Expressions in focus*

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Abstract It is commonly claimed that, when a constituent is the *focus* of an occurrence of a sentence, certain alternatives to that constituent are relevant to our understanding of the sentence. Normally these are alternatives to the denotation of the focused constituent. However, Krifka (2007) briefly discusses the notion of *expression focus*, where the alternatives are linguistic items. Yet an adequate account of expression focus has not been given within the literature. This is despite the fact that it holds the potential to provide analyses of several important metalinguistic phenomena, including metalinguistic negotiation, metalinguistic negation and embedded pejorative expressions. This paper provides an account of expression focus and shows the explanatory power it holds with respect to metalinguistic phenomena.

Keywords: focus, information structure, metalinguistic, implicature, negation, pejoratives

1 Introduction

It is commonly claimed that, when a constituent is the *focus* of an occurrence of a sentence, certain alternatives to that constituent are relevant to our un-

derstanding of the sentence. For example, where $[\ ]_F$ marks the constituent in focus and capitalised morphemes are to be read with vocal emphasis, alternative properties that Yuri may have are relevant to our understanding of (1a), whereas alternative individuals that may have died are relevant to our understanding of (1b):

(1)   a.   Yuri [DIEd]$_F$.
        b.   [YUri]$_F$ died.

In (1a) and (1b), as for most occurrences of focus, it is alternatives to the denotation of the focus that are relevant to our understanding. However, Krifka (2007) briefly discusses the notion of *expression focus*, where the alternatives consist of linguistic items.[1] For example, alternative expressions that may be used to convey that Yuri died are relevant to our understanding of (2):

(2)   Yuri didn't [kick the BUCKet]$_{F_1}$, he [passed aWAY]$_{F_2}$.

Yet the literature lacks a detailed proposal for the formal analysis and pragmatics of expression focus. This paper will provide an account of expression focus and show the explanatory power it holds with respect to several important metalinguistic phenomena

In Section 2, I provide a more detailed overview of the notions of denotation and expression focus, and describe the framework of structured meanings frequently used to analyse denotation focus. In Section 3, I develop an account of expression focus. The formal aspect of this account provides structured meanings containing a property that holds of outputs of the grammar that stand in a certain relation to semantic values. The pragmatic component proposes that occurrences of sentences with expression focus conversationally implicate answers to questions under discussion that concern appropriate language use. In Section 4, I show that the resulting analysis is able to provide a unified account of three phenomena about which independent interest exists: metalinguistic negotiation, metalinguistic negation and embedded pejorative expressions.

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1 Some earlier work raises cases involving the same phenomenon. For instance, (2) is similar to examples that Horn (1989) takes to involve metalinguistic negation (see Section 4.2 below), and to examples that Wedgwood (2005: p. 20) describes as uses of focus with 'a distinctly 'metalinguistic' flavour' (see Section 2.4). To my knowledge, Krifka (2007) was the first to characterise the phenomenon as a use of focus to indicate the relevance of alternative linguistic items.

2 Background on focus

Section 2.1 describes the way prosody and questions under discussion help us to determine the focus of an occurrence of a sentence. Section 2.2 discusses Krifka's distinction between denotation focus and expression focus. Section 2.3 shows how a structured meaning framework assigns formal focus values to occurrences of sentences that include denotation focus, but is unable to assign focus values to occurrences of expression focus. Section 2.4 then considers the existing literature on expression focus.

2.1 Focus and communication

Focus has been widely discussed within linguistics as a crucial aspect of communication (see Chomsky 1971, Jackendoff 1972, Gussenhoven 1983, Ladd 1983, Baart 1987, Rooth 1985, 1992, Kratzer 1991, Lambrecht 1994, Steedman 1994, Erteschik-Shir 1997, Partee 1999, Herburger 2000, Büring 2007, 2016). In order to elaborate the role of focus, and identify the focused constituent in an occurrence of a sentence, a background theory of communication must be assumed.

I shall assume that communication may be modelled in terms of a *common ground*, which is a set consisting of the information mutually accepted by all interlocutors for the purposes of a conversation at a given time (Stalnaker 1978, 2002). A common ground must at least contain propositions, though non-propositional items are sometimes included in order to reflect interlocutors' additional assumptions.[2] Following Ginzburg 1995a,b, and Roberts 1996, I will assume that interlocutors' immediate communicative needs are modelled within the common ground by encoding the meaning of a question, along with their intention to answer it; the meaning of this question is then the *question under discussion* (*QUD*) at the relevant context. If a natural language sentence that *reflects* the QUD (that is, has the QUD as its meaning) is explicitly stated, then there is an *explicit* QUD operative at that context, whereas otherwise the QUD is *implicit*.

The focus of an occurrence of a sentence may be identified by means of the prosody and the QUD associated with that occurrence. With respect to prosody, it is widely accepted that focus can be identified in spoken En-

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2 For instance, some allow a common ground to contain the individuals (or representations of individuals) that are assumed to exist for the purposes of the conversation (see Karttunen 1969, Reinhart 1981, Heim 1982, Erteschik-Shir 1997).

glish via pitch accents (see Bolinger 1958, Halliday 1967, Selkirk 1984). Büring (2007: p. 447) describes a *pitch accent* as a 'local maximum or minimum of the fundamental frequency', indicated by capitalisation in written form. While there is debate about the correct rules governing exactly which items within a focus must receive a pitch accent,[3] the following generalisations are universally accepted for ordinary cases: focus must include the item that carries the clause-final pitch accent, and cannot include additional items to the right of it.[4] Focus choice is additionally constrained by the fact that an occurrence of a sentence may be felicitously used to answer a QUD only if it has an appropriate choice of focus (an idea to be rendered more precise in Section 2.3). For example, infelicity (marked by #) results when (1a) or (1b) is issued as a response to a question with a *wh*-phrase that fails to correspond to its focus:

(What property does Yuri have?)

(1a) Yuri [DIEd]$_F$.
(1b) #[YUri]$_F$ died.

(Who died?)

(1a) #Yuri [DIEd]$_F$.
(1b) [YUri]$_F$ died.

In sum, intoning a sentence with particular pitch accents restricts the possible choices of focus, and intending to utter a sentence with a certain choice of focus restricts the possible placement of pitch accents. Similarly, a QUD constrains the possible choices of focus for an occurrence of a sen-

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3 E.g., Gussenhoven (1983), Ladd (1983), Fuchs (1984), and Baart (1987) hold that it is possible for a clause to be in focus only if pitch accents occur on at least every argument and modifier that precedes the final accented word, whereas Chomsky (1971), Jackendoff (1972), Steedman (1994), and Büring (2016) frequently allow a single accented word to 'project' focus to an entire complex clause.

4 Three types of phenomena complicate the connection between pitch accents and focus. First, *second occurrence focus* has been argued to involve a focus that carries no pitch accent, but is prosodically marked through lengthened duration (for an overview, see Baumann 2016). Second, *elided focused material* appears possible despite the absence of the appropriate pitch-accented lexical items (for an overview, see Winkler 2016). Third, *fall-rise pitch accents* sometimes occur in clauses alongside stronger falling accents, and there is debate about whether such fall-rise accents mark topics that contain foci (e.g., Krifka 2007: p. 44) or focus-independent topics with specialised uses (e.g., Büring 1999: pp. 144-7). None of the examples in the current paper feature these phenomena.

tence that is to be felicitously used to answer it, and a choice of focus for an occurrence of a sentence constrains the QUDs that it may be used to answer.

2.2 Denotation focus and expression focus

The literature on focus centres on occurrences of sentences such as (1a) and (1b), where alternatives to the denotations of the focused items are relevant to understanding the occurrences. However, Krifka (2007) draws attention to cases where multiple focused expressions denote the same item, suggesting that focus is used to indicate the relevance of alternative expressions.[5] He provides the following two examples (2007: pp. 19–20):

(3)   a.   Grandpa didn't [kick the BUCKet]$_{F_1}$, he [passed aWAY]$_{F_2}$.
       b.   A: They live in BERlin.
              B: They live in [BerLIN]$_F$!

It would be implausible to analyse the foci of (3a) and (3b) as indicating the relevance of, respectively, alternative properties that Grandpa might have and alternative places where certain people might live. These observations led Krifka to distinguish between two types of focus, based on the kind of alternative that is relevant to understanding the occurrence of the sentence:

> *Denotation focus:* Non-linguistic alternatives to the denotation of (parts of) the focused constituent are relevant.
> *Expression focus:* Linguistic alternatives to (parts of) the focused constituent are relevant.

After making this distinction, Krifka provides no further details on expression focus. Nevertheless, his brief comments suggest that expression focus has two important features. First, when an occurrence of a sentence includes expression focus, it will be used to answer a QUD different from the one that its minimal variant that includes denotation focus will be used to answer. Second, whether an occurrence of a sentence is naturally understood to in-

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5 Throughout, I take an *expression* or *linguistic item* to be either an output of a grammar (see Section 3.1) or an inscription or utterance that an individual is using to realise an output of a grammar. Two expressions (or linguistic items) are distinct *iff* they are, or realise, distinct outputs of a grammar. When I describe an occurrence of an expression (or linguistic item) as *denoting* a certain item or having a certain *semantic value*, I mean that the semantic representation in the relevant output of the grammar denotes that item or has that semantic value.

volve expression focus or denotation focus need not depend on the form of the sentence. I discuss each feature in turn.

The *wh*-expression in a question reflecting the QUD that an occurrence of a sentence is felicitously used to answer will range over non-linguistic items when the occurrence displays denotation focus, and linguistic items for expression focus. For example, (1a) (*Yuri [DIEd]_F*) and (2) (*Yuri didn't [kick the BUCKet]_{F_1}, he [passed aWAY]_{F_2}*) are, respectively, most naturally understood to be felicitously used to answer QUDs reflected by the following:

(4)   a.   What property does Yuri have?
      b.   What expression is apt for conveying that Yuri has the property of having died?

While the standard way of formalising the effects of focus choice provides no means to analyse (2), or to represent the QUD reflected by (4b), Section 3.1 will develop an appropriate formal system for expression focus.

Secondly, sentence form alone does not determine whether an occurrence of a sentence is understood to involve denotation or expression focus. For instance, there are contexts where an occurrence of (1a) will naturally be understood to involve expression focus and provide an answer to (4b). An example of such a context is one where (1a) is issued in response to another individual's utterance of *Yuri kicked the bucket*. The pragmatics of determining whether an occurrence of focus should be construed as denotation or expression focus will be addressed in Section 3.2.

2.3   Formalising denotation focus values

The role of focus is often formalised by assigning some sort of focus value to expressions, in addition to their ordinary semantic values. I represent the *focus value* assigned by a theory to a semantic representation α relative to a context c as $[\![\alpha]\!]_c^f$, and the *ordinary semantic value* as $[\![\alpha]\!]_c^o$. The literature contains two main strategies for modelling focus values: *Alternative Semantics* (developed in Rooth 1985, Kratzer 1991) and *structured meaning frameworks* (developed in von Stechow 1981, Jacobs 1983, Krifka 1991). While the former strategy has been more widely adopted, several in the literature have argued in favour of the latter strategy (e.g., Kadmon 2001: pp. 309–10; Krifka 2001). Furthermore, it turns out to be simpler to formalise expression focus within a system of structured meanings. I therefore focus on this latter strategy.

First, I clarify some assumptions I am making about ordinary semantic values. Following Potts 2007, ordinary semantic values are derived from semantic representations (depicted in bold), rather than being derived directly from syntactic elements (cf. Heim & Kratzer 1998). Semantic representations are members of outputs of a grammar (see Section 3.1), whereas ordinary semantic values are items in a domain. Semantic representations are interpreted relative to a context of utterance c that establishes a model and a valuation function for variables. A *model* consists of a domain of individuals D_e, a non-empty set of contexts of evaluation (triples consisting of a world, time and location), a set of accessibility relations on those contexts of evaluation and an interpretation function that assigns to each constant of semantic type σ an extension in D_σ relative to each context of evaluation. In addition to the basic domains D_e and D_t, there are complex domains $D_{\langle\sigma,\tau\rangle}$, which contain functions from D_σ to D_τ where both σ and τ are well-formed semantic types. For simplicity, I follow Kadmon (2001: pp. 295–6) in implementing a structured meaning framework within a system where the interpretations of proper names are members of D_e, but other expressions are interpreted intensionally; this is achieved by identifying the domain of sentence interpretations, D_t, as a set of sets of contexts of evaluation (i.e., propositions). The ordinary semantic value of the semantic representation $\alpha(\beta)$ of a sentence would therefore be accurately represented as $[\![\lambda i.[\alpha(i)(\beta(i))]]\!]_c^o$, reflecting its status as a function from contexts of evaluation i to the extension of each constituent at i.[6] However, I omit lambda abstraction over contexts of evaluation variables when writing such interpretations, for simplicity.[7]

We are now in a position to consider focus values. As defined by von Stechow (1991: p. 43), *structured meanings* are sequences consisting of a property (i.e., a characteristic function of a set of items, often construed as a set of items for simplicity) along with at least one member of the domain to which the property applies. The ordinary semantic value of an occurrence of a sentence may be recovered by applying the first item in its structured meaning to the second:

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6 Following several model-theoretic approaches in the literature (e.g., Gamut 1990: pp. 104–5; Kadmon 2001: p. 297), I allow ordinary semantic values to be assigned to semantic representations that contain lambda terms.

7 A full presentation of the ideas to follow would make use of the standard Montagovian analysis (e.g., Montague 1973), treating the extension of a proper name as a generalized quantifier in $D_{\langle\langle e,t\rangle,t\rangle}$ and recursively defining the intensions of expressions.

Definition of structured meanings:

$\langle [\![\lambda x_1 \ldots \lambda x_n.R(x_1, \ldots, x_n)]\!]_c^o, \mathrm{d}_1, \ldots, \mathrm{d}_n \rangle$ is a *structured meaning* for α *iff* $[\![\lambda x_1 \ldots \lambda x_n.R(x_1, \ldots, x_n)]\!]_c^o(\mathrm{d}_1, \ldots, \mathrm{d}_n) = [\![\alpha]\!]_c^o$.

The *focus value* of an occurrence of a sentence is a structured meaning where the first member is derived by replacing each focused constituent in the semantic representation with a distinct lambda-bound variable.[8] Additional members of the sequence are the ordinary semantic values of the focused constituents, ordered in such a way that successive rounds of functional application will cause each lambda-bound variable to be replaced with the ordinary semantic value of the relevant constituent.

For example, the first member of the focus value of (1a) will be the property of being a property that applies to Yuri, and that of (1b) will be the property of being an individual who has died:

(5)   a. $[\![\mathbf{died}_F(\mathbf{yuri})]\!]_c^f = \langle [\![\lambda X.[X(\mathbf{yuri})]]\!]_c^o, [\![\mathbf{died}]\!]_c^o \rangle$
       b. $[\![\mathbf{died}(\mathbf{yuri}_F)]\!]_c^f = \langle [\![\lambda x.[\mathbf{died}(x)]]\!]_c^o, [\![\mathbf{yuri}]\!]_c^o \rangle$

Structured meanings may be thought of as representing the alternatives to a focused item in the following sense: the first member of each structured meaning is a property of items from the domain to which the ordinary semantic value of the focused material belongs, and therefore calls to mind alternative items in that domain that may possess or lack the relevant property.

The relation between QUDs and their felicitous answers may now be stated more precisely. Within structured meaning frameworks, *wh*-questions are analysed as expressing properties derived by lambda abstraction with respect to the *wh*-word in the semantic representation (see Hull 1975, Tichy

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8 I assume that, when an expression is in focus, its semantic representation may be marked with $_F$ in order to reflect this. This might seem like a non-trivial assumption, given that the Montagovian tradition treats semantic representations as eliminable. It is worth noting that, firstly, marking semantic representations for focus without further remark is common in the literature on focus values (e.g., Kadmon 2001: p. 297). Secondly, semantic representations marked for focus would continue to be inessential to ordinary semantic values. Thirdly, for those who take focus to be marked on syntactic phrases (e.g., Selkirk (1984)), or pitch accents to be reflected in syntactic structure (e.g., Steedman (2000)), semantic representations marked for focus would be in principle eliminable even for the derivation of focus values. Finally, the view that an intermediate level of semantic representation is essential to meaning is accepted by a number of semantic theories that build upon Montague's work anyway (e.g., Heim 1982, Groenendijk & Stokhof 1991, Kamp & Reyle 1993).

1978, Hausser & Zaefferer 1979, von Stechow & Zimmerman 1984). The *wh*-word may impose additional constraints on the property; for example, any question that includes the word *who* will express a property that can only hold of people. The ordinary semantic value of a question is an ordered pair consisting of the property expressed by means of appropriate lambda abstraction and the set of items to which the property is constrained to apply by the *wh*-word (see Krifka 2001: p. 289). Applying the first member of the semantic value of a question to appropriately-typed arguments then yields a proposition. This proposition is a *full answer* to the question, while the appropriately-typed arguments that yield a full answer are *term answers*.[9] For example, *Who died?* has the ordinary semantic value given in (6a). Applying the first member of this semantic value to the term answer provided by the semantic value of **yuri**, as in (6b), yields the indicated full answer:

(6) a. $\langle [\![\lambda x.[\mathbf{died}(x)]]\!]_c^o, [\![\mathbf{person}]\!]_c^o \rangle$
     b. $[\![\lambda x.[\mathbf{died}(x)]]\!]_c^o([\![\mathbf{yuri}]\!]_c^o) = [\![\mathbf{died}(\mathbf{yuri})]\!]_c^o$

These ideas lead Krifka (2001: p. 296) to give a definition that may be summarised as follows:

> *Definition of congruence:* A focus value f is *congruent* with the ordinary semantic value q of an occurrence of a question *iff* the first member of f is identical to the first member of q, and the second member of f is an element of the second member of q.

For example, checking the focus values given in (5a) and (5b) shows that the focus value of (1b) (*[YUri]_F died*) is congruent with (6a), whereas the focus value of (1a) (*Yuri [DIEd]_F*) is not.[10]

Despite the elegance of the emerging picture, there is no way to analyse expression focus. Within a structured meaning framework, the focus value contains a property in a domain constructed from the domains D_e and D_t.

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9 My usage of *full answer* and *term answer* slightly departs from that of von Stechow & Zimmerman (1984). Note that a proposition may count as a full answer to a question even if the answer it provides is incomplete or false.

10 Combining this definition of congruence with an analysis that treats the ordinary semantic values of proper names as generalized quantifiers (see fn. 7) would allow the focus values of occurrences of sentences such as *[(EVeryone / NObody / Three of Yuri's FRIENDS)]_F died* to be congruent with the QUD reflected by *Who died?*. On the other hand, as discussed by Krifka (2001), the focus values of occurrences of sentences such as *Maybe [YUri]_F died, [YUri]_F got sick and died* or *I don't know* will not, and should not, count as congruent with (6a).

Hence the alternative items of which this property holds, which the focus value calls to mind, will always be *non-linguistic* items.

2.4 The existing literature on expression focus

Other than Krifka's brief consideration of expression focus, little has been written about the phenomenon. Unusual uses of focus that bear varying degrees of similarity to expression focus are discussed by Artstein (2004), Erteschik-Shir (1997, 1999b), Rudin et al. (2016), and Stevens (2016), but none of these discussions target the exact phenomenon.[11] To my knowledge, the only other papers targeting the phenomenon are Wedgwood 2005 and Li 2017, which include the following clear examples of expression focus:

(7) a.   A: Do you really eat rutabaga at Burns suppers?
         B: We only eat [NEEPS]$_F$.[12]   (Wedgwood 2005: p. 20)
     b.   A: Look! Some gooses are flying.
         B: No. Some [GEESE]$_F$ are flying.   (Li 2017: p. 345)

Yet neither of these papers provide a complete account of expression focus. Wedgwood's central aim is to argue that existing analyses of focus lack the

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11 Erteschik-Shir (1997: p. 121) discusses 'metalinguistic' focus, which she describes as cases where 'a previous utterance (possibly implied) is being objected to'. This notion includes examples that count as instances of denotation focus, such as *No, I didn't see [SUsan]$_{F_1}$, I saw [PEter]$_{F_2}$* (Ibid.), and Erteschik-Shir consistently treats the alternatives evoked by 'metalinguistic' focus as non-linguistic items. Artstein (2004) analyses focus that occurs below the level of words, in order to handle sentences such as *It's a stalag[MITE]$_{F_1}$, not a stalac[TITE]$_{F_2}$*. He proposes that such occurrences of focus indicate the relevance of alternative words with morphemes that are phonologically similar to the unfocused morphemes, hence Artstein's account is inapplicable to cases of expression focus that involve no phonological similarity between the focused items (e.g., (3a)). Rudin et al. (2016) consider the role of focus in identifying the word that is used to correct a speaker's mistake, in sentences such as *Anders made, uh, sorry, Anders [ATE]$_F$ a taco.* Despite the use of focus to replace one expression with a more appropriate expression, their analysis continues to treat the focused item as indicating alternative denotations. Finally, Stevens (2016: p. 436) elaborates how speakers may deviate from an expected prosodic pattern in order to convey additional content. For example, the unusual choice to include pitch accents on both occurrences of *Americans* in *We saw [AMERicans]$_{F_1}$ betraying [AMERicans]$_{F_2}$!* is licensed by the speaker's intention to convey that it is surprising that an American should betray other Americans. While Krifka's cases involve the use of focus to convey information that is seemingly not part of literal content, the prosody is not unexpected in the sense discussed by Stevens.

12 Note that *rutabaga* and *neeps* are respectively the American English and Scots words for the vegetable called *swede* in England.

resources to handle occurrences of expression focus, a claim with which I agree (see the end of Section 2.3). He advocates an account of all types of focus based on general pragmatic mechanisms. The only detail he gives about the envisaged mechanisms is that in cases where 'incoherence' results from assuming that the focused element presents new and relevant information, discourse participants may understand the utterance to convey a relevant proposition if they 'concentrate on the form of the words used' (Wedgwood 2005: p. 35). For example, when the focused element of an occurrence of *Yuri didn't [kick the BUCKet]$_F$* cannot coherently be thought to present new and relevant information, we may arrive at a relevant proposition through concentrating on the form of the expression *kick the bucket*. Wedgwood does not elaborate the envisaged mechanisms in sufficient detail to allow a full analysis of cases of expression focus. The pragmatic account I propose in Section 3.2 aims to issue clear predictions about how individuals access metalinguistic information, and which information they are likely to access in particular contexts.

Li provides a formal analysis of expression focus, adapting machinery from Potts 2007 and defining a special predicate that relates an expression to the semantic value it is used to express. The account I develop in Section 3.1 employs similar mechanisms. However, there are foundational differences between the two formal accounts. Li presents a fully compositional system, which treats the denotation of an occurrence of a sentence with expression focus as a pair of propositions consisting of its ordinary semantic value and a claim that the focused expression is used to express a particular semantic value at that context (I provide further details in an appendix). For instance, Li would analyse *Yuri didn't [kick the BUCKet]$_F$* relative to c by assigning it a pair consisting of the proposition that Yuri did not die and the proposition that the linguistic expression *kick the bucket* is used to express the property of having died at c. In contrast, I define focus values that are separate from the denotations of occurrences of sentences that involve expression focus, such that these focus values affect common grounds exclusively through pragmatic processes. Moreover, I allow the special predicate within expression focus values to interact with the semantic representations of unfocused sentential operators. For example, my analysis of *Yuri didn't [kick the BUCKet]$_F$* will take it to most naturally convey the proposition that the expression *kick the bucket* is not apt for conveying that Yuri died, and to sometimes convey the proposition that the expression *kick the bucket* is apt for conveying that Yuri did not die.

Several considerations favour the approach developed in the current paper over Li's approach. First, operators within an occurrence of a sentence are often understood to take scope over the special predicate involved in expression focus values, such as in (3a), (7a), and (14a) — (14e). For instance, (7a) is most naturally understood to convey that *neeps* is the only expression that is apt for conveying that swede is a thing we eat, rather than that *neeps* is an expression that is apt for conveying that swede is the only thing we eat. Yet these understandings cannot be formulated within a system where the special predicate only ever relates focused material to the semantic value it is used to express.[13]

Secondly, Li predicts that occurrences of sentences with expression focus always denote a pair of propositions consisting of the ordinary semantic value and a claim about expression use. While Li does not explicitly commit himself to the view that both of these propositions are incorporated into the common ground, his account would need to be supplemented with some pragmatic component in order to explain why hearers often naturally understand speakers to exclusively communicate the second proposition. In Section 3.2, I argue that the uninformative nature of the ordinary semantic values of occurrences of sentences with expression focus normally causes the sole addition to the common ground to be a proposition about expression use. Finally, Wedgwood (2005: p. 33) presents general considerations in favour of a non-compositional, pragmatic treatment of focus, arguing that 'we should not over-burden and over-complicate our grammar-semantics interface with mechanisms that exist only to derive what independently necessary pragmatic principles will deliver for free'. Since one of Li's central aims is to develop a compositional analysis of expression focus, the targeting of the grammar-semantics interface is integral to his approach. A more detailed discussion of the technical aspects of Li's (2017) account, and of the differences between his proposal and my own, is reserved for the appendix.

In sum, the account I develop accords with Wedgwood's claim that accounts of expression focus require a pragmatic component; yet my proposal diverges from Wedgwood's insofar as it provides a means of formalising the contribution of expression focus, in addition to including a detailed pragmatic component. On the other hand, the formal aspects of my proposal em-

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13 Li (2017: fn. 2) suggests that an account of metalinguistic negation might explain how negation operators appear to sometimes cancel non-at-issue content, though he does not develop this idea. For some concerns about such a strategy, see the discussion of metalinguistic negation in Section 4.2.

ploy some similar mechanisms to those used by Li, yet the formal differences and the addition of a pragmatic component are essential to an adequate analysis of expression focus.

3 An account of expression focus

Section 3.1 develops a formal representation of expression focus values, achieved by supplementing the structured meaning framework described in Section 2.3 with mechanisms to allow metalinguistic uses of expressions. Section 3.2 discusses the pragmatics, arguing that occurrences of sentences with expression focus conversationally implicate answers to QUDs concerning apt language use. Section 3.3 justifies some features of the proposal.

3.1 Formalising expression focus values

In order to construct focus values that are able to model the expression focus of an occurrence of a sentence, two main modifications are necessary. First, the alternatives presented by the focus value must be linguistic rather than non-linguistic items. Second, the focus value of the occurrence of the sentence must be congruent with the ordinary semantic value of a question pertaining to the use of language. These modifications may be implemented within a structured meaning framework by treating the first item of a focus value as a property of expressions, which is furthermore identical to the first member of the ordinary semantic value of a question pertaining to which expressions are apt for conveying certain information. I will describe resources developed in Potts 2007 that allow properties of expressions to be defined. I then define an Apt relation that holds between sets of expressions and ordinary semantic values.

Potts develops an account of subclausal quotations such as the following:

(8) a. When in Santa Cruz, Peter orders "[eɪ]pricots" at the local market.
     b. When in Amherst, Peter orders "[æ]pricots" at the local market.

He claims (2007: p. 405) that 'the quoted expressions pick out linguistic objects but also have the usual semantics of their quotation-free counterparts (here, apricot)'. He therefore develops a system in which natural language expressions may denote natural language expressions, whilst retaining an accessible ordinary semantic value within a domain of non-linguistic items. He begins by treating the output of natural language grammars as triples

of the form $\langle \Pi; \Sigma; \alpha : \sigma \rangle$, where Π is a phonological representation, Σ is a syntactic representation, and α is a semantic representation of type σ. For example, one output of the grammar of English would be as follows, where V abbreviates whatever syntactic representation one's preferred system assigns to intransitive verbs: $\langle [\text{daɪd}]; V; \textbf{died} : \langle e, t \rangle \rangle$. I will often abbreviate an output of the grammar $\langle \Pi; \Sigma; \alpha : \sigma \rangle$ as $\langle \dots; \alpha : \dots \rangle$.

Potts then adds a third basic domain D_u, the domain of well-formed outputs of a grammar, which has an empty intersection with the domain D_e of non-linguistic entities. He defines a semantic quotation function, correlated with the addition of quotation marks, that takes any well-formed output of the grammar and yields a semantic representation that denotes an element of D_u. Given that expression focused items need not be transcribed with quotation marks, I define a covert function U that optionally applies to outputs of the grammar, otherwise following Potts' definition of the semantic quotation function:

> *Definition of U:* If $b = \langle \Pi; \Sigma; \alpha : \sigma \rangle$ is well-formed, then $\langle \Pi; \Sigma; U(b) : u \rangle$ is well-formed, and $[\![U(b)]\!]_c^o = b$.

From an output of the grammar b we may generate a phonologically and syntactically identical item that denotes b. For example, we may generate: $\langle [\text{daɪd}]; V; U(\langle [\text{daɪd}]; V; \textbf{died} : \langle e, t \rangle \rangle) : u \rangle$ such that $[\![U(\langle [\text{daɪd}]; V; \textbf{died} : \langle e, t \rangle \rangle)]\!]_c^o = \langle [\text{daɪd}]; V; \textbf{died} : \langle e, t \rangle \rangle$.

It is important for both the current project and for Potts' own project that the semantic representation in an output of the grammar b may be recovered from $U(b)$, in order to allow the reconstruction of the ordinary semantic value of an expression that has been converted to an item of type u. Potts defines a function SEM that maps each triple in D_u to the semantic representation specified within that triple:

> *Definition of SEM:* $SEM(\langle \Pi; \Sigma; \alpha : \sigma \rangle) = \alpha$.

When applied to the semantic value of a type u expression, SEM will return a semantic representation. That is: $SEM([\![U(\langle \Pi; \Sigma; \alpha : \sigma \rangle)]\!]_c^o) = SEM(\langle \Pi; \Sigma; \alpha : \sigma \rangle) = \alpha$. Moreover, the ordinary semantic value of the application of the SEM function to an interpreted type u item will be the ordinary semantic value of

the semantic representation contained in that item. That is: $[\![SEM([\![U(\langle\Pi;\Sigma;\alpha\!:\!\sigma\rangle)]\!]_c^o)]\!]_c^o = [\![\alpha]\!]_c^o.$[14]

The first modification required to model expression focus has therefore been implemented: a domain of linguistic entities has been defined, along with a means of converting an output of a grammar $\langle\Pi;\Sigma;\alpha\!:\!\sigma\rangle$ into a semantic representation $U(\langle\Pi;\Sigma;\alpha\!:\!\sigma\rangle)$ that denotes an entity in this domain. Furthermore, a way of recovering the ordinary value of α from $U(\langle\Pi;\Sigma;\alpha\!:\!\sigma\rangle)$ by means of the *SEM* function has been given. This allows properties of expressions to be defined, including relations that hold between linguistic and non-linguistic items.

The second modification is motivated by the observation in Section 2.2 that occurrences of sentences with expression focus are used to answer QUDs pertaining to which expressions are apt for conveying certain propositions. For example, I claimed that (2) (*Yuri didn't [kick the BUCKet]$_{F_1}$, he [passed aWAY]$_{F_2}$*) is naturally understood as providing an answer to the QUD reflected by (4b) (*What expression is apt for conveying that Yuri has the property of having died?*). I therefore define Apt_σ below, which is of type $\langle\langle u,t\rangle, \langle\sigma,t\rangle\rangle$ and denotes a relation that holds between a set of outputs of the grammar and an ordinary semantic value in D_σ:

> *Definition of Apt_σ:* Where $[\![\mathcal{U}_1]\!]_c^o \dots [\![\mathcal{U}_n]\!]_c^o \in D_u$ and $[\![\alpha]\!]_c^o \in D_\sigma$, $[\![Apt_\sigma(\{\mathcal{U}_1, \dots, \mathcal{U}_n\})(\alpha)]\!]_c^o(i) = 1$ *iff* $[\![\mathcal{U}_1]\!]_c^o \dots [\![\mathcal{U}_n]\!]_c^o$ are apt for conveying $[\![\alpha]\!]_c^o$ relative to the context of evaluation i.

I now distinguish a *d(enotation)-focus value* of α $[\![\alpha]\!]_c^{d.f}$, defined as in Section 2.3, from a set of *e(xpression)-focus values* $[\![\alpha]\!]_c^{e.f}$, defined as follows:

> *Definition of e-focus values:*
> Suppose $[\![\alpha]\!]_c^{d.f} = \langle[\![\lambda x_1 \dots \lambda x_n.R(x_1, \dots, x_n)]\!]_c^o, d_1, \dots, d_n\rangle$.
> Then $\langle[\![\lambda\mathcal{U}_1 \dots \lambda\mathcal{U}_n.O_1 \dots O_m[Apt_\sigma(\{\mathcal{U}_1, \dots, \mathcal{U}_n\})(R'(SAL(\mathcal{U}_1), \dots, SAL(\mathcal{U}_n)))]](y_m) \dots (y_1)]\!]_c^o, b_1, \dots, b_n\rangle \in [\![\alpha]\!]_c^{e.f}$ *iff*:

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14 The usage of semantic interpretation brackets within semantic interpretation brackets is present in Potts' definition of *SEM* (see 2007: pp. 414-5). Presumably he intends the inner semantic value to be calculated first in order to yield an output of the grammar, before the *SEM* function applies to this output of the grammar in order to return the semantic representation specified within the output of the grammar; the outer semantic interpretation brackets then apply to this semantic representation to produce its semantic value in the usual way.

i. $O_1 \dots O_m$ are m (possibly 0) operators such that each O_k is of type $\langle t, \tau \rangle$ and is present in R, and y_k is the additional argument of O_k present in R when $\tau \neq t$.

ii. For any type $\langle t, \tau \rangle$ operators O, O' present in R, O takes scope over O' in $[\![\alpha]\!]_c^{df}$ iff O takes scope over O' in each member of $[\![\alpha]\!]_c^{ef}$.

iii. R' is identical with R, except $O_1 \dots O_m$ and $(y_m) \dots (y_1)$ are absent from R'.

iv. For each $[\![\mathcal{U}_k]\!]_c^o \in D_u$ such that $[\![\mathcal{U}_k]\!]_c^o = \langle \dots; \beta : \rho \rangle$, $[\![SAL(\mathcal{U}_k)]\!]_c^o$ is some contextually salient $d \in D_\rho$.

v. $b_1, \dots, b_n \in D_u$.

vi. $[\![\lambda\mathcal{U}_1 \dots \lambda\mathcal{U}_n.O_1 \dots O_m R'(SEM(\mathcal{U}_1), \dots, SEM(\mathcal{U}_n))(y_m) \dots (y_1)]\!]_c^o$ $(b_1, \dots, b_n) = [\![\alpha]\!]_c^o$.

This definition takes the d-focus value of a semantic representation α where the unfocused material R possibly includes a number of *sentential operators* (semantic representations of type $\langle t, \tau \rangle$, which apply to a sentence to produce another item), and yields a set of available e-focus values.[15] The purpose of defining a *set* of e-focus values is to allow these sentential operators to take diverse scope positions with respect to Apt.[16] A consideration of the available construals for occurrences of sentences with sentential operators (e.g., (2), (14a) — (14e), (16a), etc.) indicates that the scope relations between unfocused operators in a semantic representation are preserved in the derived e-focus values, and Apt takes some position within this series of operators. Hence clause (i) specifies that, for each e-focus value in this set, possibly some or all of these sentential operators take scope over Apt, with any additional arguments of the operators moved outside the scope of Apt. Clause (ii) ensures that each sentential operator in an e-focus value takes scope over all and only those sentential operators that it takes scope over in the d-focus value from which the e-focus value is derived. Clause (iii)

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15 The analysis is restricted to sentential operators partly for simplicity, and partly because it is unclear whether there are cases of scope interactions between other types of operators and Apt in e-focus values. If there turn out to be such cases, the definition could be extended accordingly.

16 An alternative way of achieving this aim would be to define a single *underspecified e-focus value* for a semantic representation α where the relative scope of Apt and other operators is not determined (for underspecified approaches to scope, see Cooper 1983, Reyle 1993, Bos 2002, Fox & Lappin 2005, Copestake et al. 2006). Each choice of scope relations would result in a distinct *fully-specified e-focus value* for α. Since this strategy would require more complex machinery, it has not been implemented for current purposes.

specifies that R' in an e-focus value is R in the associated d-focus value after the removal from R of the operators (and their non-sentential arguments) that take scope over Apt in that e-focus value. R' and R will always be of the same semantic type, since removing sentential operators (and their non-sentential arguments) from the semantic representation of a sentence yields the semantic representation of another sentence.

Next, the definition states that each semantic representation of a focused item in α is replaced in the second argument of Apt with an occurrence of SAL that has a distinct lambda-bound variable as its argument. Clause (iv) states that, when SAL applies to an argument that denotes an output of the grammar, the resulting ordinary semantic value is a contextually salient item in the domain corresponding to the semantic type specified in that output of the grammar.[17] For example, when $[\![\mathcal{U}]\!]_c^o = \langle\ldots; \textbf{died} : \langle e,t\rangle\rangle$, $[\![SAL(\mathcal{U})]\!]_c^o$ will be a salient property in $D_{\langle e,t\rangle}$, such as the property of having died. This approach is motivated by the fact that occurrences of expression focus are very frequently, but not always, used to convey aptness claims where the ordinary semantic value of the focused expression contributes to the second argument.[18] The ordinary semantic value of the focused expression will frequently serve as the salient item at a context because, firstly, this semantic

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17 For current purposes, I follow Mount (2008: p. 154) in taking an item's being *salient* to mean that it is 'the focus of perceptual or cognitive attention' with respect to the discourse participants at a context. I take it for granted that a non-linguistic item may have the property of salience, possibly by virtue of inheriting it from the salience of an associated discourse referent or other type of mental representation (as in, e.g., Prince 1981, Ariel 1990, Gundel, Hedberg & Zacharski 1993, von Heusinger 2006, Claus 2011). I assume that each $[\![SAL\ (\mathcal{U})]\!]_c^o$ will be a unique salient item at a context c, and I will often describe this item as '*the* salient item'; though this is not intended to rule out the possibility that multiple members of the same domain are equally salient at a context.

18 For every occurrence of a sentence involving expression focus considered so far, the second argument of Apt is naturally understood to be the ordinary semantic value of that occurrence after the removal of any sentential operators that take scope over Apt. Yet this is not always the case:

> A: On the day Yuri died, I stepped on his toe and he kicked the bucket.
> B: Yuri didn't [kick the BUCKet]$_{F_1}$, he [blew a GASKet]$_{F_2}$. (You're getting your English idioms confused.)

B is naturally understood to convey that the expression *kick the bucket* fails to be apt for conveying that Yuri has the property of having become suddenly upset, but the expression *blew a gasket* is apt for conveying that Yuri became upset. B cannot plausibly be understood to convey that *kick the bucket* fails to be apt for conveying that Yuri has the property of having died. The cases of metalinguistic negotiation in Section 4.1 are additional examples

value will belong to the domain appropriate for the salient item. Secondly, the semantic value of an expression that has just been uttered is generally salient: an expression will often be uttered because its semantic value is already salient, and the act of uttering an expression will normally render its semantic value salient if it is not already so (see Arnold 2010: pp. 189–91; Hajičová, Kuboň & Kuboň 1990: p. 144; Lewis 1979: pp. 348–50; Prince 1981: p. 236).

Clause (v) then requires the members of an e-focus value additional to its first member to be outputs of the grammar. Clause (vi) specifies that the ordinary semantic value of α is recovered from each e-focus value by: removing Apt along with its first argument, replacing each occurrence of SAL with an occurrence of SEM, then applying the result of this process to the additional members of the e-focus value. It follows that each additional member of an e-focus value is an output of the grammar that includes the semantic representation of a focused constituent.

Putting all of this together, an e-focus value where Apt_σ takes widest scope has a first member consisting of a property that holds of those outputs of the grammar that form a set that stands in an Apt relation to a particular ordinary semantic value in D_σ. This ordinary semantic value is derived by combining the semantic values of unfocused material in α with contextually salient items. The domains to which these salient items belong correspond with the semantic types specified by the outputs of the grammar in the first argument of Apt_σ. The ordinary semantic value of the result of applying the first member of an e-focus value to the additional members is the proposition that the focused items in the occurrence of α are apt for conveying the semantic value in D_σ. There are two differences for an e-focus value where some sentential operator takes scope over Apt_σ: the relation in which the set of outputs of the grammar stands is an Apt relation that has been modified by the semantic value of that operator (e.g., a negation operator would yield the relation of *failing* to stand in an Apt relation); and the operator is omitted from the unfocused material in α that contributes to the second argument of Apt_σ.

For example, the only available e-focus value of an occurrence of (1a) at c will have as its first member the property of being an output of the grammar that stands in an Apt relation to the proposition that the salient property at c holds of the ordinary semantic value of **yuri**. The only available e-focus

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where the ordinary semantic values of focused items possibly fail to contribute to the second argument of Apt.

value of (1b) will have as its first member the property of being an output of the grammar that stands in an Apt relation to the proposition that the ordinary semantic value of **died** holds of the salient individual at c:

(9) a. $[\![\mathbf{died}_F(\mathbf{yuri})]\!]_c^{ef} = \{\langle[\)]\!]_c^o,$
          $[\![U(\langle...;\mathbf{died}:...\rangle)]\!]_c^o\rangle\}$

  b. $[\![\mathbf{died}(\mathbf{yuri}_F)]\!]_c^{ef} = \{\langle[\![\lambda\mathcal{U}.[Apt_t(\{\mathcal{U}\})(\mathbf{died}[SAL(\mathcal{U})])]\!]_c^o,$
          $[\![U(\langle...;\mathbf{yuri}:...\rangle)]\!]_c^o\rangle\}$

For many contexts, the salient item will be the property of having died for (1a), and the individual Yuri for (1b).

Finally, the definition of e-focus values ensures that a QUD pertaining to apt language use may be reconstructed for an occurrence of a sentence for which a unique e-focus value has been selected. The definition of congruence in Section 2.3 predicts that (say) (1a) will not only have a d-focus value congruent with the *d(enotation)-QUD* given in (10a) (presented alongside an occurrence of a question that reflects it), but also an e-focus value congruent with the *e(xpression)-QUD* in (10b):

(10) a. $\langle[\![\lambda X.[X(\mathbf{yuri})]]\!]_c^o, D_{\langle e,t\rangle}\rangle$
          (What property does Yuri have?)
  b. $\langle[\)]]\!]_c^o, D_u\rangle$
          (What expression is apt for conveying that Yuri has the contextually salient property?)

Of course, it was initially suggested that an occurrence of a sentence like (2) will be felicitously used to answer an e-QUD concerning Yuri's having the property of having died (see (4b)), rather than one concerning Yuri's having the contextually salient property. Yet whenever we are confident that an occurrence of a sentence with expression focus will be understood relative to a certain salient item at a given context, we may paraphrase its e-focus values and their congruent e-QUDs by including an expression that denotes that salient item. As previously mentioned, the salient item will very frequently be the ordinary semantic value of the focus. Hence relative to many contexts, we may informally describe (10b) as the e-QUD reflected by *What expression is apt for conveying that Yuri has the property of having died?*.

This completes the implementation of both modifications required to formalise expression focus values. The first member of an e-focus value is a property that holds of those sets of outputs of the grammar that stand in an

Apt relation (possibly modified by the ordinary semantic values of sentential operators) to certain ordinary semantic values. Moreover, these e-focus values are congruent with e-QUDs pertaining to apt language use.

3.2   The pragmatics of expression focus

Four issues surrounding the pragmatics of expression focus require consideration. The first concerns how occurrences of sentences that involve expression focus are used to answer e-QUDs, given that their ordinary semantic values fail to constitute full answers to e-QUDs. The second concerns how discourse participants decide whether an occurrence of a sentence involves denotation or expression focus when there is no explicit QUD. The third concerns how discourse participants reconstruct a unique e-focus value for an occurrence of a sentence in the absence of an explicit e-QUD. The fourth concerns the factors determining whether certain expressions stand in an Apt relation to particular semantic values. My response to the first issue will be that occurrences of sentences with expression focus conversationally implicate full answers to e-QUDs via a Gricean reasoning process. I then claim that hearers are able to infer that the speaker intends to answer an e-QUD rather than a d-QUD, as part of the same Gricean reasoning process. Finally, I argue that hearers use a range of contextual factors to select a unique e-focus value, and to establish what stands in an Apt relation.

The first issue to be resolved is as follows. It is unclear how an occurrence of (1a) (*Yuri [DIEd]$_F$*) may be used to answer the e-QUD (10b) (reflected by *What expression is apt for conveying that Yuri has the salient property?*). Although the only available e-focus value of (1a) is congruent with (10b), its ordinary semantic value remains identical to a full answer for the d-QUD (10a). I therefore claim that an occurrence *s* of a sentence is *used to answer* a QUD if and only if the issuing of *s* causes a full answer to the QUD to be added to the common ground. Issuing *s* might cause such a proposition to be added to the common ground because *s semantically expresses* that proposition as its ordinary semantic value, or because the issuing of *s pragmatically conveys* that proposition. Hence an occurrence of a sentence such as (1a) may be used to answer (10b) by virtue of pragmatically conveying a full answer to that e-QUD.

The means by which occurrences of sentences pragmatically convey full answers to e-QUDs may be attributed to a Gricean reasoning process in which hearers engage. The central idea advanced by Grice and the neo-Griceans

(e.g., Atlas & Levinson 1981, Horn 1984, Levinson 2000) is that all cooperative discourse is governed by conversational maxims. Grice (1989: pp. 30–1) claimed that when a speaker appears to violate a maxim in uttering a sentence that expresses a proposition p, but the hypothesis that the speaker is obeying the maxims may be preserved by supposing that she thinks (and expects hearers to be able to work out that she thinks) that p′, then the speaker has *conversationally implicated* p′. Plausibly, this process is what allows full answers to e-QUDs to be added to the common ground, both for contexts with an explicit e-QUD and for contexts without one.

When an occurrence *s* of a sentence is issued relative to an explicit e-QUD, and the ordinary semantic value p of *s* is not a full answer to that e-QUD, then a speaker who was proposing to add p to the common ground would violate Grice's (1989: p. 27) maxim of Relation ('Be relevant'). I propose that hearers reason as follows:

> *Conversational implicatures with explicit e-QUDs:*
> i. The speaker has apparently violated the maxim of Relation, yet I have no reason to suppose that she is opting out of cooperative discourse.
> ii. I can regard her failure to obey the maxims as merely apparent if I suppose that she thinks that p′, where p′ is a full answer to the explicit e-QUD, such that p′ is derived by applying the first member of a congruent e-focus value of *s* to the additional members of that e-focus value.
> iii. The speaker knows that I am capable of working out step (ii). So the speaker implicates that p′.

For example, when (1a) is issued relative to an explicit occurrence of the e-QUD (10b) (with or without the speaker's specifying the salient property), this reasoning process means that a full answer to (10b) is conversationally implicated and added to the common ground.

Describing the reasoning process for contexts without an explicit QUD involves tackling the second issue introduced above. Given that prosodic differences between instances of denotation and expression focus have not been assumed, and given that *s* may be assigned d-focus and e-focus values, it is unclear how an individual could decide whether to use *s* to reconstruct an implicit d-QUD or an implicit e-QUD. My proposal is that, for sentences that occur without an explicit QUD, discourse participants initially assume

that the occurrence involves denotation focus, and is being used to answer a d-QUD. This is based on the view that denotation focus is 'more important in communication' than expression focus (Krifka 2007: p. 20), since our communicative concerns normally centre on the way the world is rather than on the appropriate expressions to use. I claim that assessors will reconsider this assumption if a speaker's proposing to add the ordinary semantic value of the relevant occurrence of a sentence to the common ground would violate a maxim of Quantity or Quality.

There are three common ways in which such maxims can be violated by a speaker's issuing s to use its ordinary semantic value p to answer a congruent d-QUD. First, if the common ground already includes p, then proposing to add p would be an entirely uninformative contribution and would violate Grice's (1989: p. 26) first maxim of Quantity ('Make your contribution as informative as is required (for the current purposes of the exchange)'). Second, if the common ground already includes ¬p, then the proposal to add p would be a proposal to add a proposition accepted as false by discourse participants, violating the first maxim of Quality ('Do not say what you believe to be false'). Finally, proposing to add p&¬p always violates the first maxim of Quantity (since contradictions are never informative), and often violates the first maxim of Quality (since a contradiction will generally be recognised as necessarily false by any competent speaker). I propose that hearers engage in the following reasoning process when a speaker utters s relative to a common ground without an explicit QUD for which the proposal to add the ordinary semantic value of s violates a maxim:

Conversational implicatures without explicit e-QUDs:

i. The speaker has apparently violated a maxim of Quantity or Quality, yet I have no reason to suppose that he is opting out of cooperative discourse.

ii. I can regard his failure to obey the maxims as merely apparent if I suppose that he thinks that p′, where p′ is a full answer to an e-QUD congruent with an available e-focus value of s, such that p′ is derived by applying the first member of that e-focus value to the additional members of that e-focus value.

iii. The speaker knows that I am capable of working out step (ii). So the speaker implicates that p′.

As a result of this reasoning process, hearers will accommodate an e-QUD congruent with an e-focus value of s as the implicit QUD and add to the common ground the proposition p′ that results from applying the first member of the e-focus value to its additional members, unless doing so attributes the violation of further conversational maxims to the speaker.

This proposal explains why it is natural to understand Krifka's paradigm examples (3a) and (3b) to involve expression focus, and to convey full answers to implicit e-QUDs: a speaker who proposed to add the ordinary semantic values of (3a) and (3b) to a common ground, in order to answer an implicit d-QUD, would always violate the first maxim of Quantity. That is, (3a) expresses the contradiction that Grandpa did not die and Grandpa did die, which is never an informative addition to a common ground. (3b) expresses the information that the relevant individuals live in Berlin, which is an uninformative addition to any common ground to which the ordinary semantic value of the first speaker's utterance has already been added. This proposal addresses the second issue surrounding the pragmatics of expression focus. It also also completes the solution to the first issue, by explaining how an occurrence s of a sentence may pragmatically convey an answer to an implicit e-QUD.

I now consider the third issue, which concerns how discourse participants reconstruct a unique e-focus value for an occurrence of a sentence in the absence of an explicit e-QUD. One aspect of the reconstruction consists of establishing the contextually salient item that contributes to the second argument of an Apt relation. Section 3.1 mentioned that the ordinary semantic values of focused items are very frequently these salient items, since such semantic values belong to the appropriate domain and will be salient. Hence the default assumption of a hearer who understands an occurrence of a sentence to involve expression focus will plausibly be that the salient item is the ordinary semantic value of the focused expression. This default assumption will be abandoned at a context where it entails that the speaker intended to convey a proposition that he would not plausibly have intended to convey, and where other salient non-linguistic items yield a more plausible proposition.[19]

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[19] Since an assessor is unlikely to spontaneously imagine these features when presented with the examples in the current paper, it is unsurprising that the default hypothesis is upheld for the natural construals of virtually all of these examples (with the exception of *Yuri didn't [kick the BUCKet]$_F$* relative to the context evoked in fn. 18, and with the possible exception of (20a) and (20b)).

A second aspect of reconstructing a unique e-focus value consists of selecting one member from a set of available e-focus values that vary with respect to the relative scope of Apt and the semantic representations of sentential operators. Consider an occurrence of (2), along with its d-focus value in (11a) and the question reflecting the congruent d-QUD in (11b).[20] The definition of e-focus values predicts that the values given in (12a) and (13a) are both available for (2), with these two e-focus values' being respectively congruent with the ordinary semantic values of (12b) and (13b):

(2)   Yuri didn't [kick the BUCKet]$_{F_1}$, he [passed aWAY]$_{F_2}$.

(11)   a. $\langle [\![\lambda X.[Neg(X(\textbf{yuri}))]]\!]^o_c, [\![\textbf{kick-the-bucket}]\!]^o_c \rangle$ & $\langle [\![\lambda Y.[Y(\textbf{yuri})]]\!]^o_c,$ $[\![\textbf{passed-away}]\!]^o_c \rangle$

   b.   What property does Yuri lack? & What property does Yuri have?

(12)   a. $\langle [\![\lambda \mathcal{U}_1 . [Apt_t(\{\mathcal{U}_1\})(Neg([SAL(\mathcal{U}_1)](\textbf{yuri})))]]\!]^o_c, [\![U(\langle ...; \textbf{kick-the-bucket}:...\rangle)]\!]^o_c \rangle$ & $\langle [\![\lambda \mathcal{U}_2.[Apt_t(\{\mathcal{U}_2\})([SAL(\mathcal{U}_2)](\textbf{yuri}))]]\!]^o_c,$ $[\![U(\langle ...; \textbf{passed-away}:...\rangle)]\!]^o_c \rangle$

   b.   What expression *is apt* for conveying that Yuri *fails to have* the salient property? & What expression is apt for conveying that Yuri has the salient property?

(13)   a. $\langle [\![\lambda \mathcal{U}_1 . Neg[Apt_t(\{\mathcal{U}_1\})([SAL(\mathcal{U}_1)](\textbf{yuri}))]]\!]^o_c, [\![U(\langle ...; \textbf{kick-the-bucket}:...\rangle)]\!]^o_c \rangle$ & $\langle [\![\lambda \mathcal{U}_2 .[Apt_t(\{\mathcal{U}_2\})([SAL(\mathcal{U}_2)](\textbf{yuri}))]]\!]^o_c,$ $[\![U(\langle ...; \textbf{passed-away}:...\rangle)]\!]^o_c \rangle$

   b.   What expression *fails to be apt* for conveying that Yuri *has* the salient property? & What expression is apt for conveying that Yuri has the salient property?

Since the natural way of understanding (2) is captured by assigning it (13a) as its e-focus value, we can infer that it is natural to assign e-focus values where

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20 I allow occurrences of sentences with a focus in each of multiple complete clauses to be analysed as if the clauses were separate sentences, which results in the assignment of a focus value to each clause and treats the occurrence of the sentence as providing full answers to multiple questions. This coheres with Krifka's (2001: p. 310) view that 'we *can answer only one thing at a time*', which suggests that '[w]hat seem to be licit cases of asking for more than two things at a time actually turn out to be cases of asking only one thing at a time'. Also, while (2) provides a full answer to a pair of d-QUDs reflected by *What property does Yuri lack?* and *What property does Yuri have?*, the fact that it would be more natural for a discourse participant to only utter the latter question is unproblematic: any full answer to the pair of d-QUDs entails a full answer to each one of the d-QUDs, hence (2) may be used to answer the second d-QUD.

Apt takes narrow scope at least sometimes. It would be a mistake to think that it is only (2) in particular, or only occurrences of sentences with negation in general, for which *Apt* is naturally understood to take narrow scope. The examples below illustrate that *Apt* frequently appears to be outscoped by other sentential operators in e-focus values and e-QUDs. Each example is followed by a question reflecting the e-QUD it is most naturally understood to be used to answer, where this question specifies which items are likely to be the contextually salient ones:[21]

(14) a. Yasma thinks that Yuri [kicked the BUCKet]$_{F_1}$, but in fact he [passed aWAY]$_{F_2}$.
      b. People used to [kick the BUCKet]$_{F_1}$, but now people [pass aWAY]$_{F_2}$.
      c. If some [GOOSEs]$_F$ are flying, then I'd be very surprised.
      d. Sometimes people eat [RUtabaga]$_{F_1}$, and sometimes people eat [NEEPS]$_{F_2}$.
      e. Scottish people only eat [NEEPS]$_F$.

(15) a. What expression *does Yasma think is apt* for conveying that Yuri has the property of having died? & What expression is apt for conveying that Yuri has the property of having died?
      b. What expression *used to be apt* for conveying that people have the property of having died? & What expression *is now apt* for conveying that people have the property of having died?
      c. What expression is such that, *if it is apt* for conveying that some geese are flying, then I'd be very surprised?
      d. What expression *is sometimes apt* for conveying that people eat swede?
      e. What expression *is the only apt one* for conveying that Scottish people eat swede?

It would also be a mistake to infer that *Apt* always takes scope under any sentential operators that precede the focused expression in surface form. When different contexts are evoked, the natural understanding often involves *Apt* taking widest scope. For instance, relative to the discourse in (16a), it would be natural for B's utterance to receive the e-focus value in (16b), which

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21 I thank David Beaver and Josh Dever for versions of these examples. Also, I assume that the relevant items in (14a)—(14e) may reasonably be analysed as sentential operators. Those who disagree with this assumption may take (14a)—(14e) to provide examples where non-sentential operators take scope over *Apt* in e-focus values, thus motivating an extension of the definition of e-focus values (see fn. 15).

is congruent with the e-QUD reflected by (16c) (with the likely salient property specified):

(16) a. A: Yuri didn't [kick the BUCKet]$_{F_1}$, he [went on HOLiday]$_{F_2}$.
          B: Yuri didn't [pass aWAY]$_F$.
      b. $\langle[\![\lambda\mathcal{U}_1.[Apt_t(\{\mathcal{U}_1\})(Neg([SAL(\mathcal{U}_1)](\textbf{yuri})))]\!]^o_c, [\![U(\langle\ldots;\textbf{pass-away}:\ldots\rangle)]\!]^o_c\rangle$
      c. What expression *is apt* for conveying that Yuri *fails to have* the property of having died?

The potential to understand an occurrence of a sentence as conveying a full answer to an e-QUD where *Apt* takes any one of multiple possible scope positions confirms that a multitude of e-focus values are available for an occurrence of a sentence with a fixed choice of focus. Moreover, given the strong influence of context on the understanding reached, there is good reason to conclude that discourse participants use pragmatic strategies to arrive at a unique e-focus value and e-QUD.

In order to give an account of these pragmatic strategies, it is useful to note that a parallel situation arises with respect to relative scope within d-focus values. That is, given a fixed choice of focus for a sentence with multiple operators, multiple possible d-focus values are available. For example, Kadmon & Roberts (1986) observe that an occurrence of (17) will have (18a) as its d-focus value if *most* is understood to take scope over the negation operator, and (19a) as its d-focus value for the opposite scope construal. Each d-focus value is congruent with the d-QUD reflected by the indicated question:[22]

(17) Yuri doesn't hate [MOST]$_F$ of the songs.

(18) a. $\langle[\![\lambda X.[X(\textbf{song})(\lambda x.[Neg\ \textbf{hate}(x)(\textbf{yuri})])]\!]^o_c, [\![\textbf{most}]\!]^o_c\rangle$
      b. For what proportion is it the case that that proportion of the songs are *not* hated by Yuri?

(19) a. $\langle[\![\lambda X.[Neg(\textbf{hate}'(X(\textbf{song}))(\textbf{yuri}))]\!]^o_c, [\![\textbf{most}]\!]^o_c\rangle$
      b. For what proportion is it *not* the case that that proportion of the songs are hated by Yuri?

Kadmon and Roberts argue that individuals use clues from the discourse in which the occurrence of (17) is situated in order to determine the most

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22 **hate**$'$ is a type-shifted version of **hate**, of type $\langle\langle\langle e,t\rangle,t\rangle,\langle e,t\rangle\rangle$.

plausible d-QUD.[23] Individuals then infer that the occurrence of (17) has the d-focus value congruent with that d-QUD, which in turn allows them to identify a semantic representation with certain scope relations for the occurrence of (17).[24]

I claim that individuals arrive at a unique e-focus value for an occurrence of a sentence with one or more sentential operators through a parallel pragmatic process. In such cases, step (ii) for calculating conversational implicatures without explicit e-QUDs is slightly more complex: the hearer must consider multiple potential e-QUDs and their full answers, before concluding that the speaker indeed implicated one such answer.[25] In order to assess an e-QUD congruent with an available e-focus value of s, along with the full answer derived by applying the first member of that e-focus value to the additional members, a hearer will use contextual clues to judge the plausibility of that e-QUD and the likelihood that the speaker would propose to add that full answer to the common ground. For instance, (13a) (where the negation takes wide scope) strikes most hearers as a more natural e-focus value for (2) (*Yuri didn't [kick the BUCKet]$_F$ …*) than (12a) (where *Apt* takes wide scope),

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23 They take dialogue (i) below to favour the d-QUD reflected by (18b), since A's utterance conveys that she is concerned with songs that Yuri does not hate versus songs that he does hate. They take dialogue (ii) to favour the d-QUD reflected by (19b), since B's responses make it clear that he is denying the proposition that Yuri hates most of the songs due to an objection to the quantifier involved:

(i)   A: Well, Yuri hates the last three songs I played. What songs DOESn't he hate?
        B: Yuri doesn't hate MOST of the songs.

(ii)   A: Yuri likes 'Smooth Operator', but MOST of the 'Top 40' things he HATES, right?
        B: No.
        A: What do you mean 'no'? He always has some disparaging remarks to make about them.
        B: OK, so he hates MANy of the songs. All I said was Yuri doesn't hate MOST of the songs.

24 Kadmon and Roberts' view assumes that a consideration of d-focus values sometimes precedes the construction (or at least selection) of a unique semantic representation. Such a view might be considered incompatible with a sharp distinction between semantic and pragmatic processing. Nevertheless, there is extensive evidence that the choice of focus for an occurrence of a sentence plays a crucial role in the scope construal that individuals arrive at (see Jackendoff 1972, Erteschik-Shir 1999a, Herburger 2000).

25 Similarly, when a sentence with multiple operators occurs without an explicit QUD, hearers will only reconsider the assumption that the occurrence is being used to answer a d-QUD after using pragmatic strategies to exclude multiple potential d-QUDs and their answers.

since it is difficult to imagine a context where an ordinary speaker of English would intend to add to the common ground the propositions that *kick the bucket* is apt for conveying that Yuri *fails* to have the salient property (normally the property of having died) and that *passed away* is apt for conveying that Yuri *has* the salient property.

I now consider the fourth issue, which concerns the factors that determine whether an Apt relation holds between a set of outputs of the grammar and a proposition. The definition of *Apt* imposes few constraints on the relation, even allowing expressions to bear an Apt relation to an ordinary semantic value to which the semantic values of none of those expressions contribute. It might be thought that an account of the pragmatics of expression focus should include a more substantial account of which expressions are apt for conveying which information. However, there are reasons to avoid imposing additional context-independent constraints on the Apt relation. First, the account already imposes constraints on the Apt relations that play a role in e-focus values. The definition of e-focus values ensures that every full answer to an e-QUD concerns an Apt relation between a set of outputs of the grammar and a proposition that combines the ordinary semantic values of unfocused items with salient items in appropriate domains. Hence while the account does not rule out contexts where an Apt relation holds between (say) *Berlin*, or *most*, and the proposition that Yuri died, it does specify a number of additional properties a context must possess if a use of expression focus is to convey such aptness claims.[26]

A second argument for leaving Apt relations unconstrained is that this maximises the types of metalinguistic discourse that may be captured through expression focus. For example, as discussed in Section 4.1, Plunkett & Sundell (2013) distinguish between metalinguistic disputes that concern how people *do* use expressions and how people *should* use expressions at the relevant context. The definition of *Apt* is applicable to both types of metalinguistic discourse. That is, an Apt relation might hold at *c* between a set of outputs of the grammar $\{b_1, \ldots, b_n\}$ and an ordinary semantic value

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26 An occurrence of *[BerLIN]$_F$ died* could convey that the expression *Berlin* is apt for conveying that Yuri died, relative to a context where Yuri is the salient individual. In contrast, no occurrence of a sentence involving expression focus could convey that *most* is apt for conveying that Yuri died, since the second argument of *Apt* would have to involve a salient item in $D_{\langle\langle e,t\rangle,\langle\langle e,t\rangle,t\rangle\rangle}$, and neither the individual Yuri nor the property of having died is in this domain.

$[\![\alpha]\!]_o^c$ because people *do* use $b_1, \ldots, b_n$ to convey $[\![\alpha]\!]_o^c$, or because people *should* use $b_1, \ldots, b_n$ to convey $[\![\alpha]\!]_o^c$.

To summarise, when a speaker's proposal to add to the common ground the ordinary semantic value of an occurrence of a sentence would violate a Gricean maxim, hearers entertain the hypothesis that the speaker is implicating a full answer to an available e-QUD. This full answer is derived by applying the first member of an e-focus value of the occurrence of the sentence to the additional members. When multiple e-QUDs and e-focus values are available for an occurrence of a sentence, hearers must use contextual clues to assess the plausibility of potential e-QUDs and the likelihood that the speaker would intend to add the corresponding full answer to the common ground. A hearer will then add the selected e-QUD and full answer to the common ground, provided doing so attributes no violations of maxims to the speaker. Finally, there is good reason to avoid imposing context-independent constraints on which expressions may stand in Apt relations to which semantic values.

3.3 Justifying the complexity of the account

At this point, concerns might arise about the relative theoretical complexity of the account, or about the complexity of the reasoning process that speakers purportedly impose on hearers. I will discuss each of these matters in turn.

It might be thought that the central aspect of the account — the *Apt* predicate — could be situated within a simpler theory while still allowing an effective analysis of sentences like (2). An alternative theory would postulate a covert *Apt* predicate within the semantic representation of an occurrence of a sentence like (2), which would cause its ordinary semantic value to be a proposition about appropriate language use. Such a theory would be simpler because it need not introduce e-focus values or e-QUDs, and it could rely more closely on existing approaches to QUD-answering and scope resolution.[27] Three observations motivate the account developed in the current section over the simpler alternative.

Firstly, it seems that occurrences of sentences like (2) pragmatically convey propositions about expression use, rather than semantically expressing such propositions. There is an intuition that an utterance of (say) *Yuri didn't kick the bucket* does not *mean* that the expression *kick the bucket* fails to

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27 I thank an anonymous reviewer for suggesting this idea.

be apt for conveying that Yuri died. Moreover, the fact that *Yuri didn't [kick the BUCKet]$_F$* can be used to convey a variety of aptness claims in different contexts — that the expression *kick the bucket* fails to be apt for conveying that Yuri died, that *kick the bucket* is apt for conveying that Yuri did not die, or even that *kick the bucket* fails to be apt for conveying that Yuri became upset (see fn. 18) — suggests that pragmatic factors strongly influence the construal reached.

A second motivation is that there is good reason to think that sentences like (2) exhibit a phenomenon linked to focus. Wedgwood (2005: pp. 26–7) presents explicit arguments to this effect: such sentences 'involve the use of phonological prominence to signal […] contrast drawn between the accented item and some contextually available alternative', and they have 'compatibility with 'association with focus' operators like *only* and *even*'. Indeed, it is telling that the construal of (2) under discussion is available only with certain choices of prosody. An occurrence of *YUri didn't kick the bucket, HE passed away* cannot convey aptness claims about the expressions *kick the bucket* and *passed away*; it can only convey that some male individual (as opposed to Yuri) died, or that the expression *he* (as opposed to *Yuri*) is apt for conveying that Yuri died. If expression focus is a type of focus, then the analysis of sentences that involve expression focus should reflect the analysis of sentences that involve denotation focus as closely as possible. Yet the dominant view in the literature is that focus values should be kept separate from ordinary semantic values (e.g., see Jackendoff 1972, von Stechow 1981, Rooth 1985). It follows that the contribution of expression focus should be analysed by means of some kind of focus value, rather than by altering ordinary semantic values.

Thirdly, if it is accepted that focus values should be used in the analysis of sentences like (2), then it becomes necessary to introduce the sort of machinery I employ. As observed at the end of Section 2.3, the standard formal frameworks assign focus values that are only able to capture the contribution of denotation focus. Section 3.1 claimed that, in order to formally model expression focus, two modifications to focus values are necessary. These modifications unavoidably introduce increased complexity, such as the presence of the *Apt* predicate in e-focus values.

The second concern centres on why a speaker would force a hearer to partake in a complex reasoning process with the hope that the hearer will infer information that the speaker could have just explicitly stated. There are at least two reasons why a speaker would do this. First, exploiting expression

focus generally requires less effort on the speaker's part than formulating a sentence with an ordinary semantic value pertaining to apt language use. It takes less effort to utter the sentence *Yuri passed aWAY* than *the expression* passed away *is apt for conveying that Yuri has the property of having died.* Second, exploiting expression focus distances the speaker from the implicated proposition in a manner that cannot be achieved by her semantically expressing that proposition. The speaker may reject any number of paraphrases of the implicated proposition proffered by hearers. Sometimes, the speaker may deny that she has implicated any proposition whatsoever pertaining to apt language use; for example, when interrogated by a hearer, she might claim that she uttered the sentence *Yuri passed aWAY* simply in order to agree with another speaker who said *Yuri kicked the bucket.* This distancing effect allows a speaker to avoid explicitly defending a view about apt expression use. Defending such a view is often difficult, due to the role of inarticulable or contentious norms and values. It can also introduce social disharmony, by virtue of entailing the correction or judgement of another discourse participant's language use. Speakers who are inclined to impose greater processing demands on their hearers in order to save themselves effort or to distance themselves from claims about apt language use may therefore exploit expression focus in order to achieve these aims.

It follows that the relative complexity of both the theory described in the current section and the reasoning process attributed to hearers is well-motivated.

4 Uses of expression focus

This section discusses three types of phenomena: metalinguistic negotiation (Section 4.1), metalinguistic negation (Section 4.2) and embedded occurrences of pejorative expressions (Section 4.3). Parallels clearly emerge between examples that are used to illustrate these three phenomena and paradigm cases of expression focus. Section 4.4 demonstrates the potential to use the account of expression focus to analyse these other phenomena.

4.1 Metalinguistic negotiation

It has recently been argued that some disputes that initially seem unsubstantive may be substantive at the metalinguistic level (e.g., Plunkett & Sundell 2013, 2014, 2019, Belleri 2017, Thomasson 2017). Plunkett & Sundell (2013:

p. 3) attribute this to *metalinguistic uses* of certain expressions, whereby 'a linguistic expression is used (*not* mentioned) to communicate information about the appropriate usage of that very expression in context'. They go on to coin the phrase *metalinguistic negotiation* to refer to 'those disputes wherein the speakers' metalinguistic use of a term does not simply involve exchanging factual information about language, but rather negotiating its appropriate use'. They give the following examples:

(20)   a.   A: That chili is spicy!
            B: No, it's not spicy at all.[28]   (Plunkett & Sundell 2013: p. 15)
       b.   A: Secretariat is an athlete.
            B: No, Secretariat is not an athlete.   (Ludlow 2008: p. 118)

Plunkett & Sundell (2013: pp. 15–6) take these disputes to be metalinguistic negotiations because participants 'agree on what the chili actually tastes like' and 'mutually know all of the facts about [*the racehorse*] Secretariat's speed, strength, etc., and what races, awards, medals he won, etc.', but disagree about how the words *spicy* and *athlete* should be used. The parallels with Krifka's paradigm cases of expression focus, (3a) and (3b), are clear. That is, relative to a context where both speakers agree that Grandpa died and that the relevant individuals live in Berlin, the disputes might be construed as negotiations over how the expressions *kick the bucket*, *passed away* and *Berlin* should be used or pronounced.

Plunkett and Sundell think that metalinguistic negotiation is a pervasive feature of ordinary language use. However, the literature lacks a detailed proposal for the way in which participants in a dispute may access metalinguistic content distinct from the information expressed by occurrences of sentences.[29] Crucially, Plunkett and Sundell think that metalinguistic negotiations often occur at contexts for which 'there is no antecedently settled matter of fact about the meaning' of the expressions employed in metalinguistic usage (2014: p. 64). In other words, the context in which (20b) is sit-

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[28] Note that this example is similar to many that have been discussed in the literature on predicates of taste (e.g., see Kölbel 2004, Lasersohn 2005, Schaffer 2009).

[29] Belleri 2017 and Thomasson 2017 include some comments on this topic. In fact, Belleri (2017: p. 2215) supports a Gricean picture, suggesting that 'the pragmatic inference that would allow each participant to go from the verbal, object-level disagreement to the implicitly communicated metalinguistic disagreement […] could involve charity as well as broadly construed Gricean considerations as to what best explains the assumed cooperativeness of the speaker'. However, neither Belleri nor Thomasson predicts when metalinguistic negotiations will arise, or which metalinguistic views participants will access.

uated might fail to establish a fixed ordinary semantic value for *athlete*, and it might even be the case that each speaker's utterance of *athlete* is assigned a distinct semantic value consisting of the one preferred by that speaker. Whatever one thinks of this sort of theory of meaning, an analysis of metalinguistic negotiation will only be acceptable to those who discuss the topic if it is compatible with such a theory. It is this that provides significant motivation for incorporating contextually salient items into the definition of e-focus values (see Section 3.1): for A and B in (20b) may then be disagreeing over whether the expression *athlete* is apt for conveying that Secretariat has a salient property, rather than whether *athlete* is apt for conveying that Secretariat has the property of being an athlete (a property that will be difficult to identify if *athlete* has no fixed semantic value). The account of expression focus therefore holds the potential to provide the detailed analysis of metalinguistic negotiation currently absent from the literature.

4.2 Metalinguistic negation

Metalinguistic uses of negation are cases where, according to Horn (1985: p. 122), negation is used 'to signal the speaker's unwillingness to assert a given proposition in a given way — or, more generally, the speaker's objection to the content or form (phonetic, morphological, syntactic, semantic, or pragmatic) associated with a given utterance'. Horn's work prompted widespread discussion of this phenomenon (e.g., Burton-Roberts 1989, McCawley 1991, Carston 1996, Moeschler 2010). Prominent examples of metalinguistic negation include the following:

(21)   a.   Grandma isn't 'feeling lousy', Johnny, she's indisposed.   (Horn 1985: p. 133)
         b.   He didn't call the [pólis], he called the [polís]. (Horn 1989: p. 371)
         c.   I'm not 'colored' — I'm black!   (Horn 1985: fn 10)

    Horn (1985: p. 133) claims that (21a), which closely resembles Krifka's first paradigm case of expression focus (3a), involves the use of negation 'to reject the pragmatics associated with the register or stylistic level chosen by another speaker in the discourse context'. Horn (1989) discusses examples where negation is used to object to phonetic realisation, with (21b) being one such example which is very similar to Krifka's second paradigm case of expression focus (3b). Finally, (21c) echoes instances of embedded pejorative expressions (see (22a) and (22b)).

Horn (1985: p. 136) analyses metalinguistic uses of negation by means of 'a metalinguistic operator which can be glossed 'I object to u', where u is crucially a linguistic utterance rather than an abstract proposition'. The parallels between Horn's hypothesised operator and the Apt predicate within the scope of negation should be evident: both involve a denial of propriety without specifying the reason for an individual's objection, and in both cases this denial of propriety targets a linguistic feature of an occurrence of a sentence rather than semantic content. A significant difference is that, unlike the Apt predicate, a metalinguistic negation operator would presumably only be present at contexts where some negative morpheme has been uttered.

There are several points in favour of an account based on expression focus. First, Horn (1985: p. 150) observes that operators other than negation exhibit metalinguistic uses, including disjunction and conditionals. An account that postulates a single Apt predicate that is able to interact with all manner of sentential operators would appear to provide a more parsimonious analysis of these data than an account that stipulates a number of metalinguistic operators. Of course, an advocate of Horn's proposal might give a unified account of the metalinguistic uses of all operators, before arguing that the resulting account is just as parsimonious as one involving a single Apt predicate. However, examples such as (3b) demonstrate the potential to convey metalinguistic claims with no overt operator whatsoever. It is unclear how an account that traces metalinguistic construals to metalinguistic uses of operators could handle such cases, other than by postulating a covert metalinguistic operator. Yet the parsimony of an account that relies on both metalinguistic uses of overt operators and covert metalinguistic operators may be questioned, relative to an account that solely invokes a covert predicate.[30]

Secondly, Horn (1989: p. 444) states that he neither provides an account of how metalinguistic negation is to be represented within a formal theory of natural language discourse nor of the relation between language and metalanguage. Carston (1996: p. 339) also notes that she does not address the

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30 It might be argued that the presence of a covert Apt predicate lacks independent motivation, whereas Horn's metalinguistic negation operator is a manifestation of the independently required speech act of denial (I thank an anonymous reviewer for raising this consideration). The fact that Horn accepts metalinguistic uses of operators other than negation (e.g., disjunction) appears to sever the connection between metalinguistic uses of operators and the speech act of denial. Moreover, if examples like (3b) induce advocates of Horn's proposal to accept covert metalinguistic operators, then there would be no obvious connection between such operators and manifestations of speech acts.

issue of what proposition is recovered for metalinguistic uses of expressions, despite the fact that there is 'a great need for some deeper understanding of where the metarepresentational use [...] of natural language comes from'. In contrast, the account of expression focus is situated within a theory of natural language discourse, and includes predictions about which propositions are recovered by individuals.

4.3   Embedded pejoratives

Occurrences of pejorative expressions generally exhibit *pejorative quality*, which is, roughly, the feature that makes them "bad" words. Yet it has been widely claimed that there is a natural way of understanding the negated sentences in (22a) — (22b) and the indirect reports in (23a) — (23b) such that no pejorative quality is present:

(22) a. I'm not a kike, but I am a Jew.   (Hom & May 2013: p. 304)
      b. Yao Ming is Chinese, but he's not a chink.   (Hom 2008: p. 429)

(23) a. Eric said that a bitch ran for President of the United States in 2008.   (Anderson & Lepore 2013: p. 29)
      b. I am not prejudiced against Caucasians. But John, who is, (thinks / claims) that you are the worst honky he knows.   (Schlenker 2003: p. 98)

For example, Hom (2008: p. 429) claims that occurrences of (22a) and (22b) may be 'meaningful, true, and non-derogatory'. Similarly, Hornsby (2001: p. 129) states that some occurrences of pejorative expressions in negated sentences 'are occurrences of derogatory words that are utterly inoffensive', insofar as (22a) may be understood to reject the derogatory term it contains in a manner that we could paraphrase as "Kike' is not what I ought to be called'. Kratzer (1999) and Schlenker (2007) identify indirect reports such as (23b) as examples where pejorative quality is naturally understood to be absent. There are clear parallels between (22a), (22b) and Krifka's example of expression focus, (3a). Moreover, (23a) and (23b) reflect certain examples where occurrences of sentences with sentential operators are understood to involve expression focus, such as (14a).

Most existing analyses of pejoratives struggle to account for these data. For instance, accounts that trace pejorative quality to conventional implicatures (e.g., Williamson 2009, Whiting 2013) predict that it will emerge when

pejorative expressions occur in any setting where they are not directly quoted. Some have attempted to provide a metalinguistic account of construals that lack pejorative quality, often discussing the importance of prosody. Potts (2005: p. 160) notes that the speaker of an indirect report may sometimes be understood not to commit herself to the content conventionally implicated by an expression in the indirect report, but such construals 'require heavy emphasis on [*the expression associated with the conventional implicature*], an indication that they are quotative'. Similarly, Jeshion (2013: p. 254) states that construals lacking pejorative quality might involve mere 'mentions of [*pejorative expressions*] …typically signaled in spoken discourse with intonation and, in writing, with scare quotes'. While these observations are helpful, an account of how 'heavy emphasis' or 'intonation' may lead to the required construals has not been developed. An analysis based on expression focus would explain how appropriate prosody allows occurrences of sentences that include pejorative expressions to convey propositions about apt language. Furthermore, such an analysis would be consistent with any account of pejorative expressions and pejorative quality, allowing it to be adopted by accounts of pejoratives that would otherwise struggle to explain the data raised by (22a) — (23b).

4.4 A unified account

There is significant overlap between the three phenomena discussed in this section. For instance, McCawley (1991: p. 190) describes metalinguistic negation as arising when 'the disagreement between the parties to the discourse is not over matters of fact but over what words they ought to use in referring to the things that they are talking about', which is virtually identical to the definition of metalinguistic negotiation given in Plunkett & Sundell 2013. (21c) and (22a) were respectively presented as an example of metalinguistic negation and an example of a sentence with an embedded pejorative expression that may be understood to lack pejorative quality, yet their similarity in form and content is notable. Given this overlap, the aim of theoretical parsimony recommends a unified account.

The possibility of a unified account is demonstrated by using the account of expression focus to produce the envisaged construals of the examples provided in Section 4.1 — Section 4.3. In each case, the account predicts that an assessor notes that the (real or imaginary) speaker appears to have violated a maxim of Quantity or Quality, which leads the assessor to consider the

plausibility of a number of the e-QUDs and corresponding full answers derivable from an occurrence of the relevant sentence with a particular choice of focus.[31] Upon identifying a sufficiently plausible e-QUD, the assessor takes the speaker to implicate the proposition that results from applying the first member of the congruent e-focus value of the occurrence of the sentence to the additional members. For example, the envisaged construals of (20b), (21b) and (23a) arise when the assessor adds to the common ground the following QUDs and full answers, which are naturally paraphrased as indicated. While I have specified plausible salient items in each case, alternative salient items in the appropriate domains are possible:

(20b)   Secretariat is an athlete.

    i. $\langle [\![\lambda \mathcal{U}.[Apt_t(\{\mathcal{U}\})([SAL(\mathcal{U})](\textbf{secretariat}))]]\!]^o_c, D_u \rangle$
        (What expression is apt for conveying that Secretariat has the property of being a successful racehorse?)

    ii. $[\![Apt_t (\{U (\langle ...; \textbf{athlete}:...\rangle)\}) ([SAL (U(\langle ...; \textbf{athlete}:...\rangle)))]$
        $(\textbf{secretariat}))]\!]^o_c$
        (The expression *athlete* is apt for conveying that Secretariat has the property of being a successful racehorse.)

(21b)   He didn't call the [pólis], he called the [polís].[32]

    i. $\langle [\![\lambda \mathcal{U}.Neg[Apt_t(\{\mathcal{U}\})(\textbf{called}(\textbf{the}[SAL(\mathcal{U})])(\textbf{he}))]]\!]^o_c, D_u \rangle$ &
        $\langle [\![\lambda \mathcal{U}.[Apt_t(\{\mathcal{U}\})(\textbf{called}(\textbf{the}[SAL(\mathcal{U})])(\textbf{he}))]]\!]^o_c, D_u \rangle$
        (What expression fails to be apt for conveying that he called the police? & What expression is apt for conveying that he called the police?)

    ii. $[\![Neg[Apt_t(\{U(\langle [\text{'po.lis}]; \textbf{police}:...\rangle)\})(\textbf{called}(\textbf{the}[SAL(U(\langle [\text{'po.lis}];$
        $\textbf{police}:...\rangle))])(\textbf{he}))]]\!]^o_c$ & $[\![Apt_t(\{U(\langle [\text{po.'lis}]; \textbf{police}:...\rangle)\})(\textbf{called}$
        $(\textbf{the}[SAL(U(\langle [\text{po.'lis}]; \textbf{police}:...\rangle))])(\textbf{he}))]\!]^o_c$
        (The expression *pólis* fails to be apt for conveying that he called the police. & The expression *polís* is apt for conveying that he called the police.)

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[31] The interaction between expression focus and (direct or indirect) quotation seemingly involves some additional complexity. For instance, it is more natural to understand a speaker of (23a) as conveying that Eric presupposed, rather than explicitly said, that the expression *bitch* is apt for conveying that a woman ran for President. This is an interesting topic for future work that I avoid considering here.

[32] I analyse *called* as of type $\langle \langle \langle e,t \rangle, t \rangle, \langle e,t \rangle \rangle$. I also treat the variant ways of pronouncing *police* as phonological information in the outputs of the grammar.

(22a)   I'm not a kike, but I am a Jew.[33]

    i. $\langle [\![\lambda \mathcal{U}.Neg[Apt_t(\{\mathcal{U}\})(\mathbf{be}(\mathbf{a}[SAL(\mathcal{U})])(\mathbf{I}))]]\!]^o_c, D_u \rangle$ &
$\langle [\![\lambda \mathcal{U}.[Apt_t(\{\mathcal{U}\})(\mathbf{be}(\mathbf{a}[SAL(\mathcal{U})])(\mathbf{I}))]]\!]^o_c, D_u \rangle$
(What expression fails to be apt for conveying that the speaker
has the property of being a Jewish person? & What expression is
apt for conveying that the speaker has the property of being a
Jewish person?)

    ii. $[\![Neg[Apt_t(\{U(\langle ...;\mathbf{kike}:...\rangle)\})(\mathbf{be}(\mathbf{a}[SAL(U(\langle ...;\mathbf{kike}:...\rangle))])$
$(\mathbf{I}))]]\!]^o_c$ & $[\![Apt_t(\{U(\langle ...;\mathbf{jew}:...\rangle)\})(\mathbf{be}(\mathbf{a}[SAL(U(\langle ...;\mathbf{jew}:...\rangle))])$
$(\mathbf{I}))]\!]^o_c$
(The expression *kike* fails to be apt for conveying that the speaker
has the property of being a Jewish person. & The expression *Jew*
is apt for conveying that the speaker has the property of being
a Jewish person.)

One might wonder why a unified account based on expression focus
should be endorsed, rather than a unified account based on a mechanism
that has been used to handle one of the phenomena discussed in Section
4.1 — Section 4.3. It is sufficient to note that, firstly, a developed account
of metalinguistic negotiation has not yet been proposed in the literature.
Secondly, Section 4.2 raised concerns about approaches that rely on met-
alinguistic uses of overt operators. Thirdly, not all of the examples in this
section involve pejorative expressions, so a unified account based on analy-
ses of pejorative expressions would be unhelpful.

Yet focus has been used to explain a broad range of linguistic phenom-
ena. Hence it is far from ad hoc to suppose that focus plays a role in these
metalinguistic phenomena. Moreover, there is good reason to think that all
of the examples considered in Section 4.1 — Section 4.3 are naturally under-
stood to involve focus on the target expressions. For, firstly, in every example
of metalinguistic negotiation given in Plunkett & Sundell 2013, the intended
construal appears to arise only when a pitch accent occurs on the expression
on which negotiation centres.[34] Secondly, Horn (1989: p. 434) claims that the

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33 For current purposes, I analyse *be* as type $\langle \langle \langle e,t \rangle, t \rangle, \langle e,t \rangle \rangle$.

34 The grounds for this judgement are, firstly, introspection: occurrences of the examples with
alternative pitch accents (e.g., *SecreTARiat is an athlete*) are difficult to construe in the way
Plunkett and Sundell intend. Secondly, in every example in Plunkett & Sundell 2013, the ex-
pression on which negotiation centres is in clause-final position, which has been thought to
be the 'pragmatically unmarked' focus for English subject-verb-object sentences (see Lam-
brecht 1994: p. 16).

foci of occurrences of sentences with metalinguistic negation are always 'the element focused by negation and its rectification'. Thirdly, the observations in Potts 2005 and Jeshion 2013 about the necessity of heavy emphasis indicate that occurrences of sentences with embedded pejorative expressions may be understood to lack pejorative quality only when the pitch accents characteristic of focus fall on those pejorative expressions, a judgement confirmed by introspection. If the examples considered in Section 4.1 — Section 4.3 are naturally understood to involve focus on the target expressions, then this would be a surprising coincidence were focus to be irrelevant to analyses of the phenomena discussed.

5 Conclusion

I began by observing that Krifka's (2007) notion of expression focus, where focus is used to indicate the relevance of alternative linguistic items, lacks a full analysis. I developed a formal analysis that adapts the structured meaning framework of von Stechow 1981, incorporating machinery used in Potts 2007 that allows properties of expressions to be defined. I then discussed the pragmatics of expression focus, taking inspiration from Grice 1989. I argued that occurrences of sentences involving expression focus conversationally implicate full answers to questions under discussion pertaining to which expressions are apt for conveying which information. The fact that the resulting account includes a formal and a pragmatic component distinguishes it from the sole existing analyses of expression focus, Wedgwood 2005 and Li 2017. Finally, I suggested that the account of expression focus may be used to provide a unified account of three metalinguistic phenomena about which independent interest exists.

Appendix

This appendix summarises the formal account of expression focus given in Li 2017. I first quote the key definitions and examples he provides (2017: p. 347):

> I define an operator ⌐·⌐ to model the semantic contribution of a linguistic expression. This function is applied to a linguistic expression u [*of type u, where D_u consists of all possible phonological strings*] and returns a pair involving the meaning of u in the context c and an 'expression' meaning […:]

(Li-4) $[\![\ulcorner u \urcorner]\!]^c =$
$$\begin{cases} (\!| u |\!)(c) \bullet \mathbf{exp}(c, u, (\!| u |\!)(c)) \text{ if } u \text{ is a meaning [bear-} \\ \qquad\qquad \text{ing] element in } c; \\ \text{otherwise, undefined} \end{cases}$$

a. c is an utterance context

b. $(\!| \cdot |\!)$ is a function taking a linguistic expression u and returning another function from an utterance context c to the content that u is used to express in c

c.   **exp** is a three-place predicate, associating a context and a linguistic expression to a semantic representation:

> $\mathbf{exp}(c, u, x) ::=$ the linguistic expression u is used to express x in c

d. $\alpha \bullet \beta$ stands for $\langle \alpha, \beta \rangle$

(Li-6)   [...] Applying the $\ulcorner \cdot \urcorner$ to [*geese and gooses*] yields:

a. $[\![\ulcorner \text{geese} \urcorner]\!]^c = \lambda x.\text{*}\mathbf{goose}(x) \bullet \mathbf{exp}(c, \text{geese}, \lambda x.\text{*}\mathbf{goose}(x))$

b. $[\![\ulcorner \text{gooses} \urcorner]\!]^c = \lambda x.\text{*}\mathbf{goose}(x) \bullet \mathbf{exp}(c, \text{gooses}, \lambda x.\text{*}\mathbf{goose}(x))$

Li explains that the **exp** predicate conveys 'non-at-issue information' (p. 347). Hence for (7b), 'the core proposition is that there are some geese flying', but 'B also indicates that the intended property is expressed by the phonological form geese, instead of gooses'. He must then explain how the 'expression' meaning of a linguistic item contributes to the meaning of a sentence. He writes: 'if we can compositionally derive the meaning of [*B's utterance in (7b)*] and make the 'expression' meaning project globally, the sentence *some* $\ulcorner$*geese*$\urcorner$ *are flying* does not have the same denotation as *some* $\ulcorner$*gooses*$\urcorner$ *are flying*' (Ibid.).

For his compositional analysis, he assigns a 'fancy' type to focused items and defines two pairs of type-shifters. This causes focused items to take scope over non-focused constituents, after which the type-shifters and functional application allow all of the constituents to compose. He defines his first pair of type-shifters as follows (2017: pp. 348–9):

> [T]he focused phrase α_F denotes a pair consisting of its ordinary value $[\![\alpha]\!]$ and the alternative set to $[\![\alpha]\!]$. If α has some type a, then the type of α_F is $a \times (a \rightarrow t)$. This 'fancy' type is abbreviated as $\mathsf{F}a$. I define the type shifting functions η_F and $\Uparrow_\mathsf{F}$ [...:]

(Li-7)

a. $\eta_F(x) := x \bullet \{x\}$ $\qquad\qquad\qquad\qquad$ $[\eta_F] : a \to Fa$

b. $(x \bullet X)^{\Uparrow_F} := \lambda f.\mathbf{fst}(f(x)) \bullet \bigcup_{x' \in X} \mathbf{snd}(f(x'))$

$\qquad\qquad\qquad\qquad\qquad$ $\Uparrow_F : Fa \to ((a \to Fb) \to Fb)$

fst and **snd** are operators on pairs. They yield the first member and second member of a pair, respectively. Through η_F, any value can be mapped in a consistent way to a paired value, with the first member the input value and the second member a singleton containing the input value. $\Uparrow_F$ allows an item bearing focus to take scope. Applying the two functions to x, i.e., $(\eta_F(x))^{\Uparrow_F}$, we have actually lifted x from a to $(a \to Fb) \to Fb$.

η_F and $\Uparrow_F$ are sufficient for Li's analysis of denotation focus, though they also play a role in his analysis of expression focus. The pair of type-shifters that specifically target expression focus are defined as follows (p. 349):

If $(\!|u|\!)(c)$ has the type a, then $\ulcorner u \urcorner$ has the type $a \times t$, which is abbreviated as Ua. [...] [W]e can define another pair of type-shifters [...:]

(Li-9)

a. $\eta_U(x) := x \bullet \top$ $\qquad\qquad\qquad\qquad$ $\eta_U : a \to Ua$

b. $(x \bullet p)^{\Uparrow_U} := \lambda f.\mathbf{fst}(f(x)) \bullet p \wedge \mathbf{snd}(f(x))$

$\qquad\qquad\qquad\qquad\qquad$ $\Uparrow_U : Ua \to ((a \to Ub) \to Ub)$

Similar to η_F, η_U maps any value to a trivial pair value (being paired with the tautology $\top$). $\Uparrow_U$ is a mapping from pairs into pair-friendly scope takers.

Li is then in a position to analyse B's utterance in (7b), to which he attributes the form *Some* $\ulcorner$*geese$_F$*$\urcorner$ *are flying*. His analysis proceeds via two steps where type-shifters allow the focused item to move, and two steps where type-shifters allow constituents to combine (2017: pp. 349–50). The first movement step occurs when $\ulcorner$geese$_F\urcorner$ takes wide scope due to the presence of the operator $\ulcorner \cdot \urcorner$, via the application of $\Uparrow_U$. The second movement step occurs when geese$_F$ takes wide scope due to its status as a focused item, via the application of $\Uparrow_F$. As part of this second step, a type u trace remains in $\ulcorner \cdot \urcorner$. The first composition step involves applying $\ulcorner u \urcorner$ to $\exists x.P(x) \wedge \mathbf{fly}(x)$, after

$⇑_U$ has applied to the former and η_U has applied to the latter. The second composition step involves applying $\mathbf{geese}_F$ to the result of the first composition step, after η_F has applied to that result.

In more detail, the first composition step involves the application of $⇑_U$ to $\ulcorner u \urcorner$ (in (i)), along with the application of η_U to $\exists x.P(x) \wedge \mathbf{fly}(x)$ to yield a trivial pair value (in (ii)). The result of the former is then applied to the result of the latter (in (iii)):

(i) $(\llbracket \ulcorner u \urcorner \rrbracket^c)^{⇑_U} = (\lvert\!\lvert u \rvert\!\rvert(c) \bullet \mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c)))^{⇑_U} =$
$\qquad\qquad \lambda f.[\mathbf{fst}(f[\lvert\!\lvert u \rvert\!\rvert(c)]) \bullet \mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c)) \wedge \mathbf{snd}(f[\lvert\!\lvert u \rvert\!\rvert(c)])]$

(ii) $\eta_U(\exists x.P(x) \wedge \mathbf{fly}(x)) = \exists x.P(x) \wedge \mathbf{fly}(x) \bullet \top$

(iii) $(\lvert\!\lvert u \rvert\!\rvert(c) \bullet \mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c)))^{⇑_U} \lambda P.\eta_U(\exists x.P(x) \wedge \mathbf{fly}(x)) = \exists x.\lvert\!\lvert u \rvert\!\rvert(c)(x) \wedge$ $\mathbf{fly}(x) \bullet \mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c))$

The second composition step proceeds by applying $⇑_F$ to $\mathbf{geese}_F$ (in (iv)), and η_F to (iii) (in (v)), before applying (iv) to (v) (in (vi)):[35]

iv. $(\llbracket \mathbf{geese}_F \rrbracket^c)^{⇑_F} = \lambda f.\mathbf{fst}(f(\mathbf{geese})) \bullet \bigcup_{u' \in \mathbf{alt}(\mathbf{geese})} \mathbf{snd}(f(u'))$

v. $\eta_F(\exists x.\lvert\!\lvert u \rvert\!\rvert(c)(x) \wedge \mathbf{fly}(x) \bullet \mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c))) =$
$(\exists x.\lvert\!\lvert u \rvert\!\rvert(c)(x) \wedge \mathbf{fly}(x) \bullet \mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c))) \bullet \{\exists x.\lvert\!\lvert u \rvert\!\rvert(c)(x) \wedge \mathbf{fly}(x) \bullet$
$\mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c))\}$

vi. $(\llbracket \mathbf{geese}_F \rrbracket^c)^{⇑_F} \lambda u.\eta_F(\exists x.\lvert\!\lvert u \rvert\!\rvert(c)(x) \wedge \mathbf{fly}(x) \bullet \mathbf{exp}(c, u, \lvert\!\lvert u \rvert\!\rvert(c))) =$
$(\exists x.\lvert\!\lvert \mathbf{geese} \rvert\!\rvert(c)(x) \wedge \mathbf{fly}(x) \bullet \mathbf{exp}(c, \mathbf{geese}, \lvert\!\lvert \mathbf{geese} \rvert\!\rvert(c))) \bullet$
$\qquad\qquad \{[\exists x.\lvert\!\lvert u' \rvert\!\rvert(c)(x) \wedge \mathbf{fly}(x) \bullet \mathbf{exp}(c, u', \lvert\!\lvert u' \rvert\!\rvert(c))] | u' \in \mathbf{alt}(\mathbf{geese})\}$

Li gives the LF depicting the derivation of *Some* $\ulcorner geese_F \urcorner$ *are flying* as follows (p. 350):

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35 While Li writes '$(\llbracket \mathbf{geese} \rrbracket^c)^{⇑_F}$' in (iv) and (vi) (his (12a) and (12c)), I assume he means $(\llbracket \mathbf{geese}_F \rrbracket^c)^{⇑_F}$. He does not explicitly define $\mathbf{alt}(x)$, but appears to treat it as mapping x to a set of alternatives (i.e., the second member of the pair denoted by a focused item within his system; see 2017: p. 348). Also, while Li defines $\lvert\!\lvert u \rvert\!\rvert(c)$ (the content u is used to express in c) and $\llbracket \ulcorner u \urcorner \rrbracket^c$ (the pair consisting of $\lvert\!\lvert u \rvert\!\rvert(c)$ and an 'expression' meaning), he is silent about $\llbracket u \rrbracket^c$. Presumably, he takes the application of $\llbracket \cdot \rrbracket^c$ to a linguistic expression u to yield u, as I otherwise do not see how $\lambda f.\mathbf{fst}(f(\mathbf{geese}))$ and $\mathbf{alt}(\mathbf{geese})$ are generated in (iv). In contrast, Section 3.1 follows Potts 2007 in distinguishing between an output of the grammar b (a member of D_u, relative to which $\llbracket \cdot \rrbracket^o_c$ is undefined) and a semantic representation $U(b)$ (where $\llbracket U(b) \rrbracket^o_c = b$).

$$F(Ut)$$

$$(u \to F(Ut)) \to F(Ut) \qquad\qquad u \to F(Ut)$$
$$\Uparrow_F \,|$$
$$\text{geese}_F \qquad\qquad \lambda u \qquad\qquad\qquad\qquad F(Ut)$$
$$\eta_F \,|$$
$$Ut$$

$$((e \to t) \to Ut) \to Ut \qquad (e \to t) \to Ut$$
$$\Uparrow_U \,|$$
$$\ulcorner u \urcorner \qquad\qquad \lambda P \qquad\qquad Ut$$
$$\eta_U \,|$$
$$\exists x.P(x) \wedge \mathbf{fly}(x)$$

The last step consists of 'discharging' focus values: returning an expression of type Fa to type a, in order to derive the ordinary value from the denotation of a focused phrase. This requires the presence of a contextually-determined alternatives set C with certain properties. Li claims that, in contexts where (vi) is assessed, C will have those properties. Hence the last step produces the ordinary meaning Li assigns to an occurrence of (7b), namely: $\exists x.(\!|\text{geese}|\!)(c)(x) \wedge \mathbf{fly}(x) \bullet \mathbf{exp}(c, \text{geese}, (\!|\text{geese}|\!)(c))$ of type Ut, which is equivalent to $\exists x.\!\ast\!\mathbf{goose}(x) \wedge \mathbf{fly}(x) \bullet \mathbf{exp}(c, \text{geese}, \lambda x.\!\ast\!\mathbf{goose}(x))$.

Finally, I provide the two-dimensional ordinary meanings Li would assign to occurrences of *Yuri didn't [kick the BUCKet]$_F$* and *Yuri [passed aWAY]$_F$* that involve expression focus at some context c, where c determines a C that allows focus values to be discharged.[36] I assume that both *kicked the bucket* and *passed away* express the property of having died at c:

(vii)   Yuri didn't $\ulcorner$kick the bucket$\urcorner$

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36 Since Li does not apply his account to any examples of sentences that include multiple foci, I give his analysis of the two clauses of (2) separately. Also, Li acknowledges that his account predicts that the 'expression' meaning 'is not canceled when the sentence is embedded under a truth value negation or a modal' (2017: p. 347), though he suggests that it 'can be negated by metalinguistic use of *not*' (fn. 2), provided metalinguistic *not* receives an independent analysis as a homonym of the ordinary negation operator. Yet since he provides no details about how metalinguistic uses of operators might interact with 'expression' meaning, it is difficult to take his account to predict any denotation other than (vii) for the relevant sentence occurrence.

$\neg (\!| \text{kick the bucket} |\!)(c)(\mathbf{yuri})$
$$\bullet \mathbf{exp}(c, \text{kick the bucket}, (\!| \text{kick the bucket} |\!)(c))$$
$= \neg \mathbf{die}(\mathbf{yuri}) \bullet \mathbf{exp}(c, \text{kick the bucket}, \lambda x.\mathbf{die}(x))$

(viii)   Yuri ⌜passed away⌝
$(\!| \text{passed away} |\!)(c)(\mathbf{yuri}) \bullet \mathbf{exp}(c, \text{passed away}, (\!| \text{passed away} |\!)(c))$
$= \mathbf{die}(\mathbf{yuri}) \bullet \mathbf{exp}(c, \text{passed away}, \lambda x.\mathbf{die}(x))$

An occurrence of (vii) at c denotes a pair containing the propositions that Yuri did not die and that the expression *kick the bucket* is used to express the property of having died at c. An occurrence of (viii) denotes a pair containing the propositions that Yuri died and that the expression *passed away* is used to express the property of having died at c.

As discussed in Section 2.4, Li's account differs from mine in several ways. First, the special predicate **exp** only ever relates a single linguistic expression to the content that expression is used to express at a context. In other words, the 'expression' meaning simply states that a linguistic item that receives expression focus is used to express certain content. This precludes any interaction between focus-external operators and 'expression' meaning. In contrast, the account developed in Sections 3.1 and 3.2 allows the predicate Apt to contribute to a range of complex claims about apt expression use, and to enter into scope relations with focus-external sentential operators. Second, Li analyses the meanings of occurrences of sentences that involve expression focus as pairs of propositions, though he does not issue predictions about which of these propositions would be added to the common ground. The account developed in Sections 3.1 and 3.2 holds that an occurrence of a sentence with expression focus denotes the single proposition normally considered its literal meaning, but might be used to pragmatically convey aptness claims in supportive contexts; and when such aptness claims are pragmatically conveyed, they will generally be added to the common ground instead of the literal meaning. Finally, since Li's central aim is to develop a compositional analysis of expression focus, he assigns an 'expression' meaning to the linguistic items that receive expression focus before providing rules that allow these meanings to project to larger constituents. The account in Section 3.1 does not derive the e-focus values of occurrences of sentences from the e-focus values of their parts, instead deriving them from the d-focus values of those sentences; though an e-focus value may be assigned to any sub-sentential linguistic item to which a d-focus value may be assigned. Section

2.4 presents some reasons in favour of the features of the account developed in the current paper.

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