

Light negation and polarity^{*}

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1. Introduction

Baker (1970a) observed that in certain linguistic environments, positive polarity items like *some* and *already* can be interpreted in the immediate scope of sentential negation, from which they would normally be prohibited. This phenomenon has since come to be known as *rescuing* (Szabolcsi 2004, Schwarz 2004). Ladusaw (1979) analyzed rescuing as involving a special negation morpheme homophonous with regular sentential negation which unlike regular negation permits positive polarity items to appear in its immediate scope. This paper provides empirical support for the special negation morpheme that Ladusaw posited, which we dub *light negation*, and thus for Ladusaw's view of rescuing.¹ We show that in German, light negation can be distinguished from regular negation on independent grounds. We introduce diagnostics for light negation (section 3) and study its distribution (section 3.1), scopal properties (section 3.2), and semantic contribution (section 4). We conclude with the discussion of the implications of the theory of light negation for the theory of rescuing (section 5).

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¹ In his study of negative polar questions, Ladd (1981) distinguishes between two kinds of sentential negation in English: an *inner* negation, which corresponds to what we call regular negation, and an *outer* negation, which corresponds to our light negation. Büring and Gunlogson (2000) and Han and Romero (2004) adopt Ladd's distinction between inner and outer negation in their discussion of German polar questions. They note that these two negations in German can be distinguished on syntactic grounds.

2. Anti-licensing and rescuing of positive polarity items

2.1 Anti-licensing

Positive polarity items are so called because they often cannot be interpreted in the scope of sentential negation. In sentence (1)a below, for example, the existential indefinite introduced by the positive polarity item *some* can only be interpreted with wide scope relative to negation. That is, the sentence can mean that among these typos there were some they did not find, but not that they found none of them. And example (1)b is unacceptable, as surface word order prevents the positive polarity item *sometimes* from taking semantic scope over the preceding negation.

- (1) a. They didn't find some of these typos.
b. * They didn't sometimes complain.

Adopting standard terminology, we will say in the following that sentential negation in such cases *anti-licenses* the positive polarity item. Apart from sentential negation, many positive polarity items can also be anti-licensed by other negative expressions, such as quantifiers introduced by *no*. Sentence (2)a below, for example, can mean that some of these typos were found by no one, but not that no one found any of them. And example (2)b is unacceptable, as the surface position of the adverb prevents it from taking semantic scope over the subject.

- (2) a. No one found some of these typos.
b. * No one sometimes complained.

As Ladusaw (1979) noted, positive polarity items can often be interpreted in the scope of a potential anti-licenser as long as they are not interpreted in its *immediate* scope: Positive polarity items can be shielded from negation by clause boundaries or intervening operators. For example, all the operators in (3)a below, that is, negation, the quantificational adverb *always*, and the indefinite, can be interpreted with surface scope. Thus the sentence can be read as denying that they always found typos. And in (3)b, the indefinite can be interpreted within the embedded clause, that is, the embedded clause can be understood as expressing the proposition that they found typos.

- (3) a. They didn't always find some typos.
 b. I didn't say they found some typos.

2.2 Rescuing

Not only can positive polarity items be shielded from a potential anti-licenser by an intervening operator or clause boundary, in a class of cases discussed in Baker (1970a) they can also be *rescued* by a higher operator that has both the potential anti-licenser and the positive polarity item in its scope. For example, sentential negation can be immediately followed by *sometimes* if negation and the adverb appear in the restrictor of the determiner *no* or in the scope of the adversative predicate *surprised*. In contrast to (1)a, the sentences in (4) allow for the *some*-indefinite to be interpreted with narrowest scope. Thus (4)a and (4)b can mean that there is no one here who didn't find typos, and that I am surprised they didn't find typos, respectively. Also, in contrast to (1)b, the sentences in (5) are acceptable.

- (4) a. There is no one here who didn't find some typos.
b. I am surprised they didn't find some typos.
- (5) a. There is no one here who this didn't sometimes annoy.
b. I am surprised this didn't sometimes annoy you.

But not every operator can rescue a positive polarity items from its anti-licenser. As shown in (6), for example, the sentence in (5) become as unacceptable as (1)b if *no* and *surprised* are replaced with *some* and *certain*, respectively.

- (6) a. * There is someone here who this didn't sometimes annoy.
b. * I am certain this didn't sometimes annoy you.

The question that arises, then, is how one might characterize in general the contexts where positive polarity items can be rescued in this way, that is, the contexts where positive polarity items can exceptionally be interpreted in the immediate scope of an anti-licenser. Krifka (1992) and Szabolcsi (2004) offer an interesting answer, proposing that rescuing contexts are exactly those contexts where negative polarity items such as *any* and *ever* are licensed. This view is certainly consistent with the data presented so far, as negative polarity items are known to be licensed in the restrictor of *no* and in the scope of *surprised*, but not in the restrictor of *some* or in the scope of *certain*.

Szabolcsi (2004) demonstrates that positive polarity items can be rescued from their anti-licensors in a variety of other familiar negative polarity licensing contexts, including the scope of

the adversative predicate *regret*, the scope of various downward entailing noun phrases, the restrictor of *every*, and antecedents of indicative conditionals. In addition, Szabolcsi finds that positive polarity rescuing is subject to much the same locality and intervention effects that negative polarity licensing has been known to be subject to since Linebarger (1987).

2.3 Two accounts of rescuing

These observations point to the natural conclusion that rescuing of positive polarity items is a special case of negative polarity licensing. Krifka (1992) and Szabolcsi (2004) more specifically propose that an anti-licenser always composes with a positive polarity item in its immediate logical scope into a derived negative polarity item, which is then subject to the same licensing conditions as lexical negative polarity items such as *any* or *ever*. Krifka and Szabolcsi implement this proposal in different ways. For the present purposes, the details of these implementations are not important. What is important is that both accounts equate anti-licensing of a positive polarity item with the formation of a derived negative polarity item.

An alternative way of looking at the rescuing phenomenon is suggested in Ladusaw (1979: 180). Ladusaw denies the existence of a process by which an anti-licensed positive polarity item is rescued by the larger linguistic context. He takes anti-licensing to always result in irreparable ill-formedness. Accordingly, he proposes that in cases of rescuing, the anti-licensing of the positive polarity item is only apparent. Ladusaw posits two homophonous negation morphemes *not*: ordinary sentential negation, and a special negation morpheme which is stipulated not to be an anti-licenser. In this view, then, it is the existence of this non-anti-licensing negation that gives rise to the rescuing phenomenon. And so the distribution of rescuing reflects the distribution of non-anti-licensing negation. Specifically, if rescuing has the distribution of

negative polarity licensing, then this is indicative of the fact that non-anti-licensing negation itself is a negative polarity item.²

In support of his view of rescuing, Ladusaw notes that not all anti-licensors are alike with respect to rescuing. Specifically, Ladusaw reports that rescuing positive polarity items from negative quantifiers is hard or impossible. For example, the cases in (7) below are much less acceptable than their counterparts in (5) above.

- (7) a. ?? There is no one here who nothing sometimes annoys.
b. ?? I am surprised that nothing sometimes annoys you.

This finding is evidently inconsistent with an analysis that equates anti-licensing with the formation of a derived negative polarity item. In Ladusaw's lexical account, by contrast, it merely indicates that negative quantifiers differ from sentential negation in that they do not have non-anti-licensing homophones.

Note, however, that Ladusaw's proposal is not the only possible analysis consistent with the data presented above. In an amended version of the type of analysis proposed in Krifka (1992) and Szabolcsi (2004), all occurrences of sentential negation are anti-licensors. The contrast between (5) and (7) is not taken to be indicative of two different types of sentential negation, but of two different types of anti-licensing. Anti-licensing by sentential negation is indeed to be analyzed as the formation of a derived polarity item, whereas anti-licensing by negative quantifiers results in irreparable ill-formedness.

² It should be noted that the generalization about rescuing reached by Ladusaw was different from the one assumed in the main text. Ladusaw related the special negation to denial contexts (as in *SOME men aren't chauvinists – ALL men are chauvinists*). We side with Baker (1970a) and Szabolcsi (2004), who argue that rescuing contexts cannot be reduced to denial contexts.

In summary, then, there are two conceivable views of why a negative polarity licenser can come to the rescue of a positive polarity item in the immediate scope of sentential negation. In one view, the negative polarity licenser licenses the derived negative polarity item formed by negation and the positive polarity item. In the other view, the negative polarity licenser licenses a non-anti-licensing negation which is itself a lexical negative polarity item.

Naturally, to sustain the second view, one needs to have independent evidence for the existence of a special negation with the relevant properties. Schwarz (2004) presents evidence from German for the existence of such a negation, which he calls *light negation*. He shows that light negation appears in almost exactly those environments which support rescuing of positive polarity items in English. The remainder of this paper examines the syntactic and semantic properties of light negation.

3. Light negation

What Schwarz (2004) calls *light negation* differs from regular sentential negation in German in that its position in the clause is less tightly regulated than the position of ordinary sentential negation. The negation of a German affirmative sentence can often be expressed by inserting the morpheme *nicht* ('not') in the appropriate position. For example, the negation of sentence (8)a can be expressed as in (8)b.

(8) a. Fritz ist nach Luckenbach gefahren.

Fritz is to Luckenbach gone

'Fritz went to Luckenbach.'

- b. Fritz ist nicht nach Luckenbach gefahren.

Fritz is not to Luckenbach gone

‘Fritz did not go to Luckenbach.’

In this particular case, *nicht* sits at the left edge of what might be analyzed as the verb phrase.

This is not a position, however, that can be occupied by *nicht* in all cases. Specifically, examples where *nicht* immediately precede a definite or indefinite noun phrase, or a disjunction of noun phrases, are typically judged to be ungrammatical. For example, the negations of the grammatical affirmative sentences in (9) cannot normally be worded as in (10).³

- (9) a. Fritz hat Frage 3 beantwortet.

Fritz has question 3 answered

‘Fritz answered question 3.’

- b. Fritz kann eine Fremdsprache.

Fritz knows a foreign language

‘Fritz knows a foreign language.’

³ As shown in Kratzer (1995) and Schwarz (2004), a potential explanation of the ungrammaticality of the cases in (10) according to which definites, indefinites, and disjunctions in German are themselves positive polarity items can be ruled out. The positional constraints are surface constraints. All the cases in (10) became acceptable if the object noun phrase is topicalized as in (i), where the object can be interpreted in the scope of negation.

- (i) Eine Fremdsprache kann Fritz nicht.
a foreign language knows Fritz not
‘Fritz doesn’t know a foreign language.’

In this the object noun phrases are unlike positive polarity items, which can never be interpreted in the immediate scope of negation.

- c. Fritz hat Frage 3 oder Frage 4 beantwortet.

Fritz has question 3 or question 4 answered

‘Fritz answered question 3 or question 4.’

- (10)a. * Fritz hat nicht Frage 3 beantwortet.

Fritz has not question 3 answered

- b. * Fritz kann nicht eine Fremdsprache.

Fritz knows not a foreign language

- c. * Fritz hat nicht Frage 3 oder Frage 4 beantwortet.

Fritz has not question 3 or question 4 answered

Instead, they are most naturally expressed through the sentences in (11). In (11)a, *nicht* is sandwiched between the definite object noun phrase and the verb, whereas in (11)b,c negation is conveyed through different morphological means. Sentence (11)b features the negative determiner *keine* ‘no’, and (11)c the negative disjunction *weder ... noch* ‘neither...nor’.

- (11)a. Fritz hat Frage 3 nicht beantwortet.

Fritz has question 3 not answered

‘Fritz didn’t answer question 3.’

- b. Fritz kann keine Fremdsprache.

Fritz knows no foreign language

‘Fritz doesn’t know a foreign language.’

- c. Fritz hat weder Frage 3 noch Frage 4 beantwortet.

Fritz has neither question 3 nor question 4 answered

‘Fritz answered neither question 3 nor question 4.’

However, in certain environments these positional constraints on sentential negation are lifted. Meibauer (1990), Buring and Gunlogson (2000), and Han and Romero (2004) observe that in negative polar questions, negation can immediately precede an indefinite. The same is true for definites and disjunctions. This is illustrated in (12) below.

- (12)a. Hat Fritz nicht Frage 3 beantwortet?

has Fritz not question 3 answered

‘Didn’t Fritz answer question 3?’

- b. Kann Fritz nicht eine Fremdsprache?

knows Fritz not a foreign language

‘Doesn’t Fritz know a foreign language?’

- c. Hat Fritz nicht Frage 3 oder Frage 4 beantwortet?.

has Fritz not question 3 or question 4 answered

‘Didn’t Fritz answer question 3 or question 4?’

Also, Meibauer (1990: 449) notes that negation can immediately precede a definite in the antecedent of a subjunctive conditional. The same is true for indefinites and disjunctions. The examples in (13) illustrate.

(13)a. Wenn Fritz nicht Frage 3 beantwortet hätte, wäre er durchgefallen.

if Fritz not question 3 answered have.subj be.subj he failed

‘If Fritz hadn’t answered question 3, he would have failed.’

b. Wenn Fritz nicht eine Fremdsprache könnte, wäre er durchgefallen..

if Fritz not a foreign language know.subj be.subj he failed

‘If Fritz didn’t know a foreign language, he would have failed.’

c. Wenn Fritz nicht Frage 3 oder Frage 4 beantworte hätte, wäre er durchgefallen..

if Fritz not question 3 or question 4 answered have.subj be.subj he failed

‘If Fritz hadn’t answered question 3 or question 4, he would have failed.’

Throughout this paper we will use the lifting of positional constraints on the placement of negation as a diagnostic for the presence of light negation. With this diagnostic in hand, we now turn to a systematic examination of the syntactic environments that permit light negation.

3.1 The distribution of light negation

As noted earlier, the class of environments in which light negation appears is essentially coextensive with positive polarity rescuing environments. In this section, we first show that, just like rescuing, light negation can appear in the classic negative polarity environments. We then demonstrate that light negation and rescuing also pattern together in subjunctive clauses, with the correlation with negative polarity licensing replaced by a correlation with counterfactuality. Finally, we introduce a new set of environments involving expletive negation, showing that here too rescuing and light negation go hand in hand.

As mentioned in the discussion of rescuing above, Krifka (1992) and Szabolcsi (2004) suggest that positive polarity items are rescued in exactly those environments where negative polarity items are licensed. For example, we saw that positive polarity *some* is rescued in the restrictor of the determiner *no* and the scope of adversative *surprised*. It is shown in (14) and (15) that light negation is permitted in the same environments in German.

- (14)a. Wir haben keinen angenommen, der nicht Frage 3 beantwortet hat.

we have no one admitted who not question 3 answered has

‘We admitted no one who did not answer question 3.’

- b. Wir haben keinen angenommen, der nicht eine Fremdsprache kann.

we have no one admitted who not a foreign language knows

‘We admitted no one who doesn’t know a foreign language.’

- c. Wir haben keinen angenommen, der nicht Frage 3 oder Frage 4 beantwortet hat.

we have no one admitted who not question 3 or question 4 answered has

‘We admitted no one who did not answer question 3 or question 4.’

- (15)a. Wir waren überrascht, dass Fritz nicht Frage 3 beantwortet hat.

we were surprised that Fritz not question 3 answered has

‘We were surprised that Fritz didn’t answer question 3.’

- b. Wir waren überrascht, dass Fritz nicht eine Fremdsprache kann.

we were surprised that Fritz not a foreign language knows

‘We were surprised that Fritz doesn’t know a foreign language.’

- c. Wir waren überrascht, dass Fritz nicht Frage 3 oder Frage 4 beantwortet hat.

we were surprised that Fritz not question 3 or question 4 answered has

‘We were surprised that Fritz didn’t answer question 3 or question 4.’

And just like the illegitimate cases of rescuing that we saw in (6) above, light negation is not permitted in the cases in (16) and (17), where the negative polarity licensors *kein* ‘no’ and *überrascht* ‘surprised’ are replaced with the non-licensors *ein* ‘a’ and *überzeugt* ‘convinced’, respectively.

- (16)a. * Wir haben einen angenommen, der nicht eine Fremdsprache kann.

we have someone admitted who not a foreign language knows

- b. * Wir haben einen angenommen, der nicht Frage 3 beantwortet hat.

we have someone admitted who not question 3 answered has

- c. * Wir haben einen angenommen, der nicht Frage 3 oder Frage 4 beantwortet hat.

we have someone admitted who not question 3 or question 4 answered has

- (17)a. * Wir waren überzeugt, dass Fritz nicht Frage 3 beantwortet hat.

we were convinced that Fritz not question 3 answered has

- b. * Wir waren überzeugt, dass Fritz nicht eine Fremdsprache kann.

we were convinced that Fritz not a foreign language knows

- c. * Wir waren überzeugt, dass Fritz nicht Frage 3 oder Frage 4 beantwortet hat.

we were convinced that Fritz not question 3 or question 4 answered has

More generally, it seems that light negation is permitted in all negative polarity licensing environments (with a few exceptions that are discussed later). In particular, as noted in Schwarz (2004), light negation can appear in the restrictor of the universal determiner *jeder* ‘every’, in the antecedents of indicative conditionals, and as we have already seen in (12), in polar questions.

However, Schwarz (2004) notes that the set of environments permitting light negation is both wider and narrower than the set of environments which permit negative polarity items. On the one hand, light negation is permitted in counterfactually interpreted subjunctive clauses which do not license negative polarity items. For example, light negation is acceptable in a counterfactually interpreted main clause of a subjunctive conditional. Negative polarity items are not permitted in this environment. So being in a negative polarity context is not always required for light negation.

(18)a. Wenn Fritz dumm wäre, hätte er nicht Frage 3 beantwortet.

if Fritz stupid be.subj have.subj he not question 3 answered

‘If Fritz were stupid, he wouldn’t have answered question 3.’

b. Wenn Fritz dumm wäre, könnte er nicht eine Fremdsprache.

if Fritz stupid be.subj know.subj he not a foreign language

‘If Fritz were stupid, he wouldn’t know a foreign language.’

c. Wenn Fritz dumm wäre, hätte er nicht Frage 3 oder Frage 4 beantwortet.

if Fritz stupid be.subj have.subj he not question 3 or question 4 answered

‘If Fritz were stupid, he wouldn’t have answered question 3 or question 4.’

On the other hand, we also find that being in a negative polarity context is sometimes not enough for light negation. While negative polarity items are always licensed in the antecedent of a conditional, be it indicative or subjunctive, light negation in subjunctive antecedents is acceptable only if this antecedent is interpreted counterfactually. We saw in (13) above that light negation is permitted in the antecedents of subjunctive conditionals. However, these sentences do not have the full range of readings which are available in the absence of light negation. To see this, consider the examples in (19) below, which differ from those in (13) merely in that negation in the antecedent is not light.

(19)a. Wenn Fritz Frage 3 nicht beantwortet hätte, wäre er durchgefallen.

if Fritz not question 3 answered had had he failed

‘If Fritz hadn’t answered question 3, he would have failed.’

b. Wenn Fritz keine Fremdsprache könnte, wäre er durchgefallen..

if Fritz no foreign language knew had he failed

‘If Fritz didn’t know a foreign language, he would have failed.’

c. Wenn Fritz weder Frage 3 noch Frage 4 beantwortete hätte, wäre er durchgefallen..

if Fritz not question 3 or question 4 answered had had he failed

‘If Fritz answered neither question 3 nor question 4, he would have failed.’

The examples in (19) allow for an interpretation in which the antecedent is not taken to be counterfactual. In particular, they can be used as part of an explanation for the truth of the consequent. For example, each of the examples in (19) can be used as continuations of the

following discourse, which assumes the truth of the consequent, that is, assumes that Fritz indeed failed.

(20) A: Was glaubst du warum Fritz durchgefallen ist?

what think you why Fritz failed has

‘Why do you think Fritz failed?’

B: Ich bin mir nicht sicher, aber ...

I am self not certain but

‘I’m not sure, but ...’

In these contexts, speaker B presents the proposition expressed by the relevant antecedent as a possible reason for Fritz’s failing. The speaker therefore is not committed to the falsehood of the antecedent. In other words, the falsehood of the antecedent is clearly not implied in this context.

That the antecedents of subjunctive conditionals do not need to be interpreted counterfactually has been known at least since Anderson (1954), who discusses cases analogous to the ones presented above. What is interesting, however, is that a non-counterfactual interpretation is not available if the antecedent of the subjunctive conditionals contains light negation. That is, none of the examples in (13) can function as a continuation of the discourse in (20).

So in subjunctive clauses negative polarity licensing and the distribution of light negation are independent of each other. In this environment the distribution of light negation instead correlates with the presence of a counterfactual interpretation. Given the generalization on rescuing proposed by Krifka (1992) and Szabolcsi (2004), it might seem, therefore, that rescuing

and light negation come apart in subjunctive environments. However, this is not actually the case. Observations reported in Baker (1970b), Karttunen (1971), and Schwarz (2004) indicate that rescuing in subjunctives also correlates with counterfactuality rather than with negative polarity licensing.⁴

So far we have seen two environments where light negation appears, namely negative polarity contexts and counterfactually interpreted subjunctive clauses. In both environments light negation is semantically contentful. There are also certain instances of light negation which do not seem to make any truth conditional contribution. These instances fall under the rubric of what has been referred to in the literature as *expletive negation*. Some instances of expletive negation are shown in (21).⁵ As the English translations suggest, the negation in the embedded clauses in (21) is not actually interpreted as logical negation. In fact, the meanings of these sentences do not change perceptibly if the embedded negation is omitted.

(21)a. Ich gehe nicht, bevor du nicht aufgeräumt hast.

I leave not before you not cleaned-up have

‘I won’t leave until you’ve cleaned up.’

b. Man kann ihm nicht absprechen, dass er nicht singen kann.

one can he_{Dat} not deny that he not sing can

‘One cannot deny that he can sing.’

⁴ For example, positive polarity *some* can be rescued in the antecedent of a subjunctive conditional, as in *If John didn’t know some foreign language, he would have failed*. But this is only possible if the antecedent is interpreted counterfactually. Thus the preceding example cannot be used as a continuation of the following discourse, where the antecedent is not presupposed to be false: A: *Why do you think that John failed?* B: *I’m not sure, but ...* For further details, see Baker (1970b), Karttunen (1971), and Schwarz (2004).

⁵ We owe examples like (21)b to Sigrid Beck (p.c. to Bernhard Schwarz, 1/30/1996).

The phenomenon of expletive negation is familiar from the literature (e.g. van der Wouden 1994). What does not seem to have been noted, however, is that expletive negation in German is always light. The examples in (22) show that expletive negation can be light, as in both cases negation immediately precedes an indefinite, which cannot normally follow sentential negation.

(22)a. Ich gehe nicht, bevor du nicht einen Apfel gegessen hast.

I leave not before you not an apple eaten have

‘I won’t leave before you’ve eaten an apple.’

b. Man kann ihm nicht absprechen, dass er nicht was getan hat.

one can he_{Dat} not deny that he not something done has

‘One cannot deny that he did something.’

Furthermore, negation which is not light cannot be expletive. This can be seen by contrasting the light negation examples in (22) with their regular negation variants in (23). In sentence (23)a, the presence of a semantically active negation in the subordinate clause leads to semantic anomaly. While sentence (23)b is felicitous, the embedded negation is semantically interpreted as indicated in the English translation.⁶

⁶ This is in contrast to the other two types of light negation, that is, light negation in negative polarity contexts and light negation in counterfactually interpreted subjunctive clauses. It seems that in these environments, light negation can always be replaced without loss of acceptability. The choice between light and regular negation does have an effect on semantic interpretation, however, a point we discuss in section 4 below.

(23) a. # Ich gehe nicht bevor du keinen Apfel gegessen hast.

I leave not before you no apple eaten have

‘I won’t leave before you’ve eaten no apple.’

b. Man kann ihm nicht absprechen, dass er nichts getan hat.

one can he_{Dat} not deny that he nothing done has

‘One cannot deny that he did nothing.’

Given that the negation in (22) is expletive, one would naturally expect it not to anti-license a positive polarity item in its immediate scope. That this is indeed the case is demonstrated in (24), where the embedded negation immediately precedes the positive polarity item *einige* ‘some’. Once again, therefore, the distribution of light negation patterns with rescuing.⁷

(24) a. Ich gehe nicht bevor du nicht einige Äpfel gegessen hast.

I leave not before you not some apples eaten have

‘I won’t leave before you’ve eaten an apple.’

b. Man kann ihm nicht absprechen, dass er nicht einiges getan hat.

one can he_{Dat} not deny that he not something done has

‘One cannot deny that he did something.’

3.2 The scope of light negation

⁷ That *einige* is a positive polarity item is illustrated by the unacceptability of example (i).

(i) ??Keiner hat einige Birnen gegessen.

no one has some pears eaten

‘No one ate some pears.’

3.2.1 Light negation takes widest scope

Light negation is more restricted in its scope potential than ordinary negation in that it often takes wider scope than a corresponding regular negation. The contrast between (25)a, where the relative clause hosts ordinary negation, and (25)b, where negation in the relative clause is light, provides a first illustration of this observation.

(25)a. Wir haben keinen zugelassen, der keine Fremdsprache kann und in Mathe schlecht ist.

we have no one admitted who no foreign language knows and at math bad is

‘We admitted no one who does not know a foreign language and is bad at math.’

b. ! Wir haben keinen zugelassen, der nicht eine Fremdsprache kann und in Mathe schlecht

we have no one admitted who no foreign language knows and at math bad

ist.

is

‘We admitted no one such that it is not the case that he knows a foreign language and is bad at math.’ (= such that he knows no foreign language or he is good at math)

In (25)a, the scope of negation in the relative clause is confined to the first conjunct. In (25)b, in contrast, light negation in the relative clause can only be interpreted as taking scope over the conjunction. This results in an unlikely interpretation according to which being good at math prevents one from being admitted.

A similar contrast is found in (26). Regular negation in (26)a can be interpreted as taking scope within the complement of *wagt* ‘dare’. This results in a plausible reading, according to which not wearing a shirt is a daring thing to do and can be grounds enough for not being let in.

In contrast, light negation in (26)b can only be interpreted as taking scope over *wagt* ‘dare’. This leads to an unlikely reading which implies that wearing a shirt is a daring thing to do.

(26)a. Wir lassen keinen rein, der kein Hemd zu tragen wagt.

we let no one in who no shirt to wear dares

‘We let no one in who dares not to wear a shirt.’

b. ! Wir lassen keinen rein, der nicht ein Hemd zu tragen wagt.

we let no one in who not a shirt to wear dares

‘We let no one in who does not dare to wear a shirt.’

Assuming that the semantic scope of sentential negation is determined by its surface structural location, the observations in (25) and (26) indicate that the structures of the relative clauses in (25)b and (26)b are the ones shown in (27), where light negation is in the immediate scope of its licenser, and not those in (28). Assuming the structures in (27), our observations on the semantic interpretation of (25)b and (26)b follow straightforwardly.

(27)a. ... der nicht [[eine Fremdsprache kann] und [in Mathe schlecht ist]]

we have no one who no foreign language knows and at math bad is

b. ... der nicht [[ein Hemd zu tragen] wagt]

who not a shirt to wear dares

(28)a. ... der [nicht eine Fremdsprache kann] und [in Mathe schlecht ist]

we have no one who no foreign language knows and at math bad is

- b. ... der [nicht ein Hemd zu tragen] wagt

who not a shirt to wear dares

We also predict that word order variants of (25)b and (26)b which force a parse like (28), where light negation is not in the immediate scope of its licenser, are unacceptable. This prediction is borne out. Consider (29)a, where word order forces negation to be within the second conjunct, and (29)b, where the negation can only be part of the extraposed infinitival complement of *wagt* ‘dare’. Since in these cases negation cannot be in the immediate scope of its licenser, the sentences are correctly expected to be ungrammatical.

- (29)a. * Wir haben keinen zugelassen, der in Mathe schlecht ist und nicht eine Fremdsprache

we have no one admitted who at math bad is and not a foreign language

kann

knows

- b. * Wir lassen keinen rein, der wagt, nicht ein Hemd zu tragen.

we let no one in who dares not a shirt to wear

The preceding examples have illustrated that light negation needs to take scope over conjunctions and intensional operators. (30) below shows that the same holds for quantificational phrases such as *jemand* ‘someone’. In (30)a, light negation precedes both the quantifier phrases in its clause and is accordingly interpreted as taking scope over them. In (30)b, in contrast, light negation follows *jemand* ‘someone’. Given that semantic scope in German is usually determined by linear precedence, one expects that *jemand* ‘someone’ has to take scope over negation. The

oddness of (30)b, therefore, can be interpreted as another illustration of the wide scope requirement of light negation.⁸

(30)a. Wir haben keinen zugelassen, den nicht jemand einem von uns empfohlen hatte

we have no one admitted who_{acc} not someone_{nom} one_{dat} of us recommended had

‘We admitted no one who someone didn’t recommend to one of us.’

b. ?? Wir haben keinen zugelassen, den jemand nicht einem von uns empfohlen hatte.

we have no one admitted who_{acc} someone_{nom} not one_{dat} of us recommended had

The generalization that seems to emerge from the above examples is that light negation is always interpreted as taking wider scope than any other operator within the scope of its licenser. In other words, light negation is always in the immediate scope of its licenser. This generalization seems to apply to all instances of light negation. To give just one more illustration, consider the case of polar questions. In (31)a, light negation takes widest scope in the question that contains it and (31)b is bad because the indefinite quantifier *jemand* ‘someone’ takes wider scope than light negation.

(31)a. Hat nicht jemand Fritz einem von uns empfohlen?

has not someone_{nom} Fritz one_{dat} of us recommended

‘Didn’t someone recommend Fritz to us?’

b. * Hat jemand nicht Fritz einem von uns empfohlen?

⁸ We know that negation is light in (30), as it precedes an indefinite in each case. Also, note that the contrast found in (30) disappears if the subject *jemand* ‘someone’ is replaced with a referential noun phrase such as the proper name *Fritz*. The resulting sentences are perfectly acceptable.

has someone_{nom} not Fritz one_{dat} of us recommended

Next, we turn to expletive negation. Since in (32)a, negation precedes the existential indefinite *einen Lehrer* ‘a teacher’ and therefore can be in the immediate scope of *bevor* ‘before’, an expletive reading is available. In (32)b, in contrast, the indefinite intervenes between *bevor* ‘before’ and negation. Therefore, the negation cannot be light in this case, and hence cannot be expletive. The negation must be interpreted as semantically contentful and the resulting reading is incoherent.

(32)a. Ich gehe nicht bevor du nicht einen Lehrer begrüßt hast.

I leave not before you not a teacher greeted have

‘I won’t leave before you have greeted a teacher.’

b. # Ich gehe nicht bevor du einen Lehrer nicht begrüßt hast.

I leave not before you a teacher not greeted have

‘I won’t leave before you haven’t greeted some teacher.’

Finally, we examine a case where light negation does not behave like a negative polarity item.

This is the case of light negation in counterfactually interpreted subjunctive clauses. We find that in these cases too light negation takes widest scope. This is exemplified by the contrast in (33).

In (33)a, light negation takes widest scope in the subjunctive embedded clause in which it is licensed. (33)b is bad because the operator *gewagt* ‘dared’ must be interpreted as taking scope above the light negation within the extraposed complement clause.

- (33) a. Wenn Fritz schüchtern wäre, hätte er nicht eine Perücke zu tragen gewagt.

if Fritz shy be.subj have.subj he not a wig to wear dared

'If Fritz were shy, he wouldn't have dared to wear a wig.'

- b. * Wenn Fritz mutig wäre, hätte er gewagt, nicht eine Perücke zu tragen.

if Fritz courageous be.subj he had dared not a wig to wear

3.2.2 Deriving the scopal properties of light negation

The widest scope properties of light negation are not completely surprising given the fact that their distribution patterns to a considerable extent with well-known negative polarity items such as English *any* or *ever*.⁹ Since Linebarger (1987), it has been known that the licensing of negative polarity items is subject to intervention effects. For example, even though *any* is in the scope of negation in both (34)a and (34)b, only in (34)a is it licensed. In the (34)b the presence of the scopal intervener *always* between the licensing negation and the negative polarity item *any* blocks licensing.

- (34)a. Few people ate any potatoes.

- b. * Few people always ate any potatoes.

⁹ In an influential view of negative polarity licensing, going back at least to Kadmon and Landman (1993), the licensing needs of negative polarity items stem from their particular semantic properties. In this approach, unlicensed negative polarity items yield semantic anomaly. The fact that expletive light negation needs to be licensed, too, suggests that this approach to negative polarity licensing cannot be applied to all instances of light negation unless an analysis of expletive negation can be given in which it is semantically contentful (see Portner and Zanuttini 1996, 2000 for such an analysis of expletive negation in Paduan).

Some of the light negation examples in the preceding section can be interpreted in the same way if we think of light negation as a negative polarity item. This is illustrated in (35) and (36). In (35) the intervener is a conjunction, while in (36) the intervener is a quantificational noun phrase.

(35)a. * Few people ate rice and any potatoes.

b. * Wir haben keinen zugelassen, der in Mathe schlecht ist und nicht eine Fremdsprache

we have no one admitted who at math bad is and not a foreign language

kann

knows

(36)a. * Few people offered all of their guests any potatoes.

b. ?? Wir haben keinen zugelassen, den jemand nicht einem von uns empfohlen hatte.

we have no one admitted who someone not to-one of us recommended had

Of course, from the discussion of the distribution of light negation, we know that light negation in subjunctive clauses does not behave like a negative polarity item. And yet, as illustrated in (33) above, the immediate scope constraint is operative in subjunctive clauses as much as it is in non-subjunctives.

But even confining attention to those instances of light negation which are plausibly analyzed as negative polarity items, we find that the scopal properties of light negation cannot be completely derived from its negative polarity behavior.

Negative polarity items like *any* or *ever* are known to be licensed across clause embedding verbs. For example, the acceptability of *I didn't say that he ever called* shows that a matrix negation can license negative polarity *ever* across the clause embedding verb *say*. The German version of this example is acceptable as well. That licensing across clause embedding verbs is possible in German is further illustrated in (37), where the negative polarity item *jemals* can be licensed across *wagt* 'dares'. That is, in (37)a *jemals* 'ever' can be understood as being part of the clause embedded under *wagt* 'dares'. Moreover, in (37)b this is the only way to interpret *jemals*, which is expected, given that the adverb is included in the extraposed embedded clause, a domain known to be an island for operator scope.

(37)a. Wir lassen keinen rein, der [jemals ein Hemd zu tragen] wagt.

we let no one in who ever a shirt to wear dares

'We let no one in who dares to ever wear a shirt.'

b. Wir lassen keinen rein, der wagt, [jemals ein Hemd zu tragen].

we let no one in who dares ever a shirt to wear

'We let no one in who dares to ever wear a shirt.'

But as we have already seen in (26)b and (29)b above, repeated below in (38), *wagen* 'dare' cannot intervene between light negation and its licenser. While (38)a is grammatical, it only has the unlikely interpretation which results from negation outscoping the embedding verb. And given that negation is part of the extraposed infinitive in (38)b, it cannot scope over *wagt*, and so ungrammaticality ensues.

(38)a. ! Wir lassen keinen rein, der nicht ein Hemd zu tragen wagt.

we let no one in who not a shirt to wear dares

‘We let no one in who does not dare to wear a shirt.’

b. * Wir lassen keinen rein, der wagt, nicht ein Hemd zu tragen.

we let no one in who dares not a shirt to wear

To recast the preceding discussion in terms of intervention, one could say that *wagen* and other clause embedding predicates function as interveners for the licensing of light negation but not for the licensing of negative polarity items. More generally, the licensing of light negation seems to be subject to a strict immediate scope constraint. Known exceptions to the immediate scope constraint for the licensing of negative polarity items like *any* and *ever* do not seem to apply to the licensing of light negation. The discussion of (non)licensing across clause embedding predicates provides one example of this contrast. The contrast is further illustrated by examining negative polarity items and light negation in disjunctions. Example (39)a shows that the negative polarity item *jemals* can be licensed across a disjunction, where as (39)b shows that light negation is impossible in this configuration.

(39)a. Wir haben keinen zugelassen, der in Mathe schlecht ist oder jemals abgeschrieben hat.

we have no one admitted who at math bad is or ever copied has

‘We admitted no one who is bad at math or has ever copied.’

b. * Wir haben keinen zugelassen, der in Mathe schlecht ist oder nicht eine Fremdsprache

we have no one admitted who at math bad is or not a foreign language

kann

knows

The strict immediate scope constraint found with light negation is reminiscent of facts about the licensing of certain strong negative polarity items noted by Szabolcsi (2004). Szabolcsi notes that some negative polarity items that need an anti-additive licenser require the licenser to be clausemate. In English, *squat* and, for some speakers, *yet* need a clausemate licenser. For example, *I didn't say that he knew squat* cannot mean that I didn't say that he knew anything. Similarly, for the relevant speakers, *I didn't say that he had been here yet* is unacceptable. In these cases, the presence of a clause embedding predicate such as *say* blocks the matrix negation from licensing the strong negative polarity item in the embedded clause. This is analogous to what happens with light negation. Hence it might seem attractive to assimilate light negation to the class of negative polarity items that contains *yet* and *squat*.

But one important difference remains. Unlike *squat* and *yet*, which require anti-additive licensers, such as sentential negation or a negative quantifier, light negation is licensed by a larger class of negative polarity licensers, not all of which are anti-additive. For example, in sentence (40) light negation is licensed in the restrictor of *wenige* 'few', an operator which is known not to be anti-additive. In contrast, *squat* is not licensed in the restrictor of *few*, as shown by the unacceptability of *Few people who knew squat about this issue were present*.

(40) Wir haben wenige angenommen, die nicht eine Fremdsprache können.

we have no one admitted who not a foreign language know

'We admitted few who don't know a foreign language.'

To sum up, we have found that light negation of all kinds obeys a strict immediate scope constraint according to which no operator can scopally intervene between it and its licenser, but that it permits a larger class of licensors than so-called strong polarity items. Descriptively, then, we can think of light negation as a negative polarity item with strict locality conditions on licensing (like *yet* and *squat*) but liberal conditions on its licensors (like *any* and *ever*).

We conclude this section by pointing to another between light negation and more familiar negative polarity items: Light negation in German does not permit a licenser in its own clause. This is illustrated in (41) below.

(41) a.^{??} Wenige haben nicht Frage 3 beantwortet.

few have not question 3 answered

b.^{??} Wenige können nicht eine Fremdsprache.

few know not a foreign language

c.^{??} Wenige haben Frage 3 oder Frage 4 beantwortet.

few have not question 3 or question 4 answered

We do not have a definite explanation for this fact. It would follow from the assumption that light negation, unlike ordinary negative polarity items, always takes widest scope in its clause.

This requirement would prevent it from falling under the scope of a potential clause mate licenser.¹⁰

¹⁰ Since light negation cannot have a clausmate licenser in German, we predict that a downward entailing operator cannot rescue a clausmate positive polarity item from an intervening anti-licenser. This prediction seems to be borne out, as shown in (i) below.

4. Semantic contribution of light negation

4.1 Non-licensing and non-anti-licensing

Our discussion of light negation began with Schwarz's (2004) observation that light negation appears in almost exactly those environments that support rescuing of positive polarity items in English. In the spirit of Ladusaw (1979), Schwarz notes that light negation, in contrast to regular negation, is not an anti-licenser for positive polarity items. Some examples that illustrate this are provided in (42), where in each case light negation is followed by the positive polarity item *einige* 'some'.

- (42) a. Hat er nicht das Bild einigen von uns gezeigt?
has he not the picture some_{dat} of us shown
'Didn't he show the picture to some of us?'
- b. Ich kenne keinen, der nicht das Bild einigen von uns gezeigt hat.
I know no one who not the picture some_{dat} of us shown has
'I know no one who didn't show the picture to some of us.'

-
- (i)^{??} Wenige haben nicht mit einigen Studenten gesprochen.
few have not with some students talked

But in contrast to German, the English counterpart of (i), *Few didn't talk to some students*, does seem to allow for rescuing of the positive polarity item. (Szabolcsi 2004 reports that rescuing is possible in such cases.) Within the terms of our analysis, this would indicate the availability of light negation in the English counterpart of (i) and hence indicate that light negation can have a clausemate licenser in English. It is possible that the non-clausemate licenser requirement on the licensing of light negation is subject to cross-linguistic variation.

- c. Ich bin überrascht, dass er nicht das Bild einigen von uns gezeigt hat.

I am surprised that he not the picture to some_{dat} of us shown has

‘I’m surprised that he didn’t show the picture to some of us.’

It can be shown further that light negation, in contrast to regular negation, does not license negative polarity items. This is illustrated in (43), where in each case light negation precedes the negative polarity item *jemals* ‘ever’.¹¹

- (43) a. * Hat er uns nicht das Bild jemals gezeigt?

has he us_{dat} not the picture some_{dat} of us shown

- b. * Ich kenne keinen, der uns nicht das Bild jemals gezeigt hat.

I know no one who us_{dat} not the picture ever shown has

- c. * Ich bin überrascht, dass er uns nicht das Bild jemals gezeigt hat.

I am surprised that he us_{dat} not the picture ever shown has

4.2 The content of light negation

We have seen that light negation differs from regular negation in both distribution and licensing potential. It should therefore not come as a surprise that light negation differs from regular negation in its semantic content as well. The first thing to note is that it does not seem possible to assign the same semantic content to all instances of light negation. This is apparent from the existence of expletive light negation, which does not seem to have any semantic content

¹¹ Apparently, not only does light negation not license the negative polarity item *jemals* in these cases, it also blocks licensing of *jemals* by the higher licenser.

at all. Setting aside expletive negation, we are left with instances of counterfactual light negation and negative polarity light negation.

Turning to counterfactual light negation, consider the examples in (44) below. We note that that example (44)a, where negation is light, is very close in meaning to (44)b, which contains regular negation. Further, omission of light negation in (44)a leads to an obvious change in meaning.

(44)a. Wenn Fritz nicht eine Fremdsprache könnte, wäre er durchgefallen.

if Fritz not a foreign language knew had he failed

‘If Fritz didn’t know a foreign language, he would have failed.’

b. Wenn Fritz keine Fremdsprache könnte, wäre er durchgefallen.

if Fritz no foreign language knew had he failed

‘If Fritz didn’t know a foreign language, he would have failed.’

These facts indicate that counterfactual light negation is semantically contentful and reverses truth values just like regular negation. But as the discussion in section 3.1 pointed out, these two examples are not entirely synonymous. (44)b has uses in which the antecedent is not counterfactual, whereas the presence of light negation enforces a counterfactual reading in (44)a. We do not know for sure how light negation comes to enforce counterfactuality. But one possibility that comes to mind is that counterfactual light negation triggers a factive presupposition, that is, the presupposition that its scope is true. In this view, the light negation in (44)a, introduces the presupposition that Fritz knows a foreign language. This presupposition

will project to the top level, and so will rule out a non-counterfactual interpretation of the conditional.¹²

Finally, we turn to instances of semantically contentful negative polarity light negation. At first glance, the semantic contribution of this kind of light negation seems to be identical to that of regular negation. For example, there is no obvious difference in meaning between the two sentences in (45).

(45)a. Wir haben jeden abgelehnt, der nicht eine Fremdsprache kann.

we have everyone rejected who not a foreign language knows

‘We rejected no one who doesn’t know a foreign language.’

b. Wir haben jeden abgelehnt, der keine Fremdsprache kann.

we have everyone rejected who no foreign language knows

‘We rejected no one who doesn’t know a foreign language.’

However, a closer examination reveals that this kind of light negation and regular negation are not always interchangeable. Regular negation can be felicitous in contexts where light negation cannot be used. One such context is the inference schema in (46). Light negation is not felicitous here, but regular negation is.

¹² One property of this proposal is that there is no semantic/pragmatic licensing condition on the distribution of light negation in subjunctive clauses. Instead, light negation is licensed by subjunctive morphology alone. Restrictions on the distribution of light negation in subjunctive clauses are imposed by the lexical meaning of light negation in that environment. In an alternative view (Paul Portner p.c.), the light negation is licensed by subjunctive morphology in conjunction with a counterfactual presupposition. This counterfactual presupposition would have to be a pragmatic presupposition, given that subjunctive morphology in conditionals does not trigger a semantic presupposition (see the discussion of example (20) in section 3.1).

(46)a. # Wir haben jeden abgelehnt.

we have everyone rejected

∴ Wir haben jeden abgelehnt, der nicht eine Fremdsprache kann.

we have everyone rejected who not a foreign language knows

b. Wir haben jeden abgelehnt.

we have everyone rejected

∴ Wir haben jeden abgelehnt, der keine Fremdsprache kann.

we have everyone rejected who no foreign language knows

Another indication that negative polarity light negation makes a different semantic contribution than regular negation comes from the contrast in (47). Note that the oddness of (47)a is not due to a failure of licensing of light negation, as the acceptability of the structurally parallel (45)a shows.

(47)a. !! Wir haben jeden, der nicht eine Fremdsprache kann, zugelassen oder abgelehnt.

we have everyone who not a foreign language knows admitted or rejected

b. Wir haben jeden, der keine Fremdsprache kann, zugelassen oder abgelehnt.

we have everyone who no foreign language knows admitted or rejected

‘We rejected or admitted everyone who does not know a foreign language.’

We speculate that light negation must always introduce a new non-accidental generalization. In this view, light negation is infelicitous in (46)a because the sentence containing it is presented as a mere entailment of the premise. It does not constitute an independent non-accidental

generalization. Similarly, by virtue of its quasi-tautologous nature, sentence (47)a too does not introduce a new non-accidental generalization. It should be noted that our observations about the semantics of light negation are preliminary and barely scratch the surface. They are intended to invite more work on this topic.¹³

5. Conclusion

Having explored the syntactic distribution and semantic properties of light negation, we now return to the relationship between light negation and the theory of rescuing. We have seen intriguing parallels between the distribution of light negation and rescuing. Could a theory of light negation be a complete theory of rescuing? We have seen that rescuing is possible from under negation and that, as Ladusaw (1979) had already shown, that rescuing is not always available from under negative quantifiers like *no one*.

(48)a. There is no one here who this didn't sometimes annoy.

b. I am surprised this didn't sometimes annoy you.

(49)a. ?? There is no one here who nothing sometimes annoys.

b. ?? I am surprised that nothing sometimes annoys you.

The contrast between (5) and (7), repeated above as (48) and (49) follows from a light negation theory of rescuing. In this theory, rescuing reduces to non-anti-licensing by a light negation, and

¹³ One important aspect the meaning of light negation that we did not discuss is its impact on the interpretation of polar questions. It has been noted in Büring and Gunlogson (2000) and Han and Romero (2004), following observations by Ladd (1981), that light negation in polar questions introduces what they call a *positive bias*. For details, we refer the reader to the references cited.

assuming that only sentential negation has a light variant, the impossibility of rescuing from *no one* in (49) follows.

In contrast, a theory that equates anti-licensing with the formation of a derived negative polarity item and rescuing with the licensing of such a derived polarity item is unable to account for the contrast between (48) and (49).

However, it turns out that not all instances of rescuing are rescuing from sentential negation. Rescuing also seems to be possible from under *without* (Schwarz 2004) and *never* (Anna Szabolcsi, p.c.) as illustrated in (50) and (51).

- (50)a. She doesn't make her cakes without adding some butter.
b. There's no baker in this town that makes her cakes without adding some butter.
c. I'm surprised that she makes her cakes without adding some butter.
d. Let's suppose she made her cakes without adding some butter.

- (51)a. There was no one there who they never offered some cookies.
b. I was surprised that they never had some cookies.
c. If they had never brought some cookies, we would not have had desert.
d. Suppose they had never brought some cookies.

To handle these facts within a light negation style theory of rescuing, we would need to postulate the existence of light versions of *without* and *never*, which on an analogy with light negation would be non-anti-licensors. But unlike in the case of light negation, there seems to be no independent evidence for the existence of light variants of *without* and *never*. A derived polarity

item view of anti-licensing, in contrast, automatically covers these cases. And yet, as the unacceptability of (49)a,b indicates, without further restrictions a derived polarity item approach to rescuing overgenerates. A proper division of labor between a light negation analysis of rescuing and a derived polarity item approach might succeed in handling all the relevant observations. We have shown that a theory of light negation is needed on grounds independent of the rescuing phenomenon. The proper characterization of the division of labor between the two approaches to rescuing, we leave to future work.

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