not focus on them here.

(7) a. *Context: I'm telling you about a new book store that I've found that I'm very excited about.*
They had **just** every title I wanted.

b. *Context: Talking about a giant department store:*
They had **just** everything you can imagine.

For concreteness, I will build on Matthewson (2001) and Szabolcsi (2010), proposing that *every* contributes a contextually given choice function that picks out the domain of quantification. Because this choice function must be contextually given, use of *every* generally requires maximality and anaphoricity to some contextually salient domain. However, the cases such as (2b) are exceptional in not uniquely determining the choice function that sets of the domain of the quantifier, while the quantificational domains in the examples in (7) are always interpreted relative to possible worlds, rather than being fixed in the real world. Both these cases leave room for domain widening to occur.

The remainder of the paper is structured as follows. First, in section 2, I present arguments that *ʔot* is a scalar exclusive and review the evidence that *just* is a scalar exclusive. Then, in section 3, I examine the contexts in which scalar exclusives co-occur with universal quantifiers in both ʔayʔaǰuθəm and English and argue that these contexts involve domain widening. In section 4, I discuss differences in the semantics of the restrictor between the two languages. In section 5 I propose a formal analysis that accounts for how scalar exclusives contribute domain widening in these cases. In section 6, I extend the analysis to *any* in English. Finally, 7 concludes with a discussion of the implications of this approach.

2 Scalar exclusives

In this section, I examine the contribution of *ʔot* in ʔayʔaǰuθəm and *just* in English, arguing that they are both exclusive operators. This will lay the groundwork for our discussion of these operators in combination with universal quantifiers. I will discuss the ʔayʔaǰuθəm facts first, and then turn to the English facts for which I will draw on previous literature.

2.1 The scalar exclusive contribution of *ʔot*

In contexts with numbers, *ʔot* has a clear scalar exclusive ('no more than') contribution. In (8B), the speaker asserts that she has two eggs and follows this with *qaχ χʷaχʷɩt nisxʷan gaθ χaƛ̓əs* 'I have lots more if you want them'. When *ʔot* is added to the initial assertion, however, it rules out the possibility that there are more than two eggs (8B'), making the continuation *qaχ χʷaχʷɩt nisxʷan gaθ χaƛ̓əs* 'I have lots more if you want them' infelicitous.

(8) A: *Context: I'm making a cake and I run out of eggs.*

čɩm ga	kʷ χanaθəxʷ	ʔəkʷ saʔa	χʷaχʷɩt?
čam̓=ga	kʷ=χan-aθ=axʷ	ʔə=kʷ=saʔa	χʷaχʷit?
QUEX=DPRT	DET=give-CTR.1SG.OBJ-2SG.SUBJ	OBL=DET=two	egg

'Can I borrow two eggs?'

B:

ʔεʔ,	saʔa	χʷaχʷɩt	kʷ nisxʷən.
ʔiʔ	saʔa	χʷaχʷit	kʷ=niš-sxʷ-an
yes	two	egg	DET=be.here-CAUS-1SG.ERG.SBJ

χanaθεtᶿəm.	qaχ	kʷʊtᶿ χʷaχʷɩt
χan-aθi=tᶿəm	qəχ	kʷ=ətᶿ=χʷaχʷit
give-CTR+2SG.OBJ=1SG.SBJ+FUT	many	DET=1SG.SBJ=egg

gaθ χaƛ̓as	qεqʔεχ.
ga=θ=χaƛ̓=as	qi∼q<ʔi>χ.
COMP=2SG.POSS=want=3SBJV	DIM∼lots<DIM>

'Yes, I have two eggs. I'll give them to you. I have lots if you want a few more.'

B’: ʔɛʔ, saʔa **ʔot** χʷaχʷɩt kʷ nisxʷən.
ʔiʔ saʔa=**ʔut** χʷaχʷit kʷ=niš-sxʷ-an
yes two=EXCL egg DET=be.here-CAUS-1SG.ERG.SBJ

χanaθɛtᶿəm. # qaχ kʷʊtᶿ χʷaχʷɩt
χan-aθi=tᶿəm qəχ kʷ=ətᶿ=χʷaχʷit
give-CTR+2SG.OBJ=1SG.SBJ+FUT many DET=1SG.SBJ=egg

gaθ χaƛ̓as qɛqʔɛχ.
ga=θ=χaƛ̓=as qi∼q<ʔi>χ.
COMP=2SG.POSS=want=3SBJV DIM∼lots<DIM>

‘Yes, I have just two eggs left. I’ll give them to you. #I have lots if you want a few more.’ (sf | BW.2020/11/19)

In addition to ruling out alternatives on a scale where alternatives are ranked by entailment, *ʔot* excludes higher alternatives on a wide range of contextually and lexically supplied scales. In (9a), the scale is a scale of activity, provided by contrasting pictures, with ‘sleeping’ lower on the scale, and ‘jumping’ higher on the scale. The scale in (9b) is one of unwellness with being cold lower on the scale than being actually sick.

(9) a. *Context: This describes a picture where a frog is sleeping on a rock. The picture was contrasted with another picture where the frog was jumping up and down on the rock.*

k̓ʷʊt gi	tə walθ!	hoy **ʔot**	s=ƛ̓ič̓ts.	xʷaʔ
k̓ʷə-t=gi	tə=walθ	huy=**ʔut**	s=ƛ̓<i>č̓t=s	xʷaʔ
look-CTR=PRT	DET=frog	finish=EXCL	NMLZ=sleep<STAT>=3POSS	NEG

čɛm(əs)	k̓ʷitᶿɛm.
čam̓(=as)	k̓ʷit̓ᶿ-im
MOD(=3SBJV)	jump-MD

‘Look at the frog! He’s just sleeping. He won’t jump.’ (vf | JF.2016/10/03)

b. *Context: Tony’s sitting with a blanket around him. Art comes home and you tell him:*

hoy **ʔot**	s č̓ɛč̓ɩms.	xʷaʔ	kʷukʷtəməs.
huy=**ʔut**	s=č̓ə~č̓əm=s	xʷaʔ	kʷukʷt-əm=as
finish=EXCL	NMLZ=IPFV~cold=3POSS	NEG	sick-MD=3SBJV

‘He’s just cold. He’s not sick.’ (vf | JF.2016/10/03)

Finally, it is possible to show that the contribution of *ʔot* is at-issue, rather than presupposition or implicature. For instance, if *ʔot* presupposed that higher alternatives were ruled out, (10) would be an impossible question. It would already presuppose that ‘no more than’ the prejacent (*č̓ɛč̓ɩm* ‘she is cold’) could be asserted in answer to the question.

(10)

kʷukʷtəma	kʷʊnas**ʔot**	č̓ɛč̓ɩm?
kʷə~kʷtəm=a	kʷənas=**ʔut**	č̓ə~č̓əm?
IPFV~sick-MD=Q	COMP=EXCL	IPFV~cold

‘Is she sick or just cold?’ (sf | EP.2018/06/07))

We already saw in (8B’)) that the contribution of *ʔut* is not cancellable. This is further illustrated in (11A), which shows that the response to a polar question with *ʔot* (11A) cannot be positive if the speaker is contradicting the contribution of the scalar exclusive (11B’). Since the contribution of *ʔot* is not cancellable, it cannot be a conversational implicature.

(11) *Context: You see Freddie walking home with just three fish – he usually gets more because he’s a good fisherman, so you’re surprised.*

A: oh, čɛləsa**ʔot** θ qeyt?
oh čalas=a=**ʔut** θ=qəy̓t
oh three=Q=EXCL 2SG.POSS=die-CTR
‘Oh, did you only catch three?’ (sf)

B: xʷaʔ, qaχmot tᶿ qeytoł. čkʷa ʔuk̓ʷ
xʷaʔ qəχ-mut tᶿ=qəy-t-uł č=kʷa ʔuwk̓ʷ
NEG lots-INT 1SG.POSS=die-CTR-PST 1SG.SBJ=CL.DEM all
ʔaθəmoł.
ʔaθ-əm-uł
give.away-MD-PST
‘No, I caught lots. I gave them all away.’ (vf)

B’: #ʔɛ, qaχmot tᶿ qeytoł.
ʔi, qəχ-mut tᶿ=qəy-t-uł.
yes lots-INT 1SG.POSS=die-CTR-PST
#‘Yes, I caught lots.’ (sf) (EP.2019/08/05)

In summary, *ʔot* has an at-issue ‘no more than’ contribution which excludes alternative propositions to the prejacent that are higher on some contextually or lexically supplied scale. This behaviour is typical of a scalar exclusive operator. In the next subsection, we will examine the syntactic position of *ʔot* and how it interacts with focus. This background will help clarify the role of focus in the co-occurrence of *ʔot* with the universal *ʔuk̓ʷ* which will be discussed in the next section.

2.2 The syntax of *ʔot*

ʔot occurs in a string of second position clitics that includes modals, discourse particles, and subject agreement. These clitics occupy a series of positions above the verb phrase, and take scope over the verb phrase semantically. Their surface linearization involves some post-syntactic re-ordering since they invariably occur in second position even where this involves interrupting a syntactic constituent. In this paper, I will assume that *ʔot* takes propositional scope, and that the alternatives that *ʔot* quantifies over are propositional alternatives. The location of variation in the alternatives is determined determined by focus, which is conveyed through a combination of syntax and context.

Focus in Salish is associated with the predicate (Davis, 2007; Koch, 2008).[5] Focused items can function as the predicate or appear clefted, in which case they function predicatively through composition with the clefting predicate. Focused arguments, for instance, can appear as nominal predicates or clefted DPs. The clefting strategy is illustrated in (12a) where the subject DP is focused both contrastively and in answer to a question; the focused DP is introduced by the clefting particle *hɛɬ* and the remnant by the oblique marker *ʔə*. The nominal predicate construction is illustrated in (12b) where the theme is contrastively focused; the focused theme *mɛʔɛn* ‘carrot’ functions as a nominal predicate that takes a headless relative clause *tə məmkʷtəs* ‘the (thing) she’s eating’ as its argument.

[5]Koch (2008) argues that focus is associated with the predicate because the prosodic phrase containing focus should be aligned to the left edge of intonational phrase (Koch, 2008); since Salish languages are predicate initial, this results in a predicative focus strategy. In contrast, Davis (2007) argues that the association of focus with the predicate is a syntactic strategy for expressing focus. The exact motivation for the association of focus with the predicate is not important for our purposes, however, so I will not discuss the arguments for each position in depth.

(12) a. *Context: In answer to a question about characters in a storyboard where there is a hardworking squirrel and a lazy frog: 'Who is more industrious/ambitious? Is it squirrel or is it frog?'*

hɛɬ	tə kʷɪkʷaǰu	ʔə kʷɛhɛt	qaqɛʔɛt.
hiɬ	tə=kʷikʷaǰu	ʔə=kʷihit	qaqiʔit
COP	DET=squirrel	OBL=increase	hardworking

'It's the squirrel that's more hardworking. (vf | EP.2016/05/21

b. *Context: Two elders where discussing a picture of a girl eating a carrot. One elder remarked:* ʔɛlawɛ ʔə tan̓. *'That's a turnip.' The other elder corrected him saying:*

xʷaʔ,	mɛʔɛn,	mɛʔɛn	tə məmkʷtəs
xʷaʔ,	miʔin	miʔin	tə=mə∼mkʷ-t-as
NEG	carrot	carrot	DET=IPFV∼eat-CTR-3ERG

'No, it's a carrot, it's a carrot she's eating.' (vf | EP.2017/02/25)

With this background we can illustrate more precisely how *ʔot* associates with focus. We will examine the derivation for (8B'), repeated here as (13). In this utterance, the prejacent contains focus on the number *saʔa* 'two', which is contrasted with higher numbers.

(13)

ʔɛʔ,	saʔa **ʔot**	χʷaχʷɪt	kʷ nisxʷən.
ʔiʔ	saʔa=**ʔut**	χʷaχʷit	kʷ=niš-sxʷ-an
yes	two=EXCL	egg	DET=be.here-CAUS-1SG.ERG.SBJ

'Yes, I have just two eggs left.' (sf | BW.2020/11/19)

Here, as in (12b) above, the nominal functions as the predicate in order to signal that it contains focus. The context makes it clear that it is the number within the DP that is focused, rather than the whole NP.

(14) [$_{\text{NP}}$ saʔa χʷaχʷit] [$_{\text{DP}}$ šə nišsxʷan]

The nominal predicate takes a headless relative clause complement. For the purposes of this illustration, I assume a simplified headless relative clause structure where a null operator is extracted, creating an intransitive predicate through Predicate Abstraction (Heim and Kratzer, 1998, 96); this predicate then combines with a determiner to denote an entity.[6] *ʔot* takes the entire consituent containing both the predicate and its argument as its complement. For simplicity, I will label this constituent TP.

(15) [$_{CP}$ ʔot [$_{TP}$ [$_{NP}$ saʔa$_F$ χʷaχʷɩt] [$_{DP}$ šɛ [$_{CP}$ *Op* [nišsxʷ=ən ~~*Op*~~]]]]

Semantically, *ʔot* combines with the entire proposition, and quantifies over the focus alternatives, excluding all stronger alternatives to the prejacent. For now, we can give *ʔot* a standard scalar exclusive denotation as in (16) (following Rooth 1996, 280), though this will be revised in section 5. This denotation states that for all alternatives in alternative set *C*, if they are true, they are either *p* or entailed by *p*.

(16) $[\![\textit{ʔot}]\!]^{C,w} = \lambda p.p(w) \wedge \forall q \in C[q(w) \rightarrow q \leq p]$ (to be revised)

The alternatives that *ʔot* quantifies over are calculated by abstracting over the focused number and replacing it with alternatives of the same type (see Koch and Zimmermann 2008, 246 for Nłeʔkepmxcin). This is illustrated below with a slightly modified version of Koch and Zimmermann's (2008) analysis (their exclusive analysis is not scalar and they illustrate with a cleft rather than a nominal predicate structure).

[6] See Davis 2010 for convincing arguments from St'át'imcets that the construction is a matching construction involving movement of a DP within the relative clause to a left peripheral position.

(17) a. $[\![$ saʔa **ʔot** χʷaχʷɩt šɛ nišsxʷən $]\!]^{C,w}$ (= I have only $[\text{two}]_F$ eggs)

b. $= [_{\langle st,t\rangle}\ \lambda p.\ p(w) \wedge \forall q \in C\ [q(w) \rightarrow q \leq p\ ]\ ]\ ([_{\langle st\rangle}\ [_{\langle et\rangle}\ \lambda\ \text{x. eggs(x)} \wedge |\text{x}| = 2\ ]\ ([_e$ šə $[_{\langle et\rangle}\ [\ Op\ ]\ [\ \lambda\ \text{x.I have x}\ ]\ ]\ ])\ ])$

c. = 1 iff I have two eggs in *w* and for all *q* in the set of focus-alternative propositions { I have one egg, I have three eggs, etc}: if *q* is true in *w* then it is the proposition that I have two eggs or a proposition entailed by this proposition.

2.3 The scalar exclusive contribution of *just*

Now we turn briefly to a discussion of English *just*. Though not as extensively discussed as the exclusive *only*, *just* has appeared in previous literature primarily with a scalar exclusive analysis (e.g. Beaver and Clark, 2008; Coppock and Beaver, 2014; Wiegand, 2018).[7] For instance, Coppock and Beaver (2014) show that *just* behaves in parallel to *only* in excluding alternatives to the prejacent, as illustrated in (18).

(18) Mary **just** invited John and Mike.

$\rightarrow$ Mary invited **at most** John and Mike. (Coppock and Beaver 2014, 379)

Just as for *ʔot* in ʔayʔaǰuθəm, it is possible to show that *just* contributes at-issue content, rather than presupposition or implicature. For instance, its contribution can be targeted by negation (19).

(19) Mary didn't **just** invited John and Mike.

[7] But see Morzycki (2012); Beltrama (2016) for an analysis of *just* as an Extreme Degree Modifier.

→ Mary invited **at least** John and Mike. (Coppock and Beaver 2014, 379)

It also does not project in questions (20), since otherwise the 'no more than' contribution would be presupposed and the speaker could not sincerely ask whether an alternative higher than the prejacent (*you have two eggs*) is true.

(20) Do you have three eggs or **just** two eggs?

It's contribution also cannot be cancelled. For instance, B cannot agree with A in (21) while making an assertion that contradicts the 'no more than' contribution of the exclusive.

(21) A: Mary invited **just** John and Mike.
B: # Yes, and she also invited Joe.

In what follows, I will therefore assume that a scalar exclusive analysis of *just* is correct and analyze *just* as an operator which rules out alternatives to the prejacent supplied by a variety of lexically and contextually supplied scales. For simplicity, I will treat *just* as taking propositional scope and associating with focus (but see Coppock and Beaver 2014 for discussion of alternate scopes).

3 Co-occurrence with universal quantifiers

In this section, I examine similarities and differences between ʔayʔaǰuθəm and English in terms of where the scalar exclusive is felicitous in combination with the universal quantifier. While they co-occur quite freely in ʔayʔaǰuθəm, the combination is quite restricted in English. In the following section (Section 4), I propose a locus for this difference in the semantics of the restrictor in each language.

3.1 ʔayʔaǰuθəm

The scalar exclusive *ʔot* occurs frequently with the universal quantifier *ʔuk̓ʷ*. In particular, it occurs where the speaker is emphasizing the universal to exclude exceptions or widening the domain to include additional, unspecified individuals.[8] Focus on the universal quantifier in these contexts is indicated by its appearance pre-predicatively. As a second-order predicate, it takes its restrictor as its first argument and the remnant clause as its second argument, consistent with ʔayʔa-

[8] There is another meaning I will have to set aside here. Occasionally when *ʔot* associates with *ʔuk̓ʷ*, the interpretation is minimizing, as indicated by the consultant's comment when presented with (22):

(22) *Context: I'm at a family meeting. It took a while, but finally everyone that I called on has arrived. Someone asks me if everyone has arrived. I tell them:*

ʔɛ,	ʔuk̓ʷ **ʔot**	gɛt	niš.
ʔi,	ʔəwk̓ʷ=**ʔut**	gat	niš
yes	all=EXCL	who	be.here

'Yes, everyone is here.' (sf | EP.2020/10/16)

Consultant's comment: Casual, maybe that's good enough, maybe that's enough that we could go ahead with the meeting.

This reading of 'just enough for some purpose' is also found when *ʔot* occurs with certain adjectives, such as *χaχał* 'tall'.

(23) *Context: Something up high is broken. Luckily there is someone around who is tall.*

oh,	hɛsəm	θo	p̓ap̓ɛt.	χaχał **ʔot**.
oh	hił=səm	θu	p̓ap̓i-t.	χaχał=**ʔut**
oh	COP=FUT	go	fix-CTR	tall=EXCL

'Oh, he'll fix it. He's tall enough.

These cases obviously would make an interesting study themselves, given the lack of overt encoding of the standard of comparison, but are beyond the scope of this paper.

ǰuθəm's predicative focus-marking stategy. This is illustrated in (24b) for (24a):[9]

(24) a. *Context: The last couple of times I went shopping I forgot milk. You're hoping I remember today. When I get home from shopping, you ask me: how was the shopping trip? I reply:*

ʔuk̓ʷ ʔot tam yɛχatən st̓ᶿok̓ʷ.
ʔəwk̓ʷ=ʔut tam yaχ-at-an s=t̓ᶿuk̓ʷ
all=EXCL thing remember-CTR-1SG.ERG NMLZ=day
'I remembered everything today.' (vf | BW.2020/10/01)

b. [ʔuk̓ʷ [tam] [yɛχatən st̓ᶿok̓ʷ]]

When it is not focused, the quantifier can appear post-predicatively with its DP restrictor, as in (25).

(25) *Context: Daniel had a list of things to get for a party we're planning. Gloria goes along with him. When they get back, Daniel is busy, so I ask Gloria if he got everything on the list. I'm not too worried because nothing on the list was particularly difficult to find. She tells me: Yes, he got everything.*

ʔɛ, yɛqtəsoɬ **ʔuk̓ʷ** təms χaƛ̓.
ʔiʔ yəq-t-as-uɬ **ʔəwk̓ʷ** tə=əms=χaƛ̓
yes buy-CTR-3ERG-PST all DET=1PL.POSS
'Yes, he bought everything we wanted.' (vf | BW.2020/10/20)

ʔot often appears with the universal quantifier when the speaker is excluding exceptions. For instance, in (24a) above, the current situation in which the speaker remembers everything on the list contrasts with a salient previous situation

[9] The embedding of the main predicate is indicated by the first person ergative subject marking on *yɛχat* 'remember'. Main clause first and second person subjects are indicated by second-position clitics, while ergative suffixes mark embedded subjects in certain types of embedded clauses. See Watanabe (2003) for further discussion.

in which she did not, and *ʔot* appears associating with the universal quantifier. (26) is a similar case, where the addressee has an expectation that less than everything was remembered. Again, *ʔot* appears associating with the universal quantifier.

(26) *Context: I'm worried Daniel might not have everything with him for the party we're putting together and keep asking about things he might have forgotten, but Gloria tells me:*

xʷaʔčxʷ	χaχƛ̓ɛmaxʷ.	ʔuk̓ʷ **ʔot**	tam	nɛʔsxʷəs.
xʷaʔ=čxʷ	χaχƛ̓im=axʷ	ʔəwk̓ʷ=**ʔut**	tam	niʔ-sxʷ-as
NEG=1SG.SBJ	worry=2SG.SUBJ	all=EXCL	thing	be.there-CAUS-3ERG

'Don't worry. He has everything.' (vf | BW.2020.08.12)

Both of these cases involve ruling out alternatives where there are exceptions to the domain of quantification (see Kadmon and Landman 1993).

ʔot also appears frequently associating with *ʔuk̓ʷ* in contexts involving domain widening.[10] For instance, (27) involves widening the domain of *ʔuk̓ʷ*. B is including more than the contextually salient amounts and types of food — those set aside for the gathering — in the domain of the quantifier. In this case, *ʔot* again appears associating with a fronted universal quantifier, and the use of the *wh*-pronoun *tam* and the adverb *χʷit* 'really' also contribute towards signalling domain widening.

(27) *Context: Daniel was in charge of bringing food for a gathering. Gloria was with him while he was getting ready. Gloria comes to get me, and I ask her if Daniel has packed everything into the car that we had written on*

[10] Kadmon and Landman (1993) propose that domain widening is used to exclude exceptions. In this paper, I differentiate between the exclusion of exceptions and the widening of the quantificational domain for reasons that will become clear when discussing the English facts in Section 3.2. Essentially, I will argue the exclusion of exceptions does not typically involve domain widening in English, but rather involves ruling out a weaker quantifier choice (e.g. *not all* > *most* > *many*). Since Kadmon and Landman are focused on *any* which always involves domain widening, they do not need to make this distinction.

the list. She replies that yes, he packed everything! He packed all that was on the list and most of the food in the fridge!

A:	kʷʊna	ʔowułsxʷas	šɛ ʔatnopɛl	ʔuk̓ʷ
	kʷən=a	ʔuwuł-sxʷ-as	šə=ʔatnupil	ʔəwk̓ʷ
	COMP=Q	get.onboard-CAUS-3ERG	DET=car	all

kʷʊms χaƛ̓?
kʷ=ʔəms=χaƛ̓
DET=1PL.POSS=want

‘Has he packed everything we wanted into the car?’

B:	ʔɛ,	χʷot **ʔot**	ʔuk̓ʷ	tam	ʔɛltɛn	ʔowułsxʷas
	ʔi	χʷit=**ʔut**	ʔəwk̓ʷ	tam	ʔiłtin	ʔuwuł-sxʷ-as
	yes	really=EXCL	all	thing	food	get.on.board-CAUS-3ERG

šɛ ʔatnopɛl!
šə=ʔatnupil
DET=car

‘Yes, he’s packed all kinds of food into the car!’ (vf | BW.2020/10/01)

(28) is parallel, but in this case the restrictor is a post-predicative DP, rather than an *wh*-pronoun.[11]

[11] For examples like (28) with a post-predicative DP, I have to assume something like the restriction raising proposed in Davis 2013 in order to compose the restrictor with the quantifier before the nuclear scope.

(28) *Context: I had made some cookies this morning. This afternoon my brothers come to visit. Not only do they eat the fresh cookies I made, but they eat the package of cookies we kept in the cupboard as a back-up as well. When my partner comes home, I tell him:*

χʷot **ʔot**	ʔuk̓ʷ	mʊkʷtəs	kʷʊms t̓ɪgɪmqɛtən!
χʷit=**ʔut**	ʔəwk̓ʷ	məkʷ-t-əs	kʷ=əms=t̓igimqitən
really=EXCL	all	eat-CTR-3ERG	DET=1PL.POSS=sweet.food

‘They ate just every one of our cookies!’ (vf | BW.2020/10/20)

In contrast, in (29) the domain is clearly provided by the context and not contrasted with expected exceptions or smaller domains. Here, *ʔot* is dispreferred, at least by one of my consultants. The judgements are quite subtle, however, and the negative data was obtained in a forced choice task in this case.[12]

(29) *Context: Daniel had a list of things to pack into the car. When I last checked he had most items already packed. I'm upstairs doing a bit of tidying, but I'm wondering if Daniel has everything ready and it's time to go. I notice Gloria coming upstairs so I ask her:* kʷʊna ʔuk̓ʷ tam ʔowʊłstom Daniel? *'Does Daniel have everything packed?' She replies:*

[12]Even though *ʔuk̓ʷ* is not focused in (28), it appears initially. Given the predicative focus-marking strategy, similar behaviour is found with verbal predicates in ʔayʔaǰuθəm. Verbal predicates can be focused in their initial predicative position, but need not be since this is their default position – in an all-given context, for instance, the predicate will still be in the initial pre-predicative position, but not focused. While focus on the universal quantifier is expressed through its appearance in pre-predicate position, as a second-order predicate, the universal quantifier does not appear to need focus to occur pre-predicatively. The post-predicative position, on the other hand, seems to be used where *ʔuk̓ʷ* is not focused.

a. ʔɛ, ʔuk̓ʷ tam ʔowułɛtsxʷəs.
ʔiʔ, ʔəwk̓ʷ tam ʔuwuł-it-sxʷ-as
yes all thing get.on.board-STAT-CAUS-3ERG
'Yes, he's packed everything.

b. #ʔɛ, ʔuk̓ʷ **ʔot** tam ʔowułɛtsxʷəs.
ʔiʔ, ʔəwk̓ʷ=**ʔut** tam ʔuwuł-it-sxʷ-as
yes all=EXCL thing get.on.board-STAT-CAUS-3ERG
'Yes, he's packed everything.' (sf | BW.2020/11/26)

It is also worth noting that while *ʔot* appears frequently with *ʔuk̓ʷ* where there is a contrast with expected exceptions or a larger domain is contrasted with a smaller domain, it is not generally judged to be obligatory in these contexts.

3.2 English

In English, co-occurrence of the scalar exclusive *just* and the universal quantifier *every* is quite restricted. While it can occur in contexts involving domain widening, it does not occur in contexts involving the exclusion of exceptions. I will propose that the latter cases involve scalar alternatives, rather than domain alternatives in English.

Co-occurrence of the scalar exclusive *just* with the universal quantifier *every* is possible where the speaker is including additional, unspecified individuals in the domain quantification. It is not, however, obligatory in this context.

(30) *Context: Daniel was in charge of bringing food for a gathering. We'd already made a list and set the food aside, but he got worried about whether there would be enough and started to pack more and more things into the car. Gloria was with him while he was doing this, but I was busy upstairs. Finally, Gloria comes to get me, and I ask her if Daniel has gotten everything on the list into the car. She replies:*

Yes, but he's packing **just** EVERYTHING into the car! You need to stop him!

It is also felicitous where the restrictor introduces a relative clause containing a modal operator.

(31) a. *Context: I'm telling you about a new book store that I've found that I'm very excited about.*
They had **just** every title I could think of.

b. *Context: Talking about a giant department store:*
They had **just** everything you can imagine.

It does not appear where the universal is emphasized to signal a contrast with a salient situation in which there are exceptions to the quantificational domain. In these contexts, the use of the scalar exclusive is infelicitous. This infelicity contrasts with the parallel ʔayʔaǰuθəm cases (()24a),()26)), where the scalar exclusive is felicitous.

(32) *Context: I'm worried Daniel might not have packed everything for the party we're putting together and keep asking about things he might have forgotten. Finally, Gloria tells me:*

a. #Don't worry. He's packed **just** EVERYTHING.

b. Don't worry. He's packed EVERYTHING.

(33) *Context: At the beginning of the COVID 19 pandemic, it was difficult to obtain Lysol wipes and toilet paper. I go to the grocery store with a list that includes those two items. When I get home, my partner asks me: 'Were you able to find toilet paper and Lysol wipes?' I tell him:*

a. #Yes, I managed to get **just** EVERYTHING this time.

b. Yes, I managed to get EVERYTHING this time.

In these cases, the domain is clearly provided by the context and focus evokes scalar alternatives (*everything* > *most of the things* > *some of the things*), rather than domains of alternate larger and smaller sizes.

When the domain of the quantifier is clearly provided by the context and there is no expectation of exceptions, the scalar exclusive does not co-occur with the universal (34); this parallels the behaviour of *ʔot* in ʔayʔaǰuθəm. Focus on the universal quantifier is also infelicitous in this case.

(34) *Context: I'm guessing Daniel has everything ready for the party we're planning. Gloria has been with him while he's been packing, but I've been upstairs. When she comes to get me, I ask if Daniel has everything in the car. She tells me:*

a. Yes, he's packed everything.

b. #Yes, he's packed EVERYTHING.

c. #Yes, he's packed **just** EVERYTHING.

3.3 Interim conclusion

In this section, we have examined the combination of scalar exclusives with universal quantifiers in both ʔayʔaǰuθəm and English. In both languages, the scalar exclusive is found in a subset of environments where the universal quantifier is used. These environments involve a contrast with a salient alternative domain of quantification. This restriction suggests that the scalar exclusives are not vacuous when associating with the universal quantifier, but contribute meaning that is only compatible with the activation of domain alternatives.

I will argue that the scalar exclusives act as exhaustivity operators, which exclude and include alternatives depending on their relationship to the prejacent. In a case where the speaker asserts she *has just two eggs*, there are stronger alternatives that entail the prejacent and are not entailed by the prejacent (*I have three eggs, I have four eggs, etc.*) and weaker alternatives that are entailed the prejacent (*I have two eggs., I have one egg.*). A scalar exclusive such as *just* will rule out the stronger alternatives, and vacuously rule in the weaker alternatives that are already entailed by the prejacent. In the cases where domain widening occurs, there is no clear entailment relationship between the prejacent and the activated alternatives. This is the case in ʔayʔaǰuθəm (27) and English (43a), where the context does not make it clear what things Daniel has packed into the car, except that the packed items include the items originally on the list and more besides; the hearer and likely even the speaker do not know what all the additional items are, nor from what possible subdomains (e.g. food, clothing, etc.). In these cases, the activated alternatives cannot be excluded without potentially contradicting the prejacent, but they can be included without contradiction. In exhaustifying over the activated alternatives, a exclusive operator will therefore include all the activated alternatives with alternative quantificational domains. Because the domain of the quantifier in the prejacent need not have encompassed all the alternative domains accessible from the context, the inclusion of all alternative propositions results in a stronger assertion and domain widening. The addressee cannot know exactly what alternatives are salient to the speaker, but the speaker's use of the scalar exclusive with the universal quantifier signals to the addressee that no potential alternative should be ruled out. Under this analysis, the association of a scalar exclusive with a universal quantifier is not vacuous specifically in the cases where domain alternatives are activated. Where no domain alternatives are activated, association of a scalar exclusive with a universal quantifier is vacuous, and so use of the scalar exclusive is dispreferred.

Given the analysis just previewed, we would expect the distribution of the scalar exclusive with the universal quantifier in ʔayʔaǰuθəm and English to be essentially equivalent, occurring only where domain alternatives are activated resulting in domain widening. We have seen, however, that the use of the scalar exclusive is more restricted in English than in ʔayʔaǰuθəm. In ʔayʔaǰuθəm it occurs not just when there is obvious domain widening, but also where exceptions are excluded. We turn next to exploring why this is the case.

4 Domain of quantification

In this section, I examine the semantics of the restrictor for the universal quantifier in ʔayʔaǰuθəm and English. I will argue that the restrictor in ʔayʔaǰuθəm does not enforce either maximality or familiarity relative to the context, while the restrictor in English typically does. Since the quantificational domain is not automatically maximal relative to the context in ʔayʔaǰuθəm, domain widening is much more freely available than in English. One consequence of this difference between the languages is that the exclusion of exceptions to the quantificational domain proceeds differently. Since the restrictor in ʔayʔaǰuθəm does not enforce maximality nor familiarity, the universal can be used without including all entities matching description of the restrictor DP – in other words, exceptions are more easily allowed. In order to exclude exceptions to the quantificational domain, domain widening occurs. In English, the restrictor of the quantifier generally must pick out the maximal domain relative to the context. Excluding exceptions therefore involves a contrast with alternative weaker quantifiers (scalar alternatives), rather than domain widening.

If the scalar exclusives contribute domain widening in combination with the universal quantifier, as I propose, it is expected that the scalar exclusives should only co-occur with the universal quantifier where domain widening is possible.

Because domain widening is much more freely available in ʔayʔaǰuθəm, including in the contexts where exceptions are being excluded, we predict the wider distribution of co-occurrence in ʔayʔaǰuθəm compared to English, and rarity of cases where the co-occurence is clearly infelicitous. In the next section (Section 5), I develop an account of how the scalar exclusives achieve this domain widening.

4.1 ʔayʔaǰuθəm

In ʔayʔaǰuθəm, there are two possible types of restrictors for the universal quantifier; the restrictor can either be a full DP or an *wh*-pronoun such as *tam* 'thing' or *gɛt* 'someone'. Neither type of restrictor enforces domains that are fully maximal and familiar relative to the context. This means that there is always 'room' for domain widening. In what follows, I first examine DP restrictors and then turn to the somewhat lexicalized combinations of the universal quantifier with *wh*-pronouns.

ʔayʔaǰuθəm determiners, like determiners in other Salish languages (Matthewson, 1996, 1999; Gillon, 2006), do not encode definiteness. This is illustrated in (35) where the *tə* determiner precedes both *č̓an̓u* 'dog' and *mimaw̓* 'cat' when the dog and cat are first introduced, and then appears again before *mimaw̓* 'cat' when referring back anaphorically.

(35) *Context: The consultant was presented with a short cartoon showing first a dog walking, then the dog seeing a cat, then chasing the cat.*

hoθo	**tə** č̓ɛn̓o.	k̓ʷʊnʊxʷəs	**tə** mɛmaw̓.	ʔaq̓atəs
hu∼θu	**tə**=č̓an̓u	k̓ʷən-əxʷ-as	**tə**=mimaw̓	ʔaq̓-at-as
IPFV∼go	DET=dog	see-NCTR=3ERG	DET=cat	chase-CTR-3ERG

tə mɛmaw̓.
tə=mimaw̓
DET=cat

'A dog is walking along. It sees a cat. It chases the cat.' (Huijsmans et al., 2018, 333)

The determiners also do not encode maximality relative to the context. This is illustrated in (36) where the DP *tə qaqsɛm* ‘the toys’ in the first clause is not interpreted maximally, but refers only to a subset of the toys: those in the box.

(36) *Context: My niece comes over to play. She asks where the toys are. Most are in a box, and there are a few on the shelf beside the box. I tell her:*

nɛʔ	nəpɛt	tə k̓ʷaxʷa	**tə qaqsɛm**	ʔi	nɛʔ
niʔ	nəp-ít	tə=k̓ʷaxʷa	**tə=qaqsim**	ʔiy	niʔ
be.there	put.in-STAT	DET=box	DET=toy	CONJ	be.there

t̓ot̓ɬɛt	ʔə taʔa	tə sqʷaq.
t̓u<t̓>ɬ-ít	ʔə=taʔa	tə=sqʷaq
put.on.top<PL>-STAT	OBL=DEM	DET=some

‘The toys are in the box and the rest are on there.’ (vf | EP.2020/10/16)

Following Matthewson (1999, 2001), I propose that the determiners introduce choice functions.[13] In order to capture the fact that a choice function introduced by one of these determiners is not uniquely determined by the context, since it enforces neither maximality nor familiarity, I follow Matthewson (1999) in proposing that it is existentially closed at the highest level.[14] However, there seem to be pragmatic principles at play, since the determiners still carry an implicature of maximality. It seems that the choice function must be at least contextually salient, even if it is not uniquely determined – which often means maximal relative to the context. I will not focus on the evidential restrictions for the purposes of this paper, but I assume that they can be introduced as restrictions on the felicitous use

[13]See Huijsmans et al. (2020) for an alternate analysis where determiners encode relations between situations (following Speas 2010; Kalsang et al. 2013). This analysis would also be compatible with the account that will be developed here, but would complicate the presentation.

[14]This also accounts for the fact that DPs introduced by all the determiners except *kʷ* must take wide scope.

of the choice function.

We turn now to the other possible type of restrictor for the universal quantifier in ʔayʔaǰuθəm. The restrictor of *ʔuk̓ʷ* may also be an *wh*-pronoun. Crucially for our purposes, the *wh*-pronouns do not encode maximality or familiarity; they are NPs that function as *wh*-words and indefinite pronouns. As *wh*-words, they are nominal predicates taking a DP complement.

(39) a.

gɛt ga	tan̓?
gat=ga	tan̓
who=DPRT	DEM

‘Who is that?’ (vf) (EP.2019/10/26)

---

(37) *Context: Gloria’s wants to get a kitten, and she particularly likes black cats. She hasn’t chosen any specific one yet though.*

χaƛ̓s k̓ʷa	Gloria	{***šə/kʷ**} p̓ɛp̓ɛθ	mɛmmaw̓.
χaƛ̓-s=k̓ʷa	Gloria	{***šə/kʷ**}=p̓i∼p̓iθ	mi∼mmaw̓
desire-3POSS=RPT	Gloria	DET=DIM∼black	DIM∼cat

‘Gloria wants a black kitten.’ (sf | EP.2020/11/20)

(38) *Context: Gloria’s neighbour has kittens. I’ve been there to see them with her and I know there’s one little black one that she wants. I tell the neighbour:*

χaƛ̓s k̓ʷa	Gloria	{**šə/*kʷ**} p̓ɛp̓ɛθ	mɛmmaw̓.
χaƛ̓-s=k̓ʷa	Gloria	{**šə/*kʷ**}=p̓i∼p̓iθ	mi∼mmaw̓
desire-3POSS=RPT	Gloria	DET=DIM∼black	DIM∼cat

‘Gloria wants the black kitten.’ (sf | EP.2020/11/20)

If they introduce choice functions with maximally wide scope, this is necessarily the case. See Huijsmans et al. (2018, 2020) for discussion of *kʷ*.

b. **tam** č̓ɛ tita?
tam=č̓ɛ təy̓ta
what=INFER DEM
'What is this?' (vf) (EP.2019/06/29)

As indefinite pronouns, they occur in argument positions, preceded by a determiner and accompanied by subjunctive morphology. See Matthewson (2010) for a discussion of similar facts in St'át'imcets.

(40) a. *Context: Gloria answered the phone and the call was for Daniel.*
q̓eyɛtəm Gloria, "χaƛ̓s kʷs
q̓ay-at-əm Gloria χaƛ̓-s kʷ=s=
holler-CTR-PASS Gloria want-3POSS COMP=NMLZ=
qʷaqʷaystomɛt kʷ **gat**əs."
qʷa∼qʷay-stu-mi-it kʷ=**gat**=as
IPFV∼talk-CAUS-2SG.OBJ-SBRD.PASS DET=who=3SBJV
'Gloria called out to him, "Someone wants to talk to you!"'
(vf | BW.2020/08/12)

b. *Context: You walk into an apartment building and someone is cooking something that smells really nice.*
ʔaǰɛqəp kʷ **tam**əs.
ʔaǰ-aqap kʷ=**tam**=as.
good-smell DET=what=3SBJV
'Something smells good.' (vf | PD.2018/11/08)

Since neither *wh*-pronouns nor DP restrictors of the universal quantifier enforce maximality relative to the topic situation, we expect that universal quantification in ʔayʔaǰuθəm will more easily tolerate exceptions relative to English *every* (or *all*). The universal quantifiers in both St'át'imcets and Island Halkomelem exhibit this behaviour, as argued in Davis (2013), and ʔayʔaǰuθəm *ʔuk̓ʷ* appears to behave similarly.

(41) a. *Context: A picture of a bunch of girls dancing and one girl at the side not dancing.*

ʔuk̓ʷ	čičɬɛm	nəgəpti.	xʷa	čičɬɛməs
ʔəwk̓ʷ	či∼čɬ-im	nəgəpti.	xʷaʔ	čičlim=as
all	PL∼dance-MD	young.women	NEG	PL∼dance-MD=3SBJV

paʔa	hɛɬ.
paʔa	hiɬ
one	be

‘All the young women are dancing. One isn’t dancing.’ (vf | JF.2019)

b. *Context: A picture of five apples followed by a picture of four apple cores and one apple. I told the consultant that Marianne’s brother ate all her apples except one.*

qəχmot	ʔapəls	Marianne,	ʔi	ho	təs	blətəs
qəχ-mut	ʔapəls-s	Marianne	ʔiy	hu	təs	blətə-s
lots-INT	apples-3POSS	Marianne,	CONJ	go	arrive	brother-3POSS

Marianne.	**ʔuk̓ʷ**	mʊkʷtəs	ʔapəls	Marianne.
Marianne.	**ʔəwk̓ʷ**	məkʷ-t-as	ʔapəls-s	Marianne
Marianne	all	eat-CTR-3ERG	apples-3POSS	Marianne

papyɛ ʔot	ʔapəls	ʔaxʷi.
pa∼pyaʔ=ʔut	ʔapəls	ʔaxʷi
DIM∼one=EXCL	apples	left

‘Marianne had a lot of apples, and Marianne’s brother came. He ate all of Marianne’s apples. There’s just one apple left.’ (vf | JF.2019)

In addition, since the restrictor of the universal quantifier never forces maximality relative to the context, we predict domain widening to be always possible in

ʔayʔaǰuθəm. The relative frequency with which *ʔot* accompanies *ʔuk̓ʷ* is therefore expected under an analysis where *ʔot* is accomplishing domain widening, as I will argue in the following section.

4.2 English

The English facts are, of course, different. In English, the domain of the quantifier is typically anaphoric to the context and interpreted maximally relative to the topic situation (e.g. von Fintel 1994 et seq.), or in some cases a salient resource situation that is part of the topic situation (e.g. Berman, 1987; Heim, 1990; Elbourne, 2005). Typical uses of *every* therefore require there to be a contextually salient domain of quantification. In cases where there is no contextually salient domain and it is also improbable that the domain encompasses all individuals matching the restrictor in the world, infelicity results, as in (42a). Of course, as soon as there is a contextually salient resource domain, use of the universal is completely felicitous (42b).

(42) a. *Context: Walking into a public swimming pool, I remark to my friend:*
Oh look! Everyone is here.

b. *Context: We are holding a birthday party for my friend at the swimming pool. As we walk in, we see the guests already arrived, and I remark:*
Oh look! Everyone is here.

Since the domain of the quantifier is always interpreted maximally relative to the topic situation, there is not usually any 'room' for widening the domain of the quantifier. Domain widening therefore occurs only in exceptional cases. I propose that two such cases are where the domain of the quantifier is left vague to include additional unspecified entities (as in (43a), from (30) above) and/or involves a restrictor with a modal operator so that the extent of the domain depends on possible worlds (as in (43b–43c), repeated from (31a–31b) above). These are the cases where we saw *just* co-occuring with the universal quantifier in the previous section.

(43) a. *Context: Daniel was in charge of bringing food for a gathering. We'd already made a list and set the food aside, but he got worried about whether there would be enough and started to pack more and more things into the car. Gloria was with him while he was doing this, but I was busy upstairs. Finally, Gloria comes to get me, and I ask her if Daniel has gotten everything on the list into the car. She replies:*
Yes, but he's packing **just** EVERYTHING into the car! You need to stop him!

b. *Context: I'm telling you about a new book store that I've found that I'm very excited about.*
They had **just** every title I could think of.

c. *Context: Talking about a giant department store:*
They had **just** everything you can imagine.

5 Formal analysis

In this section, I propose an analysis where domain widening occurs in two steps. First domain alternatives – propositional alternatives to the prejacent that vary in the resource domain of the quantifier – are activated through a combination of context and focus. Then the scalar exclusives function as exhaustivity operators over these alternatives. Where domain widening occurs, I will argue that the exhaustivity operator does not exclude, but includes these alternatives, effectively widening the domain of the quantifier. In what follows, I introduce Bar-lev and Fox's (2017) exhaustivity operator, which they propose to handle Free Choice disjunction (Section 5.1); I adopt the semantics of this operator for *ʔot* and *just*. I will then provide an account of how the exhaustivity operator achieves domain widening in combination with the universal quantifier (Section 5.2).

5.1 Bar-lev and Fox's exhaustivity operator

In Free Choice disjunction, there are two inferences that arise. The first is the scalar implicature that the stronger alternative proposition with conjunction is not true. For instance, from (44a) we infer that Mary is not allowed to have both icecream and cake (44c). The second inference is the FC inference that both conjuncts are possible (44d); the reading is that each option is permitted, not that only one or the other is the permitted option (this is originally observed in Kamp 1974).

(44) a. Mary can eat the icecream or the cake.

b. Prejacent: $\diamond(\alpha \vee \beta)$

c. Scalar implicature: $\neg \diamond (\alpha \wedge \beta)$

d. Free choice inference:

i. $\rightsquigarrow \diamond\alpha$

ii. $\rightsquigarrow \diamond\beta$

iii. $\rightsquigarrow \diamond\alpha \wedge \diamond\beta$

Fox (2007) proposes that the scalar implicature in (44c) is derived by a covert exhaustivity operator *EXH* with the semantic contribution of a scalar exclusive. This operator rules out alternative propositions that are stronger than the prejacent. However, in order to avoid contradictions that arise in quantifying over alternatives to the prejacent (e.g. $\diamond\alpha$ and $\diamond\beta$ are both stronger than $\diamond (\alpha \vee \beta)$, but if both $\diamond\alpha$ and $\diamond\beta$ are negated this contradicts the prejacent), he proposes the notion of Innocent Exclusion (here I give a slightly modified version from Bar-Lev and Fox 2017, 5).

(45) **Innocent Exclusion procedure:**

a. Take all maximal sets of alternatives that can be negated consistently with the prejacent.

b. Only exclude (i.e., negate) those alternatives that are members in all such sets—the Innocently Excludable (=IE) alternatives.

This is formalized as in (46) from Bar-Lev and Fox (2017, 7).

(46) a. IE(p, C) = $\cap\{C' \subseteq C$: C' is a maximal subset of C, s.t. $\{\neg q$: $q \in C'\} \cup \{p\}$ is consistent$\}$

We can calculate the Innocently Excludable alternatives for (44a), first listing the maximal sets that can be negated consistently with the prejacent (47).

(47) a. $\{ \diamond\alpha, \diamond (\alpha \wedge \beta) \}$

b. $\{ \diamond\beta, \diamond (\alpha \wedge \beta) \}$

The only alternative that is found in all such sets is $\diamond (\alpha \wedge \beta)$; this is the IE alternative. Excluding this alternative correctly derives the scalar implicature.

While IE suffices to derive the scalar implicature, it does not derive the FC inference. Following Alonso-Ovalle (2005), Bar-Lev and Fox (2017) treat the FC inference also as a scalar implicature. To derive the FC implicature, Bar-Lev and Fox (2017, 8) propose the notion of Innocent Inclusion.

(48) **Innocent Inclusion procedure:**

a. Take all maximal sets of alternatives that can be asserted consistently with the prejacent and with the negation of all IE alternatives.

b. Only include (i.e., assert) those alternatives that are members in all such sets—the Innocently Includable (=II) alternatives.

This is formalized as in (49) from Bar-Lev and Fox (2017, 10).

(49) a. $\mathrm{II}(p, C) = \cap\{C'' \subseteq C$: C'' is a maximal subset of C, s.t. $\{r\colon r \in C'\} \cup \{p\} \cup \{\neg q\colon q \in \mathrm{IE}(p, C)\}$ is consistent$\}$

For (44a), there is only one maximal set of alternatives that can be asserted consistently with the prejacent and the negation of all IE alternatives (50).

(50) $\{ \diamond\alpha, \diamond\beta, \diamond(\alpha \vee \beta) \}$

All alternatives in this set are thus Innocently Includable. Note that this set includes the prejacent itself, so that the prejacent is also asserted.

Bar-Lev and Fox (2017, 7) propose the following denotation for the covert exhaustivity operator (61). The exhaustivity operator asserts that all Innocently Includable propositions are true in *w* and that all Innocently Excludable propositions are false in *w*.

(51) $[\![\ \mathrm{EXH}^{\mathrm{IE+II}}\ ]\!](C)(p) = \lambda w\ \forall r \in \mathrm{II}(p,C)[r(w)] \wedge \forall q \in \mathrm{IE}(p,C)[\neg q(w)]$

5.2 Exhaustification and domain alternatives

In this section, I propose an account of domain widening where *just* and *ʔot* contribute the semantics of Bar-lev and Fox's exhaustivity operator and quantify over domain alternatives. I will argue that where domain widening occurs, the domain of the quantifier is not fully determined by the context. This is straightforwardly the case in ʔayʔaǰuθəm where the restrictor of the quantifier never enforces maximality relative to the topic situation, but I will argue that this is true of a restricted set of cases in English too. In these cases where the domain of the prejacent is not fully specified, the domain alternatives will neither be entailed by the prejacent nor contradict it, leaving room for domain widening. When the exhaustivity operator quantifies over these alternatives, they are ruled in, resulting in domain widening.

Let's begin by looking at the ʔayʔaǰuθəm cases. As discussed in section 4, the restrictor of the universal is either a DP, denoting a plural individual, or an *wh*-pronoun. Neither enforce maximality relative to the topic situation, but rather introduce a choice function. This means that the domain of the universal will never be fully determined by the topic situation.

With this background in place, we can examine a concrete example, determining the contribution of the prejacent and the denotation of the alternatives. In (52), for example, the determiner *tə* introduces a choice function with maximally wide scope.

(52) *Context: My puppy chewed up all my shoes when I was at an appointment. Exasperated, I phone you up to tell you:*

ʔuk̓ʷ **ʔot**	čɛqatəs	tətᶿ qʷołqʷołayšɩn.
ʔəwk̓ʷ=**ʔut**	čaq-at-əs	tə=tᶿ=qʷəł∼qʷəłayšin
all=EXCL	shred-CTR-3ERG	DET=1SG.POSS

She shredded just every one of my shoes! sf

The prejacent will have the interpretation in (53), where the choice function picks out a plural individual from the powerset of the NP (following Matthewson 1999, 2001; Szabolcsi 2010). As discussed in Section 4, the choice function is not uniquely determined by the context, so it is represented as existentially closed at the highest level. The quantifier ranges over individual parts of the plural DP *tətᶿ qʷołqʷołayšɩn* ‘my shoes’ and asserts that my puppy chewed of each of them.[15]

[15] This representation of the universal quantifier is an oversimplication and its representation as at-issue may need revising. Davis (2010, 2013) argues that St’át’imcets quantifiers are not-at-issue since there are no quantifier-scope interactions. ʔayʔaǰuθəm quantifiers also do not appear to give rise to quantifier scope interactions, though not all the necessary tests have been conducted. On the other hand, the universal quantifier takes scope below negation, which could indicate an at-issue contribution (see Szabolcsi 2010, 119 for similar observations regarding English *all*). I do not fully explore the issue here, as it is not crucial to my purposes. Both an at-issue and a not-at-issue analysis are compatible with my proposal, so long as domain alternatives are generated. For instance, Davis (2013) proposes that the universal in St’át’imcets is a not-at-issue domain adjuster, following Brisson’s 2003 proposal for English *all*. If we adopted the same analysis for *ʔuk̓ʷ* the alternatives

I assume the null third person subject is a null *pro* interpreted by the assignment function.

(53) $[\![\text{(52)}]\!]^g = \lambda w \exists f \forall y [y \Pi f(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)]$

While the denotation in (53) initially looks quite weak, almost making the universal quantifier vacuous, we noted previously that there seems to be pragmatic principles at play – the choice function needs to be at least contextually salient, even if it is not uniquely determined – giving the determiners an implicature of maximality. We will also see that the exhaustivity operator considerably strengthens the assertion.

Now that we have a denotation for the prejacent, we can turn to calculating the alternatives. The pre-predicate of position of the universal signals focus in this context, evoking domain alternatives (cf. Shank 2004 for English *every*). The alternatives will each have a different choice function setting the domain of quantification. For simplicity of illustration, I assume there are just three alternative resource domains accessible from the context, plus the prejacent, in the alternative set:[16]

---

would be alternatives to the domain of the distributivity operator that accompanies the predicate, while *ʔuk̓*^{w} itself would have not-at-issue contribution that would limit the possible covers of the universe of discourse. Adopting a standard if oversimplified semantics for the universal simplifies the presentation.

[16]While I implement the analyis using choice functions to determine the domain of quantifier, an alternate approach would be to have the domain of the quantifier determined relative to a resource situation. The prejacent would then involve existential quantification over the resource situation, while the alternatives would involve indexed situation pronouns. The rest of the calculation would proceed as before.

This approach could incorporate the situation-based account of the determiners proposed in Huijsmans et al. (2020) more easily, and is pretty much a notational variant of the analysis proposed here, but would diverge from previous literature such as Matthewson (1999, 2001), as well as influential accounts of the universal quantifier such as Szabolcsi (2010); it would also be somewhat more notationally complex. For these reasons, I adopt a choice function approach, but nothing

(54) C = $\{\lambda w \forall y[y \Pi \boldsymbol{f_1}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \forall y[y \Pi \boldsymbol{f_2}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \forall y[y \Pi \boldsymbol{f_3}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \exists f \forall y[y \Pi \boldsymbol{f}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)]\ \}$

ʔot takes the prejacent and the set of its alternatives as its arguments:

(55) $[\![\ ʔot^{\text{IE + II}}\ ]\!](C)(p) = \lambda w\ \forall q \in \text{IE}(p,C)\ [\ \neg q(w)\ ] \wedge \forall r \in \text{II}(p,C)[\ r(w)\ ]$

The first part of *ʔot*'s contribution is the exclusion of all Innocently Excludable alternatives. Innocently Excludable alternatives are those that appear in all maximal sets of alternatives that can be negated consistently with the prejacent. From the set of alternatives in (54), the maximal sets of alternatives that can be negated consistently with the prejacent are shown in (56).

(56) a. $\{\lambda w \forall y[y \Pi \boldsymbol{f_1}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \forall y[y \Pi \boldsymbol{f_2}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)]\ \}$

b. $\{\lambda w \forall y[y \Pi \boldsymbol{f_1}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \forall y[y \Pi \boldsymbol{f_3}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)]\ \}$

c. $\{\lambda w \forall y[y \Pi \boldsymbol{f_2}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \forall y[y \Pi \boldsymbol{f_3}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)]\ \}$

While each of the alternatives in *C* can be negated consistently with the prejacent, all three cannot be negated simultaneously without contradicting the existential assertion in the prejacent that there is a choice function for the domain of the quantifier. In effect, this means that none of the alternatives appear in every maximal set of alternatives that can be negated consistently with the prejacent, and therefore none are Innocently Excludable.

We now turn to the second part of the contribution of the exhaustivity operator, Innocent Inclusion. Innocent Inclusion rules in all alternatives that appear in all

hinges on this.

maximal sets that can be asserted consistently with the prejacent and the negation of all Innocently Excludable alternatives. All the alternatives in (54) are consistent with each other and the prejacent, so they form just one maximal set (57).

(57) $\{\ \lambda w \forall y[y \Pi \boldsymbol{f_1}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \forall y[y \Pi \boldsymbol{f_2}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \forall y[y \Pi \boldsymbol{f_3}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)],$
$\lambda w \exists f \forall y[y \Pi \boldsymbol{f}(Pow(my.shoes)) \rightarrow chewed(y)(g(i))(w)]\ \}$

Since there is only one maximal set that can be asserted consistently with the prejacent and the negation of all Innocently Excludable alternatives (there are none), these alternatives count as being in every maximal set that meets this criteria. All three alternatives are therefore Innocently Includable and asserted along with the prejacent. Since all alternatives, with quantifier domains of various composition and sizes, are now asserted along with the prejacent, a stronger assertion results. The domain of the quantifier is also widened in so far as the prejacent only asserts the existence of a choice function returning the domain of the quantifier, while following exhaustification over the contextually given alternatives, the alternate domains of quantification are all included in the assertion.

I assume that the cases where the restrictor is an *wh*-pronoun can be handled in a parallel fashion. I propose that these combinations involve a null determiner that occurs between the quantifier and the *wh*-pronoun. This avoids having to posit type-shifting for the universal quantifier and also seems independently desirable since contextual domain restriction must still take place, and this is generally accomplished by determiners. The null determiner that occurs in these constructions contributes a choice function which picks out a plural individual matching the description of the *wh*-pronoun (human for *gɛt* ‘who/someone’, nonhuman for *tam* ‘what/something’). With these assumptions in place, the calculation of the contribution of the prejacent and its alternatives then be handled as above.[17]

[17] The combination of *wh*-pronouns and universal quantifiers seem to be somewhat lexicalized.

The English cases are more restricted, but work in parallel. We saw previously that the scalar exclusive *just* only combines with the universal where the domain of the quantifier is not clear from the context (as in (59a), repeated from (43a) above) and/or involves a restrictor with a modal operator so that the extent of the domain must be interpreted relative to possible worlds (as in (59b–59c), repeated from (43b–43c) above).

(59) a. *Context: Daniel was in charge of bringing food for a gathering. We'd already made a list and set the food aside, but he got worried about whether there would be enough and started to pack more and more things into the car. Gloria was with him while he was doing this, but I was busy upstairs. Finally, Gloria comes to get me, and I ask her if Daniel has gotten everything on the list into the car. She replies:*
Yes, but he's packing **just** EVERYTHING into the car! You need to stop him!

b. *Context: I'm telling you about a new book store that I've found that I'm very excited about.*
They had **just** EVERY TITLE I could think of.

c. *Context: Talking about a giant department store:*

The *wh*-pronouns cannot be separated from the universal quantifier, unlike other restrictors which can be separated from the quantifier by the predicate (cf. (52)).

(58) *Context: Mink is a trickster and has been misbehaving. The people had a plan to capture Mink and punish his misbehavior, but he escaped.*

*ʔuk̓ʷ	χałɛt	kʷ gɛt(əs)
ʔəwk̓ʷ	χał-it	kʷ=gat(=as)
all	get.angry-STAT	DET=who=3SBJV

'All the people were angry.' (sf | BW.2020/09/15)

Given the lexicalized nature of these combinations, the absence of an overt determiner is not suprising.

They had **just** EVERYTHING you can imagine.

I therefore propose that the domain of the quantifier in the prejacent is not fully determined by the context in these cases. In the cases that involve a modal, this is independently predicted. I give a simplified denotation of the prejacent for (59c) in (60a). Following Szabolcsi (2010), f is a contextually given choice function that selects an element from the powerset of the NP, in this case *thing that you can imagine*.[18] Because the choice function is provided by the context, it returns the maximal set matching the restrictor relative to the context. The presence of the modal in the restrictor means that the domain of quantification is dependent not just on the context, however, but on possible worlds. Given that the domain of the quantifier varies with possible worlds, I propose that the domain alternatives are generated as in (60b).[19]

(60) a. Prejacent: $[\![(59c)]\!]^g = \lambda w\, \forall x\, [x \in f(Pow(thing \wedge \exists w'[imagine(you)(w')]))$
$\rightarrow had(x)(g_i)(w)]$

b. $\mathrm{C} = \{\lambda w \forall x[x{\in}f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_1}))) \rightarrow had(x)(g_i)(w)],$
$\lambda w\, \forall x\, [x \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_2}))) \rightarrow had(x)(g_i)(w)],$
$\lambda w\, \forall x\, [x \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_3}))) \rightarrow had(x)(g_i)(w)],$
$\ldots\}$

Just combines with the prejacent and set of alternatives *C*, contributing the semantics of Bar Lev and Fox's 2017 exhaustivity operator.

(61) $[\![\, just^{\mathrm{IE+II}}\,]\!](C)(p) = \lambda w\, \forall q \in \mathrm{IE}(p,C)[\, \neg q(w)\,] \wedge \forall r \in \mathrm{II}(p,C)\, [\, r(w)\,]$

[18] In order to have a powerset for this example, we have to assume that there is a finite subset of possible worlds that are accessible from the topic situation and these form the domain of quantification for the universal quantifier.

[19] Use of $\in$ for the English cases instead of Π as in the ʔayʔaǰuθəm cases reflects the different syntax of these examples; the restrictor in ʔayʔaǰuθəm is a DP of type *e*, but in English the restrictor is an NP of type $\langle e, t\rangle$.

It first Innocently Excludes any alternatives that are members of all maximal sets of alternatives that can be negated consistently with the prejacent. Much like for the ʔayʔaǰuθəm cases above, while each alternative in *C* can be negated consistently with the prejacent, they cannot all appear in the same maximal set of alternatives that can be negated consistently with the prejacent without denying the claim that the choice function chooses a domain for the quantifier that allows the prejacent to be true in at least one possible world. This means that in every maximal set of alternatives that can be negated consistently with the prejacent, at least one alternative will be absent, meaning that no alternative appears in every maximal set that can be negated consistently with the prejacent. Illustrating with just three alternatives in *C*, the maximal sets that could be negated consistently with the prejacent are shown in (62). None of the alternatives will appear in all such maximal sets, so none of the alternatives will be Innocently Excludable.

(62) a. $\{\lambda w\, \forall x\, [\mathrm{x} \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_1}))) \rightarrow had(x)(g_i)(w)],$
$\lambda w\, \forall x[\mathrm{x} \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_2}))) \rightarrow had(x)(g_i)(w)]\}$

b. $\{\lambda w\, \forall x\, [\mathrm{x} \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_1}))) \rightarrow had(x)(g_i)(w)],$
$\lambda w\, \forall x[\mathrm{x} \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_3}))) \rightarrow had(x)(g_i)(w)]\}$

c. $\{\lambda w\, \forall x[\mathrm{x} \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_2}))) \rightarrow had(x)(g_i)(w)],$
$\lambda w\, \forall x[\mathrm{x} \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_3}))) \rightarrow had(x)(g_i)(w)]\}$

The exhaustivity operator will then include all alternatives that are members of all maximal sets that can be asserted consistently with the prejacent and the negation of all Innocently Excludable alternatives. Since there are no Innocently Excludable alternatives and all the alterantives can be asserted consistently with the prejacent and each other, they will appear in one such maximal set (63) and will thus be all Innocently Includable.

(63) $\{\ \lambda w\ \forall x\ [x \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_1}))) \rightarrow had(x)(g_i)(w)],$
$\lambda w\ \forall x\ [x \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_2}))) \rightarrow had(x)(g_i)(w)],$
$\lambda w\ \forall x\ [x \in f(Pow(thing \wedge [imagine(you)(\boldsymbol{w_3}))) \rightarrow had(x)(g_i)(w)]\ \}$

All these alternatives are asserted along with the prejacent, resulting in a stronger assertion and the inclusion of entities from all alternative domains of the quantifier. Once again this has the effect of domain widening.

Where there is no modal, but the domain of the quantifier is not clear from the context, I propose that the choice function is existentially closed. I assume that existential closure of the choice function is a last resort; usually the choice function must be contextually given and if it is not contextually provided, infelicity results (e.g. (42a)). However, cases like (59a) escape infelicity since it is clear that the addressee is not expected to recover a specific, contextually-salient set; this is likely signalled both by the use of a vague restrictor *thing* and intonation, as suggested in footnote 2. I therefore give the prejacent in (59a) the denotation in (64a). The alternatives have different possible values for the choice function.[20]

(64) a. Prejacent: $[\![(59c)]\!]^g = \lambda w \exists f \forall x\ [x \in f(Pow(thing)) \rightarrow packing(x)(g_i)(w)]$

b. C = $\{\ \lambda w\ \forall x\ [x \in \boldsymbol{f_1}(Pow(thing) \rightarrow packing(x)(g_i)(w)],$
$\lambda w\ \forall x\ [x \in \boldsymbol{f_2}(Pow(thing) \rightarrow packing(x)(g_i)(w)],$
$\lambda w\ \forall x\ [x \in \boldsymbol{f_3}(Pow(thing) \rightarrow packing(x)(g_i)(w)], ...\ \}$

Again, the contribution of *just* is to negate all Innocently Excludable alternatives and assert all Innocently Includable alternatives. Just as in the analyses of the previous examples, there are no Innocently Excludable alternatives. If every alternative appeared in the same maximal set of negated alterantives, the existential assertion in the prejacent that there is a choice function that can pick out the

[20] Existential closure of the choice function would result in a proposition that was far too weak except that these cases always involve domain widening, either involving the overt exhaustivity operator *just* or, I propose, a covert version of this operator.

domain of quantification would be contradicted. For every maximal set of negated alternatives, then, there must be at least one alternative that is not included. On the other hand, the alternatives can all belong to the same maximal set that is asserted consistently with the prejacent and with the negation of Innocently Excludable alternatives (since there are none), so the alternatives will all be Innocently Includable. Once again, this results in a stronger assertion than the prejacent, and one where the quantificational domain includes entities from all alternative domains given by the context, resulting in domain widening.

Before leaving this section, I examine how the semantics I have proposed for *ʔot* and *just* derive the canonical scalar exclusive reading. Let's revisit (8B'), repeated below as (65). In this case, the number is focused and is the locus of variation in the alternatives.

(65)	ʔɛʔ,	saʔa **ʔot**	χʷaχʷɩt	kʷ nisxʷən.
	ʔiʔ	saʔa=**ʔut**	χʷaχʷit	kʷ=niš-sxʷ-an
	yes	two=EXCL	egg	DET=be.here-CAUS-1SG.ERG.SBJ

‘Yes, I have just two eggs left.’ (sf | BW.2020/11/19)

The denotation of the prejacent is given in (66a); the choice function in this case determines the referent of the headless relative clause. The alternative set, with just three alternatives plus the prejacent for simplicity, is given in (66b):

(66) a. Prejacent: $[\![\text{(65)}]\!]^g = \lambda w \exists f[[\lambda x.\ \textit{two eggs}(x)](f(Pow(I\ have)))(w)]$

b. C = { $\lambda w \exists f[[\lambda x.\boldsymbol{\textit{one}}\ \textit{egg}(x)](f(Pow(I\ have)))(w)]$,
$\lambda w \exists f[[\lambda x.\ \boldsymbol{\textit{two}}\ \textit{eggs}(x)](f(Pow(I\ have)))(w)]$,
$\lambda w \exists f\ [[\lambda x.\ \boldsymbol{\textit{three}}\ \textit{eggs}(x)](f(Pow(I\ have)))(w)]$,
$\lambda w \exists f\ [[\lambda x.\ \boldsymbol{\textit{four}}\ \textit{eggs}(x)](f(Pow(I\ have)))(w)]$ }

The scalar exclusive *ʔot* combines with the prejacent and excludes all Innocently excludable alternatives. For simplicity we limit ourselves to just the three alternatives in (66b). In this case, the maximal set of alternatives that can be negated consistently with the prejacent are given in (67).

(67) $\{ \lambda w \exists f [[\lambda x.$ ***three*** *eggs*$(x)](f(Pow(I\, have)))(w)],$
$\lambda w \exists f [[\lambda x.$ ***four*** *eggs*$(x)](f(Pow(I\, have)))(w)] \}$

Since there is only one such set, these alternatives are all Innocently Excludable and ruled out. We turn next to the Innocent Inclusion contribution of the scalar exclusive. There is only one alternative that can be asserted consistently with the prejacent and the negation of all Innocently Excludable alternatives. There is therefore only one maximal set of alternatives meeting this criteria and it includes just this alternative and the prejacent itself:

(68) $\{ \lambda w \exists f [[\lambda x.$***one*** *egg*$(x)](f(Pow(I\, have)))(w)],$
$\lambda w \exists f [[\lambda x.$ ***two*** *eggs*$(x)](f(Pow(I\, have)))(w)] \}$

This alternative and the prejacent are therefore Innocently Included – though inclusion of the alternative is vacuous, since it is already entailed by the prejacent.

At this point, we have excluded all higher/stronger alternatives, just as in standard analyses of scalar exclusives. In fact, Bar-Lev and Fox (2017) propose a nearly parallel analysis for *only*, differing only in proposing that the Innocent Inclusion portion of the denotation is presupposed. I have represented the Innocent Inclusion portion of the denotation as at-issue throughout partially for simpler exposition and partly because in English the domain widening associated with the Innocent Inclusion portion of the denotation seems to be at-issue. While it is difficult to find the combination of scalar exclusive with universal quantifier under negation, where this configuration does occur, it seems to be the domain-widened meaning that is negated:

(69) a. Money is not just everything. [21]

b. By first understanding yourself, you have a better idea of what is useful to you and what isn't, and from there you build on only what's relevant, not just everything. [22]

In addition, the scalar exclusive reading of *just* also seem to behave as expected under the currect analysis when scoping under negation. Since both the Innocent Inclusion and Innocent Exclusion components are at-issue and appear as a conjunction, negation scoping over *just* should be able to negate either of the conjuncts. This appears to be correct. In (70a), negation targets the Innocent Exclusion component. In (70b), negation targets the Innocent Inclusion component. While (70b) is a little awkward, it is not infelicitous or contradictory in the manner expected if it presupposed that Mary invited at least two people.[23] Although (70c) is also not quite as bad as I might expect, I believe there is a contrast between the acceptability of (70b) and (70c), suggesting there could be a contrast between *just* and *only* in terms of whether the Innocent Inclusion component is at-issue or pre-supposed.

(70) a. *Context: Each of my friends was allowed to bring two of their friends to a gathering at my house. However, it seems to be getting more crowded than it should be. I remark to a friend of mine who is a mutual friend of Mary's: 'If everyone brought just two people with them, we'd have enough chairs, but we don't.' He tells me:*

It's not the case that Mary brought **just** two people. She brought five.

[21] https://www.assk.in/blog/why-going-for-a-career-in-the-banking-industry-can-be-the-best-decision-of-your-life/

[22] https://medium.com/personal-growth/bruce-lee-how-to-think-like-nobody-else-f01ea7804eba

[23] A possible explanation for the awkwardness might be the fact that the Innocent Inclusion component of the exclusive only contributes that the prejacent is true in these cases, and so there is not generally any reason not to use the plain prejacent under negation rather than the utterance with the scalar exclusive.

b. *Context: Each of my friends was allowed to bring two of their friends to a gathering at my house. However, it seems to be getting more crowded than it should be. Mary is often the culprit in these cases, bringing more people than she should. However, this time, I saw her arrive with two other people and assumed that these were her friends. In fact, they were someone else's friends. I remark to a friend of mine who is a mutual friend of Mary's: 'If everyone brought just two people with them, we'd have enough chairs, but we don't. At least Mary brought just two people this time.' He tells me:*
It's not the case that Mary brought **just** two people. She didn't bring anyone.

c. *Context: Each of my friends was allowed to bring two of their friends to a gathering at my house. However, it seems to be getting more crowded than it should be. Mary is often the culprit in these cases, bringing more people than she should. However, this time, I saw her arrive with two other people and assumed that these were her friends. In fact, they were someone else's friends. I remark to a friend of mine who is a mutual friend of Mary's: 'If everyone brought just two people with them, we'd have enough chairs, but we don't. At least Mary just/only brought two people this time.' He tells me:*
??It's not the case that Mary brought **only** two people. She didn't bring anyone.

Negation involves a bi-clausal construction in ʔayʔaǰuθəm (see Davis 2005 for discussion of Salish negation) complicating the investigation of parallel examples. The at-issueness of the contribution is not crucial for my purposes, however, and the analysis would not change substantially if the Innocent Inclusion part of the contribution was presupposed.

6 Extending the analysis: *any*

While *any* is not the main focus of this paper, this approach extends quite naturally to the analysis of Free Choice *any*. This is perhaps unsurprising as Bar-Lev and Fox's exhaustivity operator was originally proposed to handle Free Choice disjunction, and the purpose of this paper has been to extend its use to cases where domain alternatives are involved, while the analysis of Free Choice *any* has previously been proposed to involve domain alternatives (Chierchia 2006).

According to Chierchia's analysis, *any* asserts that there is an entity in the domain *D* in some world *w'* that matches the description of the restrictor *P* in *w'* and for which the predicate *Q* holds in the evaluation world *w*. The alternatives involve all possible subdomains of *D* that stand a chance (have at least one entity matching the restrictor) (71b).

(71) a. $\text{any}_{\text{D}} = \lambda P\ \lambda Q\ \exists w'\ \exists x \in D_{w'}\ [P_{w'}(x) \wedge Q_w(x)]$

b. $\text{ALT}\ (\text{any}_{\text{D}}) = \{\lambda P\ \lambda Q\ \exists w'\ \exists x \in D'_{w'}\ [P_{w'}(x) \wedge Q_w(x)]\text{: } D' \subseteq D \wedge D' \cap \lambda x\ \exists w'[P_{w'}(x)] \neq \oslash\ \}$ (Chierchia, 2006, 562)

Applying the analysis to an example such as (72) (based on Chierchia 2006, 561), we get the denotation for the prejacent in (73a) and for the alternative propositions in (73b), where alternatives involve specific subdomains of quantification.[24]

(72) Yesterday, I talked with (just) any student that came to see me.

[24] Here I ignore the subtrigging relative clause for simplicity of exposition. Chierchia (2006, 564–565) proposes that the obligatoriness of such a clause arises because it anchors the reference of the DP to the real world, while the reference of the head noun is evaluated in a world that is a variable bound by existential closure.

(73) a. $\exists w' \, \exists x \in D_{w'} \, [student_{w'}(x) \wedge talked.with_w(I, x)]$

Abbreviated: some_{D}(student)(λx I talked.with x)

b. Potential alternative assertions: $\text{some}_{\text{D}_\text{i}}$(student)($\lambda$x I talked.with x), for any $\text{D}_\text{i} \subset \text{D}$

Chierchia (2006, 561) argues that because the speaker didn't choose a specific subset of the domain, the hearer assumes the speaker does not have evidence for a specific smaller domain; this results in the FC implicature that no entity that could count as a student in the context (and came to see the speaker) is excluded. Chiercia ultimately proposes a null anti-exhaustivity operator to derive this implicature.

While Bar-Lev and Fox (2017) do not examine FC indefinites, their analysis can be extended to also account for these cases, and adopting their analysis has the advantage of deriving the FC implicature with the independently motivated *EXH* operator. I show how this can be accomplished below.

Following Chierchia, we can represent the domain alternatives for an utterance such as (72) as a complete join semilattice, as in (74).

(74)

	D = {a,b,c}	
D1 = {a, b}	D2 = {b,c}	D3 = {a,c}
D4 = {a}	D5 = {b}	D6 = {c}

Given the alternative domains in (74), we can represent the alternatives for (72) as in (75) (this assumes there are only three students).

(75) $\{ \, \exists x \in \{a, b, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a, b\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{b, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{b\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{c\}[student(x) \wedge talked.with_w(I, x)] \, \}$

Based on this set of alternatives, the maximal sets of alternatives that can be negated consistently with the prejacent are those in (76).

(76) a. $\{ \exists x \in \{a, b\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{b\}[student(x) \wedge talked.with_w(I, x)] \}$

b. $\{ \exists x \in \{a, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{c\}[student(x) \wedge talked.with_w(I, x)] \}$

c. $\{ \exists x \in \{b, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{b\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{c\}[student(x) \wedge talked.with_w(I, x)] \}$

It is not possible to include every alternative in the same maximal set of negated alternatives without contradicting the existential claim in the prejacent. This means that there is no alternative belonging to every one of these sets, and therefore no IE alternatives. These alternatives can all be asserted consistently with the prejacent, however. Since they are all consistent with each other, they form a single maximal set of alternatives that can be asserted consistently with the prejacent:

(77) $\{ \exists x \in \{a, b, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a, b\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{b, c\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{a\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{b\}[student(x) \wedge talked.with_w(I, x)],$
$\exists x \in \{c\}[student(x) \wedge talked.with_w(I, x)] \}$

Since all of these alternatives belong to single maximal set of alternatives that can be asserted consistently with the prejacent, all these alternatives are II. Since these alternatives will all be asserted, this derives the quasi-universal reading of *any* without resorting to universal quantification, just as in Chierchia's (2006) analysis, but without requiring the anti-exhaustivity operator he adopts.

7 Conclusion

In this paper, I have argued that the co-occurrence of scalar exclusives with universal quantifiers in ʔayʔaǰuθəm and English results in domain widening. I adopt the semantics of Bar-Lev and Fox's (2017) exhaustivity operator for both *ʔot* and *just*, so that they both rule out and rule in alternatives. When scalar alternatives are involved and the prejacent is not at the top of the scale, they exclude higher/stronger alternatives, which appear in every maximal set that can be negated consistently with the prejacent; this results in a canonical scalar exclusive reading. When domain alternatives are involved which neither entail nor are entailed by the prejacent, the scalar exclusives do not exclude the alternatives but include all alternatives that can occur in every maximal set that can be asserted consistently with the prejacent (and the negation of excluded alternatives); this results in domain widening. Finally, I extended the analysis to account for Free Choice *any*, building on the analysis proposed in Chierchia (2006).

This analysis predicts scalar exclusives to co-occur with universal quantifiers in other languages cross-linguistically to contribute domain widening. It also raises the possibility that scalar exclusives could have a similar contribution when associating with other lexical items picking out the top of a scale such as superlatives (*You're just the best!*) and perhaps the class of Extreme Degree Adjectives described in Morzycki (2012) (*It was just gigantic!*). Both of these lines of investigation are left for future research.

References

Alonso-Ovalle, L. (2005). Distributing the disjuncts over the modal space. In Bateman, L. and Ussery, C., editors, *North East Linguistic Society (NELS) 35*, pages 1–12.

Bar-Lev, M. and Fox, D. (2017). Universal free choice and innocent inclusion. In Burgdorf, D., Collard, J., Maspong, S., and Stefánsdóttir, B., editors, *Proceedings of SALT 27*, pages 96–115.

Beaver, D. I. and Clark, B. Z. (2008). *Sense and sensitivity: How focus determines meaning*. Wiley-Blackwell, Chichester.

Beltrama, A. (2016). Exploring metalinguistic intensification: The case of extreme degree modifiers. In Hammerly, C. and Prickett, B., editors, *Proceedings of NELS 46, vol. 1*, pages 79–92.

Berman, S. (1987). Situation-based semantics for adverbs of quantification. In *Issues in Semantics (University of Massachusetts Occasional Papers in Linguistics, Volume 12)*, pages 45–68. Graduate Linguistics Student Association (GSLA), Amherst, MA.

Brisson, C. (2003). Plurals, all, and the nonuniformity of collective predication. *Linguistics and Philosophy*, 26:129–184.

Chierchia, G. (2006). Broaden your views: Implicatures of domain widening and the ”logicality” of language. *Linguistic Inquiry*, 37.4:535–590.

Coppock, E. and Beaver, D. I. (2014). Principles of the exclusive muddle. *Journal of Semantics*, 31:323–362.

Davis, H. (2005). On the syntax and semantics of negation in Salish. *International Journal of American Linguistics*, 71:1–55.

Davis, H. (2007). Prosody-focus dissociation and its consequences: The case of Salish. Paper presented November 10, 2007, Nagoya, Japan.

Davis, H. (2010). A unified analysis of relative clauses in st’át’imcets. *Northwest Journal of Linguistics*, 4:1–43.

Davis, H. (2013). St’at’imcets and the nonexistence of t-s-v-o languages. Ms., UBC.

Elbourne, P. (2005). *Situations and Individuals*. The MIT Press, Cambridge/Mass:.

Fox, D. (2007). Free choice and the theory of scalar implicatures. In Sauerland, U. and Stateva, P., editors, *Presupposition and Implicature in Compositional Semantics*, pages 71–120. Palgrave MacMillan, London.

Gillon, C. (2006). *The semantics of determiners: Domain restriction in Sk̲wx̲wú7mesh*. PhD thesis, UBC, Vancouver.

Heim, I. (1990). E-type pronouns and donkey anaphora. *Linguistics and Philosophy*, 13:137–78.

Heim, I. and Kratzer, A. (1998). *Semantics in Generative Gramamr*. Blackwell, Malden.

Huijsmans, M., Reisinger, D., Lo, R., and Xu, K. (2018). A preliminary look at determiners in ʔayʔaǰuθəm. In Matthewson, L., Guntly, E., Huijsmans, M., and Rochemont, M., editors, *Wa7 xweysás i nqwal’utteníha i ucwalmícwa: He loves the people’s languages. Essays in honour of Henry Davis.*, pages 329–340. UBCOPL 6, Vancouver, BC.

Huijsmans, M., Reisinger, D., and Matthewson, L. (2020). Evidential determiners in ʔayʔaǰuθəm. In Reisinger, D. K. E., Green, H., Huijsmans, M., Mellesmoen, G., and Trotter, B., editors, *Papers for the 55th International Conference on Salish and Neighbouring Languages*, pages 165–182, Vancouver. UBCWPL.

Kadmon, N. and Landman, F. (1993). Any. *Linguistics and Philosophy*, 16.4:353–422.

Kalsang, J., Speas, M., and de Villiers, J. (2013). Direct evidentials, case, tense and aspect in Tibetan: evidence for a general theory of the semantics of evidential. *Natural Language and Linguistic Theory*, 31:517–561.

Kamp, H. (1974). Free choice permission. *Proceedings of the Aristotelian Society*, 74:57–74. doi:10.1093/aristotelian/74.1.57.

Koch, K. (2008). *Intonation and Focus in Nɬeʔkepmxcin (Thompson River Salish)*. PhD thesis, UBC, BC.

Koch, K. and Zimmermann, M. (2008). Focus sensitive operators in nɬeʔkepmxcin (thompson river salish). In Prinzhorn, M., Schmitt, V., and Zobel, S., editors, *Proceedings of Sinn und Bedeutung 14*, pages 237–255.

Kratzer, A. and Shimoyama, J. (2002). Indeterminate pronouns: The view from japanese. In Otsu, Y., editor, *Proceedings of the Third Tokyo Conference on Psycholinguistics*, Tokyo. Hituzi Syobo.

Matthewson, L. (1996). *Determiner systems and quantificational strategies: Evidence from Salish*. PhD thesis, UBC, Vancouver.

Matthewson, L. (1998). *Determiner Systems and Quantificational Strategies: Evidence from Salish*. Holland Academic Graphics, The Hague.

Matthewson, L. (1999). On the interpretation of wide-scope indefinites. *Natural Language Semantics*, 7.

Matthewson, L. (2001). Quantification and the nature of cross-linguistic variation. *Natural Language Semantics*, 9.

Matthewson, L. (2010). Evidential restrictions on epistemic modals. Presentation given at the Workshop on Epistemic Indefinites, University of Göttingen. Slides retrieved May 23, 2020 from http://www.engl-ling.uni-goettingen.de/epistemic/Program_files/Matthewson

Morzycki, M. (2012). Adjectival extremeness: Degree modification and contextually restricted scales. *Natural Language and Linguistic Theory*, 30:567–609.

Partee, B. (1995). Quantificational structures and compositionality. In Bach, E., Jelinek, E., Kratzer, A., and Partee, B., editors, *Quantification in Natural Language*. Kluwer, Dordrecht.

Rooth, M. (1996). Focus. In Lappin, S., editor, *The Handbook of Contemporary Semantic Theory*, pages 271–298. Blackwell, Oxford.

Shank, S. (2004). *Domain widening*. PhD thesis, UBC, Vancouver.

Speas, M. (2010). Evidentials as generalized functional heads. In Di Sciullo, A. and Hill, V., editors, *Edges, heads, and projections: Interface properties*, pages 127–150. John Benjamins, Amsterdam.

Szabolcsi, A. (2010). *Quantification*. Cambridge University Press, Cambridge.

von Fintel, K. (1994). *Restrictions on quantifier domains*. PhD thesis, UMass Amherst, Massachusetts.

Watanabe, H. (2003). *A morphological description of Sliammon, Mainland Comox Salish, with a sketch of syntax*. ELPR Publications Series AZ-040. Osaka Gakuin University, Osaka.

Wiegand, M. (2018). Exclusive morphosemantics: *Just* and covert quantification. In *Proceedings of the 35th West Coast Conference on Formal Linguistics*, pages 419–429, Somerville, MA. Cascadilla Proceedings Project.

Word count: 14183 (using Monterey Language Services pdf word count tool)