Linguistic Limits on Metalinguistic Negation:
Evidence from Mandarin and English

David Wible
Tamkang University

Eva Chen
Providence University

We first point out that Mandarin Chinese and English show a striking contrast with respect to metalinguistic negation. Simple negated sentences in English freely allow metalinguistic readings of the negation whereas counterpart sentences in Mandarin do not. The cross-linguistic difference is then derived from independently motivated structural representations of negation in these two languages interacting with a single proposed universal syntactic constraint on the availability of metalinguistic readings of negative sentences. We show that the proposed constraint also accurately distinguishes within Mandarin between negative sentences which prohibit metalinguistic readings, on the one hand, and negative sentences which allow them, on the other. In addition to accounting for the previously unanalyzed contrast between Mandarin and English, the analysis accounts for this cross-linguistic difference without resorting to language specific (or even typological) statements about metalinguistic negation. Cross-linguistic differences in this respect are claimed to follow as a consequence of independently motivated syntactic differences between the two languages.

Key words: metalinguistic, negation, Mandarin, English, cross-linguistic

1. Introduction

Mandarin and English show a striking contrast with respect to whether simple negated sentences allow metalinguistic readings of the negation. The difference can be illustrated by comparing the English couplets in (1), which are felicitous on a metalinguistic reading of the negation, with the incoherent Mandarin counterpart pairs in (2), where the negated sentences resist such a reading.[1]

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[1] The Mandarin examples include both contrary negation (*bu xihuan* 'dislike' in (2a)) and contradictory negation (*bu rang* 'not allow' in (2b) and *bu gao* 'not tall' in (2c)). The distinction can be seen in whether the intensifier *hen* is acceptable appearing before the negator *bu*. This is fine for (2a), *hen bu xihuan*, but clearly odd for (2b), ?? *hen bu rang wo*, and (2c) ?? *hen bu gao*. This diagnostic for Mandarin contradictory versus contrary negation is due to Teng (1974).

(1) a. John doesn't like Mary. (He loves her.)
   b. They didn't let me go. (They made me go.)
   c. He isn't tall. (He's towering.)

(2) a. Zhangsan bu   xihuan Mali. (# Ta   ai   Mali.)[2]
      Zhangsan NEG like   Mali (3sg love Mali)
      'John dislikes Mary. (# He loves her.)'
   b. Tamen bu   rang wo qu. (# Tamen bi   wo   qu.)
      3pl   NEG let   1sg go (3pl   force 1sg go)
   c. Ta   bu   gao. (# Ta gao de budeliao.)
      3sg NEG tall (3sg tall DE extremely)

The purpose of this paper is to derive this cross-linguistic difference from independently motivated structural representations of negation in these two languages interacting with a single hypothesized universal syntactic constraint on the availability of metalinguistic readings of negative sentences.

While the literature on metalinguistic negation explores various facets of this phenomenon, what is missing as far as we know are specific claims or hypotheses proposing universal syntactic conditions on the availability of metalinguistic readings.[3] The central purpose of this paper is to offer such a proposal and to test its predictions with respect to Mandarin and English. Aside from any particular merits or weaknesses of our own hypothesis, however, a broader point we hope to show is that it is possible to formulate hypotheses concerning the nature of syntactic constraints on metalinguistic negation, hypotheses which are susceptible to falsification and hence capable of providing insight into this aspect of the intersection of syntax and pragmatics.

In part 2 of this paper, we describe in more detail the sort of facts covered by the term *metalinguistic negation*. In part 3 we review the basic facts of Mandarin and English that call for explanation and present our account of these facts, arguing its merits as we go. The crucial tasks in this section will be to provide independent motivation for the different structural representations for the negated sentences in the two languages and to show how these correspond to differences with respect to the availability of metalinguistic readings of the negation. In section 4 we consider an

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[2] The # marks sentences which, while grammatically acceptable, are pragmatically infelicitous in the given context.

[3] Horn suggests in passing that perhaps incorporated or affixed negative operators can not take metalinguistic readings, but he then points out problematic counterexamples to this suggestion. We will point out how our proposal accounts for the sorts of problematic cases that he mentions.

alternative account and show that when a wider range of data is considered this alternative fails to make distinctions that are fine enough to account for this data. We show that this additional data in fact lends further support to our analysis, which does capture these needed distinctions. Section 5 suggests directions for further research.

2. Metalinguistic negation

As Horn (1985, 1989) indicates, metalinguistic readings of sentence negation are distinctive in that they do not necessarily carry the entailment that the counterpart affirmative sentences are false. Rather than denying the truth of the affirmative counterpart, they are instead intended to register an objection to the assertability of the affirmative, even when the affirmative is assumed to be literally (truth functionally) true. For example, the following couplet is felicitous only on a metalinguistic reading of the negation in the first sentence:

(3)   The Smiths don't have three kids. They have four.

On a descriptive or truth functional reading of the negation in the first sentence, the sequence would be incoherent, since if it is true that the Smiths have four children, it is also necessarily true that they have three. The negation in the first sentence then is not descriptive; that is, it is not intended to deny that the Smiths have three children. Rather, on a metalinguistic reading, it is felicitously uttered as an objection to a preceding assertion that the Smiths have three children. Even though 'The Smiths have three children' is true if they have four, it is misleading to assert it since, on the Gricean maxim of quantity, listeners would assume that the assertion is indicating the full number of the Smiths' children. The metalinguistic negation in (3) is intended to register an objection to this misleading assertion.

Horn takes care to point out that the grounds for using metalinguistic negation to object to the assertability of a preceding statement are not limited to the Gricean grounds illustrated in (3). The objection can be aimed at virtually any aspect of the preceding utterance, from its pronunciation to its presuppositions (Horn 1989:363) as the following examples illustrate:

(4)   I didn't order /tomAtow/ juice. I ordered /tomEYtow/ juice.
(5)   The King of France isn't bald. There is no King of France.

We should note in passing here that since metalinguistic negation serves this function of objecting to some aspect of a previous utterance, sentences with a metalinguistic

reading typically indicate the element being objected to by some sort of focus marking. In English the focus is usually marked by emphatic stress. The normal stress for (3), for example, would look like the pattern indicated in (3').

(3') The Smiths don't have THREE children. They have FOUR.

Returning to the cross-linguistic contrast between Mandarin and English illustrated above in (1) and (2), the difference we are trying to account for is the fact that canonical declarative sentences of English, when negated, quite freely allow a metalinguistic reading of the negation whereas in Mandarin, canonical negated declaratives resist such an interpretation. Apparently the closest counterparts to the unacceptable Chinese versions in (2), repeated here, which would permit a metalinguistic reading involve a focus construction with copular *shi* 'be' as focus marker, as in (4):

(2) a. Zhangsan bu   xihuan Mali. (# Ta   ai   Mali.)
         Zhangsan NEG like   Mali (3sg love Mali)
     b. Tamen bu   rang wo qu. (# Tamen bi   wo qu.)
         3pl   NEG let 1sg go (3pl   force 1sg go)
     c. Ta bu   gao. (# Ta gao de budeliao.)
         3sg NEG tall (3sg tall DE extremely)

(4) a. Zhangsan bu   shi xihuan Mali. (Ta shi ai   Mali.)
         Zhangsan NEG be like   Mali (3sg be love Mali)
     b. Tamen bu   shi rang wo qu. (Tamen shi bi   wo qu.)
         3pl   NEG be let 1sg go (3pl   be force 1sg go)
     c. Ta bu   shi gao. (Ta shi gao de budeliao.)
         3sg NEG be   tall (3sg be tall DE extreme)
         'S/he isn't tall. (S/he's extremely tall.)'

The contrast illustrated here between (2) and (4) gives an added wrinkle to the question to be addressed. That is, an optimum account of the restrictions on metalinguistic negation cannot only make a cross-linguistic distinction which would predict simply that Mandarin negation resists metalinguistic readings whereas English negation permits them. Rather, such an account must make a finer distinction between the negative sentences within the same language, predicting which of them will allow metalinguistic readings and which will not, distinguishing for example the cases in (2) from those in (4) in Mandarin. Our question then must be put a bit more subtly: What is the property of the canonical negative sentences in Mandarin which renders them resistant to metalinguistic readings and which distinguishes them from other cases of

negation in Mandarin and in English that do permit metalinguistic readings? We will propose that the resistance of negatives to metalinguistic readings is not an arbitrary fact of Mandarin negation which must be stipulated, but follows from the interaction of the syntax of the negative constructions involved on the one hand and a universal syntactic constraint which we will propose for the availability of metalinguistic negation readings on the other. We will argue that the analysis we propose finds independent motivation by accounting not only for the cross-linguistic difference between English and Mandarin illustrated above but also for a more complex and subtly nuanced array of distinctions within these languages.

3. The analysis

3.1 The constraint on metalinguistic readings

The constraint on the availability of metalinguistic readings which we propose is given as Constraint M in (6):

(6) *Constraint M*: A metalinguistic reading of negation is prohibited where the negative morpheme forms an immediate constituent with the predicating head X^0 (typically V^0).[4]

We should clarify the nature of the claim entailed in Constraint M. This constraint identifies negative sentences that have a particular structural configuration, predicting that sentences with this configuration will not permit a metalinguistic reading of the negation. Conversely, the constraint predicts that negative sentences which do not have this structural configuration correspondingly should not exhibit this resistance to metalinguistic readings. Of course, to coerce a metalinguistic reading from a negative sentence, a variety of pragmatic conditions must hold. Our claim is that, given these conditions, cases of sentence negation which do not have the structure described in Constraint M and which thereby do not violate that constraint will indeed allow a metalinguistic reading, though speakers may prefer some of these sentences over others for expressing the metalinguistic reading. In contrast, however, negative sentences that do meet the structural description described in Constraint M (that is, those sentences in which the negative morpheme forms a constituent with the main verb) will categorically resist a metalinguistic reading of the negation regardless of how ideal the pragmatic conditions are for eliciting such a reading.

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[4] We intend 'constraint' here in the broader sense of a restriction and not in the technical sense used in constraint-based theories of grammar.

Turning now to the structure described in Constraint M, if the constraint is to account for the cross-linguistic difference that we illustrated at the outset with the sentences in (1) and (2), then it remains for us to give independent reason to believe that in the Mandarin cases like those in (2) which resist metalinguistic readings, the negative morpheme does indeed form a constituent with the predicating head, thereby rendering these sentences vulnerable to the constraint, and that, in contrast, in the English cases which do allow metalinguistic readings as the sentences in (1), the negative morpheme does not form an immediate constituent with the predicating head, freeing these English sentences from the above constraint and allowing them, as a consequence, to take a metalinguistic reading.
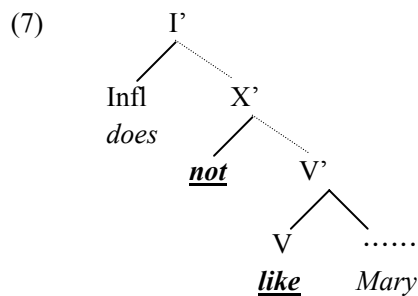
The structures for negation that we present below, which in conjunction with the proposed Constraint M yield these consequences, are not our own. They are taken from the literature, where they have been proposed for reasons completely independent of the metalinguistic facts that we are trying to account for here and in this respect offer independent motivation for our constraint. The Mandarin structure for negation is taken from Huang (1988), and the relevant aspects of the English negative structure are shared by a number of analyses, for example Aoun and Li (1993), Baker (1991), Chomsky (1991), Pollock (1989), Radford (1997), among others.

3.2 The structure of negation in English

The major portion of this paper is devoted to a discussion of relevant Mandarin data. Before turning to that discussion, however, we briefly show here how Constraint M predicts that metalinguistic readings should be possible for the English negative sentences that in fact allow such readings. For our purposes, the crucial point concerning English is that in the canonical negative sentences, which quite generally allow metalinguistic readings, the negative morpheme ('not') does not form a constituent with the main verb. Common to a diverse array of proposals concerning the structure of negation with 'not' in English is the assumption that the negative morpheme does not form a constituent with the main verb which follows it but rather is sister of some higher projection of that verb (or even of intervening 'shells' of functional projections which contain the verb). This assumption is shared by those who follow Pollock (1989) in assuming that NEG heads its own projection (Aoun and Li (1993), Chomsky (1991), inter alia) as well as by those such as Baker (1991) who, in contrast, treat 'not' as an adverb which is sister of V'.[5] The structural relations in

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[5] Baker allows that 'not' could be represented as adjoined to Infl' rather than to V'. In either case, he assumes 'not' to be an adjoined adverb rather than a head of its own functional projection (pp. 402-403).

simple negative sentences of English which the representations proposed in these various analyses hold in common are shown in (7).

(7)

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             I'
            /  ⋰
        Infl    X'
        does   /  ⋰
             not    V'
                   /  ⋰
                  V    ......
                 like   Mary
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While the structure in (7) oversimplifies certain aspects of the various authors' proposals, what (7) accurately represents from all of these analyses is the basic structural relationship between 'not' and the main verb, and it is this relation which is our main concern here. Specifically, the negative morpheme 'not' and the main verb do not form a constituent. It is precisely because they do not form a constituent that Constraint M correctly predicts that metalinguistic readings are possible for canonical cases of sentence negation in English.[6]

If 'not' joins to form a constituent with any element at all, it is with the auxiliary verb to its left rather than the main verb to its right. This can be seen in the fact that 'not' contracts with the adjacent auxiliary to its left: 'John doesn't like Mary'. The closer relationship of 'not' to the auxiliary is also evidenced by the fact that there must always be an auxiliary element to the left of 'not' in instances of sentential negation. This is apparent from the fact that 'not' triggers 'do support' in the absence of any other auxiliary, as the contrast between (8) and (9) illustrate.

(8) *Sonya not lives/livesn't in Chicago.
(9)   Sonya doesn't live in Chicago.

The structural independence of 'not' from the main verb and its relative dependence on the auxiliary to its left is also noticeable in cases of verb ellipsis. Specifically, though 'not' must cooccur with an auxiliary verb, as 'do support' shows in (8-9), the same negative morpheme is acceptable in the absence of a main verb, say under ellipsis of the verb, as (10) illustrates, again showing its structural independence from the main verb.

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[6] In fact, we know of no analysis of sentential negation in English which propose that the negative operator forms a constituent with the main verb.

(10) Sue lives in Chicago but Sonya **doesn't** . (*live in Chicago*)

This brief discussion of the structure of sentential negation in English is intended to show how Constraint M makes correct predictions concerning the availability of metalinguistic readings of negation in these cases. Specifically, the constraint correctly predicts that in canonical negated sentences of English, since the negative morpheme 'not' does not form a constituent with the main verb that follows it, these sentences should not resist metalinguistic readings. The central question of this paper, however, is why, in contrast to English, corresponding negative sentences of Mandarin do resist metalinguistic readings. In what follows, we motivate a particular structure for negative sentences in Mandarin and show how Constraint M correctly predicts that these sentences, unlike the English counterparts, will resist metalinguistic readings.

3.3 The structure of negation in Mandarin

Turning to Mandarin, we adopt Huang's (1988:284) Principle P in (11) concerning the structure of negation in that language.

(11) *Principle P*: The negative morpheme *bu* forms an immediate construction
with the first V^0 element following it.

Huang's Principle P interacts with our proposed constraint to yield clear predictions concerning the possibility of metalinguistic readings of negation in Mandarin, correctly predicting, for example, that the sentences in (2) will resist a metalinguistic reading of the negation and those in (4) will not. These predictions arise as follows. Recall first that Constraint M prohibits a metalinguistic reading of negation when the negative morpheme forms a constituent with the main verb. According to Principle P, the negative morpheme *bu* in both (2) and (4) forms a constituent with the V^0 that follows it, in (2a), for example, it is with the verb *xihuan* 'like' and in its counterpart (4a) with the focus marker, copular *shi*. The relevant structures for all of the sentences in (2) and (4) are given in (2') and (4').

(2') a. Zhangsan [bu   xihuan] Mali. (# Ta ai   Mali.)
          Zhangsan NEG like   Mali (3sg love Mali)
      b. Tamen [bu   rang] wo qu. (# Tamen bi   wo qu.)
          3pl   NEG let   1sg go (3pl   force 1sg go)
      c. Ta [bu   gao]. (# Ta gao de budeliao.)
          3sg NEG tall   (3sg tall DE extremely)

(4') a. Zhangsan [bu   shi] xihuan Mali. (Ta shi ai   Mali.)
      Zhangsan NEG be   like   Mali (3sg be love Mali)
    b. Tamen [bu   shi] rang wo qu. (Tamen shi bi   wo qu.)
      3pl   NEG be let   1sg go (3pl   be force 1sg go)
    c. Ta [bu   shi] gao. (Ta shi gao de budeliao.)
      3sg NEG be   tall (3sg be tall DE extreme)

While the sentences in (2) and (4) each contain an instance of a [*bu* + V^0], Constraint M predicts that only those in (2) will resist a metalinguistic reading of the negation because it is only in (2) that the head with which *bu* combines is head of the main predicate. In the sentences in (4), the presence of *shi* intervening between *bu* and the main verb frees that sentence from Constraint M and makes available a metalinguistic reading of the negation.

Note that Constraint M makes correct predictions concerning (2) and (4) only by assuming a certain structure of negation, particularly the structure ascribed by Principle P. The role of this structure will continue to be essential when we turn to a wider range of data as well. That is, the predictions of Constraint M will again turn crucially on the structure for the negative sentences assigned by Principle P. Because of the critical role that this particular view of the structure of negative sentences plays in our analysis, we devote considerable attention to providing evidence and independent motivation for this view in what follows. We first recount Huang's motivation for Principle P and then provide additional evidence of our own in support of it.

3.3.1 Evidence for Principle P

The basic concern in Huang (1988) was to argue that in sentences like (12) the first V (or predicate) *pao* 'run' is the main verb and that the following predicate, *kuai* 'fast', is a complement of the first.

(12) Tamen pao de   hen kuai.
     3pl   run DE very fast
     'They run very fast.'

Related to our present concerns, Huang had to offer an explanation for why, if *pao* is the main predicate, it can not be negated by *bu* as shown in (13) (from Huang's (29), p. 285).

(13) *Tamen bu   pao de hen   kuai.[7]
        3pl   NEG run DE very fast

Since a traditional test for a main verb is that it takes negation by *bu*, the unacceptability of the negated form of (12) given in (13) would seem to be evidence that *pao* 'run' is not the main verb in the sentence and thus would appear to undermine Huang's view that *pao* is the main verb in that sentence. Huang argued that, despite such appearances, the unacceptability of (13) is compatible with his view that *pao* is the main verb in that sentence, thus diffusing an argument against his view. His account relies on a particular structure for negation with *bu*, and the structure that he argues for turns out to have crucial consequences for our predictions concerning metalinguistic negation. Specifically, he shows that the unacceptability of (13) is accounted for by an independently motivated Principle P. Since that principle claims that *bu* forms a constituent with the following verbal head, it would ascribe to (13) the following partial constituency:

(13') *Tamen [bu pao] de hen kuai.

The scope that this assigns to the negative operator obviously results in a nonsensical reading in which 'non-running' has the property of being 'fast'. Hence, with the structure assigned for negation by Principle P, the unacceptability of (13) arises from this incoherent reading and in no way casts doubt on the status of *pao* as the main predicating head in (12) and (13).

Huang provides further support for the structure of negated sentences given in Principle P by calling upon it to derive the *you-le* alternation first noted and described in detail by Wang (1965). This alternation can be seen in the complementary distribution of these two formatives in sentence pairs such as (14-15):

(14) Ta   pian **le**   ni.
        3sg cheat ASP 2sg
        'S/he cheated you.'

(15) Ta   mei   **you** pian   ni.
        3sg NEG have   cheat 2sg
        'S/he hasn't cheated you.'

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[7] As Huang points out (p. 290), there is a certain reading under which *Wo bu pao de kuai* is acceptable, and that is with a future or volitional reading possible when the clause appears in subordinate contexts. He suggests that in such cases, the future/volitional reading indicates that there is a modal involved which, though unpronounced, still intervenes syntactically and protects *bu* from attaching to the verb *pao*, allowing it to take scope over the whole predicate.

Huang notes that (15) serves as a negated counterpart of (14) with the negation taking the form of negated *you*. The point to note here is that a negated counterpart of (14) with *bu* instead as the negative operator is unacceptable, as in (16):

(16) *Ta   bu   pian   le   ni.
      3sg   NEG   cheat   ASP   2sg

Huang suggests that (16) is ruled out by Principle P. That is, Principle P would assign the partial structure given in (16') since it requires that *bu* form a constituent with the head verb that follows it:

(16') Ta   [bu   pian]   le   ni.
       3sg   [NEG   cheat]   ASP   2sg

Similar to the case of (13) ('T*amen [bu pao] de hen kuai*'), here the structure yields an incongruous reading. Since *bu* forms an immediate constituent with the following V^0, the resulting structure gives *le* scope over [*bu pian*], giving a perfective reading to a non-event or in other words, incongruously expressing the completion of a non-occurrence of cheating.

An acceptable negated counterpart of the affirmative (14) requires an auxiliary verb intervening between the negative morpheme and the main verb, as in (15) where *you* 'have' serves as the auxiliary or in (17) with the copular *shi* 'be' intervening to host *bu*.

(17) Ta   bu   shi   pian   le   ni.
      3sg   NEG   be   cheat   ASP   2sg

In these cases the constituent formed in accordance with Principle P is the negative morpheme in construction with the adjacent auxiliary verb *you* or focus marker *shi* rather than with the main verb; consequently the resulting [neg + aux] constituent can take scope over the VP. The same holds for the 'p*ao de kuai*' data. An acceptable negated counterpart for these cases, say for (12), requires an auxiliary verb intervening between the negative operator and the main verb to prevent the nonsensical reading which would result were *bu* to form a constituent with the main verb. Such alternatives are shown in (18) with the auxiliary *you* and (19) with the verb *shi* intervening as focus marker. The affirmative counterpart (12) and the unacceptable version of negation with *bu* adjacent to the main verb (13) are repeated below for comparison.

(12) Tamen pao de   hen   kuai.
      3pl   run DE   very   fast

(13) *Tamen [bu   pao] de hen kuai.
         3pl   NEG run   DE very fast

(18) Tamen [mei you] pao de hen kuai.
         3pl   NEG have run DE   very fast

(19) Tamen [bu   shi] pao de hen kuai.
         3pl   NEG be   run DE   very fast

The bracketed constituents in (18-19) are formed in accordance with Principle P.[8] In (18) the negative constituent [*mei you*] c-commands the following VP, giving negation scope over it. In (19) it is the [*bu shi*] constituent which takes scope over the VP.

3.3.2 More evidence on the structure of negation in Mandarin

In addition to the arguments that Huang (1988) provides for Principle P, here we offer an additional sort of evidence which suggests that *bu* forms a constituent with the immediately following predicate head. The minimal pair in (20-21) exemplifies this type of supporting data.

(20) Ta   **bu**   mianqiang de yuanliang **le**   wo.[9]
        3sg   NEG   grudging   DE forgive   ASP 1sg

(21) Ta   meiyou   mianqiang de yuanliang wo.
        3sg   NEG-have grudging   DE forgive   1sg

A number of facts about this sort of example give support to the view that *bu* forms an immediate constituent with the head that follows it. The relevant facts have to do with

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[8] Huang assumes that *meiyou* is an allomorphic alternation of *bu + you* (p. 287). Thus Principle P applies to instances of *meiyou* as well, determining that these two morphemes form an immediate constituent just as other instances of 'bu + V^0.

[9] Using a different adverbial other than *mianqiang de* in the example would make it ostensibly easier to detect the readings we are interested in, say an adverbial like *gaoxin de* 'happily'. Negation on *gaoxin* , however, is contrary negation rather than contradictory negation. This can be seen by the acceptable placement of the intensifier *hen* 'very' in front of the negator *bu* as in the phrase *hen bu gaoxin*. As Teng (1974) points out, such cases are more like word internal negation and would be rendered in English as 'unhappy' or 'displeased' rather than 'not happy' or 'not pleased'. Using this as our example then would leave room to suspect that the scope that *bu* exhibits in the example is due not to properties of *bu* in general, but to the fact that the example is one of contrary negation. To avoid this problem, we use *bu mianqiang*, a case of contradictory negation as seen by the fact that *hen* is odd preceding the negator in this case: ??*hen bu mianqiang* (cf. *hen bu gaoxin*).

the scope of negation, specifically with how the scope of negation differs between the minimally distinct (20) and (21). First notice that any acceptable reading of (20) presupposes that forgiveness (*yuanliang*) did occur, confirming that the negative *bu* does not take scope over the VP but, as predicted by Principle P, just over the head *mianqiang* that immediately follows it. Morphological evidence for this reading comes from the acceptable occurrence of postverbal *le* in the presence of *bu* in this example. The *le* indeed takes the perfective reading here, giving independent confirmation that *bu* does not take scope over the main verb. If it had scope over the main verb, a perfective reading would be incongruous for precisely the same reasons discussed above that are responsible for ruling out (16), repeated here.

(16) *Ta bu   pian   le   ni.
        3sg NEG cheat ASP   2sg

Such a sentence expresses the completion of an event while at the same time expressing with *bu* that the event did not occur. The fact that *le* is acceptable in (20) in the presence of *bu* is evidence, then, that *bu* does not take scope over the verb in that example.

By comparing (20) with the minimally distinct (22), it becomes clear that the acceptability of postverbal *le* in (20) is due to the presence of *mianqiang* protecting the main verb from falling within the scope of *bu*. Notice that with the absence of *mianqiang de* from (22), the postverbal *le* correspondingly becomes unacceptable.

(22) Ta bu   yuanliang (*le)   wo.
        3sg NEG forgive   (*ASP)   1sg

The unacceptability of *le* in (22) in contrast to its acceptability in (20) is strong evidence that *bu* forms a constituent with the head that follows it in each case, with *mianqiang* in (20) to the exclusion of the main verb head *yuanliang* and with *yuanliang* in (22) rendering *le* unacceptable in this latter example.

In summary, the cooccurrence of *bu* and *le* in the acceptable (20) is evidence then that the scope of *bu* does not include the main verb in that sentence. This is precisely what Principle P predicts for (20) since it requires *bu* to form a constituent with the immediately following head *mianqiang*.

To get the scope of negation to include the main verb, an auxiliary verb is needed. The effect can be seen in (21) in two respects. First, semantically, the scope of negation in (21) can indeed take in the main verb, allowing the interpretation that no forgiveness occurred. In fact, (21) is ambiguous with respect to the scope of negation of *meiyou*. On one of the readings, the speaker is denying the manner *mianqiang de* (grudgingly) and on the other reading, the one in which negation includes the verb in its scope, the

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speaker is denying that forgiveness has occurred.[10] Each of these two readings of (21) can be forced alternatively by following up the sentence with an appropriate elaborating utterance that presupposes only one of these two readings, as with the alternate elaborations given in (i) and (ii) below. The readings are perhaps easier to detect given a context where the negative sentence is being uttered in response to an assertion of the affirmative counterpart. Assume, then, that sentence (21) is uttered here by B in response to the statement by A as shown in (23).

(23) A: Laoshi haoxiang yijin   mianqiang de yuanliang le   ni.
         teacher apparently already grudging DE forgive   ASP 2sg
         'The teacher has apparently already grudgingly forgiven you.'
      B: Bu! Ta meiyou   mianqiang de yuanliang wo…;
         neg 3sg NEG-have grudging   DE forgive   1sg
         'No! S/he hasn't grudgingly forgiven me…;'
      (i) Qishi   ta   hen leyi de yuanliang le   wo.
          actually 3sg very glad DE forgive   ASP 1sg
          '…actually, s/he gladly forgave me.'
      versus
      (ii) Ta   faner jiao wo gui   suanpan.
           3sg rather tell 1sg kneel abacus
           '…rather, s/he made me kneel on the abacus.'

The main point for our concerns is to see that the ambiguity exhibited in (21) disappears when negation is indicated not by *meiyou* but by *bu*, as in (20). This lack of ambiguity for (20) is precisely what we would expect according to the structure posited by Principle P. The only available reading for (20) is the one used to deny the manner, not the forgiveness. This is apparent from the fact shown in (24) that of the two elaborating sentences (i) and (ii), only (i) is felicitous following (20), and it is the one which indicates that the manner, not the occurrence of forgiveness, is being denied by the speaker.

(24) A: Laoshi haoxiang yijin   mianqiang de yuanliang le   ni.
         teacher apparently already grudging DE forgive   ASP 2sg
         'The teacher has apparently already grudgingly forgiven you.'

---

[10] We are not claiming that this ambiguity must arise from two different syntactic representations of the negation in the sentence, although that would be one way to derive it. Another would be to say that there is only one syntactic representation, one in which the negative element *meiyou* c-commands the entire following VP, and that this leaves structurally undetermined which element is being denied by the use of negation in this sentence, with the choice being determined by pragmatics.

    B: Bu! Ta bu   mianqiang de yuanliang le   wo…;
       No! 3sg NEG grudging DE forgive   ASP 1sg
       (i) Qishi   ta   hen leyi de yuanliang le   wo.
          actually 3sg very glad DE forgive   ASP 1sg
          '…actually, s/he gladly forgave me.'
     versus
       (ii) #Ta faner   jiao wo gui   suanpan.
          3sg in-fact tell   1sg kneel abacus
          '…in fact, s/he made me kneel on the abacus.'

This is further confirmation that in (20), the scope of negation by *bu* is limited to the head that immediately follows it and does not include the main verb. And this is what Principle P predicts for (20).

    Still further evidence that the minimally distinct (20) and (21) differ with respect to the scope of negation in just the way Principle P would predict comes from the possibility of negative polarity items within the VP of these two sentences. As (20') and (21') show, only the latter version allows a negative polarity item in the VP:

    (20') *Ta bu   mianqiang de yuanliang (le)   renhe ren.[11]
          3sg NEG grudging DE forgive (ASP) any   person

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[11] The star (*) on sentence (20') is based on the reading of *renhe* 'any' as a negative polarity item. There is another reading on which the sentence becomes acceptable but crucially on that reading *renhe* is not interpreted as a negative polarity item and sentence (20') *Ta bu mianqiang de yuanliang le renhe ren* under this interpretation would be rendered in English something like 'She ungrudgingly forgave anyone' where 'anyone' and *renhe* have a meaning quite different from the one under consideration in the text. This alternative reading *renhe* is not a negative polarity item in that it does not require the cooccurence of a preceding negative morpheme or +Q operator. This is apparent in a minimally distinct sentence where the negative *bu* does not appear, as in (i)

    (i) Ta mianqiang de yuanliang le   renhe ren.
       3sg grudging DE forgive   ASP any   person
       'S/he's grudgingly forgave anyone.'

Notice that it is only the non-polarity meaning of *renhe* illustrated in (i) which is available for (20') in the text. This in fact gives further support for our point that in (20') the scope of negation does not include the verb (or its object) but is limited to its adjacent head *mianqiang*. This other, non-polarity reading of *renhe* is available for (21') as well, rendering this sentence ambiguous, with one reading resulting from the negative polarity *renhe* and another reading from the non-polarity *renhe*. Again, our analysis predicts the availability of this other non-polarity reading of *renhe* in both (20') and (21') since that is the reading available when *renhe* falls outside the scope of negation.
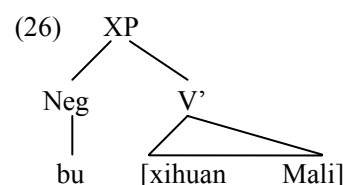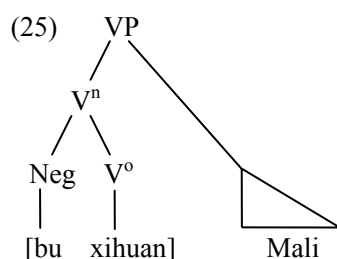
(21') Ta   meiyou   mianqiang de   yuanliang renhe ren.
      3sg NEG-have grudging   DE forgive   any   person
      'S/he hasn't grudgingly forgiven anyone.'

The fact that a negative polarity item is acceptable in (21) but not in (20) is predicted by Principle P since, according to that principle, *bu* forms a constituent with *mianqiang* in (20), limiting the scope of negation to that adverbial head with the consequence that the negative polarity item *renhe* fails to fall within the scope of negation as required. In contrast, the presence of the intervening auxiliary verb *you* in (21') hosting the negative morpheme allows the negated auxiliary to take scope over the VP, thereby including the negative polarity item *renhe* within the scope of negation as required.

3.3.3 Summary of negation in Mandarin and metalinguistic resistance

It is worth reiterating here the relevance of the structure of negative sentences in Mandarin to the central question of this paper. We have provided the extended discussion of this structure in Mandarin because our account of the facts concerning metalinguistic negation depends upon it. Specifically, we claim that the resistance of negated sentences in Mandarin to metalinguistic readings is attributable to the structure of those negated sentences. We have expressed this claim in the form of Constraint M, which prohibits metalinguistic readings for sentences in which the negative morpheme forms a constituent with the main predicating head (typically, the main verb). This constraint correctly predicts that Mandarin cases like those in (2) resist metalinguistic readings, but crucially it yields this prediction only by assuming a specific structural representation of the negation in those sentences, that is, by assuming the structure ascribed by Principle P whereby the negative morpheme *bu* forms a constituent with the head that follows it. To be more concrete, our constraint would (correctly) rule out a metalinguistic reading of the negative sentences in (2) assuming the structure represented in (25) below but not if the structure were an alternative where *bu* and the following verb do not form a constituent, say along the lines of (26).[12]

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[12] Huang assumes that the constituent [*bu* + V] is itself a zero level category, V^0, formed by adjunction of *bu* to the following verb. We remain neutral on the categorial status of this constituent, noting though that assuming it is formed by adjunction and that *bu* plays no role in the argument structure of the verb it is adjoining to, it stands to reason that the resulting [*bu* + V] constituent would be V^0 rather than say V'. The choice could actually have consequences on how strictly our Constraint M can be formulated, as we point out in section 5, but we defer consideration of the issue to future research.

(25)   VP
        Vⁿ
     Neg   V⁰
     [bu   xihuan]   Mali

(26)   XP
     Neg   V'
     bu   [xihuan   Mali]

The crucial difference is that in (25) the negative morpheme forms a constituent with the main verb, and this is exactly the structure which Constraint M predicts will not allow metalinguistic readings of the negation. The relevance of Principle P is that it assigns structure (25) to the negative sentences in (2) and it is by virtue of this structure that Constraint M correctly predicts that a metalinguistic reading is not available for those sentences. Were it to turn out that Principle P were wrong and that something like (26) rather than (25) were the correct structure of the VP in the cases in (2), then our constraint would inaccurately predict that sentences like those in (2) should permit a metalinguistic reading.

It is worth noting here that (26) represents the structure of English canonical sentences (see section 3.1 above) and the predictions that Constraint M makes concerning this structure--that sentences with this structure should permit metalinguistic readings--are indeed accurate for English. As we have seen in (1), and as Horn (1985) points out, canonical English negative sentences quite freely permit metalinguistic readings.

4. An alternative analysis

What we have done up to this point is argue that there are reasons independent of metalinguistic negation facts to claim that the structure of negated sentences in Mandarin differs from the counterpart negated sentences in English. We argue that the constraint we have proposed on the availability of metalinguistic readings interacts with this independently motivated structural difference between the two languages to yield the observed difference in the availability of metalinguistic readings that we had set out to account for.

At this point, however, it could be argued that, even granted the structural differences between the negated sentences of the two languages, the proposed constraint is merely post hoc. That is, the fact that a cross-linguistic difference in the structure of negated sentences happens to coincide with a difference in the possibility of metalinguistic readings of negation is simply a coincidence and there is no real

structural constraint at work here. In other words, to show, as we have, that the two languages differ in both the structure of negation and the availability of metalinguistic negation readings does not constitute evidence that the former difference is responsible for the latter. In fact, with respect to the Mandarin data, there would appear to be an apparently more straightforward alternative to our constraint which could account for the resistance to metalinguistic readings. In what follows, we consider this alternative and show that it fails when a wider range of data is considered, and that in fact this more complex range of data lends further support to our account.

As we noted in section 2, metalinguistic negation is used to object to some aspect of a previous utterance and must indicate which specific aspect of that earlier utterance is the focus of that objection. This being the case, it only stands to reason that a focus construction would be perfectly suited to marking such a focus of objection and thereby yielding such a reading. In English, as noted above, focus can be marked by emphatic stress, hence obviating the need for special grammatical constructions to mark the focus required for metalinguistic readings. Since Mandarin is a tonal language with much less freedom for the use of marked stress, the account would go, a specialized grammatical construction flags the needed focus. On this hypothesis, it is the focus-marking function of the *shi* construction which accounts for why negated instances of that construction permit metalinguistic readings of the negation. In other words, the *shi* focus construction provides the focus that metalinguistic readings require. Conversely, the lack of focus marking on canonical negative clauses in Mandarin accounts for their resistance to metalinguistic readings. As an alternative to our proposed syntactic constraint on metalinguistic readings, this approach simply attributes the availability of metalinguistic readings to the presence or absence of syntactic marking of focus. This would purport to account for the difference between the canonical sentences in (2) and the focus-construction counterparts in (4). On this view, the distinction between these two sets of sentences has nothing to do with a general structural constraint on metalinguistic negation along the lines of Constraint M, and would render that constraint superfluous.

4.1 Testing the alternative on more data

In expanding the range of data, it becomes clear that this alternative hypothesis has problems. Specifically, there are classes of examples of Mandarin negation which allow metalinguistic readings but which do not morphologically or syntactically mark focus. Such cases are left unaccounted for by a focus-based account of the restrictions on metalinguistic readings in Mandarin.

For example, the fact that metalinguistic readings are possible for canonical Mandarin negated sentences can be seen in the striking contrast between negated instances of the verb *you* 'have' as a main predicate, as in (27), and negated instances of *you* 'have' as an auxiliary verb, as in (28).

(27) Zhangsan mei you san-ge xiaohaizi. (# Ta you si-ge xiaohaizi.)
     Zhangsan NEG have 3-CL   child   (3sg have 4-CL child)
     'Zhangsan doesn't have three children. (S/he has four children.)'

(28) Zhangsan mei you yang sange xiaohaizi. (Ta yang le sige xiaohaizi.)
     Zhangsan NEG have raise 3-CL child   (3sg have   4-CL child)
     'Zhangsan hasn't raised three children.   (S/he's raised four children.)'

While negation of the main predicate in (27) categorically resists a metalinguistic reading regardless of context, the minimally distinct (28) is clearly more amenable to a metalinguistic reading given an appropriate context. The point to notice here first is that (28), the case which allows the metalinguistic reading, is not a focus construction. The alternative account considered above which would attribute the availability of metalinguistic readings of negation in Mandarin to the focus construction therefore fails to account for the availability of such a reading for (28) and, moreover, for why (27) and (28) should differ in the availability of a metalinguistic reading of the negation. Our constraint predicts these facts, however. That is, since our constraint claims that metalinguistic readings are prohibited in cases where the negative morpheme forms an immediate constituent with the predicating head, it correctly predicts that (27) will resist a metalinguistic reading since the negated *you* 'have' is the main verb in this sentence and forms a constituent here with the negative morpheme *mei* (an allomorph of *bu*). It differs from the acceptable (28) in that the negated verb *you* in (28) is an auxiliary verb rather than a main verb. Since the negative morpheme here does not form an immediate constituent with the predicating head (i.e., with the main verb *yang* 'raise'), our constraint correctly predicts that a metalinguistic reading should be available for the negation in this case. The surprising fact that this minimal difference in the role of the verb *you* in (27) and (28) corresponds to a clear difference in the availability of a metalinguistic reading of the negation offers striking confirmation for Constraint M since it predicts this correspondence.

4.2 Comparing the analyses with still more data

The clear distinction exhibited between (27) and (28) above is captured by our analysis but is left undetected by an alternative focus account. This difference in the

availability of metalinguistic negation exemplified in (27-28) which our account predicts is quite general and robust. As examples in (29-32) below show, it holds over an array of predicates and a variety of auxiliary elements protecting those predicates from the negative morpheme. Taken together, these sets of sentences strongly suggest that restrictions on metalinguistic negation can not be reduced to considerations of focus and that there is a structural constraint at work, one along the lines of our Constraint M. Notice the distinction in the data below between the (a) sentences on the one hand versus the (b-d) counterparts on the other. The speakers we consulted all found a clear distinction with respect to the possibility of a metalinguistic reading. Specifically, the (a) cases categorically resist metalinguistic readings of the negation whereas the (b-d) cases permit one, parallel to the distinction between (27) and (28) above. The metalinguistic reading is forced by the rectifying sentences following each negative sentence. The fact that the rectifying sentence is irremediably incoherent in the (a) examples (as indicated by the #) but not in the (b-d) examples shows that the metalinguistic reading is simply not available in the (a) cases but can be invoked for the others.[13]

(29) a. Ta <u>bu   rang</u> wo   qu.   #Ta   bi   wo qu.
        3sg NEG let   1sg go   3sg   force 1sg go

     b. Ta <u>mei</u> you <u>rang</u> wo   qu.   Ta   bi   wo qu.
        3sg NEG have let   1sg   go   3sg force 1sg go

     c. Ta <u>bu</u> shi <u>rang</u> wo qu.   Ta   shi   bi   wo qu.
        3sg NEG be let   1sg go   3sg be   force 1sg go

     d. Ta <u>bu</u> hui <u>rang</u> wo qu.   Ta   hui   bi   wo qu.
        3sg NEG able let   1sg go   3sg able force 1sg go

(30) a. Ta <u>bu   darao</u> wo.   #Ta   fangai   wo.
        3sg NEG disturb 1sg   3sg   obstruct 1sg

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[13] Among the (b-d) sentences, speakers show a preference for the version with the focus maker *shi*, and this is indeed probably due to the felicity condition that metalinguistic negation requires focus. This is quite compatible with our point, however. What we are trying to show is that in addition to this preference for the use of the focus-construction to express metalinguistic negation in Mandarin, there is a further quite robust distinction which speakers sense between the (a) sentences, which flatly disallow a metalinguistic reading of the negation and the other sentences (b-d) which differ clearly from the (a) counterpart in that they can allow a metalinguistic reading even if the *shi* version is the preferred on among them. It is this marked distinction between the (a) sentences on the one hand and the (b-d) sentences on the other which we have been attempting to account for in this paper.

    b. Ta <u>mei</u> you <u>darao</u> wo.   Ta fangai   wo.
       3sg NEG have disturb 1sg   3sg obstruct 1sg

    c. Ta <u>bu</u>   zai   <u>darao</u> wo.   Ta zai   fangai   wo.
       3sg NEG PROG disturb 1sg   3sg PROG   obstruct 1sg

    d. Ta <u>bu</u>   shi <u>darao</u> wo.   Ta shi fangai   wo.
       3sg NEG be disturb 1sg   3sg be obstruct 1sg

(31) a. Ta <u>bu   gao</u>.   #Ta feichang gao.
       3sg NEG tall   3sg extremely tall

    b. Ta <u>bu</u>   suan <u>gao</u>.[14]   Ta suan feichang gao.
       3sg NEG count tall   3sg count extremely tall

    c. Ta <u>bu</u>   shi <u>gao</u>.   Ta shi feichang gao.
       3sg NEG be tall   3sg be extremely tall

(32) a. Ta <u>bu   gai</u> ni.   #Ta pian ni.
       3sg NEG fool 2sg   3sg cheat 2sg

    b. Ta <u>bu</u>   yao   <u>gai</u> ni.   Ta yao pian ni.
       3sg NEG want fool 2sg   3sg want cheat 2sg

    c. Ta <u>bu</u>   zai   <u>gai</u> ni.   Ta zai   pian ni.
       3sg NEG PROG fool 2sg   3sg PROG cheat 2sg

    d. Ta <u>bu</u>   shi <u>gai</u> ni.   Ta shi pian ni.
       3sg NEG be fool 2sg   3sg be cheat 2sg

The point to observe in these examples is that the only cases which categorically resist a metalinguistic reading (that is, all of the (a) examples) are also the only cases in which the negative morpheme is followed directly by the main verb or predicating head and so forms a constituent with that head.[15] Conversely, all the other sentences (that is, the (b-d) sentences) permit a metalinguistic reading much more readily than the (a) counterparts, and correspondingly, in these sentences the negative morpheme is separated from the head predicate by an intervening auxiliary or other verbal element of some type, preventing the negative morpheme from forming a constituent with the main predicate. Our constraint accurately predicts this correspondence between the structural relation of the negative morpheme to the main verb on the one hand and the possibility of a metalinguistic reading on the other. This robust correspondence exemplified in

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[14] We assume that *suan* is not the main predicate in this example but is a copular verb here introducing the following adjective *gao* 'tall' as the main predicate.

[15] In the case of (31), the head is an adjective *gao* not a verb, but it is still the head of the predicate in this sentence, and thereby vulnerable to Constraint M.

(29-32) is left unaccounted for by an approach that would attribute the availability of metalinguistic negation readings in Mandarin only to focus marking. Such an approach would have to treat the above correspondences as accidental, whereas, as we have shown, our account predicts them.

5. Concluding remarks

This paper represents the first attempt that we are aware of to propose a universal syntactic restriction on metalinguistic negation. The contrast between Mandarin and English has provided a window on the structural nature of the restriction as well as an empirical testing ground for our proposed constraint.[16]

Whatever the optimum formulation of the universal restriction turns out to be, we hope to have shown evidence that it is at some level syntactic in nature. We also hope that the first steps offered here serve as a stimulus to further research into this area of interface between syntax and pragmatics.

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[16] We suspect that Constraint M is not yet the optimum formulation of this restriction, and we are currently exploring improvements on it. The constraint could be revised in a way that is both more restrictive than our current Constraint M and which also makes correct predictions about a wider range of data. For example, while the current Constraint M bans metalinguistic readings from sentences in which the negative morpheme and the main verb form a constituent, a more restrictive version would state this as a ban not just for sentences where the negative morpheme and the main verb form a constituent, but more specifically where they form an X^0 (a zero-level category) that serves as the head of the main predicate. For the Chinese data, such a formulation would be perfectly consistent with Huang's claim in his Principle P that the constituent formed by *bu* and the following head is formed by Chomsky adjunction, yielding an X^0 constituent as a result. If we accept this assumption of Huang's, then such a reformulation of the constraint would cover the same data that the current formulation handles. An advantage of the new version would be that according to it, under the same generalization which rules out metalinguistic readings for canonical negation sentences in Mandarin, it would also subsume English cases that resist metalinguistic readings such as (i-ii):

    (i)   John *dislikes* Mary. (# He loves her.)
          Cf. John doesn't like Mary. He loves her.
    (ii) It's *unlikely* that Sam is guilty. (# It's a proven fact.)
          Cf. It's *not likely* that Sam is guilty. It's a proven fact.

The new formulation would correctly rule out these unacceptable cases of metalinguistic negation since the negative morpheme involved is a prefix which combines with a stem to form an X^0 that serves as the predicating head of the sentence.

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Department of English
Tamkang University
151 Ying-Chuan Rd.
Tamsui 251, Taipei, Taiwan
dwible@mail.tku.edu.tw

Institute of Western Languages and Literature
Providence University
200 Chung-Chi Rd.
Shalu 433, Taichung, Taiwan
g8580215@simon.pu.edu.tw