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THE SEMANTICS OF SCANDINAVIAN FREE CHOICE ITEMS

ABSTRACT. I present an analysis of Free Choice Items (FCIs), based on Scandinavian, where FCIs are complex and distinct from polarity sensitive items. Scandinavian FCIs are argued to have two components. One is a universal quantifying into modal contexts. The other is an operator mapping a type ⟨s,t⟩ expression onto itself, adjoining to the closest type t or ⟨s,t⟩ expression. Thus invoking Intensional Functional Application, this operator requires the presence of a modal in the scope of the universal quantifier. Facts concerning 'essential connections' and 'existential import' are accounted for by assuming that the FC determiner has the option of acting like a quantifier.

1. INTRODUCTION

Free Choice (FC) items like the English determiner *any* as it occurs in (1)–(4) have not been very widely studied, and a consensus on how they should be analyzed has not yet been reached. One question is whether they are existential (indefinite) or universal. Because *any* also functions as a Polarity Sensitive (PS) item and the PS *any* is clearly an indefinite, there has been a tendency to assimilate FC items to the indefinite article. Thus Kadmon and Landman (1993), echoing Davison (1980), argue that *any* is consistently an indefinite, attributing the universality of FC cases to genericity; Carlson (1981), on the other hand, considered this strategy but concluded that FC *any* is a universal determiner after all. Recently, Dayal (1998) has argued that FC *any* is a universal of a very special type, quantifying over pairs of individuals and situations, while Giannakidou (this issue) argues that Greek FCIs are existential quantifiers which must be evaluated with respect to a set of worlds.

(1) *Any person in this room* may be the murderer.

(2) Naturally, he won't be satisfied with just *any present*.

(3) At 15.000 feet they'd gladly trade the yak for *any animal*.

(4) I have invented this big machine that can answer *any question*.

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The other problem is the **restricted distribution** of Free Choice items. They typically occur in modal contexts, such as (1)–(4), in particular, in sentences with a possibility modal or in so-called elliptic conditionals, and they may occur in generic sentences; but they are often infelicitous in episodic sentences, like (5), or with necessity modals, as in (6):

(5) # When he was divorced, he lost *anything* – even his daughter.

(6) # *Any person in this room* must be the murderer.

Any theory of FC items must provide an answer to the question of why these sentences are infelicitous – ideally, it should be possible to derive the restrictions from semantic properties inherent in the items. Roughly, Kadmon and Landman (1993) answer that the sentences are too weak, thus violating the **strengthening** constraint; while Dayal (1998) answers that they are in part too strong, in fact, effectively contradictory.

The different answers – too weak versus too strong – are correlated with the different quantificational force ascribed to FC items in the two theories: Kadmon and Landman treat them as special existentials, Dayal treats them as special universals. The view of *any* as a variant of *a* is in large part motivated by a desire to assimilate FC *any* to PS *any*, but it is also supported by many cases where the difference seems to consist in a difference in the **width** of the interpretation of the NP; or, according to Lee and Horn (1994), in an inherent **scalarity** in FC *any*.

The Scandinavian paradigm of FC items, based on *wh* expressions, is lexically distinct from the paradigm of PS items, so there is no prima facie reason to view the former as indefinites; in fact, in Norwegian, FC *any* may be translated by an ostensibly universal determiner – *enhver*. Scandinavian facts would thus seem to favor an analysis in the spirit of Dayal (1998), who treats FC *any* as a universal determiner. As we shall see in Section 3.1, however, that analysis is problematic, and the facts identified in Section 2 will lead me to adopt a weaker analysis, based on the notion of quantifying into a proposition.

The analysis developed in Section 3 can be summed up as follows:

- The FCI has two components: One is a universal determiner, combining with a phrase to form a quantifier and undergo QR;
- the other is an operator mapping a proposition onto itself, adjoining to the closest type t node.
- The universal determiner can be interpreted as a quantifier, undergoing QR alone and quantifying over 'possible entities'.

The second item ensures that FCIs quantify into a type ⟨s,t⟩ expression. Such expressions can be formed from sentences through a composition

principle called Intensional Functional Application, IFA. This principle can be invoked by some modal, denoting a function from propositions. But I will propose that it can also be invoked by an FCI, more precisely, by a component item denoting the identity function on propositions. For interpretability, this operator must operate right below some modal. Sentences like (5) come out as infelicitous because there is no modal, so that forming a proposition results in a type conflict.

The third item says that the expression into which the FCI quantifies may include the apparent restrictor, as on the reasonable reading of (2), where we do not quantify over presents but over possible presents.

My analysis aims primarily at Scandinavian, Swedish and Norwegian, but it is also relevant for English Free Choice *any* or *-ever* free relatives, at least to the extent that *any* can be translated by a Scandinavian FCI. Furthermore, it is intended to apply to much of what has been identified as FCIs in other languages – much, but not all: To the extent that items like the German *irgend-* are labelled FCIs, items that seem to have more in common with the English determiner *some* than with (FC) *any*, my analysis will not be relevant (for more specific references see 2.2.4).

In Section 2 a family of facts are identified. 2.2 includes a discussion of the theory of Kadmon and Landman (1993). In Section 3 I develop my analysis, starting with an assessment of the theory of Dayal (1998). Section 4 offers conclusions.

2. FACTS

Any theory of Free Choice items must account for a number of facts that have been noted in the literature on the English determiner *any*, notably by Vendler (1967). We may distinguish three generalizations, or rather, statements of semblances or tendencies:

- The distribution of FCIs seems to be restricted to contexts that can be interpreted as intensional; FCIs preferably co-occur with modals (in the general sense of propositional relations)
- FCIs seem to be universal quantifiers regularly taking scope over the modals they co-occur with
- FCIs seem able to quantify over possible entities, or entities with merely possible properties

These statements are relatively uncontroversial, but of course very weak and vague. I devote successive subsections of this section to sharpening and strengthening them. I argue that for Scandinavian FCIs,

- the distribution is indeed restricted to intensional contexts, that is, the FCI has to co-occur with a modal in a wide sense
- the FCI is a universal scoping over the modal it co-occurs with
- the apparent restrictor may be in the intensional context

The emerging picture is that the FCI is a universal quantifier which has to quantify across a propositional relation, into a proposition, and that the apparent restrictor may form part of that proposition. These two descriptive generalizations get a theoretical interpretation in Section 3.

2.1. *The Restricted Distribution of FCIs*

The thesis I want to defend in this subsection is that FCIs are restricted to modal contexts. They must co-occur with some expression denoting a relation where at least one of the arguments is a proposition; a modal in the narrow sense, a generic or conditional operator, or an attitude verb. A modal may be implicit, but it must be part of the interpretation.

Everybody agrees that FCIs have a limited distribution, but different scholars draw the lines differently. Thus Kadmon and Landman (1993) formulate a very strict condition, while Dayal (1998) is relatively liberal. The issue is often whether FCIs do require intensional contexts (Carlson, 1981); the tendency, at any rate, is for them to occur in such contexts.

One problem with determining the limits to the distribution of FCIs is that *any* in English functions both as a PS and as an FC item, and it may be difficult to discriminate between the two. This is one point where it is useful to consult a language where FCIs are lexically distinct from PSIs. A survey of the contexts where Swedish and Norwegian *wh* based FCIs are in fact used, based on corpus studies, is presented in 2.1.1.

As noted by Dayal (1998), sometimes an FCI occurs in what may seem an extensional context. But on closer scrutiny, these cases turn out to involve a modal element after all, in particular, a conditional element, induced by other elements in the sentence, as argued in 2.1.2.

One strong argument for the thesis that FCIs require modal contexts is that they can bring out a conditional interpretation which is otherwise latent. This will be shown in 2.1.3.

2.1.1. *The Distribution of Scandinavian FCIs in a Corpus*

Let us get acquainted with what may be termed the default FC items in Mainland Scandinavian[1], those composed of a *wh* word, pronoun, determ-

[1] I focus on Norwegian, as my own mother tongue, and Swedish, as there are interesting differences between these two; the Danish system is very similar to the Norwegian.

iner, or adverb, and the locution *som helst*.[2] Any *wh* word except *why* can figure as an FC item if accompanied by *som helst*. As *wh- som helst* is the common component in a range of items, we have a paradigm:

Norwegian	Swedish	English wh-
hva som helst	*vad som helst*	what
hvem som helst	*vem som helst*	who
e- hvilk- som helst N	*vilk- N som helst*	which
hvor som helst	*var(t) som helst*	where (to)
når som helst	*när som helst*	when
	hur som helst	how
	hur A (N) som helst	how A (N)

The leftmost and middle column contain the Norwegian and Swedish paradigm of *wh* based FC items, respectively, and the rightmost column contains the English *wh* correlates – two pronouns, a determiner, three adverbs, and *how* as a degree adverb. We see that the Swedish column is more comprehensive than the Norwegian column. The five items that the two have in common correspond to the *any* expressions *anything*, *anybody, any, anywhere*, and *any time*.

What we find when sampling *wh-som helst* items in corpora is that about a third of the tokens co-occur with the modal *kan* (*can, may*), and that more co-occur with *some* expression of possibility. Moreover, if counterfactual operators such as *skulle* (Swedish) or *ville* (Norwegian) ('would') and covert generic operators are counted as modals, an even larger portion of occurrences coincide with the occurrence of modals; many cases can be read as conditional or generic sentences. Still other contexts are arguably intensional, if only implicitly, in the sense that a word or construction can be seen to involve modality once its semantics is spelt out, in terms of a propositional attitude or a conditional.

The below attempt at a classification and quantification is based on a sample of 1,000 cases from a general source corpus of either language. The examples come in pairs where the upper element is Swedish (S) and the lower is Norwegian (N). The inaccurate estimates do not just reflect confidence intervals but also the intrinsic vagueness of the categories.

[2] The locution *som helst* can be glossed by *as rathest*, that is, a conjunction or particle plus the superlative of an adverb which in the comparative translates as *rather*.

Possibility (40–50%):

(7) Naturligtvis går det att spela Bach på vilka instrument som
naturally works it to play Bach on which instruments as
helst.
rathest
'Of course, Bach can be played on any instrument.'

(8) Du kan ikke legge julegavene under en hvilken som
you cannot lay Christmaspresents under a which as
helst gran.
rathest fir
'You cannot put your Christmas gifts under just any fir tree.'

Conditionals or Generics (10–20%):

(9) Vem som helst skulle funnit sådana metoder djupt
who as rathest would found such methods deeply
förkastliga.
reprehensible
'Anybody would find such methods deeply reprehensible.'

(10) Det var alminnelig i SS å adlyde en hvilken som helst
it was customary in SS to obey a which as rathest
ordre.
order
'In the SS, it was customary to obey any order.'

Propositional Attitudes, Synthetic Modality (10–20%):

(11) Jag känner mig beredd att möta vilka händelser som
I feel myself prepared to meet which events as
helst.
rathest
'I feel ready to face any event.'

(12) Baugen blir en rampe som passer en hvilken som helst
stern-the becomes a ramp that fits a which as rathest
kai.
wharf
'The stern becomes a ramp fitting any wharf.'

Comparative or Similative Constructions (10–20%):

(13) Hon sköter gården bättre än vilken karl som helst.
she tends farm-the better than which man as rathest
'She tends the farm better than any man.'

(14) Vi ser på dem som en hvilken som helst motstander.
we see on them as a which as rathest opponent
'We regard them as just any opponent.'

Thus by and large, the survey confirms that FCIs occur in contexts that are arguably intensional.[3] A proportion remains where a modal element is difficult to discern: A class of negative (predicative) contexts and, in Swedish, a class of positive extensional contexts. In Sæbø (1999: 97f.) these contexts are argued to represent rhetorical and metaphorical uses.

Negative Constructions and Swedish Specialties (5–15%):

(15) Rösterna i drömmen är inte vilka som helst.
voices-the in dream-the are not which as rathest
'The voices in the dream are not just any voices.'

(16) Det fanns hur många flickor som helst som ville tävla.
there were how many girls as rathest that would compete
'Any number of girls wanted to compete.'

It is striking that necessity modality is absent as a separate category (though necessity modals do occur in conditional or generic structures). This accords with the observation made e.g., by Davison (1980: 12) that

[3] It would go beyond the scope of this paper to show how the lower two classes involve modality, but in 2.1.2–2.1.3 I discuss a few cases of inherent or implicit modality; a more thorough discussion can be found in Sæbø (1999: 91–96).

FC *any* tends to select possibility modals. This fact is discussed in Sæbø (1999: 83–86), arguing that cases like (6) represent contradictions.

2.1.2. *Possible in Extensional Contexts?*
Dayal (1995, 1998) holds that FC *any* can occur in extensional contexts if only the NP is postmodified. Citing LeGrand (1975), she calls this the effect of 'subtrigging'. She contrasts i.a. (17a) with (17b):

(17)a. #Any woman contributed to the fund.
b. Any woman who heard the news contributed to the fund.

There are many cases where a relative clause is essential for the felicity of a sentence with an FCI, also in Scandinavian, where cases like (17b) are marginal. Consider (the Norwegian) (18) and (19).

(18)a. #Jeg har hva som helst.
I have what as rathest

b. √Jeg har hva som helst som du trenger.
I have what as rathest that you need
'I have whatever you need.'

(19)a. #Regjeringen vil senke et hvilket som helst skip
Government will sink a which as rathest ship

b. √ . . . som truer med å forurense kysten.
. . . that threatens to pollute coast-the
'The Government will sink any ship threatening to pollute the coast.'

But it can be argued that the relative clause facilitates a reading of the sentence as a conditional through the interpretive mechanism known as Semantic Partition (Krifka, 1995), where various sources of information (intonational, lexical, contextual) are assumed to conspire to partition a sentence into restrictor and nuclear scope of an overt or covert operator. We can argue that (18a) is deviant because the FC phrase *hva som helst* is itself too poor in descriptive content for an antecedent proposition to be constructed. Postmodification can provide more descriptive material. Thus with the relative clause, the FCP will contain sufficient information to form the proposition that you need x, so that a binary modal may be read into the sentence: 'for every x, if you need x, necessarily I have x'.

Thus it seems that adding descriptive material to the phrase makes it easier to accept the FCI by way of making it easier to read the sentence as an intensional context, typically a conditional or generic structure. It is not the case that 'subtrigging' saves the extensional context, rather, it helps transform it into an intensional context.[4] Davison (1980), noting that "many of the bad sentences ... can be 'cured' with a relative clause", in fact suggests such an explanation, paraphrasing (20a) by (20b).

(20)a. John kept any place he went a secret from us.

b. If John went anywhere, he kept the place a secret from us.

But not only postmodification in the FCP can be conducive to the acceptability of sentences with FCIs through facilitating an intensional interpretation. The verb can be important as well, in that it can have a presupposition that can be accommodated into an antecedent, so the sentence can get an interpretation as a conditional structure.

Thus when Carlson (1981: 11), who considers a characterization of the 'licensing environments' for FC *any* as intensional contexts, takes sentences like (21a) to show the need for characterizing them as either intensional contexts or individual-level argument positions, there is an alternative explanation for this seemingly extensional context in terms of a conditional structure induced by (the FCI and) the verb. Compare (21b), where the verb does not carry a comparable presupposition, and the Norwegian pair in (22), parallel to (21) as far as presuppositions go.

(21)a. Bob likes anyone.

b. # Bob meets anyone.

(22)a. På mine turer i leiren hilste jeg på en hvilken som helst
on my walks in camp greeted I on a which as rathest
fange.
prisoner
'Walking round the camp, I greeted any internee.'

(22)b. #På mine turer i leiren traff jeg på en hvilken som helst
on my walks in camp met I on a which as rathest
fange.
prisoner

[4] Actually, Dayal's explanation of such contrasts rests on her assumption that FC *any* is inherently modal, quantifying over pairs of individuals and situations, so in her theory, "subtrigging" saves the statement, made intensional by the FCI, from being trivially false. For a discussion of the theoretical aspects of Dayal's account, see 3.1.

Many authentic Scandinavian sentences without an overt indication of a conditional structure can be described in this way. Consider (23), where the verb suggests the antecedent 'if I try'; or (24), where the verb *sign* can be taken to presuppose that 'he' is pressured to sign something.

(23) Jeg mislykkes med hva som helst. (N)
I fail with what as rathest
'I fail at anything.'

(24) Etter et par dager vil han undertegne hva som helst. (N)
after a couple days will he sign what as rathest
'After a couple of days, he'll sign anything.'

It appears that any extensional context turns out, on closer scrutiny, to have a reading as an intensional context, be it that there is a word with a hidden modal element in its meaning, as in (25),

(25) Vi har bara en Jord och den **tål** inte vad som
we have only one Earth and it tolerates not what as
helst. (S)
rathest
'We only have one Earth, and it won't tolerate just anything.'

or that a covert modal operator can be posited, as in sentences like (26), where a generic operator quantifies over possible worlds:

(26) I vilken svensk stad som helst finns det ett ishockeylag.
in which Swedish town as rathest is it a hockeyteam
'In any Swedish town, there is a hockey team.'

To sum up, sentences that cannot be interpreted as involving a modal are infelicitous with FCIs; but sentences are very flexible in this regard, as very many can be read as involving a generic/conditional operator. There are at least two ways to facilitate this. First, the verb may carry a presupposition which can be accommodated into the restrictor of the operator; second, a modified NP can provide material for a restrictor.

2.1.3. *FCIs Enforce a Modal Reading of a Neutral Sentence*
One strong argument for the thesis that FCIs need intensional contexts is that they can force a conditional reading which may be available, but

not prominent, with a universal or indefinite. While (27a) is ambiguous between a future and a conditional reading, (27b) seems only to mean that for every students' association, if John is asked to join it, he will. (28) is an authentic Swedish example with the same semantic structure.

(27)a. John will join every students' association.
b. John will join any students' association.

(28) De går med i vilken sekt som helst, bara någon pratar
they go with in which sect as rathest only someone talks
med dem.
with them
'They'll join any sect as long as someone talks to them.'

Vendler observed (1967: 85) that *any* can enforce conditional readings. To say (29a) "is to issue a blank warranty for conditional predictions". (29b) "may be taken as a simple forecast: he will tell me this whether I ask him or not", but (29a) has only a conditional reading. This turns on interpreting the verb *tell* as presuppositional, in the sense of *answer*, and accommodating the presupposition, in terms of *ask*, into the antecedent.

(29)a. Any doctor will tell you that Stopsneeze helps.
b. Dr. Jones will tell you that Stopsneeze helps.

Scandinavian data bear out the prediction that in cases where a word may or may not take a proposition as an argument, the choice of an FCI over a standard universal quantifier will favor the intensional reading.

(30) Moderaterna stöder inte vilka besparingar som helst. (S)
moderates-the support not which savings as rathest
'The Conservatives won't support just any spending cuts.'

(31) Du må betale for en hvilken som helst vare. (N)
you must pay for a which as rathest commodity
'You must pay for any commodity.'

Substitution of the determiner *alla* in (30) results in a sentence that may mean that the Conservatives do not support all cuts actually proposed; by contrast, the sentence as it stands means that they will not support all cuts that may be proposed. Similarly with (31): The determiner *alle* for the FC

determiner would allow the reading that you have to pay for all members of a contextually restricted set of commodities, while (31) as it stands clearly means that for every commodity (in such a restricted set), if you want it you must pay for it.

To sum up, many sentences are neutral as to whether they constitute an ex- or intensional context. Simple sentences with a latent conditional operator are typical cases. Here, the FCI can invoke a conditional, hence intensional, structure. This seems to demonstrate in a decisive way that FCIs must co-occur with modals.

2.2. *FCIs Take Scope Over the Modals They Co-occur With*

In this subsection I want to defend the thesis that Scandinavian FCIs are universals which must take scope over the modals they co-occur with. That FCIs are universal quantifiers is a controversial assumption. Thus Kadmon and Landman (1993), Lee and Horn (1994), and Giannakidou (this issue) all reject it. In separate subsections, I will discuss these three approaches, and then address some more positive evidence in 2.2.4.

2.2.1. *Kadmon and Landman (1993): Widening and Strengthening*

According to Kadmon and Landman (1993), FC *any* is, just like PS *any*, an indefinite (with additional semantic and/or pragmatic characteristics), the universal interpretation being attributed to a generic quantification: "NPs with FC *any* are allowed in the same kind of environment where generic indefinites are allowed" (p. 357).

From a semantic minimalist point of view, it is prima facie desirable that the two uses of *any* be described as variants of one item, with one meaning. This must basically be the meaning of the indefinite article, for the PS variant is clearly indefinite. But the problem is that FC *any* seems universal. Now, there are cases where even the indefinite article acquires a universal interpretation; generic or conditional structures:

(32)a. A soldier obeys an order.
b. A soldier usually obeys an order.
c. If a soldier gets an order, he obeys it.

In such cases, it is assumed that the variable introduced by the indefinite article gets bound by an overt or covert generic or conditional operator inducing an unselective (quasi) universal quantification over 'cases', an idea going back to Lewis (1975). The essence is that the quantification is not attributed to the indefinite but to the context it occurs in. The idea behind the theory of Kadmon and Landman (1993) (henceforth also: KL)

is to generalize this pseudo universality of *a* to *any* to say that *any* is FC iff it occurs in a context inducing a quasi universal quantification.[5]

(33)a. A soldier obeys any order.
b. A soldier usually obeys any order.
c. ?If a soldier gets (just) any order, he obeys it.

(32a) and (33a) are indeed similar in meaning. (33a) seems somewhat stronger than (32a). (33b), however, does not seem as similar to (32b); it seems to have a reading where *usually* does not quantify over orders. A related point is made by Dayal (1998); I readdress the issue in 2.2.4. One explanation for the contrast is that *any* has a quantificational force on its own. (33c) is, in fact, not entirely felicitous, a fact that will also be significant for the argument that FCIs are quantifiers after all; cf. 2.2.4.

The analysis of KL has 3 ingredients: (A), (B), (C).

(A) *any CN* = the corresponding indefinite NP *a CN* with additional semantic/pragmatic characteristics:

(B) *Widening*
In an NP of the form *any CN*, *any* widens the interpretation of *CN* along a contextual dimension.

(C) *Strengthening*
Any is licensed only if the widening that it induces creates a stronger statement, i.e., only if the statement on the wide interpretation $\Rightarrow$ the statement on the narrow interpretation

Note that these three rules apply to both the PS and the FC use of *any*. Both (B) and (C) make reference to the indefinite article and to the indefinite NP *a CN*, though in an implicit manner: When (B) says that *any* widens the interpretation of the common noun phrase, what is meant is of course that *any* makes the interpretation wider than *a* would make it. And when (C) says that this widening creates a stronger statement, what is meant is naturally that the statement is stronger than *a* would make it. Thus both (B) and (C) state relative properties of *any* relative to *a*.

Let us consider one of KL's few examples of FC *any* to see how their analysis is able to account for what they regard as the core intuition, that it conveys a reduced tolerance of exceptions.

(34)a. An owl hunts mice.
b. Any owl hunts mice.

[5] Davison (1980) had proposed this strategy, without being acknowledged by KL.

(34a) is a generic statement, about owls in general and what they will do in the right circumstances; and (34b) has a very similar interpretation. But while when interpreting (34a), with the indefinite article, we tend to focus on owls that are overall normal, when interpreting (34b) with *any*, we widen our focus to include owls that are in one way or other not so typical, standard, or normal. The way in which owls are not necessarily so normal is determined by the context, and this is what is meant by the formulation that *any* widens the interpretation of CN, here *owl*, along a contextual dimension. This is illustrated in dialogues like (34c):

(34)c. – An owl hunts mice. – A healthy one, that is? – No, any owl.

Here, the dimension is identified as the health scale. With respect to this, *any* is universal in the sense that all degrees are to be represented in the owl domain. In this dimension, the tolerance of exceptions is reduced. And since we count more owls in the restrictor of the generic operator, (34b) is stronger than (34a).

With regard to such examples, the analysis of KL seems convincing. There are, however, a few counterarguments, empirical and theoretical.

The most conspicuous problem is that the analysis only makes sense in such cases where *any* can in fact be replaced by the indefinite article. The two characteristics are defined in terms of the substitution of *a*, and FC *any* is to correspond to generic indefinites. But, as noted by Dayal (1998: 438), there are many cases where the substitution of *a* does not yield a generic interpretation. Contexts where *any* relies on a possibility modal sometimes turn odd when *any* is replaced by *a*:

(35)a. ?The train may come a minute.
b. The train may come any minute.

Also cases with an implicit modality or conditionality are not invariably "environments where generic indefinites are allowed". In (36a)–(38a), the indefinite can hardly be interpreted in a generic sense.

(36)a. He is stoic about a thing.
b. He is stoic about anything.

(37)a. I am prepared for an event.
b. I am prepared for any event.

(38)a. Some would do a thing to get a role.
b. Some would do anything to get a role.

That the substitution of *a* for *any* does not invariably result in a generic interpretation is a prima facie problem which might be overcome by an argument that *any* favors a generic interpretation less available for *a*. But even so, there is a problem of a more theoretic nature connected to the environments where generic indefinites are not "allowed".

The problem arises from the ingredients (B) and (C) in conjunction: *Any* is to cause a widening, and the widening is to cause a strengthening. This predicts that *any* is only allowed in a Downward Entailing Context (DEC), since it is just in such a context that a widening can strengthen a statement. For FC *any*, this is problematic, as in many cases, it is unconventional to claim that the context is a DEC; notably cases where *any* relies on a modal of possibility, like (35b): If in such cases a widening of the NP denotation is to result in a strengthening of the statement, a context of possibility must count as a DEC, so (39a) will entail (39b):

(39)a. You may take an apple.
b. You may take a green apple.

There is no semantic analysis of modals like *may* that will make (39b) a logical consequence of (39a) – on the contrary, a standard analysis, like that of Kratzer (1981), will make (39a) a logical consequence of (39b). Actually, intuitions may not be so clear; in an ordinary communication situation a hearer of (39a) may well feel licensed to take a green apple, at least as long as nothing is said to the contrary. This dilemma seems closely related to the dilemma of Free Choice Disjunction (Kamp, 1979; Zimmermann, 1999), the intuition that (39c) implies (39a).

(39)c. You may take an apple or a pear.

Possibly, the problem is related to the distinction made by von Wright (1971) between a 'weak' and a 'strong' *may*; in the strong sense, (39c) would have a paraphrase like (39d), and the issue would reduce to that of whether we may assume Strengthening the Antecedent (SA):

(39)d. If you take an apple or a pear, you won't be sanctioned.

However, SA is a controversial rule, not least regarding counterfactuals (cf. Lewis, 1973), and this is directly relevant for *any*. We can agree that (40c), from KL, seems to entail (40b), but for this strengthening effect to come about through a widening effect, it must be assumed that a wider, thus weaker, antecedent leads to a stronger counterfactual, and thus that

(40a) will in turn entail (40b). Due to a scalar implicature this does not seem unreasonable here, but in many other cases it does.

(40)a. A dancer would be able to do it.
b. A professional dancer would be able to do it.
c. Any professional dancer would be able to do it.

And, finally, there are problems of a purely theoretic nature with the semantic constraint Strengthening. As pointed out by Krifka (1995a), this lexical property is intrinsically non-compositional, stating that the "statement" stand in a certain relation (stronger) to another "statement". And, "We may grant (C) the status of a descriptive generalization, but the next question should be: At which level is (C) checked, and what is responsible for this checking?" Indeed, it turns out that once we try to answer this in a precise way, the constraint proves circular and vacuous. Consider a sentence with an ambiguity between a PS and an FC reading:

(41)a. She cannot be seduced by any musician.

That there may be an ambiguity like this is not in itself counterevidence against the analysis of KL; after all, a sentence with an indefinite may well exhibit an ambiguity between a referential, or quantificational, and a generic interpretation of the indefinite. The serious problem is that to check whether (C) is satisfied we must keep the two readings separate, to decide what is the relevant "statement". Consider the PS reading first:

(41)b. She cannot be seduced by a musician.

(41a) is evidently intended to be stronger than (41b). So in this case the statement coincides with our example sentence. This is not necessarily the case, though. Consider the FC reading, unambiguously brought out by adding *just (any)* – in this case it is not (41b) but rather (41d) which must count as the comparable statement, comparable to (41c):

(41)c. She can be seduced by any musician.
d. She can be seduced by a musician.

On the FC reading, (41a) is actually a weakened version of (41b), due to the wide scope negation of course. Thus we have to discount a negation to check (C) with respect to the FCI, while we have to count a negation to check (C) with respect to the PSI. This argument shows either that PS and FC *any* are different – a result running counter to the core of KL's analysis

– or that the third ingredient of that analysis, Strengthening (C), designed to explain the restricted distribution of *any*, is not tenable.

2.2.2. *Scalar Implicature as a General Interpretation Scheme*

Lee and Horn (1994) propose an analysis of FC *any* in terms of scalar implicature, and the notion of scalarity has also been used for analyses of polarity sensitive items, like *any* (Krifka 1995a). Scalar implicature is a source of universal quantification (Fauconnier 1979), so if scalarity can prove useful in the analysis of free choice items it will account for the universality associated with them without actually treating them as universal quantifiers; regarding English *any* this is of course desirable. In fact, many cases in the Scandinavian material lend themselves to a scalar interpretation. I will examine the relevant evidence but conclude that the hypothesis that FCIs are inherently scalar seems to be too strong and to encounter too many counterexamples for a general analysis to be based on it.

The hypothesis that FCIs are inherently scalar implies that an *any* DP can be paraphrased by the DP *a N, even the A-est* for an adjective A. The choice of A will depend on the (intrasentential) context, primarily the verb in the sentence, in such a way that the superlative form of A will entail that the sentence frame is (not) true for every possible N.

To illustrate, consider the English sentence (42a), from Fauconnier (1979), the paraphrase with FC *any* (42b), and the canonical paraphrase of this sentence according to Horn and Lee (1994), (42c):

(42)a. The lowest sound will wake John.
b. Any sound will wake John.
c. A sound, even the lowest, will wake John.

We can agree that in this case, the difference in meaning between the FC version and either version with *the A-est* is negligible. However, *a sound*, the indefinite, seems superfluous. Let us concentrate on a paraphrase of *any N* on the form *even the A-est N*.

And to be sure, there are many cases of *(e-) (h)vilke- (. . .) som helst* conforming to this pattern in the Scandinavian corpora. Here are two Swedish examples, paraphrased by English superlatives:

(43)a. De lär kunna slå vilket lag som helst.
they seem can beat which team as rathest

b. They seem to be able to beat even the best team.

(44)a. Jag är beredd att ta vilket straff som helst utom
I am prepared to take which penalty as rathest except
dödsstraff.
death

b. I am prepared to take even the hardest penalty except death.

However, there are plenty of cases where an appropriate adjective is difficult to identify, because the relevant entities are not ranked along a scale, even when contextual information is taken into account. We may choose one and try to force a ranking along the corresponding scale, but a scalar implicature will not be generated or if it is generated it will fail to bring about a universal interpretation. Consider, first, (45):

(45)a. Man kan göra bordsdrycker av i princip vilken frukt som
one can make table drinks of in principle which fruit as
helst.
rathest

b. One can make soft drinks from even the hardest fruit.

The adjective chosen in (45b) is as good a candidate as any, but we can easily imagine alternatives, like *sourest*. Regarding soft drink making, fruits are not ordered according to just one but to several scales, and in consequence, the superlative fails to generate a scalar implicature which covers all the cases; from (45b) we can conclude that we can make soft drinks from a soft fruit but not that we can make soft drinks from an A fruit for any other adjective A.

Now (45) is a case where a scalar paraphrase has some plausibility; the larger context might supply sufficient information to narrow down the variation to one dimension. But in what seems a majority of cases, the choice of an adjective seems completely arbitrary and a paraphrase with a superlative gives a barely interpretable sentence, like (46b):

(46)a. Det går att spela Bach på vilket instrument som helst.
it goes to play Bach on which instrument as rathest

b. ?Bach can be played on even the smallest instrument.

We could try to account for such cases by ranking the entities according to likelihood, a notion that has been used for a general analysis of *even*

(Karttunen and Peters 1979), choosing a superlative like *most unlikely*. This may yield reasonably good paraphrases, but the problem is that the notion of likelihood is so vague as to render the analysis rather vacuous: The paraphrase would be designed to ensure a universal interpretation. It may be added that the superlative is in itself not a primitive notion but a notion in need of analysis, and an ultimate analysis can reasonably be assumed to involve a universal quantification.

2.2.3. *Giannakidou (this issue): Intensionality and Variation*

Giannakidou (this issue) argues strongly that Greek FCIs are indefinites, or existentials. Several of her observations seem to show that these items are subtly different from Scandinavian FCIs. In fact, as will be seen in 2.2.4, several of her arguments for an existential analysis of Greek FCIs can be turned round concerning Scandinavian FCIs. On the other hand, Greek FCIs seem sufficiently similar to Scandinavian or English FCIs to make it useful to consider the theory she proposes to account for them.

In this theory, FCIs differ from ordinary indefinites in two respects: First, they are inherently intensional. The FC DP has the type $\langle s,\langle e,t\rangle\rangle$, denoting a function from worlds to sets of objects; this is to account for the restricted distribution:

> The difference between "regular" existential indefinites and FC indefinites is ... reduced to a type difference. ... the world variable of an intensional indefinite must be bound by an operator that has the ability to bind such a variable .... (section 4.1)

The other essential semantic feature of FCIs is *variation*: To interpret a statement with an FCI *we must consider all relevant i-alternatives*, where a world w is an i-alternative wrt. α iff there is a v such that $[\![\alpha]\!]^w \neq [\![\alpha]\!]^v$. This is to account for the quasi universal readings: "as we move from one i-alternative to the other, and as we consider all alternatives, we exhaust the possible values for the FCI."

The requirement on variation is encoded in a presupposition (Giannakidou's 127a):

> Presupposition: $\forall v, w \in W : [\![\alpha]\!]^w \neq [\![\alpha]\!]^v$ where α is the FC phrase.

To interpret a sentence like (47) we have to consider all relevant worlds that give different values for the FCI.

> Sentences like the one below say something like: "Consider the books that *any book* can be assigned as its value in each relevant i-alternative; you are free to borrow one of those books". (Giannakidou's example 139)

(47) Boris na danistis opjodhipote vivlio.
'You may borrow any book.'

This is modelled in a 3-step interpretation procedure (Giannakidou's example 141):

i. $[\![$You may borrow any book$]\!]^{w0,g,K} = 1$ iff $\exists w' \in K$,
where K is the extended permissive modal base,
$[\![$You borrow a book$]\!]^{w',g} = 1$

ii. $[\![$You borrow a book$]\!]^{w',g} = 1$ iff $\exists d \in D$ such that
$[\![\textbf{book}(x) \wedge \textbf{borrow}(you,x)]\!]^{w',g} = 1$

iii. Values in i-alternatives
   a. i-alt$_1$: g(x) = War and Peace
   $[\![\textbf{book}(x)$ & $\textbf{borrow}(you,x)]\!]^{w1,g} = 0$
   b. i-alt$_2$: g(x) = the Iliad
   $[\![\textbf{book}(x)$ & $\textbf{borrow}(you,x)]\!]^{w2,g} = 0$
   c. i-alt$_3$: g(x) = Oedipus Rex
   $[\![\textbf{book}(x)$ & $\textbf{borrow}(you,x)]\!]^{w3,g} = 1$

" . . . we see in the calculation of i-alternatives that the value of the FCI varies from world to world . . . the condition is to consider all alternatives."

This theory raises a number of questions. For one thing, it is unclear how a sentence like (47) and the corresponding sentence with a regular indefinite differ in their truth conditions. The regular indefinite will not have the type $\langle s,\langle e,t\rangle\rangle$ but probably the type $\langle e,t\rangle$. But this will hardly make a difference in the scope of *may*. True, the regular indefinite will not presuppose that all the worlds give different values for α. However, this presupposition just makes the worlds under consideration a subset of the worlds otherwise under consideration. And as long as the modal is not a universal but an existential quantifier, we actually consider only one world anyhow. The third step in the interpretation scheme seems to implement a general requirement to actually consider all worlds under consideration. But this requirement is in a case like (47) external to the assertion, and it is not clear how that third step affects truth conditions. Anyway, to the extent that this approach represents a coherent analysis, it seems to turn on the notion of considering each relevant world. While maintaining that FCIs do not have a universal force, Giannakidou thus seems to rely on an implicit notion of universality in the analysis. This may be a good strategy, but

it runs a risk of obscuring truth conditions. Below, I shall try to simplify matters by explicating the universality.

2.2.4. *Positive Evidence for FCIs as Wide Scope Quantifiers*
Let me first clarify a few notions: In claiming that FCIs are quantifiers with *universal* force, I am not claiming that they are *ordinary* universals. But this often seems to be assumed in arguments against an analysis in terms of universality. Thus Giannakidou (this issue) takes the fact that an FCI and a regular universal are often not interchangeable as evidence that FCIs are not universals, ignoring the possibility that they might be universals with special traits, even if these do not show in the semantic representation of a sentence. And when Horn (1999) says that FC *any* is neither a universal nor an existential but an *indiscriminative* determiner, it is possible to read the facts that motivate this term as the peculiarities of *any* as compared to *every*, so that a universal quantifier can figure as a part of the formal analysis. Indeed, on the account given in Section 3, Scandinavian FCIs are universal quantifiers *plus something more*.

Furthermore, I am not making a claim concerning all items that have been labelled FCIs in a language. In particular, reports about *cualquier* in Spanish (Quer, 1999) or *opjodhipote* in Greek (Giannakidou, 1997) show that these items, although they are termed FCIs, do not share in all the facts that this subsection is about (cf. specifically (56), (57) below).

Probably the strongest indication that FCIs like *any* or *wh- som helst* are a kind of universal quantifier is provided by inferences like (48a).

(48)a. She may sing any hymn.
Abide with me is a hymn.
———————————-
She may sing *Abide with me*.

In this way, FC *any* patterns with *every* and FCIs pattern with (standard) universals. There are, as far as I can see, two ways to try to account for inferences like (48a) while maintaining that FC phrases are indefinites. Either way, a universal quantification must be located elsewhere in the first premiss, with the referent introduced by the FCI in the restrictor. One way is to posit a covert generic operator. It is in principle possible to read a sentence like (48b), with *a hymn*, in this way; the way, say, the sentence *the police may arrest a suspect* would naturally be interpreted: ‘Generically, if *x* is a hymn (in a relevant situation), she may sing *x*’.

(48)b. She may sing a hymn.

However, this reading seems far-fetched for (48b), and it does not seem reasonable that the first premiss in (48a) involves an analogous reading. To the extent that it permits such a reading, the inference does not seem to rely on it; (48a) seems valid on an interpretation without genericity.

The other way to attribute the inference to a quantificational element different from the FCI is to interpret the modal as, in von Wright's term (1971), a 'strong' *may*, expressing that the argument proposition is a sufficient condition for some end; (48b) would then have a paraphrase like 'If she sings a hymn, she will not be sanctioned'. The *any* referent in (48a) will thus be in the antecedent of a conditional and effectively subject to a universal quantification. This analysis of permission uses of possibility modals may not be unreasonable and may account for the way we may be tempted to accept inferences like (48a) with (48b) as the first premiss (cf. the discussion of (39a–d) above). However, von Wright introduced the 'strong' *may* as an alternative alongside the 'weak' *may* expressing only that the negation of the argument proposition is not a necessary condition for some end; and the inference in (48a) seems independent of a choice between the two senses of the possibility modal. Moreover, the 'strong' interpretation may be plausible for permission uses, but it seems very difficult to transfer it to epistemic uses, as in (1). Inferences patterned on (48a), however, are intuitively just as valid.

(1) Any person in this room may be the murderer.

I conclude that the inference scheme instantiated in (48a) does provide strong evidence that FCIs like *any* have a universal force of their own.

To say that FC *any* patterns with *every* and FCIs pattern with standard universals is not to say that FCIs can be replaced by standard universals without a distinct change in meaning. This point should be emphasized. One difference (the other being the phenomenon addressed in 2.3 that the restrictor of an FC determiner may well be intensional) is the scopal asymmetry: While *every* can have wide or narrow scope with respect to a modal, FC *any* etc. must have wide scope. (49) is a valid inference on one reading of the first premiss, but (50) cannot be a valid inference.

(49) She may sing every hymn.
There are exactly 800 hymns.
———————————
may (she sings 800 hymns)

(50) She may sing any hymn.
There are exactly 800 hymns.
———————————
may (she sings 800 hymns)

In many cases where the substitution of *every* for *any* causes a change, the more available reading of the *every* sentence has a narrow scope for the universal vis-à-vis the modal. This is particularly marked when the modal is a permissive imperative; *every* seems unable to scope over it, so the two sentences will not share a reading. However, if we take care that the reading where the modal has narrow scope is the only natural reading, and that the restrictor is extensional (cf. 2.3), there seems to be no notable difference in meaning between *any* and *every*:

(51)a. Hvem som helst i dette feltet kan vinne rennet.
'Anybody in this field may win the race.'
b. Alle i dette feltet kan vinne rennet.
'Everybody in this field may win the race.'

Vendler noted that (52b) has two readings: One claiming that no matter whom you select from among you I can beat him, and another claiming that I am able to make the proposition that I beat every one of you true; (52a), however, can only mean the former (1967: 78ff.).

(52)a. I can beat any one of you.
b. I can beat every one of you.

It has been repeatedly pointed out since Vendler (e.g., by Horn (1972)) that FC *any* – or *any* in general – seems to scope over (other) operators. For instance, in the Game Theoretical semantics of Hintikka (e.g., 1977), a central ordering principle says that the rule for *any* has a priority over the rules for *not*, modals, and *if*. While it may not be correct to *stipulate* that FCIs are wide scope universals, the descriptive generalization seems to hold that as compared with standard universal quantifiers, which may have wide or narrow scope in relation to modal operators, FCIs can only have wide scope.

Another argument that FCIs are quantifiers comes from considering embedded clauses to see whether they form scope islands, and they do. In simple sentences with a conditional structure, an FCI can usually be substituted for an indefinite without a great change in meaning, but the substitution fails if the structure is explicated in a complex sentence, as in

(53a). While the indefinite gets a bound interpretation, the FCI does not; it seems unable to escape from the *if* clause.

(53)a. Om du vil ha en vare, må du betale for den. (N)
if you will have a ware must you pay for it
'If you want a commodity, you must pay for it.'

b. # Om du vil ha en hvilken som helst vare, må du betale for den.
if you will have a which as rathest ware must you pay for it

Consider also the following contrast, where an FCI phrase expressing a proposition alternates with a finite clause:

(54)a. Vi blir glade for en hvilken som helst støtte. (N)
we become glad for a which as rathest support
'We welcome any show of support.'

b. # Vi blir glade hvis vi får en hvilken som helst støtte.
we become glad if we get a which as rathest support
'We are happy if we get just any show of support.'

To the extent that an FCI does occur in a *that* or *if* clause, it normally scopes within it. If one wants to quantify universally into a *that* or an *if* clause, an FCP is often added as an epithet, as in (55) (Jennings (1994: 191) calls this the supplementary use of *any*).

(55) Eddie knew that Hannah would never have called him and asked him for a ride if she'd had a boyfriend – *any* boyfriend.

All in all, this implies that FCIs are sensitive to quantificational scope islands. It also means that the conditional or generic structures that form a subset of the FCI contexts are only implicitly generic or conditional: Simple sentences where the restrictor of a (perhaps covert) operator is expressed in a DP or PP and where the semantic structure comes about through the mechanism known as Semantic Partition.

We should note, however, that the conditional clause scope islands do not seem quite as strict as with usual universals; cases with essentially the same semantic structure as (54b) do occur in a corpus.

But the situation seems to be strikingly different in a language like Greek or Spanish concerning items that are called FCIs. Giannakidou (this issue) cites the Greek (56a) and, from Quer (1999), the Spanish (57a); she takes the ability of the FCI to corefer with the pronoun in the matrix clause to show that the FCI is not a universal quantifier. For Scandinavian, the argument can be turned around, as here, for parallel sentences to be felicitous, the FCI must have a 'local' interpretation with a semantic partition of the embedded clause, cf. the translation of (56b).

(56)a. An kimithis me opjondhipote, tha se skotoso.
if sleep.2sg with anyone fut you kill.1sg
'If you sleep with anyone, I'll kill you.'

b. Hvis du ligger med hvem som helst, så dreper jeg deg. (N)
if you lie with who as rathest so kill I you
'If you're in the habit of sleeping with anybody you meet, I'll kill you.'

(57)a. Si llama cualquier cliente, le diré que no estás.
if call.3sg any client him tell.fut.1sg that not be.2sg
'If any client calls, I'll tell him that you are not here.'

b. # Hvis en hvilken som helst klient ringer, så si henne at
if a which as rathest client calls, so say her that
. . . (N)

Still another argument that Scandinavian FCIs are quantifiers comes from the fact that, contra what Giannakidou concludes for Greek FCIs, they can take inverse scope over (other) quantifiers. Consider (58):

(58) To personer kan bruke et hvilket som helst program.
'Two persons can use any program.'

(58) has two readings, depending on the relative scope of the FC phrase and the modal on the one hand and the (other) quantifier on the other. This fact is at least consistent with the hypothesis that FCIs can undergo Quantifier Raising (or be subject to some other scoping mechanism).

Yet another indication that FCIs can have a quantificational force on their own is the fact that, contra what Giannakidou (this issue) claims for

Greek FCIs, they do not seem to show the variability in connection with varying quantificational adverbs that indefinites show. Consider:

(59)a. I always obey an order.
b. I usually obey an order.

(60)a. I always obey any order.
b. I usually obey any order.

The quantification over orders is supposed to be weaker in the context of *usually* than in the context of *always*, but for (60) this does not seem to be the case. (59a) and (b) seem to say that I obey all or most orders, while (60a) and (b) seem to say that on all or most relevant occasions, no matter what order I get I obey it. A related point was made by Dayal (1998: 437f., 449) in connection with (61b).[6]

(61)a. A lion is usually majestic.
b. Any lion is usually majestic.

(61a) allows an individual-level interpretation of *majestic*, while (61b) only allows a stage-level interpretation. The reason may be that *a lion* has a bound interpretation where *usually* quantifies over lions, whereas *any lion* is itself quantificational, quantifying over possible lions, so that there are only occasions left for *usually* to quantify over.

Circumstantial evidence that FCIs like *any* are universal quantifiers of some kind is provided by the fact that in translations into German, many cases are rendered by an ordinary universal quantifier, cf. (62):

(62)a. Ted would have hated *any* job.
b. Ted hätte *jeden* Job gehasst.

In a parallel corpus, such cases are by no means difficult to find; in fact, specifying that *any* be translated by *all-* or *jed-* is an efficient method for retrieving FC occurrences of *any* while not excluding too much.

More evidence of the same kind comes from Norwegian, where items from the *wh som helst* paradigm are not the only FCIs: As mentioned in Section 1, FC *any* can often be translated, and *which som helst* can often be replaced, by *enhver*, ostensibly a universal determiner.[7] This item will play

[6] Dayal actually regards (61b) as infelicitous because she considers *majestic* to be an unambiguously individual-level predicate. I assume that *majestic* can be stage-level.

[7] Morphologically, *enhver* (*ethvert*) is a composite of the indefinite article *en* (*et*) and the universal determiner *hver* (*hvert*) ('every' or 'each'); it will be glossed *an-every*.

a prominent role in the next subsection, because those cases where *enhver* and *which som helst* are interchangeable provide evidence of a distinct sort of universal quantification, where we quantify not just over entities that actually possess the property that the noun phrase expresses but essentially over entities that potentially possess that property.

From the above evidence, I conclude that Scandinavian FCIs should be ascribed a universal quantificational force. This conclusion is not lightly drawn. Prima facie, it would be desirable to not have to ascribe FCIs a quantificational force distinct from that of the modal with which they have to co-occur anyway. But the facts, most importantly the logical properties of sentences where FCIs co-occur with possibility modals, do not seem to leave us a choice.

2.3. *Quantification over Possible Entities*

An FCI may seem to quantify over possibilities; cf. the contrast in (63), where *every* quantifies over actual (future) wives (of John's) while *any* seems to quantify over individuals that may become John's wife.

(63)a. ?John will be happy with every wife.
b. John will be happy with any wife.

This difference was noted by Vendler in connection with (64) and (65).

(64) Anybody trespassing on the premises will be prosecuted.

(65) Any nation that conquers the moon can control the earth.

Vendler noted that (64) "will not be rendered false even if no one ever enters the premises", and that "even though we know that no nation has yet conquered the moon" we may accept (65) (1967: 87). "The blank warranty . . . for conditional . . . statements may contain such specifications in the antecedent that nothing actually does or . . . can qualify for it". This property he calls a "lack of existential import" in *any*. On the strength of (65) one may arrive at the conclusion (66):

(66) If Russia were to conquer the moon she could control the earth.

We will see in 3.4 how the analysis of *any* can license such inferences.

It seems to be generally possible for FC determiners to quantify over entities that **may** have the property expressed in the NP. In Norwegian, this feature (though not uncommon for *which som helst*) is particularly

characteristic of *enhver*. Often, we can observe that the apparent domain of quantification may be empty and is unlikely to have more than one element; yet we seem to be making a genuinely universal statement. In (67) and (68), this FCD combines with an event NP, and in both cases, there will in the actual world be at most one event of the relevant type:

(67) Ethvert angrep på Syria vil bli betraktet som et angrep på
an-every attack on Syria will be regarded as an attack on
Libya.
Libya
'Any attack on Syria will be considered an attack on Libya.'

(68) Kommunestyret motsetter seg enhver utbygging av
county council opposes self an-every development of
vassdraget.
river-the
'The county council opposes any development of the river.'

These cases present a challenge to any theory about quantification. Standard universal quantification is in a sense vacuous if the domain is regularly a singleton or the empty set. In fact, standard quantifiers are generally held to carry the presupposition that the domain is nonempty; and if the domain is construed as a singleton set, then we should expect the definite article instead of a universal determiner:

(69) Enhver (ny) regjering (i Russland) vil tape i popularitet.
an-every new government in Russia will lose in popularity
'Any new Government in Russia will lose popular support.'

The domain contains one element: There will be exactly one new Russian government, but what government that will be is an open question.

In fact, if these cases are seen in connection with the assumption that an FCI quantifies into a proposition denoting expression, here, the FCP itself seems to be such an expression; in (69) we seem to quantify into both the DP and the VP, expressing the antecedent and the consequent of a conditional: For every x, if x is the government, x will lose support. The apparent restrictor evidently expresses an argument for the modal in the scope of the quantifier. Consequently, the FCP is not a quantifier; the FCD is, the noun phrase belonging to the nuclear scope.

It is important to note that Free Choice determiners do not invariably quantify over possibilities in this way; many of the examples in 2.1 and 2.2 are not of this kind. But when the DP does denote a proposition, then mostly (but note (68)), the sentence is interpreted as a conditional where the NP forms the antecedent. The modal carrying the conditional relation and acting as the conditional operator can be one of a variety: *will, would, can, may, must*, etc.; or it may be covert.

This seems to be a consistent property of *wh-ever* clauses in English. These emerge as FCPs which can be adjuncts or arguments and whose nuclei, corresponding to NPs, are interpreted as conditional antecedents (cf. Horn 1999 for a recent discussion of these items).

(70)a. Peter wants only a toy train.
Mary will give Peter a toy train.
———————————
Mary will give Peter what he wants.

b. Peter wants only a toy train.
Mary will give Peter a toy train.
———————————
Mary will give Peter whatever he wants.

Jacobson (1995) develops an analysis of Free Relatives, intended to also cover the *wh-ever* variant, in terms of definiteness and maximal entities. No link is made to intensionality; yet it is difficult to see how undesired inferences like (70b) can be barred without assuming that *whatever* induces a conditionality.

2.4. *Conclusions*

I have tried to establish the following:

- Scandinavian FCIs have a universal quantificational force;
- the universal quantifier quantifies into a modal context;
- the apparent restrictor may be in the modal context.

So far, these conclusions are only descriptive generalizations. As such, they are challenging to a theoretical account. Below, I try to show how they can be anchored to particular components of the FCI's semantics.

3. THEORY

I aim in this section to show that the facts identified in the last section can be accounted for by assuming that the FC determiner or phrase is a universal quantifier intensionalizing the context into which it quantifies. This can be modelled in several ways. The method that will be used is to posit, as part of a lexically composite FCI, a type ⟨⟨s,t⟩Z, ⟨s,t⟩⟩ functor, adjoining to the closest type t or ⟨s,t⟩ node including the FC phrase.

Let me informally motivate the analysis to be developed in the light of the semantics of **questions**. *Wh* words are at the lexical root of FCIs in many languages (and English as far as Free Relatives are concerned). This does not seem accidental; indeed, as shown in Sæbø (1999: 26ff.), very many FCI cases have a natural paraphrase with an indirect question and some word expressing sameness, corresponding to expressions like *regardless*, *irrespectively*, *(no) matter*, etc., as in (71b).

(71)a. Han går med en sender så han kan spores hvor som
he walks with a transmitter so he can trace-S where as
helst.
rathest

b. Han går med en sender så han kan spores samme hvor
he walks with a transmitter so he can trace-S same where
han er.
he is
'He carries a transmitter so he can be traced wherever he is.'

This expression of sameness seems to convey a universal quantification over a set of propositions, the set denoted by the question on the theory of Karttunen (1977) and Heim (1999). The interpretation of (71b) can be explicated thus: 'For each *p* such that there is a location *l* such that *p* is the proposition that he is in *l*, it is the case that if *p*, he can be traced'. As for the FCI in (71a), the *wh* component might be taken to form a set of propositions and the *som helst* component might be taken to convey a universal quantification over that set.

In Sæbø (1999), I discussed various ways of deriving the semantics of the *wh som helst* FCI from a literal interpretation of the lexical items, and the analogue to questions seemed the most promising. Even here, though, the conclusion must be that the items are too grammaticalized for a word by word analysis. Specifically, to describe variable binding in conditional

structures it is necessary to reduce the quantification over propositions to a universal quantification over entities 'in' propositions. On the analysis developed in 3.3, the *wh* component is taken to denote a universal determiner or quantifier and the *som helst* component is taken to denote the identity function on propositions, ensuring that the former quantifies into a proposition.

First, since the facts established in the last section are not necessarily inconsistent with the theory of Dayal (1998), it is useful to consider that theory. After identifying its problems, mainly stemming from ascribing an **inherent** modality to FC *any*, I develop an analysis that can explain the **interaction** between modality and Free Choice items.

3.1. *Dayal (1998): Quantifying over Objects and Situations*

Dayal (1998) assumes that FC *any* is basically a universal determiner – an inherently modal universal determiner, quantifying not over objects but over pairs of objects and situations.

Her central pieces of evidence are sentence pairs like the following:

(72)a. #Yesterday John talked to any woman.
b. Yesterday John talked to any woman he saw.

Dayal observes that if *any* is replaced by the indefinite article in these sentences, an existential reading results, very different from the original. Substituting a universal determiner like *every*, on the other hand, we obtain sentences with a comparable semantics, but different in one regard: While (72d) is compatible with an 'accidental' reading of the modifier, (72b) requires an 'essential' reading, which is to say that the sentence expresses a connection between restrictor and scope of the determiner over and above mere set inclusion, which may be accidental.

(72)c. Yesterday John talked to a woman he saw.
d. Yesterday John talked to every woman he saw.

The distinction is illustrated by invalid inferences like (73):

(73) Anybody in Mary's class is writing a term paper on *any*.
Everybody in John's class is in Mary's class.
———————————————————————————
Anybody in John's class is writing a term paper on *any*.

Dayal correlates the distinction between the essential and the accidental interpretation with Donnellan's (1966) distinction between attributive and

referential uses of definite descriptions. This distinction is also used by Giannakidou (1997) to characterize FCIs as 'attributive indefinites'. The facts that Dayal thus accentuates are those discussed in 2.3 above.

The analysis that Dayal proposes to account for these facts has one core element: She analyzes *any* as a quantifier, not over, as standardly assumed for *every*, objects (or events), but over objects and situations; that is, *any* expresses universal quantification over pairs of objects and situations. The situations are thought of as partial possible worlds:

> The idea that I would like to present here is that *any* phrases are universal quantifiers whose domain of quantification is the set of possible individuals of the relevant kind, rather than a set of particular individuals. [...]
>
> I'm assuming here something like David Lewis' theory of possible worlds and transworld identity, extended to accommodate the possibility of evaluating truth in situations as well as whole worlds, as in Kratzer (1989)... (Dayal 1998: 447)

Dayal does not provide a logical translation of the FC determiner *any*, but it is evident from the logical representations of complete sentences that she does offer that the FCP *any woman* can be represented as (74a) (C is a contextual parameter restricting the situations s to typical ones):

(74)a. $\lambda Q \forall s, x[woman(s, x) \wedge \mathrm{C}(s)]Q(s, x)$

Thus a noun like *woman* can denote a set of situation-and-object pairs. If the situations are small worlds or world-time pairs, generally semantic indices, this comes close to saying that the noun can denote a property; a function from indices to sets of objects. A representation of a sentence with the determiner *every* is not offered, but since the s variable is what makes *any* inherently modal, we must assume that *every* quantifies over just objects and that *every woman* has a representation like (74b) or (c), where in (c), s is a free variable standing for the 'actual situation':

(74)b. $\lambda Q \forall x[woman(x)]Q(x)$

c. $\lambda Q \forall x[woman(s, x)]Q(s, x)$

Dayal's is rather a strong theory. FC *any* differs from *every* in denoting a relation not between sets but between sets in intension. In fact, *any* is treated as creating an intensional context, rather like 'necessarily all'; or as *every* with a variably strict instead of a material implication.

It is interesting to see what this theory predicts about the contrasts in (72). The role played by the NP modifier in (72b) is to make it possible for the sentence to be true; without it, the sentence, (72a), is "doomed to be false" because it claims that every possible woman ever was talked to

by John in a specific time span. (72b) is felicitous because the modifier relativizes every possible woman ever to the women John may have seen yesterday. The representations of (72a) and (b) are (72e) and (f):

(72)e. $\forall s, x[woman(x, s) \wedge \mathrm{C}(s)]$
$\exists s'[s < s' \wedge yesterday(s') \wedge talk(j, x, s')]$

f. $\forall s, x[woman(x, s) \wedge \mathrm{C}(s) \wedge \exists s''[s < s'' \wedge P(s'') \wedge see(j, x, s'')]]$
$\exists s'[s < s' \wedge yesterday(s') \wedge talk(j, x, s')]$

(72e) "says that all possible woman situations extend into a situation located at a particular interval, namely yesterday. [...] There is something infelicitous in making a statement that is doomed to be false". In (72f), on the other hand, quantification is restricted "to those possible woman-situations that extend into situations which fall within a given interval. That is, the assertion is about possible situations which are temporally bounded. And, of course, this restricted set may or may not extend into situations of John talking to women" (p. 453f.).

Now there are some cases where the above argument fails to explain an infelicity, such as (75).

(75) #John picked any of the flowers.

This statement is not "doomed to be false" because the partitive fixes the domain of quantification to a contextually given set – given flowers at a given time and location. The situation parameter is held constant. For cases like these Dayal provides a theory – external licensing principle, a principle of *Contextual Vagueness* (459). (75) violates this condition because the set of flowers picked by John is contextually salient (460). It is debatable whether this principle offers precise predictions. At any rate, it is intrinsically non-compositional and not very explanatory.

But possibly the most problematic feature of Dayal's theory of *any* is the assumption that this word introduces a quantification over worlds. This is a property of modal operators. The question what happens when *any* meets modal operators is not seriously addressed in Dayal's paper. In the last section we saw that FCIs often occur in elliptic conditionals. In particular, we saw in 2.3 that often, the NP expresses an antecedent. Dayal's analysis, motivated by cases where *any* quantifies over possible entities and essential connections are conveyed, would seem to account for this aspect. In fact, it amounts to replacing the material implication in PL universal quantification by a stronger, a true conditional relation. But in reality, the conditional relation is always carried by some modal (which may be covert). In general, it is desirable that the analysis of FC *any*

be compatible with a standard semantics for conditional operators. This, however, is doubtful: It seems that the quantification over worlds ascribed to *any* will superimpose on the truth conditions for modals.

(76)a. Another club would build a team around this player.
b. Any other club would build a team around this player.

According to a standard analysis for counterfactuals, e.g., Lewis (1973) or Kratzer (1981), (76a) says that in every possible world satisfying a set of restrictions (such as closeness to the actual world or membership in many ordering source propositions) where this player is in another club, that club builds a team around him. Now this restricted universal quantification over worlds has to carry over to (76b), meaning that for every object and every (partial) world where the object is another club, in every world satisfying etc. – and it seems unrealistic to try to make sense of this duplication of possible world (or situation) quantification. In sum, it seems wrong to ascribe an *inherent* modality to *any*.

3.2. *Intended Semantic Representations and Truth Conditions*

The last subsection concluded that it seems wrong to ascribe an inherent modality to FC *any* in the sense of a quantification over possible worlds; this does not mean, however, that modality is irrelevant to the semantics of FCIs or that FCIs should be described without reference to modality. Section 2 concluded that FC determiners are universal quantifiers which have to quantify into modal contexts. In the remainder of this section, an analysis of FCIs, in Scandinavian and English, will be developed that can account for the felt interaction between modality and FCIs.

As a first step, it will be useful to try to specify the truth conditions and semantic representations for some select sentences containing FCIs. The examples considered are, for simplicity, examples of English *any*, but they can be understood as translations of Scandinavian sentences.

Probably the simplest case is where an FC item interacts with a unary modal like *can* or *may* and functions as a standard universal quantifier, except that it only has a wide scope reading, as in (77a).

(77)a. You may sing any song (in the songbook).
b. You may sing every song (in the songbook).

I shall assume that (77a) and (77b) share the interpretation where the universal quantifier has scope over the possibility modal, and that this reading can reasonably be represented as (77c). The reasoning behind this

assumption is found in 2.2.4. (77b) has an additional interpretation where the scope is reversed, represented as (77d).

(77)c. ***every*** (*song*) (λ*x* (***may*** (*you sing x*)))
d. ***may*** (***every*** (*song*) (λ*x* (*you sing x*)))

The semantics of the determiner and the generalized quantifier, as well as the semantics of the modal, is, I assume, in both cases standard. Thus for ***every*** (*song in the songbook*) I assume an interpretation as described by Barwise and Cooper (1981), and for ***may*** I assume an interpretation as described by Kratzer (1981). Below, I shall write ∀ for ***every***.

In the semantic representations, I factor out tense, assuming, for simplicity, that a representation like *you sing x* has the type t.

As the next case, consider a sentence where the FCI functions, again, as a standard universal quantifier but where it interacts with, not a unary, but a binary modal, as in (78a).

(78)a. (At the moment,) Ruth would have read *any* book
(to escape her own imagination).

The sentence is simple, so the counterfactual structure comes about by Semantic Partition, and the antecedent is contextually constructed; the resulting interpretation can, I assume, be represented as (78b), where the ***would*** operator takes two arguments, the antecedent and the consequent:

(78)b. ∀(*book*)λ*x*(***would***((*available*(*x*)), (*read*(*Ruth*, *x*))))

Because the binary modal is here overt and unambiguous the difference between *any* and *every* is again only scopal; but the sentence could be ambiguous between a modal and a nonmodal reading, and then there will be an additional contrast in that *any* will select the modal reading. Also, (78a) can have an interpretation, less readily available with *every*, where we do not quantify over actual but over possible books. That is, a reading like the one assumed for (79a) below may be as reasonable for (78a) as the one indicated in (78b), making a representation parallel to (79b) just as adequate. Below, I will continue to assume (78b).

As a third case, consider a sentence where the FCI quantifies over, as it were, possible entities; where, as I interpret it, the apparent restrictor is in the modal context. In (79a), the FC noun phrase forms one of two arguments of an implicit conditional operator:

(79)a. John will love any wife.
b. ∀(*entity*)λ*x*(***will***(*wife*^{J} (*x*), *love*(*John*, *x*)))

The representations are still incomplete in one important respect. The arguments of the modals are not, as it would appear from the formulae as they stand, type t, but type ⟨s, t⟩ expressions, denoting propositions; the value of the complex expression does not only depend on the value of the argument expressions in the actual world but in possible worlds, on the assignment of values to worlds, that is, on the set of worlds with which the proposition can be identified.

To take care of this aspect of the interpretations, the representations could be extended by an intensionalizer, $^\wedge$, forming from an expression α an expression denoting the intension, $^\wedge\alpha$, or alternatively, by variables over worlds. For perspicuity, I shall adopt this second method, assuming as an interlingua a version of 'two-sorted type theory' as employed by e.g., Zimmermann (1993). So the complete representations are:

(77)e. $\forall(song_v)\lambda x(\textbf{\textit{may}}_v(\lambda w(you\ sing_w\ x)))$

(78)c. $\forall(book_v)\lambda x(\textbf{\textit{would}}_v(\lambda w(available_w(x)), \lambda w(read_w(Ruth, x))))$

(79)c. $\forall(entity)\lambda x(\textbf{\textit{will}}_v(\lambda w(wife^J_w(x)), \lambda w(love_w(John, x))))$

The expression λw $(you\ sing_w x)$ denotes the set of worlds w such that you sing x in w. The designated variable v stands for the actual world. The predicate *entity* is to denote the total domain of objects (or events). If we do not want to assume that the domain is constant across worlds, this predicate must have a world subscript. Choosing v will restrict the quantification to actually existing entities. That may be too restrictive; probably, *entity* should be spelt out as $\cup_{w\in W} entity_w$ – the set of possible entities. Below, I will continue to write *entity* as short for this.

As yet, these representations are *faits accomplis*; nothing has been said about how they come about. There are, in particular, two questions: First, as the sentences are simple but some representations are complex, something must be said about semantic partition at the syntax interface. Second, it must be determined how the world abstraction comes about. My thesis will be that it is introduced differently in *any* and *every* cases, more generally, the way it is introduced in cases with an FCI is different from the way it is introduced in cases without an FCI but with a modal. In the latter class of cases, the type shift from t to ⟨s,t⟩ can be taken to be effected through a composition rule invoked by the modal (cf. 3.3), but with an FCI, I will assume that it is this that invokes the relevant rule.

A sentence which is infelicitous on account of an FCI can typically, as the case is with (5), only be assigned a representation up to a point:

In the absence of a modal, of type ⟨⟨s,t⟩,a⟩ for some a, a proposition type expression will eventually need to combine with an ⟨⟨e,t⟩,t⟩ type (or in fact, with a variable designed to form an abstract from a sentence; cf. **Predicate Abstraction** in 3.3) or other extensional type expression; these two parts, however, fail to form a meaningful whole. Thus the infelicity is attributed to a type conflict. This will be the general picture, which I will spell out in some more detail in the next subsection.

3.3. *Semantic Composition and the FC Quantifier*

In what follows I present an analysis which ensures that FCIs quantify into intensional contexts, across some modal, type ⟨⟨s,t⟩,a⟩ expression. This requirement will not be modelled as a dependency between the FCI and a modal, but indirectly, as a consequence of the type of the context of the FCI trace, the type ⟨s,t⟩, which needs a type ⟨⟨s,t⟩,a⟩ expression. In this way, it is not the FCI as such that depends on a modal expression, it is the environment of its trace. More specifically, this will be modelled in terms of a functor representing the *som helst* part of the FC phrase, adjoining at the lowermost type t node and denoting the identity function on propositions.

I assume a framework of semantic composition where representations in an interlingua like 'two-sorted type theory', corresponding closely to denotations, are derived stepwise from representations of terminal node material in binary branching LF structures, with Quantifier Raising as a standard mechanism, in a type-driven fashion (Klein and Sag 1985); by some composition principles which apply freely, i.e. wherever they can. One of these composition principles is ordinary functional application. Most functions have extensional arguments; in particular, (generalized) quantifiers have the type ⟨⟨e,t⟩,t⟩. Intensions are introduced along the way, when there is a need for them. With Heim and Kratzer (1997: 308), I assume an exceptional principle of intensional functional application, saying that the composition of an expression of type ⟨⟨s,a⟩,c⟩ with an expression of type ⟨a⟩ can be interpreted in the same way as that with the corresponding expression of type ⟨s,a⟩.[8]

[8] Heim and Kratzer (1997: 308) formulate their Intensional Functional Application (IFA) principle at the semantic (metalanguage) level. My formulation is an adaptation to an interlingua. The essential contrast with e.g. Montague's PTQ is that intensional functional application is not the standard but an alternative course. Note that a system with IFA alongside FA is just as compositional as a system with just IFA; it does carry the price of an extra composition principle, but on the other hand, there is no need to invoke transparency postulates (criticized by Zimmermann (1999a)).

Functional Application (FA)

FA $\quad f_{<a,b>} + \gamma_{<a>} = f(\gamma)$

Intensional Functional Application (IFA)

IFA $\quad f_{<<s,a>,b>} + \gamma_{<a>} = f(\lambda w\, \gamma[^{w}/_{v}])$

(Of course, a = ⟨s,t⟩ is a special case of FA. Recall that v is the index for the real world, borne by constants and to be replaced by the bound w.) Thus an expression denoting a function from functions from worlds to, for instance, truth values can, as it were, coerce an expression denoting a truth value into denoting such a function; more accurately, the semantic composition of two expressions can consist in applying one's extension to the other's intension – if necessary, i.e. in case the other's extension is not already the right type. For the case where ⟨s, t⟩ is the right type,

IFA specifies that $f_{\langle\langle s,t\rangle,b\rangle} + \gamma_{\langle t\rangle} = f(\lambda w \gamma[w/v])$, and
FA specifies that $f_{\langle\langle s,t\rangle,b\rangle} + \gamma_{\langle s,t\rangle} = f(\gamma)$.

When a modal, of type ⟨⟨s,t⟩,a⟩ for some a, denoting a function f, combines with a sentence of type t, the combination will, by IFA, denote the value of f at the proposition expressed by the sentence. But if, for some reason, it combines with a type ⟨s,t⟩ expression, denoting a proposition, the combination will, by FA, denote the value of f at that proposition.

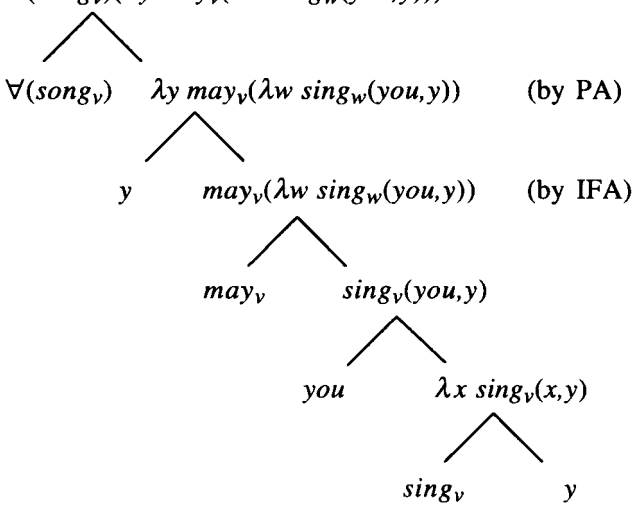
I will assume that one reason that this may be the case could be that IFA has already applied because an FCI component has adjoined to a type t expression and, invoking IFA, transformed it to a proposition. One of two FCI components has as its function to enforce a type shift from a type t to the corresponding ⟨s, t⟩ expression.

I assume a close relation between 'transparent' LFs, translations, and denotations, representing examples in 'translation trees' (TTs), where the semantics can be read off the nodes from bottom to top. These trees are simplified; I abstract away from tense and take a representation like [*you* [*sing x*]] to denote, not a set of events, but a truth value; that is, the translations of simple sentences are implicitly translations of TPs.

Consider first a case like (80a), with a standard universal quantifier, *every song*, and a possibility modal, *may*; and a simple TT like (80b), where we focus only on essentials:

(80)a. You may sing every song (in the songbook).

b. $\forall(song_v)(\lambda y\ may_v(\lambda w\ sing_w(you,y)))$



I assume, following Heim and Kratzer (1997), that Quantifier Raising is accompanied by an index corresponding to the trace adjoining just below the raised quantifier. In a simplification and adaptation of their Predicate Abstraction Rule (1997: 186), I assume a translation of this index as the trace variable and a composition principle like:

Predicate Abstraction (PA)

$$u_{<e>} + \phi_{<t>} = \lambda u\ \phi$$

Now considering (80c), where *any song* is substituted for *every song*, I assume that the intensionalization is not induced by the modal but by the FCI. Specifically, I assume that Free Choice quantifiers are complex, consisting of a universal quantifier and an element denoting the identity function on propositions, adjoining to the closest type t (or ⟨s, t⟩) node. This identity functor "presupposes" that its sister node is of type ⟨s, t⟩. If it is of type t, the general principle IFA will lift it to type ⟨s, t⟩. If it is already of type ⟨s, t⟩, nothing happens. Thus the adjoined functor does not really do anything, it does not itself execute an intensionalization. (This is the reason that it can be iterated, cf. 3.5.)

Let me give the (preliminary) definition of the FC quantifier.

The FC Quantifier (preliminary)

Assume the following configuration:

$[_{DP_2}\ [_{DP_1}\ wh\text{-}D\ Q_{NP}]\ [som\ helst]_{FC}]$

DP_1 undergoes QR to adjoin to an XP, leaving a trace t_i and causing the adjunction of the index i to XP right below itself.

FC adjoins to the closest type t or <s,t> node including DP_2.

- DP_1 is translated as $\forall(Q_v)$, and t_i and i are translated as x_i.
- FC is translated as $\lambda\phi_{<s,t>}\,\phi$.

The configuration is based on Scandinavian, where the FCI is complex; *any* must be decomposed or considered to project a covert FC functor. In fact, it is based on Swedish, where it is reflected overtly (cf. 2.1.1); the Norwegian surface configuration, where the *wh* and the *som helst* components form a constituent, must be reconstructed to conform to it. It is patterned on the case where the *wh* item is a determiner, as this is the general case to which the cases where it is a pronoun or an adverb can be reduced, explicating an implicit restrictor corresponding to NP. Below, I will for simplicity continue to discuss English examples; they can be understood as translations of Scandinavian sentences.

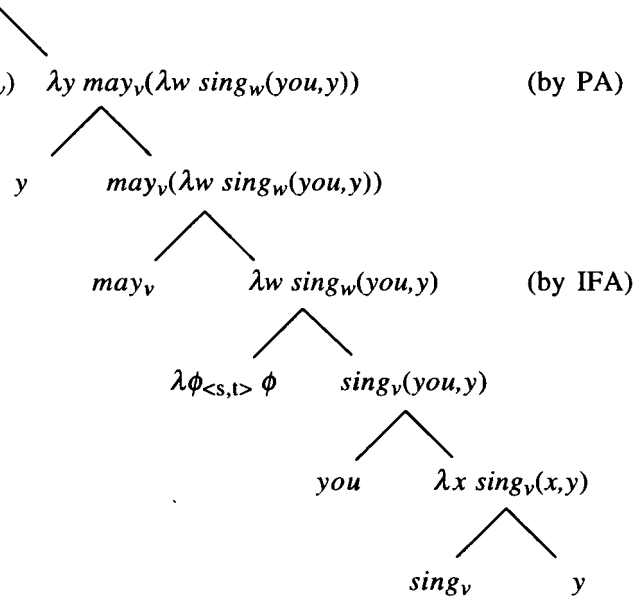
The universal quantification is located in the *wh* component while the intensionalization operation is located in the *som helst* component. This is somewhat arbitrary; it is reasonable as far as the constituent structure is concerned but it is not very plausible etymologically. As noted in the introduction to Section 3, it might come closer to a literal interpretation to ascribe a universal quantification, over propositions, to the *som helst* component and an intensionalization (by way of a set of propositions, the extension of a question), to the *wh* component. But, as noted there, there are good reasons to regard the composite FCI as grammaticalized and to choose an analysis like the above one.

The adjunction site for the FC functor is the next type t or ⟨s,t⟩ node including the full FCP. This will be in the scope of the raised quantifier. But it will have to be in the immediate scope of some modal expression, or else there will be a type mismatch, because only a modal can absorb an expression of type ⟨s,t⟩. Thus the descriptive generalization that an FCI quantifies into a modal context is accounted for by this mechanism.

The below translation tree for (80c) illustrates how the FC quantifier proper must move beyond some modal expression, here the modal *may.* (80a) has a second reading where that modal outscopes the quantifier. In (80b), the two would trade places. However, a corresponding reading of (80c), where in (80d) the modal would be above the quantifier, is not available: A type conflict will ensue since no modal intervenes between the quantifier and the FC functor.

(80)c. You may sing any song (in the songbook).

d. $\forall(song_v)(\lambda y\ may_v(\lambda w\ sing_w(you,y)))$



Consider next a case where the FCI enters into a conditional structure. (78a) is syntactically simple but semantically complex: *would* is interpreted as a binary modal, a counterfactual operator, as in (78d).

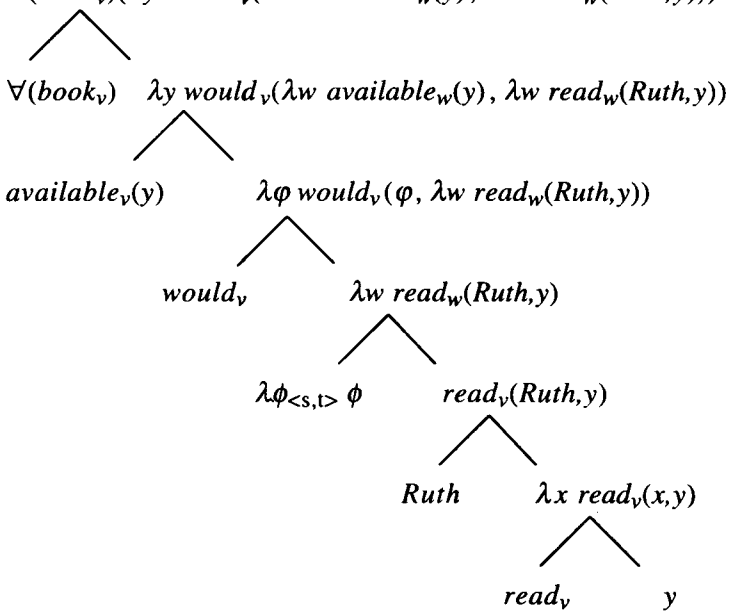
(78)a. Ruth would have read any book.

d. Ruth would have read a comic book.

In a "Kasper counterfactual" like this (cf. Kasper (1992)), the context supplies some extra information from which to construct a restrictor for the modal, a counterfactual antecedent proposition; this rearrangement is assumed to come about by Semantic Partition (SP) (cf. Krifka 1995). Semantic Partition tends to be regarded as a rather semantic mechanism,

coming into play at a relatively late stage in the interpretation process. Thus it is problematic to treat it as a movement leaving a trace, like QR. Still, it is evident that somehow, the indefinite DP in the object position in (78d) and the trace in the object position in (78a) are transferred to the restrictor of *would* and a coreferent variable is left in that position. Cf. Krifka (1998) for a recent assessment of the relevant issues, arguing that generally, SP comes about by accommodating the presuppositions of the sentence into the restrictor. In (78a) or (78d), we can assume that the verb triggers the presupposition that the object is available. I will let the resulting structure be represented in a tree where the counterfactual antecedent is adjoined to the mother of the operator.[9]

(78)e. $\forall(book_v)(\lambda y\ would_v(\lambda w\ available_w(y), \lambda w\ read_w(Ruth,y)))$



Let us look at a case where a conditional (generic) operator is covert, to see how the FCI forces the conditional (generic) interpretation.

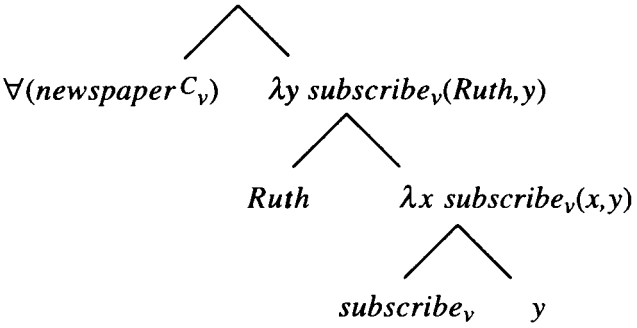
(81)a. Ruth subscribes to every newspaper.
b. Ruth subscribes to any newspaper.

(81a) can have an interpretation as a simple report of a state of affairs, as represented in (81c). For (81b), however, such an interpretation is unavailable because it does not provide an operator that can consume the output of

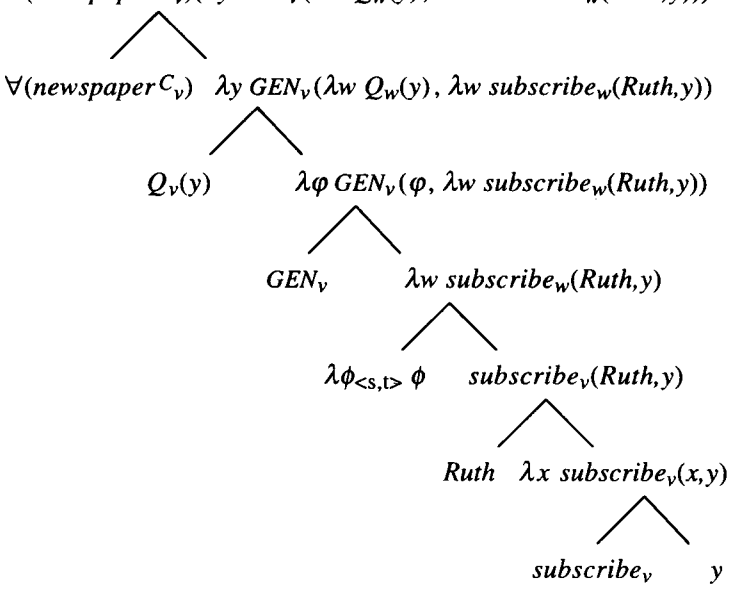
[9] Henceforth I omit the adjunction of the index node and just prefix the abstraction to the sister to the quantifier.

the FC functor, some expression denoting a proposition. So the sentence is partitioned into an antecedent and a consequent for a generic operator, as in (81d), describing a disposition. The adjoined antecedent can be assumed to acquire its content by accommodating a presupposition triggered by the verb. In fact, the verb's aspect changes, as the presupposition turns on reading it as a reaction to a stimulus, such as being offered a subscription, here left unspecified as Q.

(81)c. $\forall(newspaper\,C_v)(\lambda y\ subscribe_v(Ruth,y))$



(81)d. $\forall(newspaper\,C_v)(\lambda y\ GEN_v(\lambda w\ Q_w(y), \lambda w\ subscribe_w(Ruth,y)))$



3.4. *The Option of Quantification over "Possible Entities"*

Let us now turn to the cases where we have the impression that the FCI quantifies over possible entities and where it seems to convey essential

connections. These cases were, in 2.3, characterized as cases where what seems the restrictor of an FCD, a DP with a variable for the determiner, is a proposition denoting expression quantified into by the determiner. They normally have a conditional structure where the DP expresses the antecedent. This can be modelled by modifying the definition of the FC quantifier to open the option that *just the FC determiner undergoes QR*.

The FC Quantifier (final)

Assume the following configuration:

$[_{DP_2}\ [_{DP_1}\ wh\text{-}D\ Q_{NP}]\ [som\ helst]_{FC}]$

DP_1 **or** D undergoes QR to adjoin to an XP, leaving a trace t_i and causing the adjunction of the index i to XP right below itself.

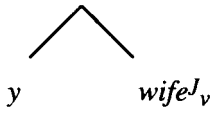
FC adjoins to the closest type t or <s,t> node including DP_2.

- D is translated as $\forall$ or as $\forall(entity)$, depending on whether DP_1 or D undergoes QR (on *entity* see 3.2), Q is translated as Q_v, and t_i and i are translated as x_i.
- FC is translated as $\lambda\phi_{<s,t>}\ \phi$.

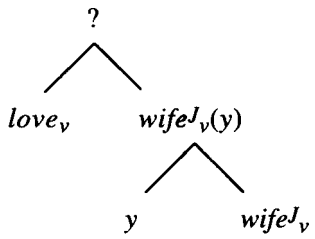
Consider a semantic structure for (79a).

(79)a. John will love any wife.

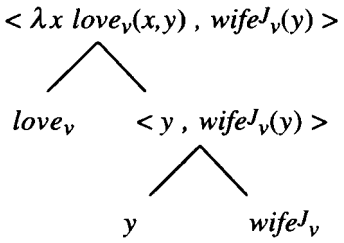
I assume that D undergoes QR, leaving a trace variable y:



Crucially, this must be interpreted in a special way for the combination with the verb *love* to be interpretable. A variable and a predicate yield a formula, and a formula cannot be combined with a binary relation:

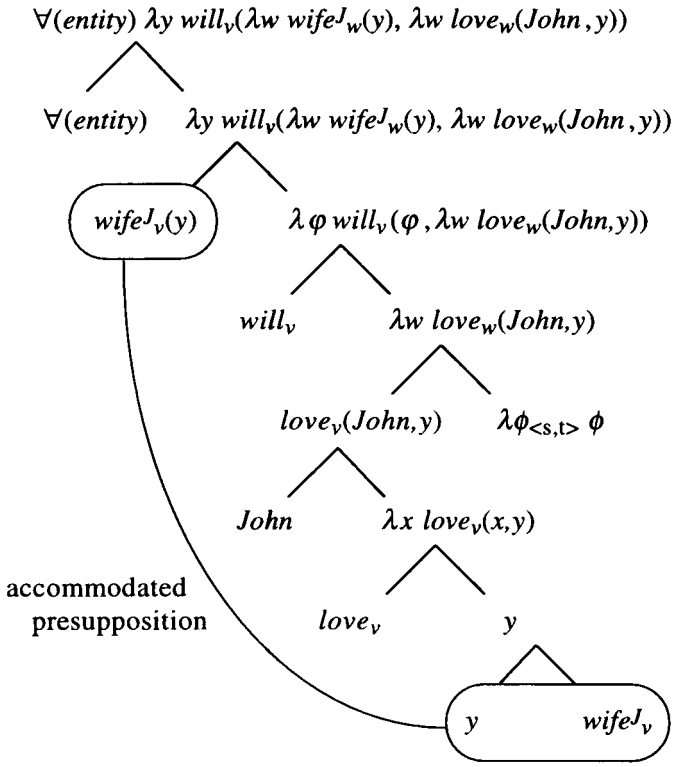


But it is possible to assume that this formula is read as a presupposition; more accurately, that the DP from which the FCD has undergone QR is here like a definite or a 'non-novel' indefinite DP in that it expresses a presupposition and contributes only a variable, say y, to the assertion, in agreement with the strategy proposed by Krifka (1998) for interpreting indefinites in adverbial quantification (or generally structures involving Semantic Partition). If we think in terms of two-dimensional semantic values, the DP could translate as the pair $\langle y, wife^J_v(y)\rangle$ where the first member is the assertion and the second member is the presupposition:



With Krifka (1998) and many others, we can take the presupposition to somehow be accommodated into the restrictor of the relevant operator. There are various ways to accomplish this. Above, in 3.3, I represented implicit restrictors as adjuncts in translation trees, like *if* clauses, and in (79d) below, the accommodated presupposition acting as a restrictor for the operator is again, for perspicuity, rendered as an adjunct. This is not necessarily the best way, though. Instead, the operator could be taken to operate directly on the pair of semantic values, using the presupposition as its restrictor and the assertion as its nuclear scope. This is essentially what Kasper (1992) does; the subjunctive operator takes two arguments, the assertion DRS and the presupposition DRS. Or, the presupposition could be referred to in the representation of a basically unary operator, the presupposition of its argument acting as the first semantic argument. This is essentially what Krifka (1998) does. But to keep matters simple, in (79d) the accommodation is depicted as a quasi syntactic operation.

(79)d.



It should be clear how an analysis like this, where the FC determiner quantifies into a conditional antecedent expressed by the noun phrase, enables us to show that the type of inference noted by Vendler (cf. 2.3) in connection with (65) and (66), such as from (79a) to (79e), is valid: If we take the liberty to represent (79e) as (79g), we see that although we may in principle be sceptical about the instantiation of a constant in an intensional context, the entailment relation between (79c) and (79g) is close enough to account for the intuition.

(79)e. If John marries Mary he will love her.

g. $will_v(\lambda w\ wife^J_w(m), \lambda w\ love_w(John, m))$

Note that it would not be correct to suppose that raising just the FCD generally causes the DP to be read as a presupposition: In sentences like (68), the DP is the object of an attitude verb and constitutes the expression to which the FC functor should apply, in a straightforward manner. In fact, the FC functor may in such cases stay *in situ*.

3.5. *Multiple Free Choice Items*

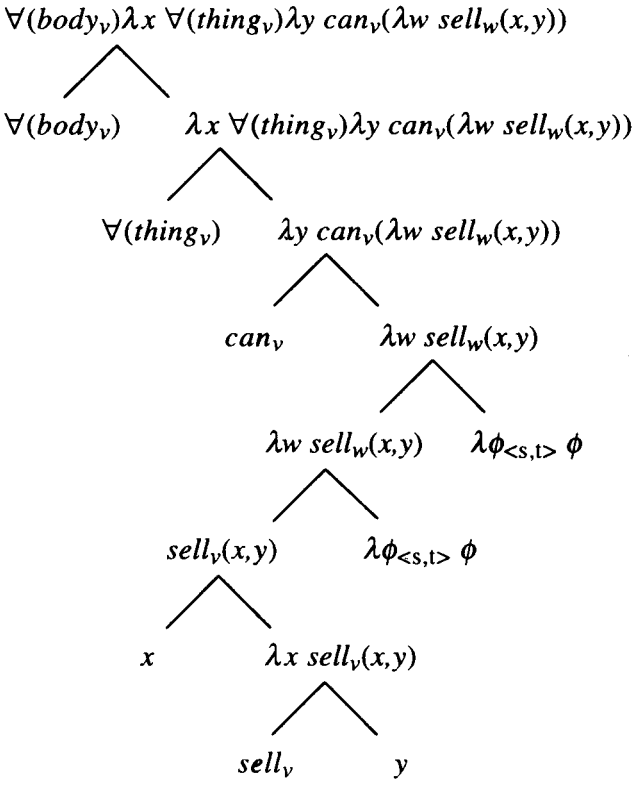
FCIs can be iterated, as shown in the Norwegian sentence (82a). This is a potential problem for analyses, like Dayal's (1998) or Sæbø's (1999), on which an FCI creates an intensionality. There may be more than one FCI quantifying into one and the same proposition denoting expression, but a shift to intensions can only occur once. But note how my analysis evades this problem: The FC functor only invokes a shift if necessary.

(82)a. Vinteren 1992 kunngjorde Jeltsin at hvem som helst kunne selge hva som helst hvor som helst til hvilken som helst pris.

'In the winter of 1992, Yeltsin announced that anyone could sell anything anywhere at any price.'

Let us see how FC functions in a sentence with two FCIs. In (82b), there are two occurrences of the FC functor due to two FCIs. The lower one (by IFA) transforms the sentence to a proposition denoting expression, while the upper one preserves that proposition denoting expression.

(82)b.



4. CONCLUSIONS

Based on corpus studies of Swedish and Norwegian Free Choice items, a theory has been developed according to which such items are universal quantifiers with two special properties: The NP that normally forms the restrictor of the determiner may instead form part of its nuclear scope; and the determiner (or DP) must quantify into a propositional context. In a sense, the second property counteracts the first, as in practice, it will often imply that the scope of the FCI is partitioned into an antecedent and a consequent, so that the apparent restrictor of the FC determiner is the restrictor of a conditional operator instead.

These two essential features of the analysis encode two differences between FCIs and ordinary universals, and these two differences provide a justification for the existence of FCIs. There are three good reasons why there should be such items in a language, and all can be subsumed under **disambiguation**:

- The requirement that the FCI quantify into a propositional context serves to resolve possible scope ambiguities vis-à-vis modals.
- Due to the same requirement, contexts that are only latently modal are unambiguously assigned a modal interpretation.
- Because the FC NP can be read as a proposition, other universals can more safely be taken to quantify over actual sets.

All three items correspond to observations made by Vendler (1967).

The particular theory that models the two special properties of FCIs as compared to other universals consists in two assumptions:

- The FCI has two components, a universal determiner and an item denoting the identity function on propositions;
- the universal quantifier is either (as normally) the entire DP or it is just the determiner.

This analysis may seem simplistic or even naive, but I have tried to show that it has some subtle consequences for the contexts where FCIs occur. Their distribution is constrained by logical type constraints; but it is also predicted that the confines are flexible, as, in particular, many sentences can be read as conditionals, typically by accommodating antecedents. The option of raising only the FC determiner, interpreting the NP as a proposition, adds conditional interpretations and causes ambiguities in connection with basically unary modals; so-called subtrigging is seen to favor this option by supplying material to form a proposition from. Observations of differences between FCIs and standard universals have been taken to indicate that FCIs are indefinites, or something different altogether; the

analysis shows that the differences are fully compatible with a basically universal meaning.

The theory must be considered a *weak* one, inasmuch as it ascribes a minimum of semantic characteristics to the items themselves, leaving a maximum to other, independent mechanisms, such as Semantic Partition or covert or composite propositional relations with which the items are assumed to interact, or generally the search for a possible interpretation. In particular, it is different from the theory proposed by Dayal (1998), according to which Free Choice items quantify over intensional entities; according to my theory, Free Choice items quantify over extensional entities but in intensional contexts for other expressions to operate on. In this way, the analysis is not simultaneously an analysis of other items which must be described anyway but can be integrated into such descriptions, and the expressions they combine with can retain their usual meaning.

The analysis has been devised for Scandinavian FCIs, and broadly, it has been taken for granted that it carries over to the FC use of English *any* or to whatever has been identified as an FCI in yet other languages. This is not necessarily the case, though; related to the double function of *any* as a PSI and an FCI, there may be ways of using *any*, while not unequivocally in a PS sense, that differ slightly from the ways in which FCIs are employed in Scandinavian. It is also an open question how far the analysis extends to items that have been labelled Free Choice items in yet other languages; it is only to be expected that the term is applied, across languages, to a large family of elements that have something, but not everything in common (cf. Haspelmath (1997) for a cross-linguistic survey of indefinites and an assessment of the locus of Free Choice in a larger frame of functions). I leave the possibility open, therefore, that a purported Free Choice item in a language should rather be analyzed as a (nonspecific, indiscriminative) indefinite than as a universal.

For (more) loose ends, such as the behavior of Free Choice items in necessity contexts (where, as I believe, they can be assumed to give rise to contradictions), in object position of intensional verbs or in similative constructions, the reader is referred to Sæbø (1999: 83–93), where the relevant issues are addressed and discussed. Ultimate solutions to the full spectrum of problems in this area must await further research.

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