

Finnish *-hAn* and Addressee Attention

Anisa Schardl

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1 Introduction

Discourse particles are morphemes that do not contribute a descriptive meaning, so that the truth conditions of an utterance are the same with or without the discourse particle. However, discourse particles contribute to the expressive meaning of the utterance (Zimmermann, to appear). The result is that while discourse particles do not usually have clear, easily defined interpretations, they may have use conditions that can be expressed formally.

In this paper, I will address the Finnish discourse particle *-hAn* and attempt to determine its expressive meaning and use conditions. *-hAn* is often used when giving an indirect answer to a question, as in (1), but there are also many other situations in which *-hAn* may be used.

- (1) A: On=ko Pentti kotona?
is=Q Pentti home.ESS
'Is Pentti home?'
- B: Sen=hän valo on päällä
3SG.ACC=HAN light is on
'His lights are on', #...if A cannot see the lights in Pentti's house.

I will present new data like (1) that I collected through fieldwork with native speakers. I will also present an analysis in which a declarative invokes a particular question, and *-hAn* is felicitous as long as that question is not already present in the addressee's Ginzburgian Question Under Discussion (as far as the speaker can tell), and the descriptive content of the declarative is not already present in the addressee's Ginzburgian set of relevant FACTS. This analysis accounts for data with *-hAn* in a declarative sentence.

In section 2, I will go through the basic observations of *-hAn*, including spelling, word order, a survey of the sentence types that can combine with *-hAn*, and its (lack of) contribution to descriptive meaning. In section 3, I will present my use conditions for *-hAn* and show how it accounts for the various sorts of declarative sentence data, as well as questions and fragments. In section 4, I will introduce an alternative analysis of *-hAn* akin to previous analyses of other discourse particles with similar distribution. I will show that this alternative analysis does

not do as well as my analysis at accounting for the data. I will also discuss a previous analysis of *-hAn* in the literature. In section 5, I will discuss problems that remain. Then, I will conclude.

2 Basics of *-hAn*

In this section, I will cover the orthography and phonology of *-hAn*, as well as word order facts. I will show that *-hAn* is a second-position clitic and that since Finnish allows for some scrambling, *-hAn* may be cliticized to a variety of phrase types and roles. I will conclude that there is no interesting semantic interaction between *-hAn* and the word to which it cliticizes. I will describe the various sentence types that can be combined with *-hAn*, and then describe the basic semantics.

2.1 Word order

-hAn is one of three second-position particles in Finnish (Karlsson, 2008). Orthographically, it is considered part of the first word in the sentence. The vowel in *-hAn* is either back *a* (IPA [ɑ]) or front *ä* (IPA [æ]), according to vowel harmony. This indicates that *-hAn* is part of the first prosodic word in the sentence as well as the first orthographic word. *-hAn* is therefore a clitic. The following examples, including their glosses and translations, are taken from Karlsson (2008)¹.

- (2) a. Minä=hän rakastan sinua.
I.NOM=HAN love.1SG you.PART
'I LOVE you!'
- b. Huomenna=han lähdemme lomalle.
tomorrow.ESS=HAN go.1PL vacation.ALL
'Tomorrow we're going on holiday, aren't we?' (Karlsson, 2008)

Word order in Finnish is fairly flexible, with scrambling motivated by information structure. Given information such as topics often appear near the beginning of the sentence, while new information and focus appear later in the sentence (Karlsson, 2008). There is also a focus fronting process available in Finnish (Karttunen, 1975). This means that in some cases, word orders such as OSV and VSO will surface, rather than the basic SVO word order. No matter what the word order, *-hAn* encliticizes to the first constituent in the sentence (usually the first word.)

¹I will use the following abbreviations in glosses: 1 = 1st person, 2 = 2nd person, 3 = 3rd person, ACC = accusative, ADESS = adessive, ALL = allative, COP = copula, CTF = counterfactual, ELAT = elative, ESS = essive, ILL = illative, NEG = negation, NMLZ = nominalizer, NOM = nominative, PART = partitive, PASS = passive, PL = plural, POSS = possessive, PST = past, PTCP = participle, Q = polar question particle, REL = relative pronoun, SG = singular.

- (3) a. Rakastan=han minä sinua.
love.1SG=HAN I.NOM you.PART
'Of course I love you.'
- b. Sinua=han minä rakastan.
you.PART=HAN I.NOM love.1SG
'You are the one I love.'
- c. Minä=hän rakastan sinua.
I.NOM=HAN love.1SG you.PART
'I LOVE you!'
- (Karlsson, 2008)

-hAn can combine with the other second-position clitics, the polar question particle *-kO* and the clitic *-pA*² (Karlsson, 2008). In these cases, *-hAn* comes last.

- (4) a. On=ko=han Sylvi kotona?
COP.3SG=Q=HAN Sylvi home.ESS
'I wonder if Sylvi is at home?'
- b. On=pa=han täällä kuuma!
COP.3SG=PA=HAN here hot.NOM
'It really is hot here, isn't it?'
- (Karlsson, 2008)

2.2 Sentence Types

-hAn can appear in a variety of sentence types, including declaratives, questions, fragments, and embedded clauses. In section 2.1, we saw many examples of *-hAn* in declaratives, and one example of *-hAn* in a polar question. (5) contains examples of *-hAn* in wh-questions.

- (5) a. Milloin=han on bileet?
when=HAN is party
'When is the party?'
- b. Missä=hän mun avaimet on?
where=HAN my keys are
'Where are my keys?'

(6) is an example of *-hAn* in a question that is syntactically a polar question, but is interpreted as a wh-question.

- (6) Paljon=ko=han pieni kahvi maksaa?
much=Q=HAN small coffee costs
'How much does a small coffee cost?'

²I do not know the use conditions for the clitic *-pA*. At the current time, I can safely say that it is felicitous in many of the same situations as *-hAn*, but the consultants say that it conveys a different feeling.

-hAn can also be used in self-directed questions, and in fact, the consultants say that it is obligatory there.

- (7) a. On=ko=han Pentti kotona?
is=Q=HAN Pentti home.ESS
'Is Pentti at home? (I wonder...)'
b. Missä=hän mun avaimet on?
where=HAN my keys is
'Where are my keys?'

(8) contains examples of *-hAn* in imperatives.

- (8) a. Älä=hän oo hullu!
NEG=HAN be crazy
'Don't be crazy!'
b. Ota=han vähän lisää!
take=HAN a little more
'Take a little more!'

(9) contains examples of *-hAn* used in fragments during an altercation.

- (9) Ida: Joni osti lehden Akateemisesta
Joni buy.PST magazine.ACC Akateeminen.ELA
'Joni bought a magazine from Akateeminen.'
Onni: Mari=han!
Mari=HAN
'(No,) Mari (did)!'
Ida: Joni=han!
Joni=HAN
'(No,) Joni (did)!'

-hAn can sometimes surface in a subordinate clause rather than the matrix clause, with no apparent change in meaning or use. In (10), *-hAn* can either be in the matrix clause or the relative clause.

- (10) Context: A group of people are discussing the attendees at a conference, and trying to figure out who traveled the farthest to be there.
A: Itseasiassa opiskelija=han, joka asuu Zürichissä matkustaa pisimmän
actually student=HAN REL.NOM lives Zürich.in travels longest
matkan
trip.ACC
'Actually, a student who lives in Zürich is traveling the farthest.'

A': Itseasiassa opiskelija, joka=han asuu Zürichissä matkustaa pisimmän
 actually student REL.NOM=HAN lives Zürich.in travels longest
 matkan
 trip.ACC
 'Actually, a student who lives in Zürich is traveling the farthest.'

-hAn may also appear in some adjunct clauses. In (11), *-hAn* is possible in a 'because'-clause, but impossible in an 'if'-clause³.

- (11) a. Jos sä(#=hän) osaat saksaa, sä pystyt lukemaan mun
 if you(#=HAN) be.able.2SG German.PART, you can.2SG read.NMLZ.ILL my
 tutkielman
 dissertation
 'If you know German, you can read my dissertation.'
- b. Koska sä=hän osaat saksaa, sä pystyt lukemaan mun
 since you=HAN be.able.2SG German.PART, you can.2SG read.NMLZ.ILL my
 tutkielman
 dissertation
 'Since you know German, you can read my dissertation.'

-hAn is also possible in some complement clauses (Karttunen, 1975). It is possible in complement clauses to discourse verbs such as *sanoa* 'say', or to semifactive verbs such as 'notice' or 'discover', as in (12). Other verbs such as 'know', 'believe', 'conceal', 'fear', and 'hesitate to say' are not compatible with complement clauses containing *-hAn* (Karttunen, 1975).

- (12) a. Pekka sanoi että Suomi=han on pieni maa.
 Pekka said that Finland=HAN is small country
 'Pekka said that Finland is a small country.'
- b. Pekka keksi että Suomi=han on pieni maa.
 Pekka discovered that Finland=HAN is small country
 'Pekka discovered that Finland is a small country.' (Karttunen, 1975)

In this paper, I will offer an account of the use conditions and meaning contribution of *-hAn* in declaratives, questions, and fragments. I will suggest a direction for such an analysis for imperatives. I will leave the use of *-hAn* in self-directed questions, imperatives, and embedded clauses to further research.

³This and some other examples are new data in Finnish, based on data on German *ja* and St'at'imcets *qa7* from Kratzer and Matthewson (2009).

2.3 Semantics

In this section, I will say what *-hAn* does not do, semantically: *-hAn* does not change the descriptive content of a sentence, and *-hAn* does not semantically combine with a constituent smaller than a clause.

Semantically, the presence or absence of *-hAn* does not seem to change the descriptive content of a sentence. That is to say, (13) is true if and only if the speaker loves the hearer.

- (13) Minä=hän rakastan sinua.
I.NOM=HAN love.1SG you.PART
'I LOVE you!' (Karlsson, 2008)

Rather, there are use conditions for *-hAn*: *-hAn* can only be used in a certain set of circumstances. It seems that *-hAn*'s contribution is in the realm of expressive content, and thus it qualifies as a discourse particle (Kratzer, 1999). The exact use conditions of *-hAn* are the main topic of this paper and will be addressed in sections 3 and 4.

Following previous research such as Karttunen (1975), I claim that *-hAn* combines semantically with an entire sentence, rather than any smaller component. In (14), *-hAn* encliticizes to a different word in each sentence, and the translations of the three sentences (given by Karlsson (2008)) are different⁴. However, I claim that these different translations are a result of word order, since Finnish word orders vary based on information structure. There is no compelling reason to believe that the different translations are a result of which word *-hAn* encliticizes to.

- (14) a. Rakastan=han minä sinua.
love.1SG=HAN I.NOM you.PART
'Of course I love you.'
b. Sinua=han minä rakastan.
you.PART=HAN I.NOM love.1SG
'You are the one I love.'
c. Minä=hän rakastan sinua.
I.NOM=HAN love.1SG you.PART
'I LOVE you!' (Karlsson, 2008)

In this section, we have seen that *-hAn* is a clitic that encliticizes to the first constituent (usually the first word) in a clause. Since Finnish has information-structure-motivated scrambling, this means that *-hAn* may cliticize to various elements, including subject, object, and verb, as in (14). *-hAn* may also appear encliticized to a relative pronoun in relative clause, as in (10), or to the first word after the complementizer in a complement clause or adjunct

⁴Considering a context in which the addressee has just found out that her significant other, the speaker, has cheated on her, and the speaker is trying to defend himself in the ensuing argument, my consultants say that all three word orders in (13) are felicitous.

clause, as in (11) and (12). However, its use in these clauses is limited. *-hAn* can appear in declaratives, questions, imperatives, sentence fragments, and self-directed questions, as in (5) - (9). In all cases, it does not seem to change the descriptive content of the sentence, but is a discourse particle with use conditions. I will discuss these use conditions in the following section.

3 *-hAn* draws the addressee’s attention to a question

In this section, I will first offer an informal analysis of *-hAn*. Then, I will introduce a formal system that can capture the use conditions of *-hAn* and explain how the use conditions can be understood within that formal system. Finally, I will provide a variety of examples of *-hAn* and sentences in which *-hAn* is infelicitous, and show how the analysis accounts for these examples.

3.1 Informal analysis

I propose that the function of *-hAn* has to do with the addressee’s attention and the facts and questions that the addressee is considering. Intuitively, I propose that there is some difference between attention and beliefs. Each person has a set of beliefs which help that person locate the actual world in the set of possible worlds. However, real people often have internally inconsistent sets of beliefs. For example, one person may have beliefs about arithmetic that entail ‘ $7 \times 8 = 56$ ’, but may also have a belief ‘ $7 \times 8 = 54$ ’ from a misremembered multiplication table.

The fact that people may have inconsistent beliefs means that in order for these people to act rationally, they must not be attending to all of their beliefs at the same time. The use conditions of *-hAn* have to do with what the addressee is attending to. I propose that there is a structure in the pragmatics which contains the propositions and questions that the discourse participant is attending to. When a speaker uses *-hAn*, he is drawing the addressee’s attention to a question that is invoked by the sentence to which *-hAn* attaches. He is asking the addressee to add this question to the collection of things she is attending to.

As far as use conditions, *-hAn* is impossible when the addressee is already attending to the relevant question or fact. Consider the following example.

- (15) Joni=han tulee konferenssiin?
 Joni=HAN comes conference.ILL
 ‘Joni is coming to the conference?’

(15) is felicitous when uttered out of the blue. The speaker has a belief that Joni is coming to the conference, but wishes the addressee to confirm this belief. Since the sentence was out of

the blue, the addressee was not thinking about whether Joni was coming to the conference. Thus, the speaker can use *-hAn* in (15) to raise the issue of whether Joni is coming to the conference, and the natural response for the addressee is to confirm or disconfirm the speaker's suspicion.

Unlike an English rising declarative (Gunlogson, 2002, 2003), (15) cannot be uttered if there is a verbal antecedent, like 'Joni is coming to the conference.' A verbal antecedent like this would indicate that the addressee is already thinking about the fact that Joni is coming to the conference. Since this is already part of what the addressee is attending to, the speaker cannot use *-hAn* in (15).

The proposal that *-hAn* draws the addressee's attention to a question or fact requires certain things from the pragmatic system. First, the pragmatic system must take into account the questions and facts that the addressee is attending to. We will see from further examples that there must be a set of questions the addressee is attending to, not just a single question. Second, the pragmatic system must allow for a mismatch between what the speaker is attending to and what the hearer is attending to. In (15), the speaker was attending to the question of whether Joni was coming to the conference, but the addressee was not. *-hAn* was only possible if this mismatch existed.

Now that we have a sense of the use conditions for *-hAn*, we need a way to formalize them.

3.2 Formal analysis

In this section, I will introduce a formal system that has the two qualities described, and show how the use conditions I have proposed for *-hAn* may be formalized in that system.

3.2.1 Introduction to Ginzburg

To formalize the analysis of *-hAn*, I will use the pragmatic system laid out and used in Ginzburg (1995, 1996, 1997). The impetus for this system was to address discourses in which there appeared to be a mismatch between the discourse participants as to what was considered the question under discussion, what was considered fact, etc. To account for this, Ginzburg modifies the Common Ground described in Stalnaker (2002). Rather than one shared workspace that all the discourse participants have access to, each discourse participant (DP) has his or her own semi-public workspace, known as the Gameboard (Ginzburg, 1995).

A DP's Gameboard contains, among other things, a QUD, which is a partially ordered set of questions under discussion (Ginzburg, 1995). In this set, there is a maximal QUD, which is the main question under discussion, and there are many related questions. A structured QUD like this allows us to understand the following dialogue.

(16) A: Who killed Bill?

- B: Who was in town at the time?
 A: Do you think that Mary was?
 B: Probably.
 A: And Jill?
 B: Yes. Which one of them had a motive? (Ginzburg, 1995)

In (16), the maximal question under discussion is clearly *Who killed Bill?* However, many questions are asked and answered in the dialogue. Rather than answer the question, B raises a related question for discussion, *Who was in town at the time?*. This question is ABOUT the maximal QUD, meaning that it offers information that will help to resolve the maximal QUD. A and B then proceed to discuss the question of who was in town. After they discuss that question, B raises another question ABOUT the maximal QUD, *Which one of them had a motive?*. In this dialogue, A and B can ask and answer many questions that are not the maximal QUD while still ultimately discussing the maximal QUD. This is possible because the QUD is not just a single question, but a structured set of related questions.

Another quality of the Ginzburg framework is that each DP has his own Gameboard. This means that there may be a mismatch between the QUD of one discourse participant and the QUD of another. The following dialogue illustrates such a mismatch.

- (17) A: Hey, guess who showed up to lunch.
 B: I don't want to.
 A: Why not?
 B: Don't want to.
 A: Please.
 B: Oh ok. Millie. (Ginzburg, 1995)

In (17), A introduces the question of who showed up to lunch. This question is now maximal in A's QUD, which I will call QUD(A). B has two options at this point: either accept the question into QUD(B), or reject it. B rejects it, by saying that he does not want to guess who showed up to lunch. A then raises another question, why B does not want to guess. B's response does not answer the question, signalling that B is still rejecting the question. Finally, at the end of the dialogue, B accepts the maximal QUD(A) and adds it into QUD(B), which he signals by saying "Oh ok." For most of (17), the question of who showed up to lunch was in QUD(A), but was not in QUD(B). This is only possible in a pragmatic system in which A and B have two separate Gameboards, and therefore two separate QUDs.

I mentioned that there are other things in the Gameboard besides the QUD. Another relevant component of the Gameboard is FACTS, a set of propositions which the DP considers to be true, public, and relevant. By making a statement, a DP asks his interlocutors to add the content of that statement to FACTS in their Gameboards. If they accept the statement as true, they add that statement to FACTS. Consider the following dialogue.

- (18) A: Who left?

B: Bill.
A: Uh huh.

In (18), A presents a question, *Who left?*. This question is now the maximal QUD(A). B then accepts the question into QUD(B) and answers it. In answering *Bill*, B adds the fact ‘Bill left’ to FACTS(B). A then accepts this as fact by saying “Uh huh”, meaning that A adds ‘Bill left’ to FACTS(A).

Finally, I will introduce the notion of RESOLVING a question and QUD-DOWNDATING. A fact ψ RESOLVES a question q relative to the unpublished mental state of a particular DP if the combination of ψ and that mental state provide the answer to q (Ginzburg, 1995). If a question is resolved, it may undergo QUD-DOWNDATING, meaning that the question is removed from the QUD, leaving room for a new topic of discussion. Ginzburg (1995) defines QUD-DOWNDATING as follows.

- (19) QUD DOWNDATING: Assume q is currently maximal in QUD, and that ψ is a fact that either
- (a) resolves q relative to UNPUB-MS(DP) Or,
 - (b) indicates that no information about q can be provided.

Then, adding ψ to FACTS licenses

- (1) removing q from QUD, and
- (2) if (a) applies adding the fact ϕ to FACTS, where ϕ is the fact that ψ resolves q relative to UNPUB-MS(DP). Ginzburg (1995)

In (18), A asked the question *Who left?*, indicating that this question was part of QUD(A). B answered the question with the fact ‘Bill left’. Since A accepted this fact, adding it to FACTS(A), then the question of who left may be RESOLVED, relative to A’s unpublished mental state (which contains information that can help determine exactly which Bill we are talking about, for example.) ‘Bill left’ answers the question of who left. Since the question of who left is RESOLVED, it can now be DOWNDATED from the QUD. A can therefore remove the question of who left from QUD(A), leaving room for a new topic of discussion.

3.2.2 Questions and Focus

In the Ginzburg framework, every declarative sentence that is uttered invokes a question (Ginzburg, 1997). In the next section, I will argue that the use conditions for *-hAn* depend on whether the descriptive content of the associated sentence is already in FACTS(addressee) and whether the question invoked is already in QUD(addressee). Before I argue this, I will explain what the question invoked by a particular declarative is.

We will encounter two types of declaratives: declaratives in which a constituent is Focused in the sense of Rooth (1985, 1992, 1996), and declaratives with no Focus. For the declaratives with no Focus, the question invoked is the closest related polar question. So if the descriptive content of the declarative is the proposition ψ , then the question invoked is the polar question with alternatives ψ and $\neg\psi$ (Rooth, 1996). Consider the declarative without Focus in (20).

(20) John ate the beans.

When (20) is uttered, the speaker asks the addressee to add *John ate the beans* to FACTS(addressee). Since (20) does not contain a Focused constituent, the speaker also invokes the question *Did John eat the beans?*

(20) is odd without some amount of context, and is best in a situation in which *Did John eat the beans?* is in both QUD(addressee) and QUD(speaker). So if the speaker utters (20) and *Did John eat the beans?* is not in QUD(addressee), the addressee should either reject the utterance, or accommodate by accepting the utterance and adding *Did John eat the beans?* to QUD(addressee). Thus, when the speaker utters (20), the speaker hopes that *Did John eat the beans?* is already in QUD(addressee), or if not, that the addressee will add it.

The question invoked is different in a declarative with a Focused constituent. When a constituent has Focus, it has a non-trivial Focus semantics, which is a set of alternatives to that constituent. Consider the following sentence with Focus.

(21) [John]_F ate the beans.

In (21), the Focused constituent is *John*. The Focus semantics of *John* is the set of alternatives to *John*, that is, the set of all $x \in D_e$. The entire sentence *John ate the beans* also has a Focus semantic value, which is a set of propositions of the form x ate the beans Rooth (1996). This set of propositions is created simply by combining the members of the Focus semantic set of *John* with the regular meanings of the rest of the sentence, using whatever rules of semantic composition apply. Intuitively, we simply replace *John* with x .

The focus semantic value of $[John]_F$ ate the beans is a set of propositions. This set of propositions is exactly the set of alternatives that defines *Who ate the beans?* in alternative semantics (Rooth, 1996). In other words, all of the possible answers to *Who ate the beans?* are propositions of the form x ate the beans.

So, the Focus semantic value of a declarative is the set of propositions created by combining each member of the Focus alternative set of the Focused constituent with the descriptive content of everything else in that sentence. This set of propositions is the set of alternatives that defines a wh question. As a shortcut, we can simply replace the Focused constituent with the appropriate wh word.

In Ginzburg’s framework, when the speaker utters (21), she asks the addressee to add *John ate the beans* to FACTS(addressee). Similar to declaratives without Focus, declaratives with Focus invoke a question (in this case, *Who ate the beans?*) that is hopefully already in QUD(addressee). If not, the speaker hopes that the addressee will accommodate by adding *Who ate the beans?* to QUD(addressee).

We now have the necessary ingredients to understand the use conditions for *-hAn*. I will define and illustrate these use conditions in the next section.

3.2.3 Formalization of *-hAn*

I propose that the use conditions for *-hAn* are as in (22).

- (22) *-hAn* is felicitous when attached to a declarative p with descriptive content ψ if:
1. ψ is not in FACTS(addressee), and
 2. the question invoked by p is not in QUD(addressee).

Of course, the speaker does not know for sure what is in FACTS(addressee) and QUD(addressee), as these are part of the addressee’s mental state. The speaker must therefore decide whether *-hAn* is felicitous based on whatever evidence she has.

We will see from the examples in section 3.3 that if the question invoked by p is obviously in QUD(addressee) based on the ongoing conversation, *-hAn* is infelicitous. If the question is obviously not in QUD(addressee) and ψ is obviously not in FACTS(addressee) based on the ongoing conversation, then *-hAn* is felicitous. In other cases, the speaker must use her judgment to determine whether ψ is in FACTS(addressee) and the question invoked by p is in QUD(addressee), based on the actions of the addressee or reasoning based on previous knowledge of the addressee.

3.3 Illustrative examples

3.3.1 Direct answer to a question

-hAn is generally bad when used to offer a direct answer to an explicit question, as demonstrated in (23)⁵.

- (23) Onni: Kuinka paljon se maksaa?
 how much it costs?
 ‘How much does it cost?’

⁵This is true for one dialect that I studied, which I will call Finnish A. In a second dialect, Finnish B, *-hAn* may be used to offer a direct answer to a question. I will discuss Finnish B in section 5.3, but ultimately leave it as an open problem.

Hanna: Se(#=hän) on 50 euroa.
 it(#=HAN) is 50 euro.PART
 ‘It’s 50 euros.’

(Finnish A)

In (23), Onni asks the question ‘How much does it cost?’, which establishes this question as maximal in QUD(Onni). Hanna’s answer, ‘It’s 50 euros’, is a declarative with focus, and it invokes the question ‘How much does it cost?’ Hanna cannot use *-hAn* in this answer because she has reason to believe that this question is already in QUD(Onni). In fact, it is the maximal QUD for Onni.

Thus, we see that *-hAn* is infelicitous if the question invoked by the sentence with *-hAn* is already in QUD(addressee), here QUD(Onni). Next, we will consider examples in which *-hAn* is felicitous.

3.3.2 Altercations

-hAn can attach to a fragment in an altercation like the one in (24).

- (24) Ida: Joni osti lehden Akateemisesta
 Joni buy.PST magazine.ACC Akateeminen.ELA
 ‘Joni bought the magazine from Akateeminen.’
 Onni: Mari=han!
 Mari=HAN
 ‘(No,) Mari (did)!’
 Ida: Joni=han!
 Joni=HAN
 ‘(No,) Joni (did)!’

The use of *-hAn* in a fragment like this may be something like the use of *-hAn* in a declarative sentence with Focus. Let’s say that the fragment represents the Focused part of a (mostly elided) declarative. So when Onni says *Mari=han!*, he is saying the equivalent to *[Mari]_F=han osti lehden Akateemisesta!* ‘*[Mari]_F bought the magazine from Akateeminen*’, with Focus on Mari. In this discourse, Ida begins by saying that Joni bought the magazine from Akateeminen. This means that ‘Joni bought the magazine from Akateeminen’ is in FACTS(Ida), and ‘Mari bought the magazine from Akateeminen’ probably is not. If there was a question of who bought a magazine from Akateeminen in QUD(Ida), it has probably been RESOLVED and removed from the QUD via QUD-DOWNDATING. Since ‘Mari bought the magazine from Akateeminen’ is not in FACTS(Ida) and the question of who bought the magazine from Akateeminen is not in QUD(Ida), Onni may use *-hAn* in his response, which invokes that very question and fact. With his utterance, Onni is re-raising the issue of who bought the magazine, answering the question with a different answer, and DOWNDATING QUD(Onni).

Similarly, since the question of who bought the magazine is now not in QUD(Onni), and ‘Joni bought the magazine from Akateeminen’ is not in FACTS(Onni), Ida can respond with *-hAn*. The consultants report that altercations can continue on in this manner indefinitely, which we expect from the analysis.

Not all is solved, however, because this particular use of *-hAn* has different syntactic properties from the uses of *-hAn* that we saw before. In situations like this, the fragment with *-hAn* is felicitous, but the full non-elided sentence is infelicitous. So Onni can say *Marihan!*, but he can’t say *#Marihan osti lehden!* I am not sure why this syntactic restriction comes up, but it may be important for a full understanding of *-hAn*.

3.3.3 Indirect answer to a question

-hAn is infelicitous in a direct answer to a question, but it is felicitous in an indirect answer to a question, as in (25).

- (25) A: On=ko Pentti kotona?
 is=Q Pentti home.ESS
 ‘Is Pentti home?’
 B: Sen=hän valo on päällä
 3SG.ACC=HAN light is on
 ‘His lights are on’, #...if A cannot see the lights in Pentti’s house.

In (25), A has asked the question ‘Is Pentti home?’. A can see that the lights are on in Pentti’s house. B responds with ‘His lights are on’ with *-hAn*. B has evidence that ‘Pentti’s lights are on’ is not in FACTS(A), because if A were thinking about the Pentti’s lights, he would conclude that Pentti was home and not ask the question. B also has evidence that ‘Are Pentti’s lights on?’ is not in QUD(A), because if A were considering whether Pentti’s lights were on, he would look, see that they were, and not ask the question. Therefore, B is able to use *-hAn* in his response. B’s evidence hinges on the fact that A can see the lights in Pentti’s house, which is why *-hAn* is infelicitous if A cannot see Pentti’s house.

Let’s consider the following pair of examples.

- (26) Context: Hanna and Ida are friends. Hanna has previously mentioned to Ida that she is on a diet. They are chatting at Ida’s house.
 Ida: Kakkua?
 cake.PART
 ‘Cake?’
 Hanna: Ei kiitos, mä=hän oon dieetillä.
 no thanks I=HAN am on.a.diet
 ‘No thanks, I’m on a diet.’
- (27) Context: Hanna is at a catered event in which she is being served by a waiter. She and the waiter do not know each other.

Waiter: Kakkua?
cake.PART
'Cake?'

Hanna: Ei kiitos, mä(≠hän) oon dieetillä.
no thanks I(≠HAN) am on.a.diet
'No thanks, I'm on a diet.'

In (26), when Ida offers cake to Hanna, she establishes that 'Does Hanna want cake?' is maximal in QUD(Ida). If 'Hanna is on a diet' had been in FACTS(Ida), then Ida would have concluded that Hanna was on a diet. If 'Is Hanna on a diet?' had been in QUD(Ida), Ida would have used her previous knowledge to resolve the question of whether Hanna wants cake before she even asked it. Therefore, Hanna concludes that the relevant fact is not in FACTS(Ida), and the relevant question is not in QUD(Ida). Hanna says 'I'm on a diet', which invokes the question of whether Hanna is on a diet. She can use *-hAn* because the use conditions are satisfied.

In (27), Hanna cannot use *-hAn*. When the waiter offers Hanna cake, the question of whether Hanna wants cake is maximal in QUD(waiter). However, Hanna has no reason to believe that the question of whether she is on a diet is not also in QUD(waiter). He may very well already be considering it. *-hAn* is infelicitous here because Hanna does not have enough evidence that the relevant question is not in QUD(waiter).

3.3.4 Drawing attention

-hAn can also be used in situations in which the speaker is trying to draw the addressee's attention to a specific fact. In (28), the speaker alerts the addressee that she has ketchup on her face, so that the addressee can respond accordingly.

(28) Sulla=han on ketsuppia naamassa.
you.SG.on=HAN is ketchup.PART face.in
'You have ketchup on your face.'

-hAn is felicitous in (28), because the addressee clearly does not know that she has ketchup on her face. Otherwise, she would wipe it off. The addressee is also not considering the question of whether she has ketchup on her face, otherwise she would find out, and then wipe it off. Thus, the relevant fact and question are not in FACTS(addressee) and QUD(addressee).

In (29), two friends are hiking and chatting, and one hiker sees a bear over the shoulder of another hiker. Since the addressee hiker is looking in the other direction, he does not see the bear.

(29) tuolla=han on karhu!
there=HAN is bear
'There's a bear!'

In (29), the addressee clearly does not know about the bear, and so *There's a bear* is not in FACTS(addressee). Although it was not made explicit in elicitation, it is reasonable to assume that the consultants did not think the hikers were chatting about bears, and so the addressee is not considering the question of whether there is a bear nearby. And so *Is there a bear?* is not in QUD(addressee). Thus, the use conditions for *-hAn* are satisfied in both (28) and (29).

3.3.5 Other attention-drawing examples

We saw that *-hAn* may be used when the speaker is drawing the addressee's attention to the fact that there is a bear or that the addressee has ketchup on his chin. In those cases, the use conditions were clearly satisfied. There are other examples of drawing attention in which the content of the declarative is already known by the addressee, such as (30) and (31).

(30) Context: Speaker runs into addressee at the bus stop.
 Speaker: Sulla=han on uusi kampa.
 you.SG.ADESS=HAN is new hairdo
 'You have a new hairdo'

(31) Context: Addressee returns home. Speaker is pleased.
 Speaker: Hei! Sä=hän oot takas!
 Hi you.SG=HAN are back
 'You're back!'

In both (30) and (31), the addressee is well aware that she has gotten a new hairdo or that she is back. However, since these sentences are the first move in a conversation, it is safe for the speaker to assume that they are not already in FACTS(addressee). Similarly, the speaker can assume that the questions invoked are not in QUD(addressee). So the use conditions predict that *-hAn* should be felicitous in (30) and (31).

3.3.6 Attention already on question

The next two examples illustrate that *-hAn* is infelicitous if the addressee's attention is clearly already on a particular implicit question or fact. In these cases, the fact is already in FACTS(addressee), or the question is already in QUD(addressee).

(32) Context: Hanna and Ida are at a coffee shop. Their orders are ready and Hanna goes to the counter to pick both of them up. As she returns to their table and hands Ida her coffee, she says:
 Hanna: Varo(#=han), se(#=hän) on kuumaa.
 be.careful(#=HAN), it(#=HAN) is hot.PART
 'Careful, it's hot.'

In (32), Hanna is handing Ida her coffee. Since Ida knows that she ordered hot coffee and is reaching for it, she may very well be thinking about how hot the cup will be and how careful she should be in holding it. Therefore, the fact that the coffee is hot will already be in FACTS(Ida). Because of this, Hanna cannot use *-hAn* when she says ‘Careful, it’s hot.’

- (33) Context: It is several decades ago, and a man waits anxiously in the waiting room while his wife has their baby. The doctor comes into the waiting room and says to the man:
 Doctor: Sait(#=han) tytön.
 get.PST.2SG.(#=HAN) girl.ACC
 ‘It’s a girl.’

In (33), the context is one in which it is expected that the doctor will enter and tell the man whether the baby is a boy or girl. The doctor’s sentence probably has Focus on ‘girl’, since he is essentially answering the implicit question ‘Is the baby a boy or girl?’ Since the doctor’s utterance is a declarative with Focus, the question invoked is something like ‘What is the baby?’ Since this question is so salient in this context, the doctor has reason to believe that it already is in QUD(father), and therefore, the doctor cannot use *-hAn*.

3.3.7 ‘Why’ questions

It is worth noting that *-hAn* can be used in an apparently direct response to a question if that question begins with *miksi* ‘why’. In (34), Hanna gives a response using *koska* ‘because’. Hanna’ gives a response using *-hAn*. In a situation like this, *koska* and *-hAn* may be used interchangeably to answer a why-question.

- (34) Onni: Miksi et syö kakkua?
 why NEG.2SG eat cake.PART
 ‘Why don’t you eat cake?’
 Hanna: Koska mä oon dieetillä.
 because I am on.a.diet
 ‘Because I’m on a diet.’
 Hanna’: Mä=hän oon dieetillä.
 I=HAN am on.a.diet
 ‘I’m on a diet.’

The apparent exception of ‘why’ questions may be due to the nature of the answer. In a previous example, a ‘how much’ question was answered with ‘It’s 50 euros.’ In the response, there is a Focused constituent, ‘50 euros’. If *-hAn* is attached the answer, then the speaker would be drawing the addressee’s attention to a wh-question created using the focus alternative set for ‘50 euros’. This wh-question is precisely the ‘how much’ question that was originally asked, and so this question is already in QUD(addressee) and *-hAn* is not possible in the answer.

Something slightly different is going on in ‘why’ questions. In (34), Hanna’ attaches *-hAn* to a declarative either with or without Focus. If the sentence does not have Focus, then Hanna she does not direct Onni’s attention to a wh-question, but rather to the polar question, ‘Is Hanna on a diet?’ He can probe his beliefs and find that Hanna is on a diet, and since diets are common reasons not to have cake, he will conclude that Hanna is probably not eating cake because she is on a diet that excludes cake. In a sense, Hanna’s response is not really a direct answer to a ‘why’ question, since one cannot reconstruct Onni’s ‘why’ question from it. Thus, Hanna’ is using *-hAn* in an indirect response to a question, which, as we’ve seen before with ‘how much’ and ‘who’ questions, is a very natural use of *-hAn*.

If Hanna’s answer does contain a Focused constituent, there is no possible constituent of ‘I’m on a diet’ from which we could reconstruct the ‘why’ question. The question would be something like ‘Who is on a diet?’ or ‘What is Hanna on?’ Or, if the entire sentence is Focused, the wh question it forms might be something like ‘What is the situation?’ In any case, the wh question invoked by Hanna’ is not ‘Why don’t you eat cake?’ Thus, the answer that Hanna’ gives does not invoke a question that is in QUD(Onni).

This analysis also holds for the following ‘why’ question.

- (35) Onni: Miks toi tuijottaa mua?
 why 3 stares I.PART
 ‘Why is s/he staring at me?’
 Hanna: Koska sulla on reikä paidassa=s
 because you.ADESS is hole shirt.INESS=2SG.POSS
 ‘Because you have a hole in your shirt.’
 Hanna’: Sulla=han on reikä paidassa=s
 you.ADESS=HAN is hole shirt.INESS=2SG.POSS
 ‘You have a hole in your shirt.’

In (35), Onni notices that someone is staring at him and asks why, and Hanna’ directs his attention to fact that he has a hole in his shirt. If Onni had been attending to the hole, then he would have known why the person was staring, and not asked the question. Therefore, ‘Onni has a hole in his shirt’ is not in FACTS(Onni). Similar to (34), there is no question invoked by ‘Onni has a hole in his shirt’ that is in QUD(Onni). Thus, Hanna can use *-hAn* in her answer.

The consultants report that in (35), Hanna’ can only use *-hAn* if a hole in one’s shirt is a very obvious reason for staring. If not, then Onni would find that he had a hole in his shirt, but fail to see the relevance to his question. This makes sense, because if the hole is not obviously relevant, then Hanna’ does not have evidence that the ‘Onni has a hole in his shirt’ is not in FACTS(Onni). In this situation, Hanna may use *koska* ‘because’ instead of *-hAn*.

3.3.8 Confirming a suspicion

Let's revisit an example in which the speaker asks the addressee to confirm a suspicion, repeated in (36). The speaker walks into the office of someone who would know who is coming to the conference and utters (36).

- (36) Joni=han tulee konferenssiin?
Joni=HAN comes conference.ILL
'Joni is coming to the conference?'

(36) has no obvious question syntax, such as a *wh* item, the alternative question *vai* 'or', or the polar question particle *-kO* (Karlsson, 2008). The consultants report that (36) is actually a question, which they glean from a prosodic difference between (36) and a neutral declarative, as well as the unusual presence of *-hAn*. I have translated (36) as a rising declarative, but there are distinct differences between (36) and rising declaratives. While rising declaratives require a verbal antecedent (Gunlogson, 2002, 2003), (36) is impossible after a verbal antecedent, as indicated by (37).

- (37) A: Odotan innolla, että nään Jonia konferenssissa
wait.1SG eagerly, that see.1SG Joni.PART conference.in
'I can't wait to see Joni at the conference.'
B: #Joni=han tulee konferenssiin?
Joni=HAN comes conference.into
'Joni is coming to the conference?'
B': Joni=ko on tulossa?
Joni=Q is coming
'Is Joni coming?'

In fact, (36) is only felicitous if nobody was talking about Joni, and if the speaker already suspects that Joni is coming to the conference.

(36) is another example of drawing the addressee's attention toward a particular question. Since (36) is uttered as the first move in a conversation, the question of whether Joni is coming to the conference is unlikely to be in QUD(addressee), and the fact that Joni is coming to the conference is unlikely to be in FACTS(addressee). The speaker introduces the question of whether Joni is coming to the conference. If the addressee accepts this question, she adds it to QUD(addressee) and her next course of action is probably to answer the question, confirming that Joni is coming to the conference.

In this section, we have seen a number of illustrative examples support the proposed use conditions for *-hAn*. In the next section, we will see some examples that seem to fit intuitively with the meaning of *-hAn*, but which are still somewhat problematic in the formal details.

3.4 Somewhat problematic examples

3.4.1 Teaching, news

-hAn is not possible when reporting news or when teaching children facts, as in (38).

- (38) Ruotsi(=#=hän) on monarkia.
Sweden(=#HAN) is monarchy
'Sweden is a monarchy.'

We can understand the impossibility of *-hAn* in these examples if we assume that in a situation like teaching or reporting news, the speaker has no evidence regarding the mental state of the addressee. Since there is no evidence pertinent to the use conditions for *-hAn*, *-hAn* is infelicitous. Therefore, the analysis predicts that *-hAn* would be infelicitous in these sorts of situations.

A puzzle that remains is that *-hAn* is sometimes felicitous in teaching. The consultants report that *-hAn* is actually possible in an utterance like (38) if it is not exactly the main fact being taught. For example, *-hAn* would be possible in an utterance that meant 'Sweden is a monarchy, they have the king on their money.' In such a context, the money is the main topic, and the statement that Sweden is a monarchy is further explanation. I leave these sorts of examples to further research.

3.4.2 Questions

-hAn can appear in questions. As with declaratives, the presence of *-hAn* does not seem to affect the descriptive content of the question, just the expressive content. Some examples follow.

- (39) a. Milloin=han on bileet?
when=HAN is party
'When is the party?'
- b. On=ko=han Pentti kotona?
is=Q=HAN Pentti home.ESS
'Is Pentti at home?'
- c. Paljon=ko=han pieni kahvi maksaa?
how.much=Q=HAN small coffee costs
'How much is a small coffee?'
- d. Saisin=ko kahvin?
get.CTF.1ST=Q coffee.ACC
'Could I get a coffee?'

The consultants reported that questions with *-hAn* were the same as questions without *-hAn*, but that with *-hAn*, they sounded nicer and friendlier.

In order for the analysis of *-hAn* in declaratives can be extended to include questions, there must be modifications. In declaratives, the use conditions for *-hAn* referenced the propositional meaning of the declarative, which questions do not have. It is possible that for questions, there is no requirement that a particular fact not be in FACTS(addressee). In declaratives, *-hAn* also dealt with a question invoked by that declarative. In questions, we would need to say that the question invoked is identical to the question uttered. Canonically, asking a question demonstrates that that question is in QUD(speaker), and if the addressee accepts it, it will be added to QUD(addressee) (Ginzburg, 1995). Except in the case of rhetorical questions, the question is usually not already in QUD(addressee). This means that the analysis would predict that *-hAn* is usually felicitous in non-rhetorical questions. This prediction seems to be borne out.

The other impression that the consultants report is that the use of *-hAn* makes the question sound nicer. There could be several reasons for this. For one thing, the consultants report that discourse particles like *-hAn* are used more in casual speech among friends rather than in formal speech, so it may simply be that using a discourse particle at all makes the sentence sound friendlier, regardless of the particle's use conditions. Another possibility is in part of the meaning, that *-hAn* is used to draw the addressee's attention to a particular question. Maybe in questions, *-hAn* is interpreted as an overt request for attention, which would soften the blow of being asked a question. I leave the particular analysis of the softening effect to future research.

I have presented my analysis of the use conditions for *-hAn*, which are that *-hAn* is disallowed in a declarative sentence if the content is already in FACTS(addressee) or if the question invoked by that sentence is already in QUD(addressee) (as far as the speaker can tell.) This analysis can only be formalized in a pragmatic system that has a set of questions under discussion that may be different for each DP. The system described in Ginzburg (1995, 1996, 1997) is one such system. I then showed how this analysis accounted for a variety of different data, and began to account for a few more data.

4 Alternative analyses

4.1 The hearer-should-know hypothesis

In this section, I will present an alternative hypothesis to my analysis. The alternative hypothesis, which I will call the "hearer-should-know hypothesis" is that *-hAn* is available if the speaker thinks that the addressee should already know the propositional content of the utterance. I will call my analysis the "hearer-attention hypothesis." I will show that while my hypothesis accounts for all of the data, there are data that the hearer-should-know hypothesis cannot account for. I will conclude that the hearer-attention hypothesis is more likely to be correct.

Abraham and Wuite (1984) claim that *-hAn* can be translated into German *doch*, *ja*, *bloß*, *vielleicht*, or *aber*, depending on the particular sentence. Previous work on German *ja* and the similar St’at’imcets particle *qa7* suggest that these can be attached to a declarative sentence when the addressee already knows or should already know the propositional content of the sentence (Kratzer, 1999; Zimmermann, to appear). For this reason, one might hypothesize that Finnish *-hAn* is also possible iff the addressee should already know the propositional content of the sentence. In this section, I will address this hypothesis and show that while it accounts for some of the data, it cannot be correct. I will do this in much the same way that this same analysis has been disproved for *ja* and *qa7* by Kratzer and Matthewson (2009).

It is easy to see why this hypothesis is tempting, given some of the data. Consider once again the examples in which various people offer Hanna cake, reproduced below.

- (40) Context: Hanna and Ida are friends. Hanna has previously mentioned to Ida that she is on a diet. They are chatting at Ida’s house.
 Ida: Kakkua?
 cake.PART
 ‘Cake?’
 Hanna: Ei kiitos, mä=hän oon dieetillä.
 no thanks I=HAN am on.a.diet
 ‘No thanks, I’m on a diet.’
- (41) Context: Hanna is at a catered event in which she is being served by a waiter. She and the waiter do not know each other.
 Waiter: Kakkua?
 cake.PART
 ‘Cake?’
 Hanna: Ei kiitos, mä(#=hän) oon dieetillä.
 no thanks I(#=HAN) am on.a.diet
 ‘No thanks, I’m on a diet.’

In (40) and (41), Hanna can use *-hAn* if she is talking to her friend Ida, but not if she is talking to a waiter she doesn’t know. The difference here is that Hanna had previously mentioned to Ida that she was on a diet, and so Ida should have known about the diet. So this is a situation in which the hearer-should-know hypothesis works perfectly. If the addressee should have known about the diet, then *-hAn* is possible, if the addressee is a complete stranger, then *-hAn* is not possible.

There are even some examples in which *-hAn* is more cooperative with the should-have-known hypothesis than German *ja* or St’at’imcets *qa7*. Consider the following example.

- (42) Context: At a gas station.
 Stranger: wéq’weq’em ti=káoh-sw=a
 shiny DET=car-2SG.POSS=EXIS

‘Your car is shiny.’
 You: aylh=kan=á=qa7 kwéz-en
 just=1SG.SUBJ=A=QA7 clean-DIR
 ‘I just cleaned it.’
 You: Ich hab’s ja (doch) eben erst waschen lassen
 I have.it JA DOCH just now wash let
 ‘I just had it washed’ (Kratzer and Matthewson, 2009)
 You: Mä(#=hän) pesin sen just
 I(#=HAN) clean.PST.1SG itACC just
 ‘I just cleaned it.’

In (42), both *ja* and *qa7* are possible when talking to a stranger. However, *-hAn* is impossible. The consultants report that *-hAn* would only be possible if you were talking to a friend who already knew that you recently washed your car.

According to the hearer-attention hypothesis, your friend the addressee must not be attending to the fact that you just washed your car, otherwise he would not be so excited. You can therefore use *-hAn* since the fact that you just washed your car is not in FACTS(your friend) and the question of whether you washed your car is not in QUD(your friend). However, if you are speaking to a stranger, the stranger may very well be wondering if you washed your car recently. Therefore, you may not use *-hAn* in your response.

So far, the hearer-should-know hypothesis has done just as well as the hearer-attention hypothesis. The difference comes out in some of the data in which the hearer really shouldn’t know. Consider the following data in St’at’imcets and Finnish.

- (43) Context: Similarly, a hiker talking to another, unsuspecting hiker. The speaker sees a bear and knows that the other hiker has not seen it.
- a. #wá7=a=qa7 ti=míxalh=a
 be=A=QA7 DET=bear=EXIS
 ‘There’s a bear!’ (Kratzer and Matthewson, 2009)
- b. tuolla=han on karhu!
 there=HAN is bear
 ‘There’s a bear!’

In (43), the addressee has obviously not seen the bear and the speaker is warning him of it. This is a huge problem for the hearer-should-know hypothesis. The addressee simply does not know about the bear. However, this example works well with the hearer-attention hypothesis. The fact that there is a bear is not in FACTS(addressee), and the question of whether or not there is a bear is clearly not in QUD(addressee), otherwise the addressee would look, see the bear, and react accordingly. Since the use conditions are satisfied, *-hAn* is possible.

The following examples also refute the hearer-should-know hypothesis.

- (44) Context: Hanna is looking out the window and sees a rabbit. Her sister is working on her computer and looking in a different direction.
Hanna: (Kato,) tuolla=*han* on jänis
(look) there=*HAN* is rabbit
'There's a rabbit!'
- (45) Context: Onni and Ida have each entered in the lottery. They are watching the tv for the winning lottery numbers and their attention is fixed on their respective lottery tickets. Onni finds out that he has won.
Onni: Mä=*hän* voitti!
I=*HAN* win.PST
'I won!'

The consultants report that in (44), Hanna knows that her sister would be interested in seeing a rabbit. Similarly, in (45), Onni's use of *-han* suggests that his winning is somehow relevant to Ida. For example, he might plan to share his winnings with her. In these two examples, The hearer-attention hypothesis would say that Hanna and Onni are drawing their addressee's attention the question of whether there was a rabbit or whether Onni won the lottery. Since the addressees have a special interest in these questions, they would respond appropriately, either by coming to see the rabbit, or by sharing in Onni's win. In both cases, the addressees obviously did not already have the question in their QUDs, since Hanna's sister was paying attention to her computer, and Ida was paying attention to her own lottery tickets.

The hearer-should-know hypothesis does not account for (44) and (45). In both cases, it is clear that the addressee does not already know the content of the proposition. Hanna's sister can't know about the rabbit since she is facing another direction, and Ida can't know about Onni winning the lottery since she is busy with her own lottery tickets. Therefore the hearer-attention hypothesis accounts for these data better than the hearer-should-know hypothesis.

4.2 Speaker's authority hypothesis

In this section, I will discuss a previous analysis of *-han* in the literature, and conclude that the hearer-attention hypothesis is more successful in accounting for the data.

The particle *-han* has been discussed before in Karttunen (1975). Karttunen (1975) concludes that *-han* can be used any time the speaker is asserting his or her authority, whether it is in contradicting the interlocutors, asserting the authority of his or her own discovery, or the authority of common knowledge.

Such an analysis would have difficulty accounting for the sort of cases that exemplify the hearer-should-know hypothesis. For examples like the familiar diet example, Karttunen (1975) says that *-hAn* is bad when talking to a stranger because it is part of informal Finnish, and is therefore too informal for use with a stranger. This explanation works for the diet example, but it will not work for all examples of this type. Consider the following.

- (46) Ida: On-ko Pekka kotona?
 is-Q Pekka at.home
 ‘Is Pekka at home?’
 Onni: Se(=hän) oli samassa bussissa mun kanssa.
 he(=HAN) was in.same in.bus me with
 ‘He was on the bus with me.’

The consultants report that in (46), Onni can only use *-hAn* if Ida was also on the bus or otherwise already knew that Pekka was on the same bus with Onni, and therefore should have known that Pekka would be home. It is not enough that Onni and Ida are friends and can use informal speech with each other. Here, Onni can only use *-hAn* if Ida should have known the answer to her question.

The hearer-attention hypothesis explains (46). If Ida had known that Pekka was at home, then she should not have asked the question of whether Pekka was at home. This question would have no utility (van Rooy, 2003). Onni can then conclude that Ida is not considering all the questions that are relevant to her maximal QUD of whether Pekka is at home. He then requests that Ida add ‘Was Pekka on the bus with Onni?’ to QUD(Ida), which should then decide her maximal QUD and allow her to downdate it. On the other hand, if there is no reason that Ida should have known that Pekka was at home, Onni has no evidence that Ida is not already considering the question of ‘Was Pekka on the bus with Onni?’ Thus, he cannot felicitously use *-hAn* to add such a question to QUD(Ida).

Karttunen (1975) also addresses the use of *-hAn* in questions and imperatives. She says that in questions and imperatives, *-hAn* is always used ironically, with the effect that authority is deferred from the speaker. This may account for the softening effect of *-hAn*, but it is not very satisfying to say that a particle is always used ironically in certain sentence types. However, questions and imperatives are also a problem for the hearer-attention hypothesis.

In this section, I described two alternative analyses for *-hAn*, the hearer-should know hypothesis and the speaker’s authority hypothesis. I showed that neither hypothesis accounts for the data as well as the hearer-attention hypothesis.

5 Questions for Further Research

In this section, I will bring up some problems that are not solved in this paper. These include the problems of *-hAn* in imperatives and in self-directed questions, and the issue of a second dialect of Finnish.

5.1 Imperatives

-hAn can also appear in imperatives. Some examples follow.

- (47)
- a. Älä=hän oo hullu!
NEG=HAN be crazy
'Don't be crazy!'
 - b. Ota=han vähän lisää!
take=HAN a little more
'Take a little more!'
 - c. Ole=han hiljaa!
be=HAN quiet.PART
'Please be quiet!'
 - d. Tuo=han mulle yksi kahvi.
bring=HAN I.ALL one coffee
'Get me a coffee.'

As with questions, the consultants reported that imperatives with *-hAn* were the same as imperatives without *-hAn*, but that with *-hAn*, they sounded nicer and friendlier. Also similar to questions, imperatives are usually felicitous with *-hAn*.

In order to extend the analysis of *-hAn* to imperatives, we would need to determine if an imperative invokes a question the way a declarative does, and if so, what sort of question it invokes. If an imperative does invoke a question, then we would need to see whether this question is usually not in QUD(addressed), which would account for the fact that *-hAn* is usually felicitous in imperatives.

5.2 Self-directed questions

-hAn in questions has a second life, as a component of self-directed questions. If the question is not directed to someone else, a speaker can use *-hAn* to talk to him or herself. Some examples follow.

- (48)
- a. On=ko=han Pentti kotona?
is=Q=HAN Pentti home.ESS
'Is Pentti at home? (I wonder...)'
 - b. Missä=hän mun avaimet on?
where=HAN my keys is

- ‘Where are my keys?’
- c. Miksi=kö=hän ostin juustoa?
 why=Q=HAN buy.PST.1SG cheese.PART
 ‘Why did I buy cheese?’
- d. Huomenna(=ko)=han...?
 tomorrow(=Q)=HAN
 ‘Was it tomorrow...?’

In the examples above, the speaker is wondering something to him or herself. For example, the speaker might say (48-b) while searching for his keys, or might say (48-c) when looking through his refrigerator and trying to remember what his cooking plans were. (48-d) might be a situation when the speaker has to be at an event, and is trying to remember which day that event was scheduled for.

The consultants report that *-hAn* is actually required in self-directed questions, which distinguishes *-hAn* in self-directed questions from any other sentence type. However, without a clear understanding of what discourse function self-directed questions serve and why they might have different syntax from addressee-directed questions, we will not be able to even begin to analyze the contribution of *-hAn*.

5.3 Finnish B

In working with multiple consultants, I determined that I was dealing with multiple dialects. The consultants simply differed on some judgments. I will call the dialect that I have been describing Finnish A, and the dialect that I will discuss now Finnish B. The vast majority of *-hAn* data are the same in Finnish A and Finnish B, including the use of *-hAn* in altercations, indirect answers, drawing the addressee’s attention, questions, and imperatives, and the infelicity of *-hAn* when talking to a stranger or reporting news.

The most striking difference between Finnish A and Finnish B is that in Finnish B, *-hAn* can be used in a direct answer to a question. In Finnish A, *-hAn* is very natural in indirect answers, but totally out in direct answers.

- (49) Onni: Kenet Joni tapasi?
 who.ACC Joni met
 ‘Who did Joni meet?’
 Ida: Joni=han tapasi Marin.
 Joni=HAN met Mari.ACC
 ‘Joni met Mari’ (Finnish B)

Finnish B speakers report that when Ida uses *-hAn*, she feels that Onni should have known that Joni met Mari, or that it was somehow obvious. Perhaps Mari is the person who Joni always meets, or maybe they Onni saw them meeting earlier and has forgotten about it.

The data from answer to direct questions in Finnish B seem to suggest that the hearer-should-know hypothesis is a better fit for *-hAn* in Finnish B than in Finnish A. However, the hearer-should-know hypothesis still would not explain the felicity of *-hAn* when one hiker is warning another hiker of a bear, or when Ida tells her sister that there is a rabbit out the window. The analysis of *-hAn* in Finnish B is left to future research.

6 Conclusion

In this paper, I provided a descriptive analysis of the Finnish discourse particle *-hAn*. I claimed that declarative sentences invoke questions, and *-hAn* is possible when, as far as the speaker can tell, the proposition expressed is not already in FACTS(addressee) and the question invoked is not already in QUD(addressee). This question is the polar question associated with a neutral declarative, or a wh-question associated with a declarative containing a Focus. This analysis explains the distribution of *-hAn* in most declarative sentences and in sentence fragments. Assuming that a question invokes itself, the analysis can also begin to account for *-hAn* in questions.

I then considered another analysis, which was that *-hAn* can be used in a declarative when the addressee should know the propositional content of the declarative. This analysis did not work, because there were examples in which *-hAn* was used and the addressee clearly did not know and should not have known. These data did not present a problem for my original analysis, and so the hearer-attention hypothesis did a better job of accounting for the data than the hearer-should-know hypothesis. I also showed that a previous analysis of *-hAn* that had to do with the speaker's authority did not account for the data as well as the hearer-attention hypothesis.

I then discussed some problems for future research, including the role of *-hAn* in imperatives and self-directed questions, and the analysis of *-hAn* in a second dialect of Finnish.

If this analysis of *-hAn* is correct, it requires two things from a formal pragmatic system. First, the pragmatic system must have a QUD that is not a single question, but rather a set of questions. Second, the pragmatic system must have a different QUD for each discourse participant. An example of a system that has these qualities is the one described in Ginzburg (1995).

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