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Rethinking word order constraints in the Hungarian preverbal field: A compset based approach

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**Rethinking word order constraints
in the Hungarian preverbal field:
A compset based approach**

Présentée et soutenue publiquement par

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le 21 juillet 2021

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Abstract

This dissertation proposes a novel, complement set based approach for word order constraints in the Hungarian preverbal field. The expressions this dissertation focuses on are quantified DPs and DPs headed by focus particles. I will argue that expressions that entail that the relevant complement set is empty must appear in the Quantifier position; those that entail that the relevant complement set is not empty obligatorily appear in the immediately preverbal Focus position; and finally those that have no such entailment can appear in either position.

Résumé

Cette thèse propose une nouvelle approche des contraintes d'ordre des mots dans le domaine préverbal du hongrois qui repose sur la notion d'ensemble complémentaire. Y sont étudiés les groupes nominaux (DP) quantifiés ou contenant une particule focale. Je soutiendrai que, parmi ces expressions, celles qui impliquent que l'ensemble complémentaire pertinent n'est pas vide obligatoirement occupent la position qui précède immédiatement le VP (dite position Focus), celles qui impliquent que l'ensemble complémentaire pertinent est vide occupent la position qui précède immédiatement cette dernière (dite position Quantifieur), et celles qui n'imposent rien à l'ensemble complémentaire peuvent apparaître dans les deux positions.

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Legeslegfőképpen köszönöm Anyának, egyrészt mindent, másrészt a nyelv(ek) iránti érdeklődésemet és hogy mindig örült, ha azt csináltam, ami érdekelt, akkor is, ha emiatt ilyen sokáig diák maradtam.

List of abbreviations

1	first person
2	second person
3	third person
ACC	accusative case
COND	conditional
DAT	dative case
DEF	definite conjugation
ELAT	elative case
FOC	focus marker
IMP	imperative
INDEF	indefinite conjugation
INESS	inessive case
INF	infinitive
INSTR	instrumental case
PAST	past tense
PERF	perfective
PL	plural (verb)
PLUR	plural (noun)
POSS	possessive
PROG	progressive
SG	singular
SUBLAT	sublative case
SUPERESS	superessive case
VM	verbal modifier

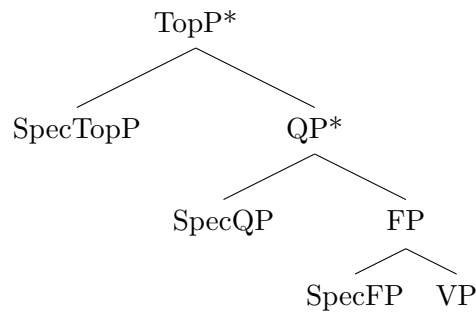
Résumé en français

Cette thèse propose une nouvelle approche des contraintes d'ordre des mots dans le domaine préverbal du hongrois qui repose sur la notion d'ensemble complémentaire. Y sont étudiés les groupes nominaux (DP) quantifiés ou contenant une particule focale. Je soutiendrai que, parmi ces expressions, celles qui impliquent que l'ensemble complémentaire pertinent n'est pas vide obligatoirement occupent la position qui précède immédiatement le VP (dite position Focus), celles qui impliquent que l'ensemble complémentaire pertinent est vide occupent la position qui précède immédiatement cette dernière (dite position Quantifieur), et celles qui n'imposent rien à l'ensemble complémentaire peuvent apparaître dans les deux positions.

Introduction

L'ordre des mots en hongrois est relativement libre : grâce au riche système de marquage casuel, les fonctions grammaticales de sujet et d'objet n'ont pas besoin d'être assignées à des positions particulières dans la phrase hongroise. Cependant, les positions préverbales ont été associées à différentes fonctions logiques, à des configurations discursives et à la structure informationnelle. En effet, les expressions du domaine préverbal sont organisées les unes par rapport aux autres en fonction de leurs propriétés sémantiques. La position Topic est suivie par la position Quantifieur et enfin par la position Focus, qui est précède immédiatement le constituant verbal.

(1)



Ces positions diffèrent dans leur syntaxe, les interprétations qui leurs sont associées et aussi en ce qui concerne les types d'expressions qu'elles peuvent ou ne peuvent pas accueillir. Cette thèse étudie les contraintes qui jouent un rôle dans la distribution des quantificateurs et des particules focales dans le domaine préverbal.

Les quantificateurs qui doivent apparaître en position Topic sont *a legtöbb N* 'la plupart des N' et *az összes N* 'tout N'. La position Quantifieur est la position obligatoire pour les quantificateurs universels comme *minden N* 'tous les N', *mindkét N* 'les deux N' et pour les particules de focalisation additives comme *x is* 'x aussi' et *még x is* 'même x'. Les expressions qui doivent se placer dans la position Focus sont les quantificateurs monotones décroissants tels que *kevés N* 'peu de N' ou *legfeljebb négy N* 'au plus quatre N' et la particule focale restrictive *csak x* 'seulement x'. Enfin, les expressions qui peuvent se déplacer librement dans le domaine préverbal comprennent des cardinaux nus tels que *négy N* 'quatre N', des quantificateurs monotones croissants tels que *sok N* 'beaucoup de N', *néhány N* 'quelques N' et des cardinaux modifiés tels que *legalább négy N* 'au moins quatre N' et *több, mint négy N* 'plus de quatre N'. Voici un résumé de la distribution de ces expressions:

Topic	Quantifier	Focus	Free expressions
<i>a legtöbb</i> 'la plupart'	<i>minden</i> 'tous'	<i>kevés</i> 'peu'	<i>sok</i> 'beaucoup'
<i>az összes</i> 'tout'	<i>mindkét</i> 'les deux'	<i>legfeljebb n</i> 'au plus n'	<i>néhány</i> 'quelques'
	<i>mindegyik</i> 'chaque'	<i>kevesebb, mint n</i> 'moins de n'	<i>n</i> 'n'
	<i>x is</i> 'aussi x'	<i>pontosan n</i> 'exactement n'	<i>legalább n</i> 'au moins n'
	<i>még x is</i> 'même x'	<i>csak x</i> 'seulement x'	<i>több, mint n</i> 'plus que n'

Dans cette thèse, je propose des généralisations sémantiques pour rendre compte de la distribution de ces expressions parmi les positions préverbales. Je me concentre principalement sur trois des quatre groupes ci-dessus : les expressions qui doivent apparaître dans la position Quantifieur, celles qui doivent apparaître dans la position Focus et enfin celles qui se déplacent librement dans le domaine préverbal.

Je soutiens que les expressions en position Topic sont en fait contraintes syntaxiquement : elles sont toutes deux précédées par l'article défini *a/az* 'le/la'. La position Topic étant la seule position possible pour les descriptions définies non focalisées, explique pourquoi *a legtöbb N* 'la plupart des N' et *az összes N* 'tout N' doivent apparaître ici. Pour les autres expressions, je soutiens que leur distribution est déterminée par la façon dont elles se comportent par rapport aux ensembles complémentaires pertinents dans le contexte.

Les quantificateurs donnent lieu à différents types d'anaphores discursives, qui impliquent une référence à des ensembles associés à la phrase quantifiée. Pour une phrase comme *Quelques chats se sont endormis*, l'ensemble maximal est l'ensemble des chats, l'ensemble de référence est l'intersection de l'ensemble des chats et de l'ensemble des individus qui se sont endormis, donc l'ensemble des chats qui se sont endormis, et enfin, l'ensemble complémentaire est l'ensemble des chats qui ne se sont pas endormis. Les expressions que j'examine peuvent être divisées en trois groupes en ce qui concerne l'ensemble complémentaire. La phrase *Tous les chats se sont endormis* implique que l'ensemble complémentaire est vide, car si elle est vraie, alors il n'y a pas de chats qui ne se soient pas endormis. Par ailleurs la phrase *Peu des chats se sont endormis* implique quant à elle que l'ensemble complémentaire n'est pas vide, puisque, si peu de chats se

sont endormis, il doit y avoir des chats qui ne se sont pas endormis. Enfin, la phrase *Quelques chats se sont endormis* n'implique rien de tel : la phrase peut être vraie, qu'il y ait ou non des chats qui ne se soient pas endormis.

Je soutiens que cette classification tripartite concernant l'ensemble complémentaire permet de rendre compte de la distribution des quantificateurs et des particules focales dans les positions Quantifieur et Focus, ainsi que des expressions qui peuvent apparaître dans toutes les positions préverbales. Notamment, les expressions qui impliquent que l'ensemble complémentaire est vide doivent apparaître dans la position Quantifieur, celles qui impliquent que l'ensemble complémentaire est non-vide doivent apparaître dans la position Focus, et enfin celles qui ne donnent pas lieu à une telle implication peuvent se déplacer librement dans le domaine préverbal.

Afin de montrer cela, dans le Chapitre 2, je passerai en revue quelques informations de base sur la morphologie et la syntaxe hongroises qui seront essentielles pour comprendre le reste de la dissertation. Je présenterai les modificateurs verbaux, un ensemble de particules qui sont le plus souvent des marqueurs aspectuels ou locatifs, car ils peuvent être utiles pour diagnostiquer si une expression est en position Quantifieur ou en position Focus. En effet, lorsque la position Focus est remplie, les modificateurs verbaux doivent apparaître après le verbe, au lieu d'apparaître dans leur position préverbale par défaut. Ensuite, je présenterai la structure de base du champ préverbal hongrois et je discuterai plus en détail de la position Topic et de la Dislocation Gauche Contrastive. Ensuite, j'aborderai brièvement le champ postverbal en hongrois, où les constituants sont nettement moins contraints que dans le champ préverbal. Enfin, je présenterai les propriétés de base de la négation en hongrois.

Dans le Chapitre 3, je présenterai les propriétés syntaxiques et sémantiques des expressions quantifiées en hongrois ainsi que de la position Quantifieur. Je présenterai d'abord quelques généralités sur les quantificateurs en langue naturelle, à savoir certaines de leurs propriétés sémantiques dont on a soutenu qu'elles étaient universelles dans les langues naturelles. Ensuite, en me tournant plus spécifiquement vers le hongrois, je décrirai la distribution des différents quantificateurs, d'abord dans différentes positions préverbales, puis dans le champ postverbal. Je discuterai brièvement des relations de portée des quantificateurs en hongrois, avant de terminer le chapitre par une discussion de certaines propriétés sémantiques et syntaxiques de la position Quantifieur lui-même.

Dans le Chapitre 4, j'aborderai la position Focus en hongrois. Je commencerai par

présenter une vue d'ensemble de la littérature sur la focalisation en général, à savoir sur les stratégies que différentes langues utilisent pour marquer le focus dans une phrase, comment l'interprétation focale interagit avec la prosodie et comment elle peut être représentée de manière compositionnelle en sémantique. Je discuterai ensuite plus en détail des expressions sensibles au focus telles que *seulement* et *aussi*, puisque les généralisations que je proposerai dans cette thèse peuvent également rendre compte de la distribution de ces expressions dans le champ préverbal hongrois. Ensuite, je présenterai ce que différents auteurs ont proposé pour le mouvement focal en hongrois. Le focus préverbal hongrois a été lié à de forts effets d'exhaustivité : je discuterai d'abord les approches qui soutiennent que cette interprétation est sémantiquement encodée dans la position préverbale Focus, puis je discuterai la proposition selon laquelle l'interprétation exhaustive découle plutôt de facteurs pragmatiques et contextuels, un point de vue également soutenu par des études expérimentales. Enfin, je discuterai des expressions qui sont attirées par la position Focus.

Dans le Chapitre 5, je présenterai le *Contraintes sur les complémentaires*, qui peuvent rendre compte correctement de la distribution des DP quantifiés ou contenant une particule focale dans le champ préverbal hongrois. Pour ce faire, je vais d'abord discuter des différentes possibilités de référence anaphorique pour des différents quantificateurs. En d'autres termes, je passerai en revue les types de quantificateurs disponibles pour une anaphore au complémentaire, puis j'examinerai ce que les différents quantificateurs prédisent sur le caractère vide ou non de l'ensemble de complément. Sur cette base, je proposerai une classification tripartite pour les quantificateurs, la première classe entraînant que l'ensemble complémentaire est vide, la deuxième classe entraînant que l'ensemble complémentaire n'est pas vide et enfin la troisième classe ne donnant lieu à une telle implication. Je montrerai également comment les particules focales s'intègrent dans cette classification. Ensuite, je soutiendrai que cette classification tripartite des quantificateurs et des particules de focalisation est presque identique à la classification tripartite des propriétés distributionnelles de ces expressions dans le champ préverbal hongrois et je proposerai le *Contraintes sur les complémentaires*. Enfin, je présenterai les prédictions que ces contraintes font pour les expressions qui peuvent apparaître dans n'importe quelle position préverbale et je comparerai ces prédictions aux données réelles.

Dans le Chapitre 6, je revisiterai certains aspects de la position immédiatement préverbale en hongrois qui est le plus souvent désignée comme la position Focus. Tout d'abord, je montrerai que, bien que les expressions focalisées apparaissent le plus souvent dans cette position, la focalisation n'est ni une condition nécessaire ni une condition suff-

isante pour que les constituants se déplacent ici, et je montrerai des données soutenant ces affirmations. Ensuite, je soutiendrai que l'exhaustivité ne peut pas être entièrement responsable de l'apparition des constituants dans cette position : en effet, je montrerai que l'exhaustivité n'est pas toujours obligatoire dans cette position et je soutiendrai qu'il s'agit en fait d'une implicature conversationnelle qui est renforcée par la focalisation. Enfin, je suggérerai que ce qui est constant dans cette position, dans l'intonation qui lui est associée et dans les expressions qu'elle accueille, c'est qu'elles sont toutes de caractère *marqué*. En effet, lorsque cette position est remplie, tant la structure syntaxique que l'intonation sont marquées par rapport aux phrases neutres, et les focus, les expressions monotones décroissantes et éventuellement les expressions négatives peuvent également être considérées comme des catégories marquées.

Enfin, je résumerai les résultats de cette thèse, conclurai et exposerai des directions possibles pour des recherches futures dans le chapitre 7.

2. Informations générales sur le Hongrois

Le hongrois est une langue finno-ougrienne qui diffère à bien des égards des langues indo-européennes. Dans le cadre de cette thèse, les traits distinctifs les plus importants sont la flexibilité de l'ordre des mots et l'agglutination. En effet, en raison de la richesse du système de cas, les fonctions grammaticales n'ont pas besoin d'être assignées à des positions particulières dans la phrase hongroise. Bien qu'il existe certaines restrictions dans le domaine préverbal, l'ordre des mots postverbal semble être complètement libre. La thèse étudie la nature de ces restrictions dans le domaine préverbal.

Le système riche de marquage des cas permet un ordre des mots assez flexible en hongrois. Si nous prenons un verbe, un sujet et un objet, tous les ordres possibles donnent une phrase grammaticale : le sujet et l'objet peuvent être distingués grâce au marquage casuel, quelle que soit la position dans laquelle ils apparaissent. Les différences entre ces phrases ne sont pas liées aux conditions de vérité, mais plutôt à la pragmatique et/ou à la structure de l'information.

- | | | |
|-----|--|--|
| (2) | a. Peti ismeri Marit.
Peti connaît Mari-ACC
'Peti connaît Mari.' | d. Marit Peti ismeri.
Mari-ACC Peti connaît
'C'est Peti qui connaît Mari.' |
| | b. Peti Marit ismeri.
Peti Mari-ACC connaît
'C'est Mari que Peti connaît.' | e. Ismeri Peti Marit.
connaît Peti Mari-ACC
'Peti connaît Mari.' |
| | c. Marit ismeri Peti.
Mari-ACC connaît Peti
'C'est Mari que Peti connaît.' | f. Ismeri Marit Peti.
connaît Mari-ACC Peti
'Peti connaît Mari.' |

Comme on peut le constater à partir de ces exemples, les fonctions grammaticales ne jouent pas un rôle important dans l'ordre des mots, puisqu'elles sont codées par le marquage casuel.

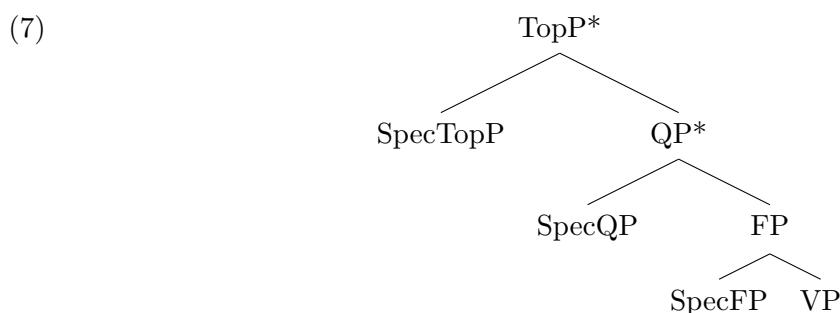
Une autre caractéristique typique du hongrois est son riche système de modificateurs verbaux. Le plus souvent, il s'agit des marqueurs aspectuels comme *meg* dans (3b), mais peuvent avoir une valeur locative comme *ki* dans (4b), changer la structure argumentale du verbe comme *le* dans (5b) ou changer complètement son sens comme *át* dans (6b). Dans l'orthographe hongroise, le modificateur verbal est attaché au verbe chaque fois qu'il le précède, mais je l'écrirai séparément tout au long de la dissertation par souci de clarté.

- | | |
|-----|---|
| (3) | a. Ette az almát.
mange.PAST.3SG la pomme-ACC
'Il/elle mangeait la pomme.' |
| | b. Meg ette az almát.
VM-PERF mange.PAST.3SG la pomme-ACC
'Il/elle a mangé la pomme.' |
| (4) | a. Megy az utcán.
va.3SG la rue-SUPERESS
'Il/elle marche dans la rue.' |
| | b. Ki megy az utcára.
VM.out va.3SG la rue-SUBLAT
'Il/elle sort dans la rue.' |
| (5) | a. Peti fut.
Peti court
'Peti court.' |

-
- b. Peti le futja a maratont.
 Peti VM.down court le marathon-ACC
 ‘Peti a couru le marathon.’
- (6) a. Pali vágja a fát.
 Pali coupe le bois-ACC
 ‘Pali coupe le bois.’
- b. Pali át vágja Annát.
 Pali VM.across coupe Anna-ACC
 ‘Pali ment à Anna.’

Dans le cas par défaut, les modificateurs verbaux précèdent le verbe fini, et ce complexe verbal forme un seul mot morphologique et phonologique (Szendrői, 2003). Il existe cependant un certain nombre de cas où cet ordre est inversé : lorsqu’il s’agit d’une phrase avec un focus étroit ; d’une question de type *wh* ; d’une négation de constituant ; d’une négation de phrase ; d’un impératif ou d’un événement imperfectif.

Comme démontré ci-dessus, la phrase hongroise n’attribue pas de positions de phrase aux fonctions grammaticales. Cependant, il n’est pas vrai que l’ordre des mots en hongrois est complètement libre. Les positions préverbaux fixes ont été liées à différentes fonctions, à la configuration du discours et à la structure de l’information. En effet, les expressions du champ préverbal sont disposées les unes par rapport aux autres en fonction de leurs propriétés sémantiques. La position Topic est suivie de la position Quantifieur et enfin de la position Focus (Hunyadi, 1981; Kenesei, 1986; Bródy, 1990; É. Kiss, 1981, 1992, 1998, 2002; Szabolcsi, 1981, 1997; Puskás, 2000, entre autres). L’arbre ci-dessous illustre ces principales positions :



Les topics se trouvent généralement sur le gauche de la phrase, mais ils peuvent être précédés d’adverbiaux sententiels et de sujets contrastifs et suivis d’éléments en position

Quantifieur. Ces deux premières positions sont itératives (marquées par l’astérisque dans la représentation), ce qui signifie qu’une phrase peut en contenir plus d’une. Par contre, la position Focus n’est pas itérative, donc au maximum un constituant peut y apparaître. De plus, comme cette position est immédiatement préverbale, rien ne peut intervenir entre le focus et le verbe, pas même les modificateurs verbaux (comme mentionné dans la dernière sous-section), dont la position par défaut est également immédiatement préverbale. (8) illustre une phrase dans laquelle toutes ces positions sont remplies.

- (8) [Mari]_{TopP} [Annának]_{TopP} [minden titkát]_{QP} [mindig]_{QP}
 Marie Anna-DAT tous secret-POSS3SG-ACC toujours
 [HALKAN]_{FP} mondja el.
 silencieusement raconte VM-away
 ‘Mari raconte ses secrets à Anna toujours silencieusement.’

Chaque position possède un ensemble d’expressions qu’elle peut et ne peut pas accueillir (Kenesei, 1986; Szabolcsi, 1997; É. Kiss, 2002, etc.). Pour vérifier si une expression particulière peut apparaître dans une position particulière, les propriétés distributionnelles des autres éléments de la phrase peuvent aider. Tout d’abord, la position d’un modificateur verbal (VM) montre clairement si une expression est en position Focus ou non : si le VM suit le verbe, on peut être certain qu’une expression préverbale est en position Focus, sinon dans l’une des deux autres. Pour distinguer la position Topic de celle du Quantifieur, nous pouvons vérifier si un adverbe (non focalisé) peut suivre l’expression. S’il le peut, alors l’expression occupe la position Topic, puisque les adverbes ne peuvent intervenir qu’entre les positions Topic et Quantifier, mais pas entre les positions Quantifieur et Focus. L’absence d’un adverbe dont l’ordre VM-V est maintenu n’est cependant pas un signe suffisant pour qu’une expression soit en position Quantifieur, puisqu’elle pourrait très bien être en position Topic. Pour montrer qu’une expression est bien en position Quantifieur, on peut utiliser l’itérativité de cette position. Si une expression peut suivre une expression Quantifieur obligatoire, comme un quantificateur universel, en maintenant l’ordre VM-V, alors nous pouvons confirmer que cette expression est bien en position Quantifieur et non en position Topic. Voici un résumé de ces faits distributifs, qui seront utiles par la suite pour illustrer les propriétés distributives des expressions pertinentes parmi ces positions :

(*[DP] _Q)	[DP] _{TopP}	(adverb)	VM	V
[DP] _Q	[DP] _Q	(*adverb)	VM	V
[DP] _Q	[DP] _F	(*adverb)	V	VM

Il est intéressant de noter que deux quantificateurs, *a legtöbb N*, ‘la plupart des N’ et *az összes N* ‘tous les N’ ne sont possibles que dans la position Topic parmi les positions préverbales.

- (9) a. [A legtöbb macska]_{TopP} tegnap el aludt.
la plupart chat hier VM.away dormi
‘Hier, la plupart des chats se sont endormis.’
- b. *[Minden szobában]_{QP} [a legtöbb macska]_{QP} el aludt.
tous chambre-INESS la plupart chat VM.away dormi
Int: ‘Dans toutes les chambres, la plupart des chats se sont endormis.’
- c. *[A legtöbb macska]_{FP} aludt el.
la plupart chat dormi VM.away
Int: ‘La plupart des chats se sont endormis.’
- (10) a. [Az összes macska]_{TopP} tegnap el aludt.
thetoutchat hier VM.away dormi
‘Hier, tout chat s’est endormi.’
- b. *[Minden szobában]_{QP} [az összes macska]_{QP} el aludt.
tous chambre-INESS le tout chat VM.away dormi
Int: ‘Dans toutes les chambres, tout chat s’est endormi.’
- c. *[Az összes macska]_{FP} aludt el.
le tout chat dormi VM.away
Int: ‘Tout chat s’est endormi.’

Ces deux quantificateurs sont des descriptions définies – en fait, ils sont agrammaticaux sans l’article défini. Csirmaz and Szabolcsi (2012) ont soutenu pour *az összes N* ‘tous les N’, que bien qu’il s’agisse d’un quantificateur universel (et donc censé apparaître en position Quantifieur), c’est aussi un défini pluriel et en tant que tel, apparaît dans la position Topic¹. Ceci peut également être étendu à *a legtöbb N* ‘la plupart des N’. En effet, alors que les définis pluriels peuvent également apparaître en position Focus (mais pas en position Quantifieur) lorsqu’elles sont focalisées, les définis pluriels non focalisées ne peuvent apparaître qu’en position Topic. Il semble donc que les contraintes sur *az*

¹Selon Szabolcsi (1994b) cependant, l’article défini *a/az* en hongrois n’introduit pas réellement la définition, mais convertit les constituants en arguments qui peuvent fonctionner comme argument d’un prédicat.

összes N ‘tous les N’ et *a legtöbb N* ‘la plupart des N’ soient de nature syntaxique et non sémantique.

Le champ postverbal en hongrois ne semble pas avoir de positions spécifiques ni pour les fonctions grammaticales, ni pour les catégories structurelles d’information. Le VP est supposé commencer par le verbe et les arguments peuvent suivre le verbe dans n’importe quel ordre et il y a peu, voire aucune, différence dans leur interprétation (É. Kiss, 2002) :

- (11) a. Küldött Péter egy levelet Mária-nak.
 envoyé Péter une lettre-ACC Mária-DAT
 ‘Péter a envoyé une lettre à Mária.’
- b. Küldött Mária-nak Péter egy levelet.
 envoyé Mária-DAT Péter une lettre-ACC
 ‘Péter a envoyé une lettre à Mária.’
- c. Küldött egy levelet Péter Mária-nak.
 envoyé une lettre-ACC Péter Mária-DAT
 ‘Péter a envoyé une lettre à Mária.’
- d. Küldött Péter Mária-nak egy levelet.
 envoyé Péter Mária-DAT une lettre-ACC
 ‘Péter a envoyé une lettre à Mária.’
- e. Küldött Mária-nak egy levelet Péter.
 envoyé Mária-DAT une lettre-ACC Péter
 ‘Péter a envoyé une lettre à Mária.’
- f. Küldött egy levelet Mária-nak Péter.
 envoyé une lettre-ACC Mária-DAT Péter
 ‘Péter a envoyé une lettre à Mária.’

La négation en hongrois est exprimée par la particule négative *nem* à la fois dans la négation phrastique et la négation de constituant dans les phrases déclaratives ou les questions. Dans la négation phrastique, *nem* doit apparaître immédiatement devant le verbe fini, et tout comme dans le cas du focus préverbal, l’ordre par défaut VM-V est inversé.

- (12) a. Misi el aludt.
 Misi VM.away dormi
 ‘Misi s’est endormi.’
- b. Misi nem aludt el.
 Misi non dormi VM.away

-
- ‘Misi ne s’est pas endormi.’
- c. *Misi nem el aludt.
Misi non VM.away dormi
- d. Nem Misi aludt el.
non Misi dormi VM.away
‘Ce n’est pas Misi qui s’est endormi.’
- e. *Nem Misi el aludt.
not Misi VM.away dormi

3. Quantificateurs en hongrois

Le hongrois est particulier dans le sens que les quantificateurs, tels que *tous les N*, *certaines N*, *au moins quatre N*, etc. sont limités quant aux positions dans une phrase où ils peuvent apparaître. Ce chapitre passe en revue les théories sur les quantificateurs et donne un aperçu de la distribution des quantificateurs en hongrois, ainsi que des principales propriétés sémantiques de la position dite Quantifieur.

En hongrois, les quantificateurs apparaissent généralement dans des positions désignées dans le champ préverbal. Certains quantificateurs sont limités quant aux positions préverbales dans lesquelles ils peuvent apparaître, tandis que d’autres peuvent apparaître dans plus d’une de ces positions préverbales (voir Kenesei (1986); Szabolcsi (1997); É. Kiss (2002) entre autres).

Les quantificateurs attirés par la position Topic sont *a legtöbb N*, ‘la plupart des N’ et *az összes N* ‘tous (les) N’ – ils sont donc exclus des positions Quantificateur et Focus.

- (13) a. [A legtöbb macska]_{TOPP} tegnap el aludt.
la plupart chat hier VM.away dormi
‘Hier, la plupart des chats se sont endormis.’
- b. *[Minden szobában]_{QP} [a legtöbb macska]_{QP} el aludt.
tous chambre-INESS la plupart chat VM.away dormi
Int: ‘Dans toutes les chambres, la plupart des chats se sont endormis.’
- c. *[A legtöbb macska]_{FP} aludt el.
la plupart chat dormi VM.away
Int: ‘La plupart des chats se sont endormis.’
- (14) a. [Az összes macska]_{TOPP} tegnap el aludt.
the tout chat hier VM.away dormi
‘Hier, tout chat s’est endormi.’

- b. *[Minden szobában]_{QP} [az összes macska]_{QP} el aludt.
 tous chambre-INESS le tout chat VM.away dormi
 Int: ‘Dans toutes les chambres, tout chat s’est endormi.’
- c. *[Az összes macska]_{FP} aludt el.
 le tout chat dormi VM.away
 Int: ‘Tout chat s’est endormi.’

Les quantificateurs universels comme *minden N*, ‘tout N’, *mindegyik N*, ‘chaque N’, *mindkét N* ‘les deux N’, etc. doivent apparaître en position Quantifieur et sont exclus des positions Topic et Focus.

- (15) a. *[Minden macska]_{TopP} tegnap el aludt.
 tous chat hier VM.away dormi
 Int: ‘Hier, tous les chats se sont endormis.’
- b. [Minden szobában]_{QP} [minden macska]_{QP} el aludt.
 tous chambre-INESS tous chat VM.away dormi
 ‘Dans toutes les chambres, tous les chats se sont endormis.’
- c. *[Minden macska]_{FP} aludt el.
 tous chat dormi VM.away
 Int: ‘Tous les chats se sont endormis.’
- (16) a. *[Mindegyik macska]_{TopP} tegnap el aludt.
 chaque chat hier VM.away dormi
 Int: ‘Hier, chaque chat s’est endormi.’
- b. [Minden szobában]_{QP} [mindegyik macska]_{QP} el aludt.
 tous chambre-INESS chaque chat VM.away dormi
 ‘Dans toutes les chambres, chaque chat s’est endormi.’
- c. *[Mindegyik macska]_{FP} aludt el.
 chaque chat dormi VM.away
 Int: ‘Chaque chat s’est endormi.’
- (17) a. *[Mindkét macska]_{TopP} tegnap el aludt.
 les-deux chat hier VM.away dormi
 Int: ‘Hier, les deux chats se sont endormis.’
- b. [Minden szobában]_{QP} [mindkét macska]_{QP} el aludt.
 tous chambre-INESS les-deux chat VM.away dormi
 ‘Dans toutes les chambres, les deux chats se sont endormis.’
- c. *[Mindkét macska]_{FP} aludt el.
 les-deux chat dormi VM.away
 Int: ‘Les deux chats se sont endormis.’

C'est également la position obligatoire pour les particules focales additives, comme *is* 'aussi' et *még...is* 'même'.

- (18) a. *[Misi is]_{TopP} tegnap el aludt.
Misi aussi hier VM.away dormi
Int: 'Hier, Misi aussi s'est endormi.'
- b. [Minden délután]_{QP} [Misi is]_{QP} el aludt.
tous après-midi Misi aussi VM.away dormi
'Tous les après midis, Misi aussi s'est endormi.'
- c. *[Misi is]_{FP} aludt el.
Misi aussi dormi VM.away
Int: 'Misi aussi s'est endormi.'
- (19) a. *[Még Misi is]_{TopP} tegnap el aludt.
encore Misi aussi hier VM.away dormi
Int: 'Hier, même Misi s'est endormi.'
- b. [Minden délután]_{QP} [még Misi is]_{QP} el aludt.
tous après-midi encore Misi also VM.away dormi
'Tous les après-midis, même Misi s'est endormi.'
- c. *[Még Misi is]_{FP} aludt el.
encore Misi also dormi VM.away
Int: 'Même Misi s'est endormi.'

La position Focus est la position obligatoire pour les quantificateurs monotones décroissantes tels que *kevés N* 'peu de N', *legfeljebb négy N*, 'au plus quatre N', *kevesebb*, *mint négy N*, 'moins de quatre N', et pour le quantificateur non monotone *pontosan négy N*, 'exactement quatre N'.

- (20) a. *[Kevés macska]_{TopP} tegnap el aludt.
peu chat hier VM.away dormi
Int: 'Hier, peu de chats se sont endormis.'
- b. *[Minden szobában]_{QP} [kevés macska]_{QP} el aludt.
tous chambre-INESS peu chat VM.away dormi
Int: 'Dans toutes les chambres, peu de chats se sont endormis.'
- c. [Kevés macska]_{FP} aludt el.
peu chat dormi VM.away
'Peu de chats se sont endormis.'

- (21) a. *[Legfeljebb négy macska]_{TopP} tegnap el aludt.
 au-plus quatre chat hier VM.away dormi
 Int: ‘Hier, au plus quatre chats se sont endormis.’
- b. *[Minden szobában]_{QP} [legfeljebb négy macska]_{QP} el aludt.
 tous chambre-INESS au-plus quatre chat VM.away dormi
 Int: ‘Dans toutes les chambres, au plus quatre chats se sont endormis.’
- c. [Legfeljebb négy macska]_{FP} aludt el.
 au-plus quatre chat dormi VM.away
 ‘Au plus quatre chats se sont endormis.’
- (22) a. *[Kevesebb, mint négy macska]_{TopP} tegnap el aludt.
 moins-de than quatre chat hier VM.away dormi
 Int: ‘Hier, moins de quatre chats se sont endormis.’
- b. *[Minden szobában]_{QP} [kevesebb, mint négy macska]_{QP} el aludt.
 tous chambre-INESS moins de quatre chat VM.away
 dormi
 Int: ‘Dans toutes les chambres, moins de quatre chats se sont endormis.’
- c. [Kevesebb, mint négy macska]_{FP} aludt el.
 moins de quatre chat dormi VM.away
 ‘Moins de quatre chats se sont endormis.’
- (23) a. *[Pontosan négy macska]_{TopP} tegnap el aludt.
 exactement quatre chat hier VM.away dormi
 ‘Hier, exactement quatre chats se sont endormis.’
- b. *[Minden szobában]_{QP} [pontosan négy macska]_{QP} el aludt.
 tous chambre-INESS exactement quatre chat VM.away dormi
 ‘Dans toutes les chambres, exactement quatre chats se sont endormis.’
- c. [Pontosan négy macska]_{FP} aludt el.
 exactement quatre chat dormi VM.away
 ‘Exactement quatre chats se sont endormis.’

La position Focus est également la position obligatoire pour les constituants contenant *seulement* :

- (24) a. Csak Misi aludt el.
 seulement Misi dormi VM.away
 ‘Seulement Misi s’est endormi.’
- b. *Csak Misi el aludt.
 seulement Misi VM.away dormi

Les quantificateurs qui ont plus de liberté dans leur distribution incluent *sok N* ‘beaucoup de N’, *néhány N* ‘quelques N’, les cardinaux nus, et les cardinaux modifiés tels que *legalább négy N* ‘au moins quatre N’, *több, mint négy N* et ‘plus de quatre N’. Je les appellerai *expressions libres*. Les phrases suivantes montrent qu’elles sont effectivement possibles dans toutes les positions préverbales.

- (25) a. [Sok macska]_{TopP} tegnap el aludt.
 beaucoup chat hier VM.away dormi
 ‘Hier, beaucoup de chats se sont endormis.’
- b. [Minden szobában]_{QP} [sok macska]_{QP} el aludt.
 tous chambre-INESS beaucoup chat VM.away dormi
 ‘Dans toutes les chambres, beaucoup de chats se sont endormis.’
- c. [Sok macska]_{FP} aludt el.
 beaucoup chat dormi VM.away
 ‘Beaucoup de chats se sont endormis.’
- (26) a. [Néhány macska]_{TopP} tegnap el aludt.
 quelques chat hier VM.away dormi
 ‘Hier, quelques chats se sont endormis.’
- b. [Minden szobában]_{QP} [néhány macska]_{QP} el aludt.
 tous chambre-INESS quelques chat VM.away dormi
 ‘Dans toutes les chambres, quelques chats se sont endormis.’
- c. [Néhány macska]_{FP} aludt el.
 quelques chat dormi VM.away
 ‘Quelques chats se sont endormis.’
- (27) a. [Négy macska]_{TopP} tegnap el aludt.
 quatre chat hier VM.away dormi
 ‘Hier, quatre chats se sont endormis.’
- b. [Minden szobában]_{QP} [négy macska]_{QP} el aludt.
 tous chambre-INESS quatre chat VM.away dormi
 ‘Dans toutes les chambres, quatre chats se sont endormis.’
- c. [Négy macska]_{FP} aludt el.
 quatre chat dormi VM.away
 ‘Quatre chats se sont endormis.’
- (28) a. [Legalább négy macska]_{TopP} tegnap el aludt.
 au-moins quatre chat hier VM.away dormi
 ‘Hier, au moins quatre chats se sont endormis.’

- b. [Minden szobában]_{QP} [legalább négy macska]_{QP} el aludt.
 tous chambre-INESS au-moins quatre chat VM.away dormi
 ‘Dans toutes les chambres, au moins quatre chats se sont endormis.’
- c. [Legalább négy macska]_{FP} aludt el.
 au-moins quatre chat dormi VM.away
 ‘Au moins quatre chats se sont endormis.’
- (29) a. [Több, mint négy macska]_{TopP} tegnap el aludt.
 plus que quatre chat hier VM.away dormi
 ‘hier, plus que quatre chats se sont endormis.’
- b. [Minden szobában]_{QP} [több, mint négy macska]_{QP} el aludt.
 tous chambre-INESS plus que quatre chat VM.away dormi
 ‘Dans toutes les chambres, plus que quatre chats se sont endormis.’
- c. [Több, mint négy macska]_{FP} aludt el.
 plus que quatre chat dormi VM.away
 ‘Plus que quatre chats se sont endormis.’

Focus en hongrois

Le hongrois est bien connu pour avoir une position Focus structurelle. Ce chapitre présente les principales propriétés syntaxiques, prosodiques et sémantiques du focus en général et de la position Focus en hongrois. Le focus désigne généralement un constituant de la phrase qui est mis en valeur par des moyens grammaticaux, tels que la saillance prosodique ou l’ordre des mots non par défaut, et qui apporte en général des informations nouvelles, non présupposées ou contrastives.

Le hongrois est bien connu pour sa position structurelle de Focus. Les expressions focalisées apparaissent dans la position immédiatement préverbale et reçoivent une interprétation focale. Une seule expression peut apparaître dans cette position, elle n’est donc pas itérative comme les positions Topic et Quantifieur. Le déplacement du focus déclenche également le déplacement du verbe, de sorte que les modificateurs verbaux apparaissent après le verbe comme dans (30b) au lieu de leur position préverbale par défaut comme dans (30a).

- (30) a. Misi el aludt.
 Misi VM.away dormi
 ‘Misi s’est endormi.’
- b. [MISI]_{FP} aludt el.
 Misi dormi VM.away

‘MISI s’est endormi.’

Les premières approches aux mouvement du focus supposent que le focus en hongrois est directement représenté dans la syntaxe et que ce mouvement est déclenché par un trait formel du focus. Szendrői (2001, 2003) a proposé une approche prosodique qui dérive la position syntaxique du focus directement des règles intonatives du hongrois. Horváth (2005, 2007) soutient que le mouvement vers la position Focus est dû à un opérateur quantificatif, à savoir un *Opérateur d’Identification Exhaustive* (EI-Op). Cet opérateur n’interagit qu’indirectement avec le focus, que Horváth suppose correspondre à un focus d’information non exhaustif. En d’autres termes, ce n’est pas la focalisation elle-même, mais l’EI-Op qui déclenche le mouvement : un constituant porteur d’informations non exhaustives et nouvelles n’apparaît pas en position préverbale :

- (31) Q: Hol tudhatnám meg a vonatok menetrendjét?
où sait-peut-COND-1SG VM.PERF le trains horaire-POSS3SG-ACC
‘Où puis-je trouver l’horaire des trains?’
- A: Meg tudhatod (például) az interneten (vagy
VM.PERF sait-peut-2SG par-exemple le internet-SUPERESS ou
telefonon is).
téléphone-SUPERESS aussi
‘Vous pouvez vous renseigner (par exemple) sur l’internet (ou aussi par
téléphone).’

La nature de l’interprétation exhaustive du focus structurel hongrois, c’est-à-dire que ce qui est affirmé n’est vrai que pour l’élément en focus et faux pour toutes les alternatives contextuellement pertinentes, a longtemps été un sujet de débat sur lequel les auteurs ne s’accordent toujours pas. À partir des années 1980, cette interprétation a été analysée comme faisant partie du sens littéral de l’élément en focus, donc comme étant de nature sémantique et compositionnelle (Szabolcsi, 1981, 1994a; Kenesei, 1986; É. Kiss, 1998; Balogh, 2006; Bródy and Szendrői, 2010). La majorité des analyses théoriques de l’interprétation du focus hongrois supposent que l’exhaustivité fait partie des conditions de vérité d’une phrase avec un focus préverbal et codée grammaticalement.

Plus récemment, ces approches ont été contestées et d’autres ont été présentées. Wedgwood 2005; 2006; 2007 a traité l’exhaustivité comme une implicature pragmatique. Il a fondé son approche sur *Théorie de la pertinence* (see Sperber and Wilson, 1995) et a fait valoir qu’il n’est pas nécessaire de supposer un opérateur d’exhaustivité

sémantique, puisque cette interprétation peut simplement être expliquée par le fait que l'interprétation exhaustive est la lecture pertinente optimale dans une situation de communication naturelle. Cette approche a également été soutenue par des preuves expérimentales (Onea, 2007; Onea and Beaver, 2009; Kas and Lukács, 2013; Gerócs et al., 2014; Káldi and Babarczy, 2016). En résumé, ces travaux expérimentaux suggèrent tous que si les locuteurs ont effectivement tendance à interpréter les phrases de focus préverbal de manière exhaustive, cette corrélation est considérablement plus faible qu'avec les phrases contenant *csak* 'seulement'. De plus, ils ont montré que des facteurs pragmatiques, tels que le contexte ou la limite de temps, jouent un rôle important dans les jugements des participants.

La position préverbale est la position obligatoire pour certaines expressions en hongrois. En particulier, les constituants contenant *seulement*, les quantificateurs monotones décroissantes tels que *kevés macska*, 'peu de chats', les constituants contenant (*non*) *plus*, les constituants négatifs et également les constituants *wh* doivent apparaître juste devant le verbe – ils sont tous exclus des autres positions préverbales, comme le montre l'impossibilité de l'ordre par défaut VM-V dans les phrases b.

- (32) a. Csak Misi aludt el.
 seulement Misi dormi VM.away
 'Seulement Misi s'est endormi.'
- b. *Csak Misi el aludt.
 seulement Misi VM.away dormi
- (33) a. Kevés macska aludt el.
 peu chat dormi VM.away
 'Peu de chats se sont endormis.'
- b. *Kevés macska el aludt.
 peu chat VM.away dormi
- (34) a. Nem Misi aludt el.
 not Misi dormi VM.away
 'Ce n'était pas Misi qui s'est endormi.'
- b. *Nem Misi el aludt.
 non Misi VM.away dormi
- (35) a. Misi sem aludt el.
 Misi non-plus dormi VM.away
 'Misi ne s'est pas endormi non plus.'

-
- b. *Misi sem el aludt.
Misi either VM.away dormi
- (36) a. Ki aludt el?
qui dormi VM.away
'Qui s'est endormi?'
- b. *Ki el aludt?
qui VM.away dormi

À ma connaissance, il n'existe pas de compte unifié convaincant pour expliquer pourquoi ces expressions doivent apparaître dans une position immédiatement préverbale dans le champ préverbal. Olsvay (2000) appelle les phrases où l'ordre par défaut VM-V est inversé *phrases non neutres* et écrit qu'elles peuvent être considérées comme des phrases négatives au sens large, car elles ne fournissent pas seulement des informations sur l'existence d'un événement, d'un ensemble ou d'un individu, mais elles nient également l'existence de quelque chose. É. Kiss (2002) a affirmé que ces expressions passent toutes en position Focus préverbal parce qu'elles ont toutes un trait [+focus] inhérent qui leur est attribué dans le lexique et qui doit être vérifié. Selon elle, cette caractéristique est due à leur relation avec l'identification exhaustive. Premièrement, les questions wh demandent généralement une réponse exhaustive. Deuxièmement, *seulement* est un opérateur d'exhaustivité explicite. Pour les expressions *négatives*, elle écrit : "*Il est moins clair quelle propriété sémantique est responsable de leur caractéristique inhérente [+focus]...*". (p. 90). Dans É. Kiss (2009), elle a comparé les adverbes positifs et négatifs de degré, de manière et de fréquence par rapport à leurs positions possibles dans le champ préverbal. Elle a fait valoir que les autres positions préverbales, à l'exception de la position Focus, permettent une *interprétation ascendante*, comme par exemple *négyszer* 'quatre fois' est interprété comme 'au moins quatre fois'. Cependant, avec les adverbes négatifs, cette interprétation en extension vers le haut conduirait à une anomalie sémantique, ce qui les fait apparaître en position Focus, où l'exhaustivité bloque cette interprétation permise dans d'autres positions préverbales. Imrényi (2009) unifie la négation et le focus en ce sens qu'ils expriment tous deux la *restriction* sur un ensemble contextuellement pertinent.

Dans le chapitre suivant, je fournirai un compte rendu unifié pour les expressions qui apparaissent dans la position immédiatement préverbale d'une part, et pour celles qui apparaissent dans la position dite Quantifieur, qui précède la position immédiatement préverbale. Je ne considérerai cependant que les phrases déclaratives, et laisserai donc

les phrases *wh* en dehors de la discussion. Pour plus d'informations sur ces dernières, voir entre autres Puskás (1992, 2000); Lipták (2002); Cable (2008).

Contraintes d'ordre des mots basées sur l'ensemble complémentaire dans le domaine préverbal

Comme présenté dans les chapitres précédents, en hongrois certains DP ont des positions désignées dans le champ préverbal, tandis que d'autres peuvent apparaître dans n'importe quelle position préverbale. Le tableau ci-dessous résume les données.

Topic	Quantifier	Focus	Free expressions
<i>a legtöbb</i> 'la plupart'	<i>minden</i> 'tous'	<i>kevés</i> 'peu'	<i>sok</i> 'beaucoup'
<i>az összes</i> 'tout'	<i>mindkét</i> 'les deux'	<i>legfeljebb n</i> 'au plus n'	<i>néhány</i> 'quelques'
	<i>mindegyik</i> 'chaque'	<i>kevesebb, mint n</i> 'moins de n'	<i>n</i> 'n'
	<i>x is</i> 'aussi x'	<i>pontosan n</i> 'exactement n'	<i>legalább n</i> 'au moins n'
	<i>még x is</i> 'même x'	<i>csak x</i> 'seulement x'	<i>több, mint n</i> 'plus que n'

Dans ce chapitre, je présenterai une nouvelle approche des contraintes d'ordre des mots dans le domaine préverbal, basée sur la manière dont ces expressions se comportent à l'ensemble complémentaire pertinents. Cependant, je propose que *a legtöbb N* 'la plupart des N' et *az összes N* 'tous les N' doivent apparaître en position Topic en raison de contraintes syntaxiques. Ce sont les seuls quantificateurs en hongrois qui doivent être précédés de l'article défini *a/az*. 'the', indépendamment de leur caractère défini. Puisque la position Topic est la seule position possible pour les descriptions définies non focalisées, cela explique pourquoi *a legtöbb macska* 'la plupart des chats' et *az összes macska* 'tous les chats' doivent apparaître ici. Pour le reste, je soutiendrai dans ce chapitre que leur distribution est basée sur la façon dont elles se comportent par rapport à un ensemble de compléments contextuellement pertinents. Notamment les expressions qui impliquent que l'ensemble complémentaire est vide doivent apparaître dans les positions Quantifieur, celles qui impliquent que l'ensemble complémentaire est non-vide (au moins dans un sens

proportionnel/partitif) doivent apparaître dans la position Focus, et enfin celles qui ne donnent pas lieu à une telle implication peuvent apparaître dans n'importe quelle position préverbale. Ci-dessous, j'introduirai les ensembles complémentaires et les prédictions que les différentes expressions font à propos de leur vide et de leur non-empêchement.

La fonction principale des quantificateurs est d'indiquer des quantités. Cependant, les quantificateurs diffèrent non seulement dans les quantités qu'ils expriment, mais aussi dans leur distribution, les inférences qu'ils véhiculent, s'ils sont sensibles à la focalisation ou non, etc. En fait, certains quantificateurs peuvent indiquer grosso modo la même quantité, tout en étant différents dans la manière dont ils expriment cette quantité. Ils diffèrent par exemple dans la manière dont ils se rapportent à des ensembles différents qui peuvent être obtenus par différentes opérations telles que l'intersection ($A \cap B$) et la différence d'ensembles ($A - B$). Dans cette section, je présenterai la manière dont les différents quantificateurs se rapportent à ces ensembles, en l'étendant également aux particules focales, afin de proposer une classification à trois voies qui puisse rendre compte de la distribution des quantificateurs et des DP dirigés par des particules focales dans le champ préverbal hongrois.

Dans une expérience, Moxey and Sanford (1993) a découvert que les quantificateurs comme *few* 'peu de', *very few* 'très peu de', *only a few* 'seulement un peu de', *not many* 'pas beaucoup de' et *a few* 'un peu de' sont fondamentalement indiscernables dans la quantité qu'ils expriment (see also Moxey and Sanford, 2000; Sanford and Moxey, 2003). Considérons les phrases suivantes :

- (37) a. Few people came to my party.
b. A few people came to my party.

Ces deux phrases peuvent facilement faire référence au même nombre de personnes, mais elles diffèrent par la perspective que le locuteur adopte lorsqu'il les prononce, en ce sens que (37a) adopte une perspective négative, tandis que (37b) adopte une perspective positive. Ceci est encore plus visible dans les exemples de (38), tirés de Sanford et al. (2002), p. 130 :

- (38) a. In the airplane crash, a few people were killed, which is a #good/terrible thing.
b. In the airplane crash, few people were killed, which is a good/#terrible

thing.

Les phrases ci-dessus peuvent également exprimer la même quantité, cependant la suite positive est bizarre en (38a), tandis que la suite négative est bizarre en (38b). Cela est probablement dû au fait que (38a) se concentre en fait sur les personnes qui ont été tuées, tandis que (38b) se concentre sur les personnes qui n'ont pas été tuées.

En effet, les quantificateurs peuvent faire référence à différents ensembles associés à la phrase quantifiée. Schématiquement, une phrase $Q(A)(B)$, A est *l'ensemble maximal* (maxset), l'intersection de A et B est *l'ensemble de référence* (refset) et enfin *l'ensemble complémentaire* (compset) est la différence de A avec B (Nouwen, 2003a,b).

- (39) $Q(A)(B)$
- a. maxset = A
 - b. refset = $A \cap B$
 - c. compset = $A - B$

Appliquons cela à une phrase contenant un quantificateur.

- (40) $A = \{x \mid x \text{ is a student}\}$, $B = \{y \mid y \text{ came to the party}\}$
Most students came to the party.

L'ensemble maximal A est l'ensemble des étudiants. L'ensemble de référence $A \cap B$ est l'intersection de l'ensemble des étudiants et de l'ensemble des individus qui sont venus à la fête, donc l'ensemble des étudiants qui sont venus à la fête. Enfin, l'ensemble complémentaire $A - B$ est l'ensemble des étudiants qui ne sont pas venus à la fête.

Ces ensembles peuvent donner lieu à trois types de référence anaphorique, illustrés ci-dessous.

- (41) Few students came to the dinner.
- a. But they all came to the party afterwards. maxset
 - b. They really liked the restaurant. refset
 - c. They stayed at home instead. compset

Cependant, les déterminants quantificatifs diffèrent dans leur possibilité de donner lieu à différents types d'anaphores. La référence au refset est généralement possible avec tous les déterminants, tandis que la référence anaphorique au maxset et au compset est plus restreinte. Je vais résumer brièvement ces restrictions en me basant sur Nouwen (2003b).

Nouwen (2003b) soutient que les déterminants introduisent généralement un référent pour l'ensemble de référence :

- (42)
- a. Every student came to the party. They had a good time.
 - b. Some students came to the party. They had a good time.
 - c. Many students came to the party. They had a good time.
 - d. Few students came to the party, but they had a good time.

La seule exception évidente à cette règle est le déterminant *no* 'aucun'.

- (43) No students came to the party. They had a good time. *refset

En effet, comme il l'affirme, les pronoms sont porteurs d'une présupposition de non-vacuité. Pour rendre compte des antécédents possibles des expressions anaphoriques, Hendriks and De Hoop (2001) ont formulé la contrainte appelée *Emptiness* :

- (44) *Emptiness*
Comme antécédent d'une expression anaphorique, ne pas choisir un ensemble qui est ou peut être vide.

Puisque de 'no N' il découle que le refset est vide, une anaphore de refset n'est pas disponible.

Les déterminants sont plus restreints dans leur possibilité de donner lieu à une anaphore de maxset. En effet, selon Nouwen (2003b), seuls les quantificateurs forts sont de bons candidats pour l'anaphore de maxset.

- (45)
- a. Most students came to the party. Some of them, however, stayed at home.
 - b. There are very few students here. #Some of them are somewhere else.

Notons toutefois que, selon certains, ces déterminants peuvent aussi avoir des utilisations fortes, notamment avec une lecture proportionnelle, auquel cas une référence de maxset est disponible :

- (46) Few students came to the party. Some of them stayed at home.

L'étude de l'anaphore au complémentaire a d'abord été initiée dans la recherche psycholinguistique. Dans une série d'expériences (Moxey and Sanford, 1986, 1993; Sanford et al., 1994; Paterson et al., 1998, etc.), les chercheurs ont constaté que les déterminants quantificationnels comme *few* 'peu de', *very few* 'très peu de', *only a few* 'seulement un peu de', *not many* 'pas beaucoup de' et *a few* 'un peu de' etc. ne montraient presque aucune variation dans les quantités auxquelles ils réfèrent. Ils ont cependant constaté que les sujets préféraient utiliser le pronom pluriel pour référer à l'ensemble complémentaire avec des déterminants comme 'peu', 'très peu', 'seulement quelques', 'pas beaucoup', alors qu'ils préféraient référer à l'ensemble de référence avec des déterminants comme 'quelques' et 'beaucoup'. Depuis lors, il est généralement admis que les quantificateurs *positifs*, c'est-à-dire les quantificateurs monotones croissants, ne permettent jamais l'anaphore au complémentaire, contrairement aux quantificateurs monotones décroissants :

- (47) a. Mant/Most/A peu/Some students came to the party. # They were too busy.
b. Few/No/Not many/Very few students came to the party. They were too busy.

Cependant, tous les quantificateurs monotones décroissants ne permettent pas une anaphore au complémentaire. Nouwen (2003b) a fait valoir que seuls les quantificateurs monotones décroissants proportionnels, mais pas cardinaux (ou intersectifs) sont de bons candidats pour une anaphore au complémentaire. Les quantificateurs proportionnels, comme 'moins de trente pour cent', 'la moitié des' ou 'peu des' rendent saillants non seulement le refset, c'est-à-dire l'intersection de A et B, mais aussi le compset, c'est-à-dire les éléments de A qui ne sont pas dans B. En revanche, les quantificateurs cardinaux ne rendent saillants que l'ensemble de référence et fournissent des informations sur leur cardinalité.

(48) Less than ten/At most ten students came to the party. #They were too busy.

Cependant, des exemples comme (48) deviennent meilleurs si les quantificateurs monotones décroissants cardinaux sont dans une construction partitive, comme dans (49):

(49) Less than ten/At most ten of the students came to the party. They were too busy.

Ceci est conforme à la contrainte *Emptiness* proposée par Hendriks and De Hoop (2001), puisque les quantificateurs monotones décroissants dans une construction partitive impliquent que le compset n'est pas vide, et permettent donc une anaphore au complémentaire. Les quantificateurs monotones croissants et les quantificateurs monotones décroissants cardinaux laissent la possibilité que l'ensemble complémentaire soit vide et ne sont donc pas de bons candidats pour une anaphore au complémentaire.

Différents quantificateurs donnent lieu à différents modèles d'implication en ce qui concerne l'ensemble maximal, l'ensemble de référence et l'ensemble complémentaire. Il est intéressant de noter que si nous classons les quantificateurs en fonction des prédictions qu'ils font sur l'ensemble complémentaire, à savoir s'il est vide, non vide ou peut être tantôt vide, tantôt non vide, nous obtenons (en gros) la même classification que celle introduite auparavant pour la distribution des DP quantificationnels ou contenant des particules focales en hongrois. À savoir, les quantificateurs qui impliquent que l'ensemble est vide doivent apparaître dans la position Quantifieur en hongrois, ceux qui impliquent que l'ensemble n'est pas vide (dans un sens proportionnel/partitif) doivent apparaître dans la position Focus, et ceux qui n'impliquent ni l'un ni l'autre sont les expressions libres qui peuvent apparaître dans les deux positions.

Nous avons vu que seuls les quantificateurs monotones décroissants proportionnels et partitifs peuvent donner lieu à une anaphore au complémentaire. En effet, ce type de quantificateurs implique que l'ensemble pertinent n'est pas vide. Considérons les exemples suivants :

- (50) a. Few of the students came to the party. #In fact all of them did.
b. At most five of the students came to the party. #In fact all of them did.
c. Less than five of the students came to the party. #In fact all of them did.

Cependant, bien que les quantificateurs monotones décroissants cardinaux permettent une inférence forte sur la non-vacuité de l'ensemble complémentaire, ils ne l'impliquent pas. En fait, avec eux, la possibilité que l'ensemble maximal soit égal à l'ensemble de référence n'est pas exclue:

- (51)
- a. Few students came to the party, because there are few students.
 - b. At most five students came to the party, because there are only five students.
 - c. Less than five students came to the party, because there are only four students.

Comparez-les avec les constructions monotones décroissantes partitives :

- (52)
- a. Few of the students came to the party, #because there are few students.
 - b. At most five of the students came to the party, #because there are only five students.
 - c. Less than five of the students came to the party, #because there are only four students.

Les quantificateurs non monotones décroissants ne sont pas unifiés dans les prédictions qu'ils font sur l'ensemble complémentaire. Les quantificateurs non monotones comme 'exactement cinq', lorsqu'ils sont utilisés dans une construction partitive, impliquent également que l'ensemble complémentaire n'est pas vide :

- (53)
- a. Exactly five of the students came to the party. #In fact all of them did.
 - b. Exactly five of the students came to the party, #because there are exactly five students.

Les déterminants quantificationnels universels monotones croissants comme 'chaque', 'les deux' ou 'tous les' disent que tous les éléments de l'ensemble A sont aussi des éléments de l'ensemble B, c'est-à-dire que l'ensemble maximal est identique à l'ensemble de référence. En conséquence, l'ensemble A ne contient aucun élément qui n'est pas aussi dans l'ensemble B, donc ils impliquent que l'ensemble complémentaire est vide à la fois dans les constructions partitives et non partitives.

- (54)
- a. Every (one of the) student came to the party. #Some of them stayed at

-
- home.
- b. Both (of the) students came to the party. #Some of them stayed at home.
 - c. Each (of the) students came to the party. #Some of them stayed at home.

Les déterminants quantificationnels non universels monotones croissants tels que ‘beaucoup’, ‘quelques’, ‘le plupart’, ‘cinq’, ‘au moins cinq’ et ‘plus de cinq’ ne génèrent pas une telle inférence au sujet de l’ensemble complémentaire. Alors que dans les constructions partitives, certains de ces déterminants font également une inférence forte concernant la non-vacuité de l’ensemble complémentaire, ils ne l’impliquent pas.

- (55)
- a. Many (of the) students came to the party. In fact all of them did.
 - b. Some (of the) students came to the party. In fact all of them did.
 - c. Most (of the) students came to the party. In fact all of them did.
 - d. Five (of the) students came to the party. In fact all of them did.
 - e. At least five (of the) students came to the party. In fact all of them did.
 - f. More than five (of the) students came to the party. In fact all of them did.

La classification des quantificateurs par rapport à la vacuité de l’ensemble complémentaire conduit à une tripartition. Pour cela, cependant, nous devons faire deux hypothèses : (i) on postule que le domaine de quantification (le maxset) est non nul ; et (ii) que les quantificateurs soient interprétés comme proportionnels/partitifs. Dans cette optique, nous pouvons montrer que certains quantificateurs entraînent que l’ensemble complémentaire est vide, d’autres entraînent que l’ensemble complémentaire est non vide, et enfin certains d’entre eux ne donnent lieu à aucune de ces deux inférences. Le tableau ci-dessous résume cette classification.

Empty compset	Non-empty compset	No entailment
tous	aucun	quelques
les deux	peu	beaucoup
chaque	au plus n	la plupart
tout	moins de n	n
	exactement n	au moins n
		plus que n

Jusqu’à présent, nous n’avons parlé d’ensemble complémentaire que dans le cas

d'expressions quantifiées . Cependant, si nous voulons rendre compte de la distribution des particules focales dans le champ préverbal hongrois de la même manière que pour les quantificateurs, nous devons étendre les observations ci-dessus aux particules focales. Pour ce faire, nous devons redéfinir l'ensemble A pour les particules focales et montrer qu'une phrase avec *seulement* implique que l'ensemble complémentaire n'est pas vide et qu'une phrase avec *aussi* ou *même* implique que l'ensemble complémentaire est vide.

Pour ce faire, je propose de substituer à l'ensemble A l'ensemble des alternatives contextuellement pertinentes pour l'expression qui s'associe à la particule focale pertinente, comme indiqué dans (56). Soit Φ la particule focale, C l'ensemble des alternatives contextuellement pertinentes (comme dans Rooth, 1992), x la dénotation du DP auquel Φ s'associe et B le VP.

- (56) $\Phi(C)(x)(B)$
- a. $\text{maxset} = C$
 - b. $\text{refset} = C \cap B$
 - c. $\text{compset} = C - B$

Voyons maintenant comment on peut appliquer la généralisation précédente à des phrases comprenant une particule focale. Supposons la sémantique suivante pour *seulement* :

- (57) $\text{seulement}(C)(x)(B)$
- Présupposition: $B(x)$
 - Assertion: $\neg \exists y \in C [y \neq x \wedge B(y)]$

- (58) Let $A = C$, $x = m$ and $B = \{y \mid y \text{ dort}\}$
 Seulement Misi_F dort.
- Présupposition: $\text{dort}(m)$
 - Assertion: $\neg \exists y \in C [y \neq m \wedge \text{dort}(y)]$

En suivant Rooth (1992), je suppose que C a comme membres Misi et au moins une autre alternative, nous savons alors avec certitude qu'il y a au moins une alternative à Misi qui ne dort pas, ce qui implique que l'ensemble complémentaire est non-vide.

Passons maintenant aux particules additives. Ici, je me concentrerai sur *aussi*, en supposant qu'il ne diffère de *même* que par le fait que *même* déclenche également une présupposition scalaire, qui ne joue pas un rôle important ici. (59) montre la sémantique de *aussi*, en supposant que sa présupposition est anaphorique et non simplement existentielle (cf. Kripke, 2009) :

$$(59) \quad \text{aussi}_i(C)(x)(B)$$

Presupposition: $y_i \in C \wedge y_i \neq x \wedge B(y_i)$
 Assertion: $B(x)$

$$(60) \quad \text{Si } A = C, x = m \text{ et } B = \{y \mid y \text{ dort}\}$$

Aussi Misi_F dort.

Presupposition: $y_i \in C \wedge y_i \neq m \wedge \text{dort}(y_i)$
 Assertion: $\text{dort}(m)$

En supposant que *aussi* est anaphorique (voir Kripke, 2009; Heim, 1992; Geurts and van der Sandt, 2004; Beaver and Zeevat, 2007; Chemla and Schlenker, 2012, et autres), nous pouvons montrer que l'ensemble complémentaire pertinent est vide en (60). En effet, l'anaphoricité de *aussi* exige qu'il existe une alternative de l'associé pour laquelle le prédicat tient. Cette alternative doit être distincte mais comparable à l'associé, et peut être singulière ou plurielle, puisque naturellement, il peut y avoir plus d'une entité pertinente pour laquelle le prédicat est valable. Par conséquent, je suppose que C contient uniquement l'expression avec laquelle *aussi* s'associe avec plus ses alternatives contextuellement pertinentes pour lesquelles le prédicat est valable. Bien que cela ne semble pas si évident à première vue, nous pouvons voir que ce n'est pas non plus complètement contre-intuitif. En effet, si une phrase comme (60) est prononcée en début de discours, en raison du caractère anaphorique de *aussi*, le locuteur et l'auditeur doivent partager la connaissance (au moins en partie), de l'identité des dormeurs, tandis que les non-dormeurs ne sont pas pertinents. Naturellement, il peut y avoir des non-dormeurs dans le contexte, mais ils doivent être explicitement mentionnés, comme dans (61a), par lequel un autre ensemble D est introduit, à partir duquel le locuteur sélectionne les entités pertinentes qui ne sont pas dans l'ensemble B , à savoir l'ensemble des dormeurs. Ceci n'équivaut cependant pas à l'ensemble $C - B$, mais plutôt à un autre ensemble $D - B$. Cela fonctionne évidemment aussi avec les déterminants quantificationnels, comparons (61a) et (61b) :

- (61) a. Luci dort, Misi_F dort aussi, mais Shoshana ne dort pas.
 b. Tous les étudiants sont venus à la fête, mais aucun des professeurs n'est venu.

De cette façon, les additifs sont comparables aux quantificateurs universels. En effet, É. Kiss (2002) traite les particules additives comme signifiant approximativement 'tout individu pertinent plus x'. De plus, les particules additives ont été analysées comme des conjonctions qui sont traitées comme des universaux (Szabolcsi, 2015; Ahn, 2015; Nicolae, 2020, etc.). Par conséquent, de la même manière qu'une phrase avec un quantificateur universel, (60) entraîne que l'ensemble maximal est identique à l'ensemble de référence et donc que l'ensemble complémentaire est vide.

En effet, si nous comparons (58) et (61) quant à la possibilité d'une anaphore au complémentaire, nous voyons qu'il y a un contraste entre les deux. Une phrase similaire avec *même* comme dans (62c) est également étrange :

- (62) Que font les chats ? Est-ce que il y en a qui dort ?
 a. Seul [Misi]_F dort, ils jouent.
 b. (Luci dort et) [Misi]_F dort aussi, #ils jouent.
 c. (Luci dort et) même [Misi]_F dort, #ils jouent.

Nous pouvons maintenant ajouter ces particules focales au tableau :

Empty compset	Non-empty compset	No entailment
tous	aucun	beaucoup
les deux	peu	quelques
chaque	au plus n	la plupart
tout	moins de n	n
aussi	exactement n	au moins n
même	seulement	plus que n

Avec ceci en tête, nous pouvons rendre compte de la distribution des expressions ci-dessus en hongrois. Comparons la distribution des quantificateurs et des particules focales dans le champ préverbal hongrois et le tableau ci-dessus :

Quantifier	Focus	Free expressions
<i>minden</i> 'tous'	<i>kevés</i> 'peu'	<i>sok</i> 'beaucoup'
<i>mindkét</i> 'les deux'	<i>legfeljebb n</i> 'au plus n'	<i>néhány</i> 'quelques'
<i>mindegyik</i> 'chaque'	<i>kevesebb, mint n</i> 'moins de n'	<i>n</i> 'n'
<i>x is</i> 'aussi x'	<i>pontosan n</i> 'exactement n'	<i>legalább n</i> 'au moins n'
<i>még x is</i> 'même x'	<i>csak x</i> 'seulement x'	<i>több, mint n</i> 'plus que n'

La comparaison montre que ces trois catégories préverbales sont presque identiques à la classification tripartite des quantificateurs et des particules focales en ce qui concerne la vacuité de l'ensemble complémentaire.

Les deux expressions qui apparaissent dans des catégories différentes dans les deux tableaux sont 'tous' et 'la plupart'.

- (63) Let $A = \{x \mid x \text{ is a cat}\}$ and $B = \{y \mid y \text{ is a sleeper}\}$
- a. Tout chat dort. $\models A - B = \emptyset$
 - b. La plupart des chats dorment. $\not\models A - B = \emptyset$
- $\not\models A - B \neq \emptyset$

(63a) implique que l'ensemble complémentaire est vide et (63b) n'implique rien à propos de l'ensemble complémentaire. En ce sens, suivant la classification par rapport à l'ensemble complémentaire, *az összes* 'tous' devrait apparaître en position Quantifieur, tandis que *a legtöbb* 'la plupart' serait une expression libre. Cependant, nous avons vu que ces deux quantificateurs doivent apparaître en position Topic. Ceci est probablement dû à des contraintes syntaxiques, dans la mesure où ce sont les deux seuls quantificateurs en hongrois qui doivent être précédés d'un article défini. Je supposerai que ces contraintes sémantiques ne jouent tout simplement pas de rôle dans la distribution de ces deux quantificateurs.

Pour le reste des expressions ci-dessus, les *Contraintes sur les complémentaires* peuvent être formulées comme suit :

(64) *Les contraintes sur les complémentaires*

Une expression dans le champ préverbal hongrois :

- a. doit apparaître en position Quantifieur si elle implique que le compset correspondant est vide, à condition que le domaine de quantification soit non vide.
- b. doit apparaître en position Focus s'il implique (à la lecture proportionnelle/partitive) que le compset pertinent est non vide, à condition que le domaine de quantification soit non vide.
- c. peut apparaître dans n'importe quelle position préverbale si elle n'implique ni que le compset pertinent soit vide, ni qu'il soit non vide.

Ces contraintes rendent compte avec succès de la distribution des DP quantifiés et des DP associés à une particule focale dans le champ préverbal hongrois. Notez cependant que ni la proportionnalité, ni la partitivité ne jouent un rôle dans la distribution des expressions ci-dessus en hongrois. En effet, les expressions qui, dans le sens proportionnel/partitif, impliquent que l'ensemble complémentaire n'est pas vide, doivent apparaître dans la position Focus en hongrois aussi bien dans les constructions partitives que non-partitives :

- (65)
- a. A macskák közül kevesen aludtak el.
le chats de peu-ADV dormi-3PL VM.away
'Peu de chats se sont endormis.'
 - b. *A macskák közül kevesen el aludtak.
le chats de peu-ADV VM.away dormi-3PL
 - c. Kevés macska aludt el.
peu chat dormi VM.away
'Peu de chats se sont endormis.'
 - d. *Kevés macska el aludt.
peu chat VM.away dormi
'Peu de chats se sont endormis.'

La raison pour laquelle la partitivité n'a pas d'importance est une question intéressante, mais je laisserai ce problème ouvert pour des recherches futures.

Nous avons vu également que certaines expressions peuvent apparaître dans plus d'une position préverbale. C'est le cas de *sok* 'beaucoup', *néhány* 'quelques', des cardinaux nus, et des cardinaux modifiés monotones croissants comme *legalább n* 'au moins n' et

több, mint n ‘plus que n’.

Une suite avec *en fait, tous l’ont fait* ne devrait être compatible qu’avec une phrase qui permet à l’ensemble complémentaire d’être vide. Ainsi, selon les Contraintes sur les complémentaires, cette continuation ne devrait pas être appropriée dans les phrases où les expressions libres apparaissent en position Focus, mais seulement lorsqu’elles apparaissent en position Quantifieur. Voyons si cette prédiction se vérifie :

- (66) a. [Sok macska]_{QP} el aludt, sőt az összes.
beaucoup chat VM.away dormi en-fait le tout
‘Beaucoup de chats se sont endormis, en fait, tous l’ont fait.’
b. [Sok macska]_{FP} aludt el, sőt az összes.
beaucoup chat dormi VM.away en-fait le tout
‘Beaucoup de chats se sont endormis, en fait, tous l’ont fait.’
- (67) a. [Néhány macska]_{QP} el aludt, sőt az összes.
quelques chat VM.away dormi en-fait le tout
‘Quelques chats se sont endormis, en fait, tous l’ont fait.’
b. #[Néhány macska]_{FP} aludt el, sőt az összes.
quelques chat dormi VM.away en-fait le tout
‘Quelques chats se sont endormis, en fait, tous l’ont fait.’
- (68) a. [Négy macska]_{QP} el aludt, sőt az összes.
quatre chat VM.away dormi en-fait le tout
‘Quatre chats se sont endormis, en fait, tous l’ont fait.’
b. #[Négy macska]_{FP} aludt el, sőt az összes.
quatre chat dormi VM.away en-fait le tout
‘Quatre chats se sont endormis, en fait, tous l’ont fait.’
- (69) a. [Legalább négy macska]_{QP} el aludt, sőt az összes.
au-moins quatre chat VM.away dormi en-fait le tout
‘Au moins quatre chats se sont endormis, en fait, tous l’ont fait.’
b. [Legalább négy macska]_{FP} aludt el, sőt az összes.
au-moins quatre chat dormi VM.away en-fait le tout
‘Au moins quatre chats se sont endormis, en fait, tous l’ont fait.’
- (70) a. [Több, mint négy macska]_{QP} el aludt, sőt az összes.
plus que quatre chat VM.away dormi en-fait le tout
‘Plus que quatre chats se sont endormis, en fait, tous l’ont fait.’
b. [Több, mint négy macska]_{FP} aludt el, sőt az összes.
plus que quatre chat dormi VM.away en-fait le tout

‘Plus que quatre chats se sont endormis, en fait, tous l’ont fait.’

Il est intéressant de noter que les jugements ci-dessus ne sont pas clairement en accord avec cette prédiction. Elles montrent notamment que si *beaucoup*, *au moins quatre* et *plus de quatre* permettent une continuation *en fait tous* dans les deux positions, les phrases avec *quatre* et *quelques* ne le permettent que lorsqu’ils apparaissent en position Quantifieur. Par conséquent, les données ci-dessus ne soutiennent que partiellement les prédictions basées sur les Contraintes sur les complémentaires. Je suppose que *quelques* et les cardinaux nus véhiculent une inférence *pas tous* plus forte que les autres expressions libres, ce qui est encore renforcé par l’accent principal associé à la position Focus, et pourrait expliquer pourquoi (67b) et (68b) sont étranges.

Dans l’ensemble, les Contraintes sur les complémentaires rendent compte de la distribution des expressions libres, mais pas entièrement de leur interprétation lorsqu’elles apparaissent dans des positions différentes. En effet, cette catégorie est moins uniforme que les expressions en position QP d’une part et les expressions en position FP d’autre part. Ce qu’elles ont en commun, c’est qu’elles n’impliquent pas la vacuité d’un ensemble pertinent. Ces données montrent cependant aussi que *quelques* et les cardinaux nus se comportent différemment des autres expressions libres. Pour rendre compte des différences d’interprétation qui surviennent lorsqu’ils apparaissent dans des positions différentes, il faudrait examiner de plus près la sémantique et la pragmatique de chacune de ces expressions. Je laisserai cependant cette question pour des recherches futures.

La position Focus hongrois revisitée

Le hongrois est bien connu pour avoir une position structurelle pour les constituants focalisés. En effet, de nombreux auteurs ont soutenu que les expressions se déplacent dans cette position à cause d’un trait de focus formelle (Horváth, 1986; Bródy, 1990; É. Kiss, 2002, etc.) ou à cause des règles intonatives du hongrois (Szendrői, 2001, 2003). D’autres ont soutenu que ce n’est pas directement la focalisation, mais l’exhaustivité qui est responsable du déplacement vers cette position (É. Kiss, 1998; Horváth, 2005, 2007). Alors que les expressions focalisées occupent le plus souvent cette position et sont interprétées de manière exhaustive, je soutiendrai que ce fait n’est qu’une conséquence d’opérations et de contraintes distinctes et que cette position peut être considérée comme une position *marquée*.

Cependant, la focalisation n'est ni une condition suffisante ni une condition nécessaire pour qu'une expression se trouve dans cette position. La focalisation est en fait possible en dehors de cette position, et les expressions peuvent apparaître dans cette position pour des raisons autres que la focalisation.

Dans les chapitres précédents, j'ai montré que certaines expressions sont exclues de la position Focus en hongrois. Il s'agit notamment des quantificateurs *az összes N* 'tout N' et *a legtöbb N*, 'la plupart des N' qui ont la position Topic comme position obligatoire, et des quantificateurs universels, des constituants contenant *aussi-* et *même* pour lesquels la position obligatoire est la position Quantifieur.

Bien que ces expressions soient exclues de la position Focus, cela ne signifie pas qu'elles ne peuvent pas être focalisées. En effet, 'la plupart des chats' ou 'tous les chats' peuvent être des réponses appropriées à des questions telles que *Qui s'est endormi?* ou *Combien de chats se sont endormis?* Alors que l'ordre des mots reste le même que ces expressions soient en focus étroit ou non, la prosodie indique cette différence entre ces deux interprétations. En effet, dans les contextes à focalisation large ou en début de discours, le verbe (Vogel and Kenesei, 1987, 1990; É. Kiss, 1992) est également accentué, alors que dans les contextes à focalisation étroite, le verbe n'est pas accentué. Cela rend le constituant quantificationnel prosodiquement proéminente, indiquant qu'il est focalisé :

- (71) Q: Mi a baj?
quel est problème
'Quel est le problème ?'
A: A LEGtöbb macska EL aludt.
la plupart chat VM.away dormi
'La plupart des chats se sont endormis.'
A'##A LEGtöbb macska el aludt.
la plupart chat VM.away dormi
'La plupart des chats se sont endormis.'
- (72) Q: Hány macska aludt el?
combien chat dormi VM.away
'Combien de chats se sont endormis?'
A: #A LEGtöbb macska EL aludt.
la plupart chat VM.away dormi
'La plupart des chats se sont endormis.'

A': A LEGtöbb macska el aludt.
 la plupart chat VM.away dormi
 'La plupart des chats se sont endormis.'

(73) Q: Mi a baj?
 quel est problème
 'Quel est le problème ?'

A: MINden macska EL aludt.
 tous chat VM.away dormi
 'Tous les chats se sont endormis.'

A' #MINden macska el aludt.
 tous chat VM.away dormi
 'Tous les chats se sont endormis.'

(74) Q: Hány macska aludt el?
 combien chat dormi VM.away
 'Combien de chats se sont endormis?'

A: #MINden macska EL aludt.
 tous chat VM.away dormi
 'Tous les chats se sont endormis.'

A': MINden macska el aludt.
 tous chat VM.away dormi
 'Tous les chats se sont endormis.'

D'autre part, *aussi* et *même* sont des particules focales, elles doivent donc être associées à une expression focalisée dans la phrase. Cela signifie que les expressions associées à *aussi-* et *même* sont toujours focalisées, même si elles se trouvent en dehors de la position Focus.

En fait, à la suite de É. Kiss (1998), certains auteurs distinguent deux types de focus en hongrois : le focus *identificationnel* et le focus *informationnel*. Le premier doit apparaître en position préverbale où il reçoit une interprétation identificationnel ou exhaustive, tandis que le second reste in-situ et se contente de présenter de nouvelles informations sans être interprété de manière exhaustive. Ceci a conduit Horváth (2007) à considérer que ce n'est en fait pas la focalisation directe, mais l'exhaustivité qui est responsable du mouvement vers la position préverbale. Je vais argumenter contre ce point de vue, mais je vais d'abord présenter des données indiquant qu'il peut y avoir d'autres raisons que la focalisation qui expliquent que certains constituants se déplacent vers la position préverbale.

Il existe des cas où la position Focus est remplie, sans que cela soit une conséquence directe de la focalisation. Comme nous l'avons vu dans les chapitres précédents, certaines expressions doivent toujours apparaître dans la position Focus lorsqu'elles sont dans le champ préverbal : à savoir les quantificateurs monotones décroissants et le quantificateur non monotone *pontosan négy N* 'exactement quatre chats'.

Si nous comparons les contextes à focalisation large avec ceux à focalisation étroite, nous voyons que ces expressions restent en position préverbale dans les deux cas, alors que les expressions libres comme *quatre chats* y sont illicites dans les contextes à focalisation large. Par conséquent, les expressions monotones décroissantes doivent apparaître dans la position immédiatement préverbale indépendamment de ce qui est focalisé dans la phrase.

- (75) Q: Mi a baj?
quel est problème
'Quel est le problème ?'
A: *Kevés macska el aludt.
peu chat VM.away dormi
A': Kevés macska aludt el.
peu chat dormi VM.away
'Peu de chats se sont endormis.'
- (76) Q: Hány macska aludt el?
combien chat dormi VM.away
'Combien de chats se sont endormis?'
A: *Kevés macska el aludt.
peu chat VM.away dormi
A': Kevés macska aludt el.
peu chat dormi VM.away
'Peu de chats se sont endormis.'
- (77) Q: Mi a baj?
quel est problème
'Quel est le problème ?'
A: Négy macska el aludt.
quatre chat VM.away dormi
'Quatre chats se sont endormis.'
A'#: Négy macska aludt el.
quatre chat dormi VM.away

‘Quatre chats se sont endormis.’

- (78) Q: Hány macska aludt el?
 combien chat dormi VM.away
 ‘Combien de chats se sont endormis?’
- A: #Négy macska el aludt.
 quatre chat VM.away dormi
 ‘Quatre chats se sont endormis.’
- A’: Négy macska aludt el.
 quatre chat dormi VM.away
 ‘Quatre chats se sont endormis.’

Il y a aussi une classe de verbes appelés *verbes non accentuables*, par exemple *tartozik* ‘appartenir’, qui ne peuvent pas non plus être porteurs de l’accent principal. Ces verbes déclenchent le déplacement de leur argument vers la position préverbale, sans effets d’interprétation particuliers (Balogh, 2012).

- (79) a. Az intézetünk a FILOZÓFIA tanszékhez tartozik.
 le institut-notre le philosophie département.ALLATIVE appartient
 ‘Notre institut appartient au département de philosophie.’
- b. *Az intézetünk tartozik a filozófia tanszékhez.
 le institut-notr appartient le philosophie département.ALLATIVE

Nous pouvons donc conclure que la position immédiatement préverbale n’est pas toujours directement liée à la focalisation. Je montrerai que le mouvement vers cette position ne peut pas non plus être simplement réduit à une interprétation exhaustive obligatoire. Je montrerai d’abord des données contredisant l’opinion selon laquelle l’exhaustivité est obligatoire dans cette position, puis je soutiendrai que l’interprétation exhaustive du focus préverbal hongrois est en fait une implicature conversationnelle *renforcée*.

Premièrement, dans des exemples simples comme (80) avec la position Focus remplie, la lecture exhaustive est annulable, à moins qu’elle ne conduise à une bizarrerie pragmatique :

- (80) Hanna [DODÓTÓL]_F kért tanácsot, és Esztertől is.
 Hanna Dodó.ELATIVE demandé.3SG conseil.ACC et Eszter.ELATIVE aussi
 ‘Hanna a demandé conseil à [DOD’O]_F, et aussi à Eszter.’

Il existe également un certain nombre d’adverbes qui s’associent à la focalisation mais qui sont intrinsèquement non exhaustifs, comme *többek között* ‘parmi d’autres’ et *jórészt* ‘principalement’. Ces adverbes requièrent la présence d’un élément focalisé, ce qui contredirait clairement une analyse selon laquelle l’exhaustivité est obligatoire avec la focalisation préverbale, puisque ces adverbes impliquent que le prédicats soit également vrai pour d’autres alternatives (Wedgwood, 2005; Wedgwood et al., 2006). Pourtant, des phrases comme (81) sont tout à fait correctes.

- (81) A küldöttségben Chris Patten, az unió külügyi biztosa
 la delegation-dans Chris Patten la union étrangère commissaire-POSS3SG
 mellett helyet kap Javier Solana, akiket újjukra többek között
 à-côté-de place.ACC obtient Javier Solana qui route-sur autres parmi
 [ANNA LINDH]_F svéd külügyminiszter kísér majd el.
 Anna Lindh Swedish étrangère-ministre accompagne FUTURE VM-AWAY
 ‘La délégation comprendra Javier Solana et Chris Patten, le commissaire eu-
 ropéen aux affaires étrangères, et sera accompagnée, entre autres, de la ministre
 suédoise des affaires étrangères [ANNA LINDH]_F.’

Ces données montrent que l’interprétation exhaustive du focus préverbal hongrois n’est pas toujours présente, ce qui constitue un problème pour les approches basées sur le caractère obligatoire de l’interprétation exhaustive liée à cette position. Cela suggère que la lecture exhaustive qui apparaît dans la position Focus est simplement une inférence pragmatique. C’est en effet ce que Wedgwood (2005) a proposé et ce qui a ensuite été confirmé par des expériences (Onea, 2009; Onea and Beaver, 2009; Kas and Lukács, 2013; Gerócs et al., 2014; Káldi and Babarczy, 2016, etc.). Je soutiendrai ici que l’exhaustivité est en fait une implicature conversationnelle qui est renforcée par la focalisation ou la proéminence prosodique, et que ce renforcement peut être le fait soit de la focalisation (syntaxique) soit de la proéminence prosodique.

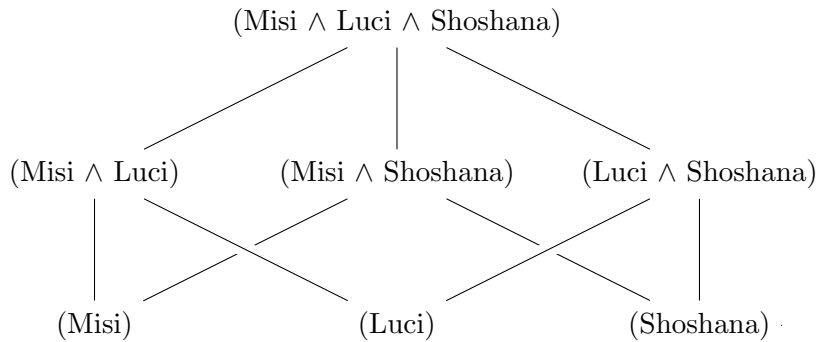
Les implicatures sont des inférences pragmatiques et ne font donc pas partie du sens littéral. En fait, un nombre croissant d’études expérimentales s’intéressent au traitement des implicatures et, en général, elles ont montré que ce calcul a un coût cognitif plus élevé que le traitement de la signification littérale (Bott and Noveck, 2004; Bott et al., 2012; Huang and Snedeker, 2009; Tomlinson Jr et al., 2013; Degen and Tanenhaus, 2015; Husband and Ferreira, 2016; Gotzner et al., 2016; Gotzner and Spalek, 2017; Chemla and Bott, 2014; van Tiel et al., 2019, entre autres).

Des résultats expérimentaux montrent que la focalisation joue un rôle dans le calcul des implicatures. Chevallier et al. (2008) et Schwarz et al. (2008) ont montré que les participants sont plus susceptibles de renforcer l'interprétation d'un élément scalaire lorsque le mot a été focalisé prosodiquement. Ils ont constaté que l'interprétation exclusive de 'ou' ou l'interprétation 'quelques mais pas tous' de 'quelques' sont plus disponibles avec un accent prosodique, et qu'elles prennent également moins de temps à interpréter qu'en l'absence d'accent prosodique. Onea and Beaver (2009) et Tomlinson Jr et al. (2017) ont également constaté que la focalisation peut faciliter le calcul des implicatures d'exhaustivité, sans impliquer les alternatives scalaires lexicales. Gotzner (2019) a mené deux expériences et a constaté que (i) l'intonation focale contrastive rend l'interprétation exhaustive tout aussi disponible que l'emploi explicite de *seulement*, mais (ii) que le temps de réaction était significativement plus élevé dans les conditions de focalisation sans *seulement* que dans les conditions avec un *seulement* explicite. Ces résultats montrent que si l'accent focal a un effet important sur le calcul des implicatures, il s'accompagne d'un coût cognitif plus élevé, ce qui suggère que le sens renforcé n'est pas encodé grammaticalement. Ainsi, ces études ont montré que l'accent focal ne code pas grammaticalement un sens renforcé ou exhaustif. Cependant, il encourage le calcul d'implicatures en rendant les alternatives pertinentes plus saillantes dans le contexte et en fournissant un indice fort qu'une inférence devrait être dérivée.

On a dit que la position Focus hongrois donnait lieu à une interprétation exhaustive obligatoire. Bien que cette interprétation soit en effet étroitement liée à cette position, je soutiendrai que l'exhaustivité est simplement une implicature conversationnelle qui est renforcée par la focalisation. En fait, si le contexte linguistique ou extralinguistique ne suggère pas le contraire, une inférence d'exhaustivité se produit indépendamment de la position du DP. Comparons les deux phrases suivantes :

- (82) a. Misi el aludt.
Misi VM.away dormi
'Misi s'est endormi.'
- b. [MISI]_{FP} aludt el.
MISI dormi VM.away
'Misi s'est endormi.'

Pour les deux phrases, l'ensemble des alternatives a la forme comme ci-dessous, et l'auditeur infère que les alternatives qui sont plus fortes que l'énoncé original sont fausses :



La plupart des locuteurs s'accordent cependant à dire que lorsque *Misi* est en position focale, la lecture exhaustive est plus forte. Mais comme l'a fait valoir Gotzner (2019), cela est probablement dû au fait que, grâce à un accent focal, les alternatives deviennent plus saillantes dans le contexte, ce qui facilite le calcul des implicatures.

Cette différence se traduit aussi en termes d'annulation des implicatures. L'implicature dans (82a) et (82b) peut être annulée, mais l'annulation est en effet significativement plus marquée lorsque *Misi* est en position Focus. Ceci est en accord avec ce qui a été proposé par Mayol et Castroviejo (2011), à savoir que le matériel linguistique dans une position Focus ne peut pas être annulé.

- (83) a. Misi el aludt és Luci is.
 Misi VM.away dormi et Luci aussi
 'Misi s'est endormi et Luci aussi.'
- b. ?[MISI]_{FP} aludt el és Luci is.
 MISI dormi VM.away et Luci aussi
 'Misi s'est endormi, et Luci aussi.'

De plus, avec un élément scalaire, par exemple un cardinal non modifié dans la position Focus, l'annulation est encore plus marquée, voir même impossible.

- (84) a. Négy macska el aludt, sőt az összes.
 quatre chat VM.away dormi en-fait le tout
 'Quatre chats se sont endormis, en fait, tous l'ont fait.'
- b. #[NÉGY MACSKA]_{FP} aludt el, sőt az összes.
 quatre chat dormi VM.away en-fait le tout
 'Quatre chats se sont endormis, en fait, tous l'ont fait.'

Puisque les éléments scalaires et la focalisation activent les alternatives et les rendent saillantes, il n'est pas surprenant que lorsque les deux sont combinés, les implicatures soient renforcées : qu'elles sont calculées plus facilement et/ou sont plus difficiles à annuler. Je soutiens donc que la nature exhaustive de la position Focus en hongrois est de nature pragmatique.

Je propose que la position préverbale hongroise soit une position prosodiquement et structurellement *marquée*. Elle accueille des expressions focalisées, des expressions monotones décroissantes et peut-être aussi des expressions négatives, qui sont toutes des expressions marquées dans un certain sens. Cela suggère que le marquage sémantique est également associé à cette position.

Les langues utilisent des stratégies différentes pour marquer un constituant focalisé, comme la proéminence prosodique, la réorganisation syntaxique, les marqueurs morphologiques ou une combinaison de ces éléments (voir le chapitre 4). Ce qui est probablement commun à toutes les langues naturelles, c'est qu'une phrase contenant un constituant focalisé étroit a généralement une forme marquée par rapport aux phrases neutres (Jackendoff, 1972; Truckenbrodt, 1995; Büring, 2009; Selkirk, 2008).

En hongrois, le focus est généralement marqué à la fois structurellement et prosodiquement. Les constituants focalisés se déplacent vers la position immédiatement préverbale, qui est celle qui porte l'accent principal dans une phrase intonative (Szendrői, 2001, 2003). Il en résulte une inversion du modificateur verbal et du verbe : que les modificateurs verbaux suivent le verbe au lieu d'apparaître dans leur position préverbale par défaut lorsque la position Focus est remplie.

- (85) a. Misi el aludt.
Misi VM.away dormi
'Misi s'est endormi.'
- b. [MISI]_F aludt el.
Misi dormi VM.away
'[MISI]_F s'est endormi.'

La plupart des types de constituants peuvent se déplacer vers cette position et recevoir l'accent focal, mais nous avons vu que certains constituants comme *minden macska* 'tous les chats' sont exclus de cette position alors que d'autres comme *kevés macska* 'peu de chats', doivent apparaître dans la position Focus indépendamment de la focalisation. Cependant, l'intonation dans les phrases *neutres* diffère de l'intonation des phrases de

focus étroit avec les deux types d'expressions. En effet, dans la phrase *neutre*, il y a un accent secondaire sur le verbe également (et sur le VM lorsqu'il suit le verbe) comme dans les phrases a., mais pas dans les phrases b. lorsque le focus est sur le sujet.

- (86) a. [MINden macska]_{QP} EL aludt.
 tous chat VM.away dormi
 'Tous les chat se sont endormis.' All-focus
- b. [MINden macska]_{QP} el aludt.
 tous chat VM.away dormi
 'Tous les chat se sont endormis.' Subject
- (87) a. [KEvés macska]_{FP} Aludt El.
 peu chat dormi VM.away
 'Peu de chats se sont endormis.' All-focus
- b. [KEvés macska]_{FP} aludt el.
 peu chat dormi VM.away
 'Peu de chats se sont endormis.' Subject

Cela suggère qu'en hongrois, la prosodie joue un rôle plus important dans la focalisation que la position elle-même. Ceci est en accord avec la suggestion de Szendrői (2001) selon laquelle les constituants focalisés se déplacent vers cette position non pas en raison d'une quelconque caractéristique formelle de focus, mais simplement parce que c'est la position qui est prosodiquement la plus proéminente. En effet, la plupart des constituants apparaissent dans cette position afin de recevoir une interprétation focale, à moins qu'ils n'en soient exclus en raison de contraintes syntaxiques ou sémantiques.

Ce qui est également commun aux langues humaines, c'est qu'elles semblent toutes avoir un marqueur explicite pour la négation, alors que l'affirmation ne reçoit généralement pas de marqueur explicite (Greenberg, 1966). Intuitivement, les phrases négatives sont en effet *marquées* par rapport aux phrases affirmatives. Il a été avancé que dans une opposition binaire, le terme marqué est celui qui tend à être formellement plus complexe, distributivement plus restreint, moins fréquent et sémantiquement moins neutre. La négation répond effectivement à ces critères (Horn, 1989).

En fait, non seulement la négation pure et simple, mais aussi la monotonie décroissante ont été présentée comme étant sémantiquement marquée :

“La monotonie croissant est le cas non marqué en sémantique du langage naturel : bien qu'une explication non circulaire de ce fait soit difficile à trouver, il semble

clair que les phrases sont par défaut monotones croissant, et seulement monotones décroissant lorsqu'un élément spécial est introduit, comme la négation". (Beaver and Clark, 2008, p. 72)

Nous avons vu que les expressions monotones décroissantes doivent apparaître en position immédiatement préverbale en hongrois :

- (88) a. Kevés macska aludt el.
peu chat dormi VM.away
'Peu de chats se sont endormis.'
b. *Kevés macska el aludt.
peu chat VM.away dormi

- (89) a. Csak Misi aludt el.
seulement Misi dormi VM.away
'Seulement Misi s'est endormi.'
b. *Csak Misi el aludt.
seulement Misi VM.away dormi

De la même manière que pour la construction ci-dessus, en hongrois, la négation phrasique comme dans (90) et la négation de constituant comme dans (91) et (92) provoque une inversion dans l'ordre VM-V :

- (90) a. Misi nem aludt el.
Misi non dormi VM.away
'Misi ne s'est pas endormi.'
b. *Misi nem el aludt.
Misi non VM.away dormi

- (91) a. Misi sem aludt el.
Misi non-plus dormi VM.away
'Misi ne s'est pas endormie non plus.'
b. *Misi sem el aludt.
Misi non-plus VM.away dormi

- (92) a. Nem Misi aludt el.
not Misi dormi VM.away
'Ce n'était pas Misi qui s'est endormi.'

-
- b. *Nem Misi el aludt.
non Misi VM.away dormi

Ainsi, la négation et la monotonie décroissante, tout comme la focalisation, sont toutes des catégories marquées dans la langue. En hongrois, elles impliquent toutes une structure marquée similaire en ce sens qu'elles sont associées à une intonation marquée et à un ordre des mots qui n'est pas l'ordre par défaut.

Conclusions

Dans cette thèse, j'ai proposé une nouvelle approche, basée sur les ensembles complémentaires, pour les contraintes d'ordre des mots dans le champ préverbal hongrois. J'ai soutenu que la distribution des quantificateurs et des DP associés à des particules focales dépend de l'implication à laquelle ils donnent lieu par rapport à la vacuité de l'ensemble complémentaire contextuellement pertinent. En d'autres termes, (i) des expressions telles que 'tout N', 'les deux N', 'aussi x' et 'même x', qui impliquent que l'ensemble complémentaire est vide, doivent apparaître en position Quantifieur, (ii) des expressions telles que 'peu de N', 'au plus n N', 'moins de n N', 'exactement n N' et 'seulement x', qui (au moins dans un sens proportionnel/partitif) impliquent que l'ensemble complémentaire n'est pas vide doivent apparaître dans la position Focus, et (iii) enfin, celles qui ne donnent lieu à aucune implication, comme 'beaucoup de N', 'quelques N', les cardinaux nus, 'au moins n N' et 'plus de n N' peuvent apparaître dans l'une ou l'autre position.

J'ai également montré que ces contraintes peuvent en partie expliquer les différences d'interprétation qui apparaissent avec les quantificateurs que j'ai appelés libres, lorsqu'ils apparaissent dans différentes positions préverbales. En effet, les quantificateurs qui donnent lieu à des implicatures scalaires, comme 'quelques N' et les cardinaux nus, lorsqu'ils apparaissent dans la position Focus, déclenchent également une inférence forte que l'ensemble complémentaire n'est pas vide et sont donc incompatibles avec une continuation en 'en fait tous l'ont fait'. Cette inférence ne se produit pas avec 'beaucoup de N', 'au moins n N' et 'plus de n N'. Pour les deux derniers, cela n'est pas surprenant, puisqu'ils ne donnent pas non plus lieu à des implicatures scalaires. Cependant, la raison pour laquelle cette inférence ne se produit pas avec 'beaucoup de N' reste une question ouverte.

Enfin, à la lumière des Contraintes sur les complémentaires, j'ai réexaminé certains

aspects de la position Focus en hongrois. Premièrement, j'ai montré que si cette position est indubitablement liée au focus, ce serait une erreur de réduire ses propriétés sémantiques uniquement à la focalisation. D'une part, le focus est possible en dehors de cette position, et d'autre part, des expressions peuvent apparaître dans cette position pour des raisons autres que la focalisation. Deuxièmement, j'ai réexaminé la question de l'interprétation exhaustive qui est étroitement liée à cette position. J'ai montré que cette interprétation n'est pas toujours obligatoire dans cette position et j'ai argumenté qu'il s'agit en fait d'une implicature conversationnelle qui est renforcée par la focalisation. Enfin, j'ai abordé la question du *marquage* et présenté l'idée que cette position peut être considérée comme une position marquée à plusieurs égards : (i) elle implique une structure de phrase marquée ; (ii) elle est associée à un modèle d'intonation non par défaut ; et (iii) elle attire des expressions qui sont sémantiquement marquées.

Cette thèse apporte trois contributions principales. Premièrement, la plus explicite est constituée par les contraintes que j'ai proposées et qui peuvent rendre compte avec succès de la distribution des quantificateurs et des DP associés à des particules focales dans le champ préverbal hongrois. Cependant, il reste un certain nombre de questions ouvertes. Premièrement, j'ai montré qu'il y a deux quantificateurs en hongrois pour lesquels les Contraintes sur les complémentaires ne font pas les bonnes prédictions, à savoir '*az összes N* 'tous les N' et '*a legtöbb N* 'la plupart des N'. J'ai argumenté qu'ils doivent apparaître dans la position Topic, parce qu'ils sont tous deux précédés d'un article défini, et que cette position est la seule disponible pour les descriptions définies non focalisées. Cependant, alors que la plupart des descriptions définies, même quantifiées, peuvent être focalisées et donc apparaître en position Focus, ces deux-là ne le peuvent pas : une étude plus approfondie de ces quantificateurs et de la position Topic est nécessaire pour résoudre cette question. Ensuite, j'ai montré que les Contraintes sur les complémentaires ne peuvent que partiellement expliquer les différences d'interprétation qui apparaissent avec les expressions libres dans différentes positions. Ces expressions devraient être étudiées plus en profondeur, notamment en ce qui concerne leur relation avec les implicatures scalaires et l'exhaustivité. Enfin, j'ai montré que les quantificateurs monotones décroissants n'entraînent la non-vacuité de l'ensemble complémentaire que dans une lecture proportionnelle et dans des constructions partitives, mais qu'ils doivent néanmoins apparaître en position Focus en hongrois, même s'ils ne sont ni proportionnels ni partitifs. Il s'agit également d'une question en attente de réponse que je laisserai à une recherche future.

Deuxièmement, alors qu'à ma connaissance, le rôle de l'ensemble complémentaire dans

la langue a été principalement étudié en relation avec la référence anaphorique (voir les références dans le chapitre 5), j'ai proposé dans cette thèse qu'il puisse également jouer un rôle dans l'ordre des mots, du moins en hongrois. Il serait intéressant de voir si d'autres langues présentent des contraintes similaires à cet égard. De plus, l'ensemble complémentaire ou la manière dont les différentes expressions se rapportent à cet ensemble pourraient être liés à d'autres phénomènes linguistiques, par exemple la légitimation des items à polarité négative (NPI), comme l'a affirmé Sailer (2007). En effet, il a soutenu que si un quantificateur peut servir d'antécédent pour une anaphore au complémentaire, il peut également autoriser des NPI forts en allemand. Des recherches plus approfondies sur des sujets connexes pourraient mettre en évidence le rôle jusqu'ici peu étudié des ensembles complémentaire dans le langage.

Enfin, dans le dernier chapitre, j'ai discuté de la relation entre la focalisation et la négativité (au sens large). Bien que cette relation soit plutôt intuitive et que certains de ses aspects aient été bien étudiés dans la littérature, il reste beaucoup de travail à faire pour mieux comprendre sa nature exacte. Cette thèse apporte une modeste contribution sur cette question.

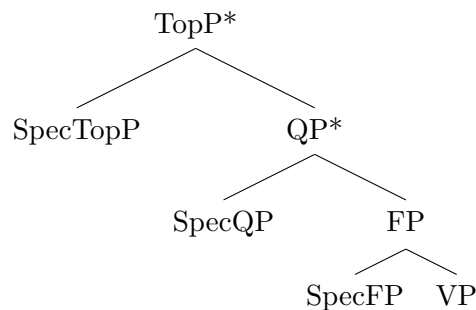
Chapter 1

Introduction

This dissertation proposes a novel, complement set based approach for word order constraints in the Hungarian preverbal field. The expressions this dissertation focuses on are quantified DPs and DPs headed by focus particles. I will argue that expressions that entail that the relevant complement set is empty must appear in the Quantifier position; those that entail that the relevant complement set is not empty (in a proportional/partitive sense) obligatorily appear in the immediately preverbal Focus position; and those that have no such entailment can appear in either position.

Word order in Hungarian is relatively free: due to the extensive case marking system, grammatical functions such as the subject and the object need not be assigned particular positions in the Hungarian sentence. However, fixed preverbal positions have been linked to different functions, discourse configurationality and information structure. Indeed, expressions in the preverbal field are arranged relative to each other depending on their semantic properties. The Topic position is followed by the Quantifier position and finally the Focus position, which is the immediately preverbal one, as shown in (1).

(1)



These positions differ in their syntax, the interpretations they are associated with and also with respect to what kinds of expressions they can and cannot host. This dissertation investigates the constraints that play a role in the distribution of quantifiers and focus particles among the preverbal positions.

Quantifiers that have to appear in the Topic position are *a legtöbb N* ‘most N’ and *az összes N* ‘all N’. The Quantifier position is the obligatory position for universal quantifiers like *minden N* ‘every N’, *mindkét N* ‘both N’ and to additive focus particles such as *x is* ‘also x’ and *még x is* ‘even x’. Expressions that have to move to the Focus position are downward entailing quantifiers such as *kevés N* ‘few N’ or *legfeljebb négy N* ‘at most four N’, *kevesebb, mint négy N* ‘less than four N’, the non-monotonic quantifier *pontosan négy N* ‘exactly four N’ and the exclusive focus particle *csak x* ‘only x’. Finally, expressions that can appear in either position include bare numerals such as *négy N* ‘four N’, upward entailing quantifiers like *sok N* ‘many N’, *néhány N* ‘some cats’ and modified numerals like *legalább négy N* ‘at least four N’ and *több, mint négy N* ‘more than four N’.

Topic	Quantifier	Focus	Free expressions
<i>a legtöbb</i> ‘most’	<i>minden</i> ‘every’	<i>kevés</i> ‘few’	<i>sok</i> ‘many’
<i>az összes</i> ‘all’	<i>mindkét</i> ‘both’	<i>legfeljebb n</i> ‘at most n’	<i>néhány</i> ‘some’
	<i>mindegyik</i> ‘each’	<i>kevesebb, mint n</i> ‘less than n’	<i>n</i> ‘n’
	<i>x is</i> ‘also x’	<i>pontosan n</i> ‘exactly n’	<i>legalább n</i> ‘at least n’
	<i>még x is</i> ‘even x’	<i>csak x</i> ‘only x’	<i>több, mint n</i> ‘more than n’

In this dissertation, I propose semantic generalisations to account for the distribution of these expressions among the preverbal positions. I mainly focus on three among four of the above groups: expressions that have to appear in the Quantifier position, those that have to appear in the Focus position and finally those that can appear in either position. I propose that the Topic position expressions are in fact constrained syntactically: they are both preceded by the definite article *a/az* ‘the’. Since the Topic position is the only possible position for unfocused definite descriptions, this explains why *a legtöbb*

N ‘most *N*’ and *az összes N* ‘all *N*’ have to appear here. For the rest, I argue that their distribution is based on how they behave with respect to a contextually relevant complement set.

Quantifiers give rise to various kinds of discourse anaphora that involve reference to sets associated with the quantified sentence. For a sentence *Some cats fell asleep*, the *maximal set* is the set of cats, the *reference set* is the intersection of the set of cats and the set of individuals who fell asleep, and finally, the *complement set* is the set of cats who did not fall asleep. While reference to the reference set is generally available for quantificational determiners (except for *no*), reference to the maximal set and to the complement set is more restricted. Namely, reference to the maximal set is only available for strong quantifiers, such as *every* or *most*, and reference to the complement set is only available for proportional (or partitive) downward entailing quantifiers like *few of the* or *at most five of the*.

The expressions I will look at can be divided into three groups with respect to the (non-)emptiness of the complement set. The sentence *Every cat fell asleep* entails that the complement set is empty, since if it is true that every cat fell asleep, then there are no cats that did not fall asleep. On the other hand, *Few (of the) cats fell asleep* entails that the complement set is not empty (provided that there are cats), since if few cats fell asleep then there must be some cats who did not fall asleep. Finally, *Some cats fell asleep* conveys no such entailment: the sentence can be true whether or not there were any cats who did not fall asleep.

I argue that this three-way classification with respect to the emptiness of the relevant complement set accounts for the distribution of quantifiers and focus particles in the Quantifier and Focus positions, and also for those that can appear in all preverbal positions. Namely, expressions that entail that the complement set is empty have to appear in the Quantifier position, those that entail that the complement set is non-empty (in a proportional/partitive sense) have to appear in the Focus position, and finally those that do not give rise to any such entailment can appear in either position.

In order to show this, in Chapter 2, I will review some basic information about Hungarian morphology and syntax that will be essential in understanding the rest of the dissertation. I will introduce verbal modifiers, a set of particles that are most often aspectual or locative markers, since they can be helpful in diagnosing whether an expression is in the Quantifier or in the Focus position. Namely, when the Focus position is filled, verbal modifiers have to appear after the verb, instead of appearing in their default preverbal

position. Then I will present the basic structure of the Hungarian preverbal field and discuss the Topic position and Contrastive Left Dislocation more in detail. Then I will briefly discuss the postverbal field in Hungarian, where constituents are significantly less constrained than in the preverbal field. Finally, I will introduce the basic properties of negation in Hungarian.

In Chapter 3, I will present syntactic and semantic properties of quantifier expressions in Hungarian and also of the Quantifier position. I will first present some generalities about quantifiers in natural language, namely some of their semantic properties that have been argued to be universal among languages. Then, turning more specifically to Hungarian, I will outline the distribution of different quantifiers, first in different preverbal positions, then in the postverbal field. I will briefly discuss quantifier scope relations in Hungarian, before finishing the chapter with a discussion of some semantic and syntactic properties of the Quantifier position itself.

In Chapter 4, I will discuss the Hungarian Focus position. I will start by presenting an overview of the literature on focusing in general, namely about the strategies different languages use to mark the focus in a sentence, how focal interpretation interacts with prosody and how it can be represented compositionally in semantics. I will then discuss focus sensitive expressions such as *only* and *also* more in detail, since the generalisations I will propose in this dissertation can also account for the distribution of these expressions in the Hungarian preverbal field. Then I will present what different authors have proposed for focal movement in Hungarian. Hungarian preverbal focus have been linked to strong exhaustivity effects: I will first discuss the approaches assuming that this interpretation is semantically encoded in the preverbal Focus position, then discuss the proposition that the exhaustive interpretation rather arises from pragmatic and contextual factors, a view also supported by experimental studies. Finally, I will discuss the expressions that are attracted to the Focus position.

In Chapter 5, I will present the *Compset constraints*, which can successfully account for the distribution of quantifiers and DPs headed by focus particles in the Hungarian preverbal field. In order to do this, I will first discuss different possibilities for anaphoric reference for different quantifiers. Namely, I will review what types of quantifiers are available for a complement set anaphora, then discuss what different quantifiers predict about the emptiness or non-emptiness of the complement set. Based on this, I will propose a three-way classification for quantifiers, the first class entailing the emptiness of the complement set, the second class entailing the non-emptiness of the complement

set and finally the third class not giving rise to any entailment. I will also show how focus particles fit into this classification. Then I will argue that this three-way classification of quantifiers and focus particles is almost identical to the three-way classification of the distributional properties of these expressions in the Hungarian preverbal field and I will propose the *Compset constraints*. Finally, I will present what predictions these constraints make for expressions that can appear in any of the preverbal positions and compare these predictions to the actual data.

In Chapter 6, I revisit some aspects of the immediately preverbal position in Hungarian that is most often referred to as the Focus position. First I will show, that while focused expressions most often do appear in this position, focusing is neither a necessary nor a sufficient condition for constituents to move here, and I will show data supporting these claims. Then I will argue that exhaustivity cannot be fully responsible for constituents to appear in this position: namely, I will show that exhaustivity is not always obligatory in this position and I will argue that it is in fact a conversational implicature that gets reinforced by focus. Finally, I will suggest that what is constant about this position, the intonation associated with it and the expressions it hosts, is *markedness*. Indeed, when this position is filled, both the syntactic structure and the intonation is marked with respect to neutral sentences, and foci, Strawson-DE expressions and possibly negative expressions can also be viewed as marked categories.

Finally, I will summarise the findings of this dissertation, conclude and lay out possible directions for future research in Chapter 7.

Chapter 2

Background on Hungarian

Hungarian is a Finno-Ugric language and differs in many respects from Indo-European languages. For the perspective of this dissertation, the most important distinctive features are flexible word order and agglutination. Indeed, as a result of the rich case system, grammatical functions need not to be assigned particular positions in the Hungarian sentence. Although there are certain restrictions in the preverbal field, the postverbal word order seems to be completely free. The dissertation investigates the nature of these restrictions.

In this chapter, I present some general background on Hungarian that will be essential to understand the rest of the dissertation. I start by presenting some morphological aspects of the language, then continue with an overview of verbal modifiers that diagnose which of the preverbal positions is occupied. Then I will outline some basic information about the preverbal field with a more detailed overview of the Topic position and Contrastive Left Dislocation, and then turn to discussing word order in the postverbal field. Finally, I will briefly discuss negation in Hungarian.

2.1 Agglutination

Hungarian uses a large number of suffixes that encode a variety of grammatical information, such as case and agreement. These suffixes are subject to certain morphophonological rules such as vowel harmony¹. In this section I will briefly present the Hungarian case system, number marking and verbal agreement, as these will help the

¹See Siptár and Törkenczy (2000) for more details.

reader in understanding the rest of this dissertation.

2.1.1 Case marking

The extensive case marking system allows for a fairly flexible word order in Hungarian. If we take a verb, a subject and an object, every possible order yields a grammatical sentence, since the subject and the object can be distinguished thanks to case marking regardless of the position they appear in. The differences between these sentences are not truth-conditional, but rather pragmatic and/or information structure related.

- | | | | | |
|-----|----|---|----|---|
| (1) | a. | Peti ismeri Marit.
Peti knows Mari-ACC
'Peti knows Mari.' | d. | Marit Peti ismeri.
Mari-ACC Peti knows
'It is Peti who knows Mari.' |
| | b. | Peti Marit ismeri.
Peti Mari-ACC knows
'It is Mari who Peti knows.' | e. | Ismeri Peti Marit.
knows Peti Mari-ACC
'Peti does know Mari.' |
| | c. | Marit ismeri Peti.
Mari-ACC knows Peti
'It is Mari who Peti knows.' | f. | Ismeri Marit Peti.
knows Mari-ACC Peti
'Peti does know Mari.' |

As can be seen from these examples, grammatical functions do not have an important role in word ordering, since they are encoded via case-marking. To my knowledge, there is no consensus in the literature as of today about the exact number of these markers. It varies somewhere between 16 and 30, depending on their productivity and how case is defined (see Antal, 1961; Kornai, 1986; Payne and Chisarik, 2000; Kiefer, 2006, etc.). I am presenting 16 productive cases² in the table below based on Dékány (2011), but slightly modified.

²Remark that these suffixes are also subject to morphophonological rules that I will not discuss here.

Case	Suffix	Example	Meaning
1. Nominative	\emptyset	ház (house)	subject
2. Accusative	-t	ház-at	direct object
3. Dative	-nak/-nek	ház-nak	indirect object
4. Instrumental	-val/-vel	ház-zal	instrument, company
5. Causal-final	-ért	ház-ért	for (the sake of)
6. Terminative	-ig	ház-ig	until, as far as
7. Translative	-vá/vé	ház-zá	into (change of state)
8. Illative	-ba/-be	ház-ba	to (interior)
9. Inessive	-ban/-ben	ház-ban	in
10. Elative	-ból/ből	ház-ból	from (interior)
11. Sublative	-ra/-re	ház-ra	to (surface)
12. Superessive	-on/-en/-ön	ház-on	on
13. Delative	-ról/-ről	ház-ról	from (surface)
14. Allative	-hoz/-hez/-höz	ház-hoz	to (proximity)
15. Adessive	-nál/-nél	ház-nál	at (proximity)
16. Ablative	-tól/-től	ház-tól	from (proximity)

Table 2.1: The Hungarian case system

2.1.2 Number marking

Hungarian marks the plural, while the singular is left unmarked. The plural suffix is *-k*, in front of which an epenthetic vowel following vowel harmony is inserted whenever a noun ends with a consonant.

(2)	holló – holló-k raven – ravens	(4)	fal – fal-ak wall – walls	(6)	kör – kör-ök circle – circles
(3)	lány – lány-ok girl – girls	(5)	leves – leves-ek soup – soups		

The allomorph of the plural suffix is *-i* whenever the noun is marked with a possessive suffix, also preceded by an epenthetic vowel.

- | | | | | |
|-----|----|---|----|---|
| (7) | a. | holló-m
raven-POSS.1SG
'my raven' | f. | holló-i-m
raven-PLUR-POSS.1SG
'my ravens' |
| | b. | lány-om
girl-POSS.1SG
'my daughter' | g. | lány-ai-m
girl-PLUR-POSS.1SG
'my daughters' |
| | c. | kör-öm
circle-POSS.1SG
'my circle' | h. | kör-ei-m
circle-PLUR-POSS.1SG
'my circles' |
| | d. | fal-am
wall-POSS.1SG
'my wall' | i. | fal-ai-m
wall-PLUR-POSS.1SG
'my walls' |
| | e. | leves-em
soup-POSS.1SG
'my soup' | j. | leves-ei-m
soup-PLUR-POSS.1SG
'my soups' |

The plural marker is in complementary distribution with numerals and plural quantifiers, so whenever these are present plural is not marked on the noun (for a discussion on this property see de Swart and Farkas (2010)).

- | | | | | |
|-----|----|--|----|--|
| (8) | a. | három holló(*k)
three raven
'three ravens' | d. | három lány(*ok)
three girl
'three girls' |
| | b. | sok holló(*k)
many raven
'many ravens' | e. | sok lány(*ok)
many girl
'many girls' |

2.1.3 Agreement

Verbs agree in number and person, but not in gender.

- | | | | | |
|-----|----|--|----|--|
| (9) | a. | Olvasok egy könyvet.
read.1SG a book-ACC
'I am reading a book.' | d. | Olvasunk egy könyvet.
read.1PL a book-ACC
'We are reading a book.' |
| | b. | Olvazol egy könyvet.
read.2SG a book-ACC
'You are reading a book.' | e. | Olvastok egy könyvet.
read.2PL a book-ACC
'You are reading a book.' |
| | c. | Olvas egy könyvet.
read.3SG a book-ACC
'He/She is reading a book.' | f. | Olvasnak egy könyvet.
read.3PL a book-ACC
'They are reading a book.' |

Transitive verbs also agree not only with the subject, but also with the direct object if there is one. There are two distinct patterns for verbal inflection, one for indefinite (also used for non-transitive verbs) and another for definite objects as shown in (10)³.

- (10) a. Olvasok egy könyvet.
read.1SG.INDEF a book-ACC
'I am reading a book.'
- b. Olvasom a könyvet.
read.1SG.DEF the book-ACC
'I am reading the book.'

2.2 Verbal modifiers

Another typical characteristic of Hungarian is its rich system of verbal modifiers. Most often they are aspectual markers as *meg* in (11b), but they can have a locative value as *ki* in (12b), change the verb's argument structure as *le* in (13b) or completely change its as *át* in (14b). In Hungarian orthography, the verbal modifier is attached to the verb whenever it precedes it, but I will write it separately throughout the dissertation for the sake of clarity.

- (11) a. Ette az almát.
eat.PAST.3SG the apple-ACC
'He/she was eating the apple.'
- b. Meg ette az almát.
VM-PERF eat.PAST.3SG the apple-ACC
'He/she ate the apple.'
- (12) a. Megy az utcán.
go.3SG the street-SUPERESS
'He/she is going on the street.'
- b. Ki megy az utcára.
VM.out go.3SG the street-SUBLAT
'He/she is going out to the street.'
- (13) a. Peti fut.
Peti runs

³I will not mark this information in the glosses for the sake of simplicity, unless it matters for the claim I intend to make.

- ‘Peti runs.’
- b. Peti le futja a maratont.
Peti VM.down runs the marathon-ACC
‘Peti ran the marathon.’
- (14) a. Pali vágja a fát.
Pali cuts the wood-ACC
‘Pali is cutting the wood.’
- b. Pali át vágja Annát.
Pali VM.across cuts Anna-ACC
‘Pali is lying to Anna.’

The verbal modifier *át*, ‘across’ in (14b) forms a lexical unit with the verb. It clearly has a non-compositional meaning, unlike the other examples, where the change in meaning they generate is rather transparent (Bródy, 1990).

In the default case, verbal modifiers precede the finite verb (15a), and this verbal complex forms a single morphological and phonological word (Szendrői, 2003). There are a number of cases however, where this order is switched: whenever there is a narrow focused phrase as in (15b); a wh-question as in (15c); constituent negation as in (15d), sentential negation as in (15e); an imperative as in (15f) or an imperfective event as in (15g).

- (15) a. Misi át ment az utcán.
Misi VM.across went the street-SUPERESS
‘Misi crossed the street.’
- b. [Misi]_F ment át az utcán.
Misi went VM.across the street-SUPERESS
‘[Misi]_F crossed the street.’
- c. Ki ment át az utcán?
who went VM.across the street-SUPERESS
‘Who went across the street?’
- d. Nem Misi ment át az utcán.
not Misi went VM.across the street-SUPERESS
‘It’s not Misi who crossed the street.’
- e. Misi nem ment át az utcán.
Misi not went VM.across the street-SUPERESS
‘Misi didn’t cross the street.’
- f. Menj át az utcán!
go.IMPER.2SG VM.across the street-SUPERESS

‘Cross the street!’

- g. Misi ment át az utcán, amikor meg látta
 Misi went VM.across the street-SUPERESS when VM.PERF saw
 Annát.
 Anna-ACC
 ‘Misi was crossing the street when he saw Anna.’

In the presence of an auxiliary verb, the verbal modifier still appears in front of the finite auxiliary, that is followed by the verb selecting the VM in its infinitival form. Some auxiliaries, for instance the modal *kell* ‘have to’ have an invariable form, so infinitives following them are conjugated, see (16a). When the auxiliary itself is conjugated, like *tud* ‘know/can’ as in (16b), the infinitival form is not.

- (16) a. El kell mennem.
 VM.away have-to go.INF-1SG
 ‘I have to go.’
 b. El tudok menni.
 VM.away know-1SG go.INF
 ‘I can go.’

Verbal modifiers can also be (positive) answers on their own when the question itself contains the whole verbal complex:

- (17) Q: El olvastad a könyvet?
 VM.away read the book
 ‘Did you read the book?’
 A: El./ Igen.
 VM.away yes
 ‘Yes.’

There exists a small number of cases where VMs are inseparable from the verb, for example *be-folyásol* ‘influence’. The VM always appears in front of the verb and cannot be a felicitous answer on its own.

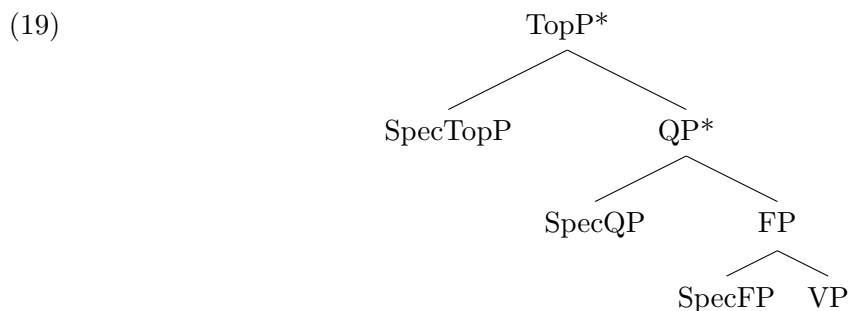
- (18) a. Misi be-folyásolt a döntésben.
 Misi VM.in-fluenced the decision-INESS
 ‘Misi influenced me in my decision.’

- b. [Misi]_F *(be)-folyásolt (*be) a döntésben.
Misi VM.in-fluenced VM.in the decision-INESS
'[Misi]_F influenced me in my decision.'
- c. Ki *(be)-folyásolt (*be) a döntésben?
who VM.in-fluenced VM.in the decision-INESS
'Who influenced you in your decision?'
- d. Nem Misi *(be)-folyásolt (*be) a döntésben.
not Misi VM.in-fluenced VM.in the decision-INESS
'It was not Misi who influenced me in my decision.'
- e. Misi nem *(be)-folyásolt (*be) a döntésben.
Misi not VM.in-fluenced VM.in the decision-INESS
'Misi did not influence me in my decision.'
- f. Be-folyásolt valaki? *Be./ Igen.
VM.in-fluenced someone VM.in VM.in yes
'Did someone influence you? Yes.'

As I will argue shortly, the position of the verbal modifier is a good indicator of whether an expression is in the Focus position or in another preverbal position. Thus, throughout the dissertation I will mostly use examples with complex verbs (VM+V), in order to help the reader differentiate between the different preverbal positions discussed in the next section.

2.3 The preverbal field

As demonstrated above, the Hungarian sentence does not attribute sentence positions to grammatical functions. However, it is not the case that word order in Hungarian is completely free. Fixed preverbal positions have been linked to different functions, discourse configurability and information structure. Indeed, expressions in the preverbal field are arranged relative to each other depending on their semantic properties. The Topic position is followed by the Quantifier position and finally the Focus position (Hunyadi, 1981; Kenesei, 1986; Bródy, 1990; É. Kiss, 1981, 1992, 1998, 2002; Szabolcsi, 1981, 1997; Puskás, 2000, among others). The tree below illustrates these main positions:



Topics are typically on the left-edge of the sentence, but can be preceded by sentential adverbials and contrastive topics and followed by elements in the Quantifier position. These first two positions are iterative (marked by the asterisk in the representation), meaning that a sentence can contain more than one of these. On the other hand, the Focus position is not iterative, so at most one constituent can appear here. Also, since this position is the immediately preverbal one, nothing can intervene between the focus and the verb, not even verbal modifiers (as mentioned in the last subsection), whose default position is also the immediately preverbal one. (20) illustrates a sentence in which all these positions are filled.

- (20) [Mari]_{TopP} [Annának]_{TopP} [minden titkát]_{QP} [mindig]_{QP}
 Marie Anna-DAT every secret-POSS3SG-ACC always
 [HALKAN]_{FP} mondja el.
 quietly tells VM-away
 ‘Mari tells her secrets to Anna always quietly.’

Each position has a set of expressions that it can and cannot host (Kenesei, 1986; Szabolcsi, 1997; É. Kiss, 2002, etc.). To check whether a particular expression can appear in a particular position, distributional properties of other elements in a sentence can help. First, the position of a verbal modifier (VM) clearly shows whether an expression is in the Focus position or not: if the VM follows the verb, we can be certain that a preverbal expression is in the Focus position, otherwise in one of the other two. To distinguish between the Topic and the Quantifier positions, we can check whether a (non focused) adverb can follow the expression. If it can, then the expression occupies the Topic position, since adverbs can only intervene between the Topic and the Quantifier positions, but not between the Quantifier and the Focus positions. The absence of an adverb with the VM-V order maintained is however not a sufficient sign for an expression being in the Quantifier position, since it could very well be in the Topic position. To

show that an expression is indeed in the Quantifier position, we can make use of the iterativity of this position. If an expression can follow an obligatory Quantifier expression, such as a universal quantifier, with the VM-V order maintained, then we can confirm that this expression is indeed in the Quantifier position and not in the Topic position. Here is a summary of these distributional facts, that will be useful later on to illustrate the distributional properties of relevant expressions amongst these positions:

(*[DP] _Q)	[DP] _{TopP}	(adverb)	VM	V
[DP] _Q	[DP] _Q	(*adverb)	VM	V
[DP] _Q	[DP] _F	(*adverb)	V	VM

Topics must be referential and/or specific, so for instance quantifiers typically do not occur here, unless they can have a specific interpretation.

- (21) a. [Misi]_{TopP} most el aludt.
Misi now VM.away slept
'Misi fell asleep now.'
- b. [Valaki]_{TopP} most el aludt.
someone now VM.away slept
'Someone fell asleep now.'
- c. *[Minden macska]_{TopP} most el aludt.
every cat now VM.away slept
Int: 'Every cat fell asleep now.'
- d. *[Kevés macska]_{TopP} most el aludt.
few cat now VM.away slept
Int: 'Few cats fell asleep now.'

The Quantifier position is the obligatory position for universals, *also-* and *even-*phrases. A number of other quantifiers, like *néhány* 'some' can also appear here, while some others, like *kevés*, 'few' are impossible in this position. Referential expressions cannot appear here either. The position is said to be associated with an obligatory distributive reading (Szabolcsi, 1997; É. Kiss, 2002).

- (22) a. [Minden nap]_{QP} [minden macska]_{QP} el aludt.
every day every cat VM.away slept
'Every day every cat fell asleep.'
- b. [Minden nap]_{QP} [Misi is]_{QP} el aludt.
every day Misi also VM.away slept

- ‘Every day Misi also fell asleep.’
- c. [Minden nap]_{QP} [néhány macska]_{QP} el aludt.
 every day some cat VM.away slept
 ‘Every day, some cats fell asleep.’
- d. *[Minden nap]_{QP} [kevés macska]_{QP} el aludt.
 every day few cat VM.away slept
 Int: ‘Every day few cats fell asleep.’
- e. *[Minden nap]_{QP} [Misi]_{QP} el aludt.
 every day Misi VM.away slept
 Int: ‘Every day Misi fell asleep.’

The Focus position is said to be the obligatory position for *wh*-words, quantifiers like *kevés* ‘few’ and *only*-phrases. These are not possible in any of the other two preverbal positions, as can be seen from the impossibility of the default VM-V order.

- (23) a. [Ki]_{FP} aludt el?
 who slept VM.away
 ‘Who fell asleep?’
- b. *[Ki]_{FP} el aludt?
 who VM.away slept
- c. [Kevés macska]_{FP} aludt el.
 few cat slept VM.away
 ‘Few cats fell asleep.’
- d. *[Kevés macska]_{FP} el aludt.
 few cat VM.away slept
- e. [Csak Misi]_{FP} aludt el.
 only Misi slept VM.away
 ‘Only Misi fell asleep.’
- f. *[Csak Misi]_{FP} el aludt.
 only Misi VM.away slept
- g. [Misi sem]_{FP} aludt el.
 Misi either slept VM.away
 ‘Misi didn’t fall asleep either.’
- h. *[Misi sem]_{FP} el aludt.
 Misi either VM.away slept

This is the only non-iterative preverbal position, so it can only host one element, even in the case of multiple foci:

- (24) Q: Ki hívott fel kit?
 who called VM.up who-ACC
 ‘Who called whom?’
- A: [ANNA]_F hívta fel [LUCÁT]_F.
 Anna called VM.up Luca-ACC
 ‘[ANNA]_F called [LUCA]_F.’
- A’: *[ANNA]_F [LUCÁT]_F hívta fel.
 Anna Luca-ACC called VM.up

In the rest of the dissertation, I will be essentially interested in the Quantifier and Focus positions, and the expressions they attract, allow and exclude, because these are the ones for which I will propose generalisations based on semantic constraints. I will first briefly outline the properties of the Topic position and Contrastive Left Dislocation in this section, since these will be helpful in understanding the rest of the dissertation. The Quantifier position will be discussed in more detail in Chapter 3 and the Focus position in Chapter 4.

2.3.1 Topics

Topic is a notion of *information structure* (IS), which is a level of representation describing how information is organised in a sentence in relation to the knowledge speakers share in a given context. The term *information structure* comes from Haliday (1967), but its study goes back a long way in different linguistic approaches. From the Prague school of linguistics with Mathesius (1975) and the Functional Sentence Perspective (Firbas, 1992), through Chafe (1976)’s *information packaging* to more recent works (Lambrecht, 1996; Büring, 2007; Erteschik-Shir, 2007; Krifka, 2008; Féry and Ishihara, 2016, among many others), Information Structure has been an exceptionally rich field of research, involving authors working on phonology, morphology, syntax, semantics, pragmatics and their interfaces.

Information structure is mostly limited to the momentary state of the speakers’ minds, excluding from it concepts such as politeness, style or reference to general world knowledge (Chafe, 1976). Also in most cases, IS does not have effect on truth conditions, but affects pragmatic aspects such as presuppositions, implicatures and felicity conditions (Büring, 2012). Consider the pair of sentences in (25):

- (25) a. Luci drank the milk.
 b. The milk, Luci drank it.

The above sentences are equivalent with respect to their truth-conditions – the difference between the two merely concerns the organisation of information. This means that the two sentences are not *about the same thing*: (25a) is about Luci, while (25b) is about the milk. The two sentences answer two different questions and have different presuppositions and implicatures.

What is perhaps visible from these two sentences, is that IS often organises utterances into two main parts. One way of doing so is to separate a sentence into *topic* and *comment* parts. Simply put, the topic is what the sentence is *about* and the comment is *what* is being said about the topic. Thus, topics have to be entities already known in the discourse situation.

Languages differ with respect to their strategies of marking different informational categories. They can employ prosody, lexical and morphological markers, syntactic restructuring or a combination of these, which makes IS truly an interface phenomenon. Hungarian uses syntax and prosody to mark topics: the Topic position is the leftmost position in the sentence (it can only be preceded by adverbials and contrastive topics), and topics are pronounced with a falling intonation (Gyuris, 2002).

- (26) a. [Luci]_{TopP} meg itta a tejet.
Luci VM.PERF drank the milk-ACC
'Luci drank the milk.'
- b. [A tejet]_{TopP} meg itta Luci.
the milk-ACC VM.PERF drank Luci
'The milk, Luci drank it.'

The two sentences describe the same event, they have the same truth conditions, but they differ in their information structure. In (26a), the topic, the part of the sentence previously introduced to the discourse is Luci, while in (26b) the topic is the milk.

What the above examples also show is that a topic should not be confused with the subject of the sentence. Often they do coincide, but topics can also be direct and indirect objects, postpositional phrases, adverbs, etc.

- (27) a. [Lucinak]_{TopP} tejet adtam.
Luci-DAT milk-ACC gave-I
'To Luci, I gave milk.'

- b. [Tegnap]_{TopP} rossz idő volt.
yesterday bad weather was
'Yesterday, the weather was bad.'
- c. [A fotel mögött]_{TopP} Luci alszik.
the armchair behind Luci sleeps
'Behind the armchair, Luci is sleeping.'

The semantic requirement for topics is that they have to be referring expressions, thus a proper name or a definite noun phrase (or PPs containing these) are obviously possible topics, as can be seen from the above examples. Indefinites can be topicalised, but only if they are generics and hence refer to kinds as in (28a) or if they refer to some specific individual as in (28b):

- (28) a. [Egy macska]_{TopP} sokat alszik.
a cat a-lot-ACC sleeps
'Cats sleep a lot.'
- b. [Egy macska]_{TopP} elaludt a kertben.
a cat VM.away slept the garden-INESS
'A cat fell asleep in the garden.'

Therefore, most quantified DPs are not good candidates for the Topic position, unless they can have a specific reading, like indefinites. Universals as in (29d) and quantifiers like *kevés* 'few' as in (29e) are excluded from this position.

- (29) a. [Néhány macska]_{TopP} most alszik (Luci, Misi és Shoshana).
some cat now sleeps (Luci, Misi and Shoshana)
'Some cats are sleeping, (Luci, Misi and Shoshana).'
- b. [Három macska]_{TopP} most alszik (Luci, Misi és Shoshana).
three cat now sleeps (Luci, Misi and Shoshana).
'Three cats are sleeping, (Luci, Misi and Shoshana).'
- c. [Legalább három macska]_{TopP} most alszik (Luci, Misi és Shoshana).
at-least three cat now sleeps (Luci, Misi and Shoshana).
'At least three cats are sleeping, (Luci, Misi and Shoshana).'
- d. *[Minden macska]_{TopP} most alszik.
every cat now sleeps
Int: 'Every cat is sleeping now.'
- e. *[Kevés macska]_{TopP} most alszik.
few cat now sleeps

Int: ‘Few cats are sleeping now.’

Interestingly, two quantifiers, *a legtöbb N*, ‘most N’ and *az összes N* ‘all N’ are only possible in the Topic position amongst preverbal positions.

- (30) a. [A legtöbb macska]_{TOP} tegnap el aludt.
the most cat yesterday VM.away slept
‘Yesterday, most cats fell asleep.’
- b. *[Minden szobában]_{QP} [a legtöbb macska]_{QP} el aludt.
every room-INESS the most cat VM.away slept
Int: ‘In every room, most cats fell asleep.’
- c. *[A legtöbb macska]_{FP} aludt el.
the most cat slept VM.away
Int: ‘Most cats fell asleep.’
- (31) a. [Az összes macska]_{TOP} tegnap el aludt.
the all cat yesterday VM.away slept
‘Yesterday, all cats fell asleep.’
- b. *[Minden szobában]_{QP} [az összes macska]_{QP} el aludt.
every room-INESS the all cat VM.away slept
Int: ‘In every room, all cats fell asleep.’
- c. *[Az összes macska]_{FP} aludt el.
the all cat slept VM.away
Int: ‘All cats fell asleep.’

Both of these quantifiers are syntactically definite descriptions – in fact, they are ungrammatical without the definite article:

- (32) a. *(a) legtöbb macska
the most cat
‘most cats’
- b. *(az) összes macska
the all cat
‘all (the) cats’

The requirement for expressions that appear in the Topic position is that they have to be referential and/or specific. Csirmaz and Szabolcsi (2012) argued for *az összes N* ‘all N’, that although it is a universal quantifier (and hence expected to appear in the Quantifier position), it is also a plural definite and as such, appears in the Topic position⁴. This

⁴According to Szabolcsi (1994b) however, the definite article *a/az* in Hungarian does not actually introduce definiteness, but converts constituents into arguments that can function as an argument of a predicate.

can also be extended to *a legtöbb N* ‘most N’. Indeed, while plural definites can also appear in the Focus position (but not in the Quantifier position) when they are focused, unfocused plural definites can only appear in the Topic position. Hence, it seems that the constraints on *az összes N* ‘all N’ and *a legtöbb N* ‘most N’ seem to be syntactic and not semantic in nature.

The Topic position is iterative, so a sentence can host more than one topics:

- (33) [Tegnap]_{TopP} [Lucinak]_{TopP} én adtam enni.
 yesterday Luci-DAT I gave to-eat
 ‘Yesterday Luci was fed by me.’

Some sentences are topicless – these are propositions that describe an event itself, some general fact, an existential construction, or the appearance of some entity. These are not strictly about a certain referent, so they do not have topics (É. Kiss, 2002). These sentences are usually called *thetic*, as opposed to *categorial* sentences that contain a topic (Büring, 2007).

- (34) a. Esik az eső.
 falls the rain
 ‘It is raining.’
 b. Van hat könyv az asztalon.
 is six book the table-on
 ‘There are six books on the table.’
 c. Érkezett egy vonat.
 arrived a train
 ‘A train has arrived.’

2.3.2 Contrastive Topics

As we have seen in the last subsection, topics have to be referential and/or specific. However, when marking contrast, this requirement does not need to be met. This way, essentially all types of constituents can be topicalised: bare nouns as in (35a), quantifiers as in (35b), adverbs as in (35c), verbal modifiers as in (35d) and even verbs themselves as in (35e)⁵. In this case, these constituents undergo left dislocation and receive a rise-and-fall stress contour (Gyuris, 2002).

⁵Note that whenever the verb itself is the contrastive topic, it has to be reduplicated under its infinitival form.

- (35)
- a. [Regényt]_{CT} [gyakran]_{FP} olvas.
novel-ACC often read-3SG
'Novels, she often reads.'
 - b. [Minden macskát]_{CT} [senki]_{FP} nem simogatott meg.
every cat-ACC nobody not petted VM.PERF
'No one petted every cat.'
 - c. [Halkan]_{CT} [Shoshana]_{FP} tud nyávogni.
quietly Shoshana can meow-INF
'It's Shoshana who can meow quietly.'
 - d. [Fel]_{CT} [liften]_{FP} megyek.
VM.up elevator.SUPERESS go.1SG
'Up, I go by elevator.'
 - e. [Inni]_{CT} [ivott]_{FP} Luci, de nem evett.
drink-INF drank Luci but not ate
'Luci did drink, but she did not eat.'

Contrastive topics always require something to be focused in the same sentence in Hungarian (Gyuris, 2002). Let's consider (35a). The sentence suggests a continuation of something like '...but poems I never read.' This is so, because contrastive topics generate alternatives, just like focus (more on this in Chapter 4). But while focus generates alternative propositions, contrastive topics generate alternative questions, and the alternative propositions will be answers to these alternative questions (Büring, 2016).

- (36) [Novels]_{CT}, she [OFTEN]_F reads.
- a. Focus alternatives: 'Novels, she never reads.', 'Novels, she rarely reads.', 'Novels, she always reads.', etc.
 - b. CT alternatives: 'How often does she read poems?', 'How often does she read plays?', 'How often does she read non-fiction?', etc.

Note however, that in some languages, contrastive topics can appear without a focused associate, like the Japanese stressed *wa* and the Korean stressed *nun* (Lee, 1999; Oshima, 2005; Hara, 2008; Tomioka, 2010). In Hungarian however, contrastive topics always appear with an accompanying focus (Gyuris, 2002).

2.4 The postverbal field

The postverbal field in Hungarian does not seem to have different positions for neither grammatical functions, nor for information structural categories. The VP is assumed to be verb initial and arguments can follow the verb in any order and there is little, if any, difference in their interpretation (É. Kiss, 2002):

- (37)
- a. Küldött Péter egy levelet Mária-nak.
sent Péter a letter-ACC Mária-DAT
'Péter sent a letter to Mária.'
 - b. Küldött Mária-nak Péter egy levelet.
sent Mária-DAT Péter a letter-ACC
'Péter sent a letter to Mária.'
 - c. Küldött egy levelet Péter Mária-nak.
sent a letter-ACC Péter Mária-DAT
'Péter sent a letter to Mária.'
 - d. Küldött Péter Mária-nak egy levelet.
sent Péter Mária-DAT a letter-ACC
'Péter sent a letter to Mária.'
 - e. Küldött Mária-nak egy levelet Péter.
sent Mária-DAT a letter-ACC Péter
'Péter sent a letter to Mária.'
 - f. Küldött egy levelet Mária-nak Péter.
sent a letter-ACC Mária-DAT Péter
'Péter sent a letter to Mária.'

There is an ongoing debate about the structure of the postverbal domain. É. Kiss (1987; 1994; 2002; 2008) has argued for a non-configurational, flat VP, where the arguments and adjuncts are base-generated as sisters of the phrase-initial head, the verb. In a revised version of the flat VP proposal É. Kiss (2010), she assumed a lexical and a functional phase, with the verb moving to the head position. Then, the traces of the verb are deleted, causing the phasal domain to flatten. The constituents in the VP are linearised at spell-out, according to their phonological weight. Many have argued against a flat VP (Marác, 1989; Kenesei, 1998). Surányi et al. (2006) revisited É. Kiss's arguments and suggested a right-branching hierarchical structure and proposed a scrambling analysis to account for the free postverbal order and subject-object asymmetries in Hungarian.

Since this dissertation investigates constituent order constraints in the preverbal field, I

do not wish to take a position regarding the inner structure of the postverbal field and just assume that the VP is verb-initial in Hungarian. For more details see the above references and Szalontai (2019).

2.5 Negation

Negation in Hungarian is expressed by the negative particle *nem* in both sentential negation and constituent negation in declarative sentences or questions. In sentential negation, *nem* has to appear immediately in front of the finite verb, and just like in the case of preverbal focus, the default VM-V order is inverted.

- (38) a. Misi el aludt.
Misi VM.away slept
'Misi fell asleep.'
- b. Misi nem aludt el.
Misi not slept VM.away
'Misi didn't fall asleep.'
- c. *Misi nem el aludt.
Misi not VM.away slept

In the case of metalinguistic or contrastive negation, however, the default VM-V order can be both maintained and inverted.

- (39) a. Misi nem el aludt (hanem fel kelt).
Misi not VM.away slept but VM.up woke
'Misi did not fall asleep (but woke up).'
- b. Misi nem aludt el (hanem fel kelt).
Misi not slept VM.away but VM.up woke
'Misi did not fall asleep (but woke up).'

In negative locative and existential sentences, in the third person cases the copula has a special negative form *nincs*, and *nincsenek* for the plural. In positive locative sentences, the locative constituent has to appear in front of the copula, while in negative locative sentences it has to follow the negative copula.

- (40) a. Misi a kertben van.
Misi the garden-INESS is

- ‘Misi is in the garden.’
- b. Misi nincs a kertben.
Misi is-not the garden-INCESS
‘Misi is not in the garden.’
- c. *Misi a kertben nincs.
Misi the garden-INCESS is-not
- (41) a. A macskák a kertben vannak.
the cats the garden-INCESS are
‘The cats are in the garden.’
- b. A macskák nincsenek a kertben.
the cats are-not the garden-INCESS
‘The cats are not in the garden.’
- c. *A macskák a kertben nincsenek.
the cats the garden-INCESS are-not

In imperative and subjunctive sentences, negation is expressed by *ne*, that also has to occupy the same preverbal position as *nem*. Note that in positive imperative sentences, as in (42a), the default VM-V order is already inversed, negation here does not involve further change in their relative order.

- (42) a. Aludj el!
sleep-IMP.2SG VM.away
‘Fall asleep!’
- b. Ne aludj el!
NE sleep-IMP.2SG VM.away
‘Don’t fall asleep!’
- c. *Ne el aludj!
NE VM.away sleep-IMP.2SG
- (43) a. Mondtam, hogy aludj el.
say.PAST.1SG that sleep-IMP.2SG VM.away
‘I told you to fall asleep.’
- b. Mondtam, hogy ne aludj el.
say.PAST.1SG that NE sleep-IMP.2SG VM.away
‘I told you not to fall asleep.’
- c. *Mondtam, hogy ne el aludj.
say.PAST.1SG that NE VM.away sleep-IMP.2SG

Constituent negation is also expressed by *nem*:

- (44) a. Nem Misi aludt el.
 not Misi slept VM.away
 ‘It is not Misi who fell asleep.’
 b. *Nem Misi el aludt.
 not Misi VM.away slept
- (45) a. Nem Misi nem aludt el.
 not Misi not slept VM.away
 ‘It is not Misi who didn’t fall asleep.’
 b. *Nem Misi nem el aludt.
 not Misi nem VM.away slept

Constituent negation can also be expressed by the particle *sem*, that is a combination of *is* ‘also’ and *nem* ‘not’ and has a similar meaning as the English ‘either’. The *sem*-phrase can either appear in the immediately preverbal position, in which case the negative particle *nem* is not spelled out, or in a postverbal position in which case *nem* has to be spelled out. There is no or little difference in the meaning of the two versions.

- (46) a. Misi sem aludt el.
 Misi either slept VM.away
 ‘Misi didn’t fall asleep either.’
 b. *Misi sem el aludt.
 Misi either VM.away slept
- (47) a. Nem aludt el Misi sem.
 not slept VM.away Misi either
 ‘Misi didn’t fall asleep either.’
 b. *Nem el aludt Misi sem.
 not VM.away slept Misi either

There is also a *sem*-form of the negative copula, *sincs* and also of the *ne* particle used in imperatives and subjunctives, *se*. In imperatives and subjunctives with *se*, the pronoun has to be spelled out, which is not the case when *ne* is used, unless one wants to focus it.

- (48) a. Misi sincs a kertben.
 Misi is-not-either the garden-INESS
 ‘Misi is not in the garden either.’
- b. Te se aludj el!
 you SE sleep-IMP.2SG VM.away
 ‘Don’t fall asleep either.’
- c. Mondtam, hogy te se aludj el!
 say.PAST.1SG that you SE sleep-IMP.2SG VM.away
 ‘I told you not to fall asleep either.’

Hungarian is a *Negative Concord* language, meaning that when more than one negative words appear in the same sentence, they contribute to one unique negative interpretation. Neg-words are combined from *sem/se* and interrogative pronouns: *senki*, ‘nobody’, *semmi*, ‘nothing’, *sehol* ‘nowhere’, etc. They can occur both preverbally and postverbally.

- (49) a. Senki semmit nem olvasott el.
 noone nothing-ACC not read.PAST.3SG VM.away
 ‘Noone read anything.’
- b. Senki nem olvasott el semmit.
 noone not read.PAST.3SG VM.away nothing-ACC
 ‘Noone read anything.’
- c. Semmit nem olvasott el senki.
 nothing-ACC not read.PAST.3SG VM.away noone
 ‘Noone read anything.’
- d. Nem olvasott el senki semmit.
 not read.PAST.3SG VM.away noone nothing-ACC
 ‘Noone read anything.’

For more details on this property and negation in general in Hungarian see Puskás (1998, 2000); Olsvay (2000); É. Kiss (2015); É. Kiss (2002); Surányi (2003b, 2006) among others.

2.6 Summary

In this chapter I reviewed some basic information about Hungarian morphology and syntax that will be essential in understanding the rest of the dissertation. Hungarian is an agglutinative language. Grammatical functions are encoded via case-marking, which

then allows for a fairly flexible word order in the sentence. The language also has a rich system of verbal modifiers, that are most often locative or aspectual markers. Their default position is immediately in front of the verb, but they appear after the verb in certain constructions, for instance when the preverbal Focus position is filled or when the sentence contains negation. The preverbal field in Hungarian is divided into three main positions: the Topic position, followed by the Quantifier position and then the preverbal Focus position. These positions differ in interpretation, and they are each constrained with respect to the expressions they can, must or cannot host. Constituents can also undergo contrastive left dislocation and appear in front of the topic and receive a fall-and-rise stress contour. Word order in the postverbal field is even more free than in the preverbal one, constituents here can follow each other in any possible order. Hungarian is a Negative Concord language. Negation is expressed by the negative particle *nem* and also involve the inversion of the default verbal modifier-verb order.

Chapter 3

Quantifiers in Hungarian

Hungarian is special in that quantifiers, such as *every N*, *some N*, *at least four N*, etc. are restricted with respect to which positions in a sentence they can appear in. The chapter reviews theories of quantifiers and provides an overview of the distribution of quantifiers in Hungarian, as well as the main semantic properties of the so-called Quantifier position.

The chapter is organised as follows. I will start with discussing quantifiers in natural language, namely I will present *Generalised Quantifier Theory* (GQT), which was the leading theory of quantifiers for decades, then turn to discuss some challenges for GQT. Then I will discuss some general facts about Hungarian quantifiers, before turning to the main distributional constraints that apply on quantifiers in the Hungarian sentence. I will present quantifier scope properties in Hungarian, before finishing this chapter with a presentation of semantic properties of the Quantifier position.

3.1 Quantifiers in natural language

Quantities, amounts and frequencies can be expressed in natural language with words like *some*, *all*, *three*, *at least three*, *a lot*, *most*, *no*, etc. – these expressions are referred to as *quantifiers*. I should start by noting that the terminology is somewhat confusing in the literature, since the term *quantifier* can refer to the above mentioned determiner-like expressions, to DPs or AdvPs formed with these determiners like *some cats* or *sometimes*, and even to modal expressions like *possible* or *necessary*. I will use the term *quantifier* to quantified DPs in this dissertation, since its main empirical interest is in the positions

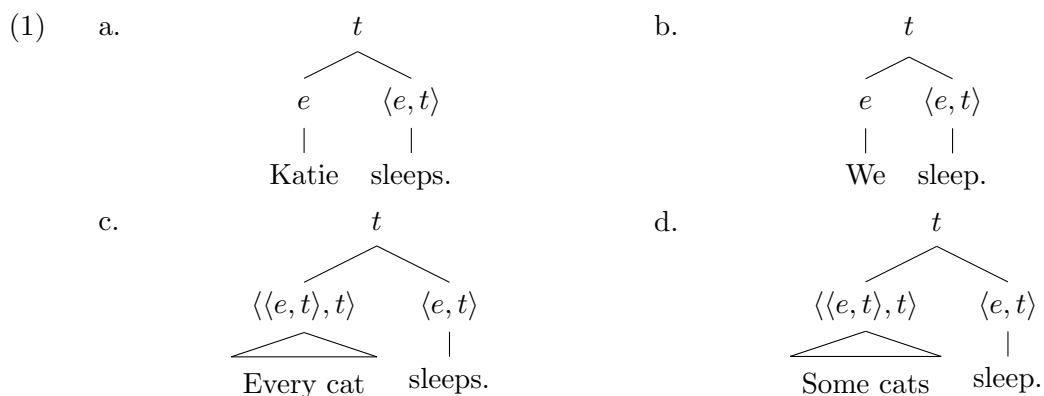
quantified DPs can and cannot occupy in Hungarian.

It is assumed that quantifiers belong to the same syntactic class, namely they are DPs. They can be coordinated with non-quantified DPs, and just like them, they combine with VPs to form sentences. This syntactic similarity led researchers to attempt to give them a uniform semantic treatment. This way of thinking gave rise to the *Generalised Quantifier Theory* (GQT), which was the leading theory on quantifiers for decades. More recently however, some authors started proposing that GQT in fact fails to account for many linguistic and psychological aspects of quantifiers and proposing that they should not be analysed as a unified semantic class. In this section I will outline the basic ideas of GQT, with a more detailed discussion on monotonicity, a property of quantifiers that will be essential in formulating the generalisations about their distribution in Hungarian.

3.1.1 Generalised Quantifier Theory

The term *generalised quantifiers* was introduced by Mostowski (1957) for mathematically interesting quantifiers that are not definable with first order logic universal quantifier \forall and existential quantifier \exists . Later, with Montague (1973); Barwise and Cooper (1981); Keenan and Stavi (1986) and others, the *Generalised Quantifier Theory* (GQT) became the predominant view on natural language quantifiers in formal semantics. One of the main goals of GQT is to explore universal constraints and patterns that can be linked to all natural language quantifiers.

Generalised quantifiers are functions from sets to truth values of type $\langle\langle e, t \rangle, t\rangle$ and, just like expressions of type e (such as proper names, pronouns or definite descriptions), they can combine with functions of type $\langle e, t \rangle$ (for example adjectives or intransitive verbs).



Generalised quantifiers can also be viewed as denoting sets of sets: *every cat* denotes the set of properties that cats share, like being an animal, (generally) having four legs, etc. They take VPs that are of type $\langle e, t \rangle$ as their argument, and indicate what kind of entities would make the sentence true.

It follows that quantificational determiners denote relations between sets and are of type $\langle \langle e, t \rangle, \langle \langle e, t \rangle, t \rangle \rangle$. Take *every* in ‘Every cat sleeps’ for example: it means that the set of cats is a subset of the set sleepers. The meaning of quantifier determiners can then be formalised in set-theoretic terms in the following way:

- (2)
- a. $\text{every}(A)(B) = 1$ iff $A \subseteq B$
 - b. $\text{some}(A)(B) = 1$ iff $A \cap B \neq \emptyset$
 - c. $\text{no}(A)(B) = 1$ iff $A \cap B = \emptyset$
 - d. $\text{most}(A)(B) = 1$ iff $|A \cap B| > |B - A|$
 - e. $\text{exactly four}(A)(B) = 1$ iff $|A \cap B| = 4$
 - f. $\text{at least four}(A)(B) = 1$ iff $|A \cap B| \geq 4$

The main idea of the GQT is that we can analyse quantifiers as a unified semantic group of expressions. A number of universals have also been stated about some of their mathematical properties, such as conservativity and monotonicity among others. Below, I will briefly explain the notion of conservativity, and monotonicity more in detail, since it will be essential for the generalisations I will make in Chapter 5 to account for the distribution of DPs in the Hungarian preverbal field.

Conservativity is a property of functions of type $\langle \langle e, t \rangle, \langle \langle e, t \rangle, t \rangle \rangle$ that can be formalised as below:

- (3) A function f is conservative iff for all $A, B : f(A)(B) = f(A)(A \cap B)$

This can be illustrated with the following equations:

- (4)
- a. Some cats are grey. = Some cats are grey cats.
 - b. Every cat is grey. = Every cat is a grey cat.
 - c. No cats are grey. = No cats are grey cats.

This means that we do not need to look at the set $(B - A)$, namely the set of grey things

that are not cats to determine the truth of the sentence. Keenan and Stavi (1986) argued that all natural language determiners are conservative and formulated the *Conservativity Universal*:

- (5) *Conservativity Universal*
Extensional determiners in all languages are always interpreted by conservative functions.

Natural languages however also contain non-conservative functions, the most well-known case of these is *only*. It is clear that the following two sentences are not equivalent, hence for GQT *only* is not assumed to be a determiner:

- (6) Only cats are grey. \neq Only cats are grey cats.

While *only* indeed differs in some respects from the quantificational determiners discussed above, some authors do analyse it as a quantificational determiner (De Mey, 1991; Beaver and Clark, 2003). This and a number of other puzzling cases has lead a number of authors to question the validity of GQT (Krifka, 1999; Geurts and Nouwen, 2007; Nouwen, 2010b; Hackl, 2000, 2009; Matushansky and Ionin, 2011, etc.). Namely, there are notable semantic divergences between different quantifiers that make it unreasonable to treat them as one coherent semantic class. Nouwen (2010a) even argues that only a very small set of expressions should be considered as true generalised quantifiers: *every N*, *no N* and probably *some N* and *most N*, although this last one is even argued to be a superlative by Hackl (2000, 2009).

Whether or not GQT can uniformly account for natural language quantifiers is not the main concern of this dissertation, so I will leave this issue for future research. In fact, how exactly different quantificational determiners are analysed compositionally will not affect the generalisations I will propose in Chapter 5. I will just assume that both quantifiers and DPs like *only Misi* are functions of type $\langle\langle e, t \rangle, t\rangle$ and can be given a unified treatment in the aspects that are of interest to explain their distribution in Hungarian.

3.1.2 Monotonicity

Monotonicity is one of the most important semantic properties of quantifiers. It is known to manifest itself in a number of different grammatical phenomena, including NPI-licensing, scalar implicatures, and certain movement phenomena, such as negative inversion in English.

Quantifiers can be upward monotonic (or upward entailing, UE), downward monotonic (or downward entailing, DE) or non-monotonic. UE quantifiers preserve, while DE quantifiers reverse the subset-superset relation between two sets. Hence, monotonicity is responsible for the direction of entailments between sentences. Entailment is defined for truth values as follows:

(7) *Entailment*, \models
 $p \models q$ iff $p=0$ or $q=1$.

(8) Misi is a cat. \models Misi is an animal.

To check the monotonicity of quantifiers, we need to generalise the notion of entailment, to account for entailment relations between smaller linguistic units.

(9) *Generalised Entailment*, \Rightarrow (from von Stechow (1999), p. 99)
 a. For p, q of type t : $p \Rightarrow q$ iff $p = 0$ or $q = 1$.
 b. For f, g of type $\langle \sigma, \gamma \rangle$: $f \Rightarrow g$ iff for all x of type σ : $f(x) \Rightarrow g(x)$.

With the notion of Generalised Entailment, we can now define entailment relations between propositions as in (10a), set denoting expressions like NPs as in (10b) or VPs as in (10c) or quantifiers denoting sets of sets as in (10d).

(10) a. Misi is a cat. \Rightarrow Misi is an animal.
 b. cat \Rightarrow animal
 c. runs \Rightarrow moves
 d. every cat \Rightarrow some cat

Upward entailing quantifiers preserve the direction of entailments. UE-ness can be formalised as follows.

(11) *Upward Monotonicity*

A quantifier Q of type $\langle \sigma, \gamma \rangle$ is upward monotonic iff for all x, y of type σ such that $x \Rightarrow y$, then $Q(x) \Rightarrow Q(y)$.

To illustrate the entailment direction preserving property of UE quantifiers, let x be the argument *runs* and y be the argument *moves*, and $runs \Rightarrow moves$:

(12) *runs* \Rightarrow *moves*

- a. Every cat runs. \Rightarrow Every cat moves.
- b. Some cats run. \Rightarrow Some cats move.
- c. Most cats run. \Rightarrow Most cats move.
- d. Four cats run. \Rightarrow Four cats move.
- e. At least four cats run. \Rightarrow At least four cats move.
- f. More than three cats run. \Rightarrow More than three cats move.

The quantifiers in (12) are UE since the entailment relation from each first sentence to the second one is preserved with respect to the entailment relation between the two arguments.

Downward entailing quantifiers on the other hand reverse the direction of entailments. DE-ness can be formalised as follows.

(13) *Downward Monotonicity*

A quantifier Q of type $\langle \sigma, \gamma \rangle$ is downward monotonic iff for all x, y of type σ such that $x \Rightarrow y$, then $Q(y) \Rightarrow Q(x)$.

To illustrate the entailment direction reversing property of DE quantifiers, see the following sentences.

(14) *runs* \Rightarrow *moves*

- a. No cats move. \Rightarrow No cats run.
- b. Few cats move. \Rightarrow Few cats run.
- c. At most four cats move. \Rightarrow At most four cats run.
- d. Less than five cats move. \Rightarrow Less than five cats run.
- e. Not every cat moves. \Rightarrow Not every cat runs.

- f. Misi doesn't move either. \Rightarrow Misi doesn't run either.

In (14), the entailment relation between the pairs of sentences is reversed with respect to the entailment relation between the arguments.

Certain quantifiers are neither upward entailing, nor downward entailing. With these, entailments do not hold in either direction. Consider for example *exactly four*:

- (15) a. Exactly four cats move. \nRightarrow Exactly four cats run.
 b. Exactly four cats run. \nRightarrow Exactly four cats move.

To be precise, monotonicity can be understood to both left and right arguments: the former is about the monotonicity of the determiner, while the latter is about the monotonicity of the whole DP. Take for example *every*: it is UE with respect to its right argument, but DE with respect to its left argument.

- (16) *runs* \Rightarrow *moves*; *cat* \Rightarrow *animal*
 a. Every cat runs. \Rightarrow Every cat moves.
 b. Every cat runs. \Leftarrow Every animal runs.

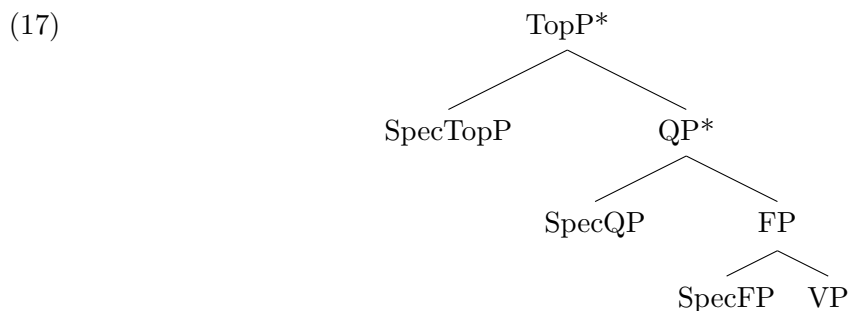
Since this dissertation is to propose generalisations about the distribution of DPs in the preverbal field, I will focus on the monotonicity of the right argument.

3.2 Distribution of quantifiers in Hungarian

As discussed in Chapter 2, grammatical functions play no role in word ordering in Hungarian. Instead, quantifiers appear in designated positions in the preverbal field, while their postverbal order is completely free. This section is to review these distributional facts.

3.2.1 Quantifiers in the preverbal field

In Hungarian, quantifiers typically appear in designated positions in the preverbal field, as discussed also in Chapter 2. See the structure of the preverbal field repeated below.



Some quantifiers are restricted with respect to the preverbal positions they can appear in, while others can appear in more than one of these preverbal positions (see Kenesei (1986); Szabolcsi (1997); É. Kiss (2002) among others). Recall the patterns that show for each position whether an expression is possible there or not.

(*[DP] _Q)	[DP] _{TopP}	(adverb)	VM	V
[DP] _Q	[DP] _Q	(*adverb)	VM	V
[DP] _Q	[DP] _F	(*adverb)	V	VM

The Topic position is the only one that can be followed by an (unfocused) adverbial. Universals always have to appear in the Quantifier position – if another quantifier can follow and does not trigger the inversion of the default VM-V order, we can conclude that it can appear in the iterative Quantifier position. If a quantifier can be followed by an inversed V-VM complex, it means that it can appear in the immediately preverbal Focus position. In this section, I will review the quantifiers each of the preverbal position obligatorily attracts, then turn to discuss quantifiers that have more freedom in the preverbal field.

3.2.1.1 Quantifiers in the Topic position

The quantifiers attracted by the Topic position are *a legtöbb N*, ‘most N’ and *as összes N* ‘all (the) N’ – they are thus excluded from the Quantifier and Focus positions.

- (18) a. [A legtöbb macska]_{TopP} tegnap el aludt.
 the most cat yesterday VM.away slept
 ‘Yesterday, most cats fell asleep.’
- b. *[Minden szobában]_{QP} [a legtöbb macska]_{QP} el aludt.
 every room-INESS the most cat VM.away slept

- Int: ‘In every room, most cats fell asleep.’
- c. *[A legtöbb macska]_{FP} aludt el.
 the most cat slept VM.away
 Int: ‘Most cats fell asleep.’
- (19) a. [Az összes macska]_{TopP} tegnap el aludt.
 the all cat yesterday VM.away slept
 ‘Yesterday, all cats fell asleep.’
- b. *[Minden szobában]_{QP} [az összes macska]_{QP} el aludt.
 every room-INESS the all cat VM.away slept
 Int: ‘In every room, all cats fell asleep.’
- c. *[Az összes macska]_{FP} aludt el.
 the all cat slept VM.away
 Int: ‘All cats fell asleep.’

3.2.1.2 Quantifiers in the Quantifier position

Universal quantifiers like *minden N*, ‘every N’, *mindegyik N*, ‘each N’, *mindkét N* ‘both N’, etc. have to appear in the Quantifier position and are excluded from the Topic and Focus positions.

- (20) a. *[Minden macska]_{TopP} tegnap el aludt.
 every cat yesterday VM.away slept
 Int: ‘Yesterday, every cat fell asleep.’
- b. [Minden szobában]_{QP} [minden macska]_{QP} el aludt.
 every room-INESS every cat VM.away slept
 ‘In every room, every cat fell asleep.’
- c. *[Minden macska]_{FP} aludt el.
 every cat slept VM.away
 Int: ‘Every cat fell asleep.’
- (21) a. *[Mindegyik macska]_{TopP} tegnap el aludt.
 each cat yesterday VM.away slept
 Int: ‘Yesterday, each cat fell asleep.’
- b. [Minden szobában]_{QP} [mindegyik macska]_{QP} el aludt.
 every room-INESS each cat VM.away slept
 ‘In every room, each cat fell asleep.’
- c. *[Mindegyik macska]_{FP} aludt el.
 each cat slept VM.away
 Int: ‘Each cat fell asleep.’

- (22) a. *[Mindkét macska]_{TopP} tegnap el aludt.
 both cat yesterday VM.away slept
 Int: ‘Yesterday, both cats fell asleep.’
- b. [Minden szobában]_{QP} [mindkét macska]_{QP} el aludt.
 every room-INESS each cat VM.away slept
 ‘In every room, both cats fell asleep.’
- c. *[Mindkét macska]_{FP} aludt el.
 both cat slept VM.away
 Int: ‘Both cats fell asleep.’

In Chapter 5 I will explain these distributional facts in more detail and propose an explanation for them.

3.2.1.3 Quantifiers in the Focus position

The Focus position is the obligatory position for DE quantifiers such as *kevés N* ‘few N’, *legfeljebb négy N*, ‘at most four N’, *kevesebb, mint négy N*, ‘fewer/less than four N’, and for the non-monotonic quantifier *pontosán négy N*, ‘exactly four N’.

- (23) a. *[Kevés macska]_{TopP} tegnap el aludt.
 few cat yesterday VM.away slept
 Int: ‘Yesterday, few cats fell asleep.’
- b. *[Minden szobában]_{QP} [kevés macska]_{QP} el aludt.
 every room-INESS few cat VM.away slept
 Int: ‘In every room, few cats fell asleep.’
- c. [Kevés macska]_{FP} aludt el.
 few cat slept VM.away
 ‘Few cats fell asleep.’
- (24) a. *[Legfeljebb négy macska]_{TopP} tegnap el aludt.
 at-most four cat yesterday VM.away slept
 Int: ‘Yesterday, at most four cats fell asleep.’
- b. *[Minden szobában]_{QP} [legfeljebb négy macska]_{QP} el aludt.
 every room-INESS at-most four cat VM.away slept
 Int: ‘In every room, at most four cats fell asleep.’
- c. [Legfeljebb négy macska]_{FP} aludt el.
 at-most four cat slept VM.away
 ‘At most four cats fell asleep.’

- (25) a. *[Kevesebb, mint négy macska]_{TOPP} tegnap el aludt.
fewer than four cat yesterday VM.away slept
Int: ‘Yesterday, fewer than four cats fell asleep.’
- b. *[Minden szobában]_{QP} [kevesebb, mint négy macska]_{QP} el aludt.
every room-INCESS fewer than four cat VM.away slept
Int: ‘In every room, fewer than four cats fell asleep.’
- c. [Kevesebb, mint négy macska]_{FP} aludt el.
fewer than four cat slept VM.away
‘Fewer than four cats fell asleep.’
- (26) a. *[Pontosan négy macska]_{TOPP} tegnap el aludt.
exactly four cat yesterday VM.away slept
‘Yesterday, exactly four cats fell asleep.’
- b. *[Minden szobában]_{QP} [pontosan négy macska]_{QP} el aludt.
every room-INCESS exactly four cat VM.away slept
‘In every room, at least four cats fell asleep.’
- c. [Pontosan négy macska]_{FP} aludt el.
exactly four cat slept VM.away
‘Exactly four cats fell asleep.’

These facts will also be discussed in more detail in Chapter 5.

3.2.1.4 Quantifiers possible in all preverbal positions

Quantifiers that have more freedom in their distribution include *sok N* ‘many N’, *néhány N* ‘some N’, bare numerals, and modified numerals such as *legalább négy N* ‘at least four N’, *több, mint négy N* and ‘more than four N’. I will refer to these as *free expressions*. The following sentences show that they are indeed possible in all preverbal positions.

- (27) a. [Sok macska]_{TOPP} tegnap el aludt.
many cat yesterday VM.away slept
‘Yesterday, many cats fell asleep.’
- b. [Minden szobában]_{QP} [sok macska]_{QP} el aludt.
every room-INCESS many cat VM.away slept
‘In every room, many cats fell asleep.’
- c. [Sok macska]_{FP} aludt el.
many cat slept VM.away
‘Many cats fell asleep.’

- (28) a. [Néhány macska]_{TopP} tegnap el aludt.
 some cat yesterday VM.away slept
 ‘Yesterday, some cats fell asleep.’
- b. [Minden szobában]_{QP} [néhány macska]_{QP} el aludt.
 every room-INESS some cat VM.away slept
 ‘In every room, some cats fell asleep.’
- c. [Néhány macska]_{FP} aludt el.
 some cat slept VM.away
 ‘Some cats fell asleep.’
- (29) a. [Négy macska]_{TopP} tegnap el aludt.
 four cat yesterday VM.away slept
 ‘Yesterday, four cats fell asleep.’
- b. [Minden szobában]_{QP} [négy macska]_{QP} el aludt.
 every room-INESS four cat VM.away slept
 ‘In every room, four cats fell asleep.’
- c. [Négy macska]_{FP} aludt el.
 four cat slept VM.away
 ‘Four cats fell asleep.’
- (30) a. [Legalább négy macska]_{TopP} tegnap el aludt.
 at-least four cat yesterday VM.away slept
 ‘Yesterday, at least four cats fell asleep.’
- b. [Minden szobában]_{QP} [legalább négy macska]_{QP} el aludt.
 every room-INESS at-least four cat VM.away slept
 ‘In every room, at least four cats fell asleep.’
- c. [Legalább négy macska]_{FP} aludt el.
 at-least four cat slept VM.away
 ‘At least four cats fell asleep.’
- (31) a. [Több, mint négy macska]_{TopP} tegnap el aludt.
 more than four cat yesterday VM.away slept
 ‘Yesterday, more than four cats fell asleep.’
- b. [Minden szobában]_{QP} [több, mint négy macska]_{QP} el aludt.
 every room-INESS more than four cat VM.away slept
 ‘In every room, more than four cats fell asleep.’
- c. [Több, mint négy macska]_{FP} aludt el.
 more than four cat slept VM.away
 ‘More than four cats fell asleep.’

The interpretation of free expressions can vary according to the position they occupy in

certain contexts. These differences will be discussed in more detail in Chapter 6.

Interestingly, free expressions are not only possible in all preverbal positions, but they are also possible in existential sentences, while restricted quantifiers are excluded from them.

(32) *Quantifiers in the Topic position*

- a. *Van az összes macska a kertben.
is the all cat the garden-INNESS
- b. *Van a legtöbb macska a kertben.
is the most cat the garden-INNESS

(33) *Quantifiers in the Quantifier position*

- a. *Van minden macska a kertben.
is every cat the garden-INNESS
- b. *Van mindegyik macska a kertben.
is each cat the garden-INNESS

(34) *Quantifiers in the Focus position*

- a. *Van kevés macska a kertben.
is few cat the garden-INNESS
- b. *Van legfeljebb négy macska a kertben.
is at-most four cat the garden-INNESS

(35) *Free expressions*

- a. Van sok macska a kertben.
is many cat the garden-INNESS
'There are many cats in the garden.'
- b. Van néhány macska a kertben.
is some cat the garden-INNESS
'There are some cats in the garden.'
- c. Van legalább négy macska a kertben.
is at-least four cat the garden-INNESS
'There are at least four cats in the garden.'

It seems then that there are further differences in the distributional properties between restricted and free quantifiers in Hungarian, not merely in the positions they can occupy in the preverbal field. To detect whether there are additional differences between these

two categories more investigation needs to be done, but since it is not relevant for the purposes of this dissertation, I will leave this for future research.

3.2.1.5 Quantificational adverbs

Naturally, adverbial phrases can also be quantificational in Hungarian. These follow the same constraints with respect to their preverbal positions as nominal quantifiers. These constraints will be discussed in more detail in Chapter 5, but I will show below how quantificational adverbs pattern with quantifier DPs. *Mindig* ‘always’ patterns with *minden macska* ‘every cat’ as in (36), *ritkán* ‘rarely’ with *kevés macska* ‘few cats’ as in (37), and *gyakran* ‘often’ with *sok macska* ‘many cats’ as in (38).

- (36) a. Ettől a filmtől minden macska el alszik.
 this-ELAT the film-ELAT every cat VM.away sleep.3SG
 ‘This film makes every cat fall asleep.’
 b. *Ettől a filmtől minden macska alszik el.
 this-ELAT the film-ELAT every cat sleep.3SG VM.away
 c. Ettől a filmtől mindig el alszom.
 this-ELAT the film-ELAT always VM.away sleep.1SG
 ‘This film always makes me fall asleep.’
 d. *Ettől a filmtől mindig alszom el.
 this-ELAT the film-ELAT always sleep.1SG VM.away
- (37) a. Ettől a filmtől kevés macska alszik el.
 this-ELAT the film-ELAT few cat sleep.3SG VM.away
 ‘This film makes few cats fall asleep.’
 b. *Ettől a filmtől kevés macska el alszik.
 this-ELAT the film-ELAT few cat VM.away sleep.3SG
 c. Ettől a filmtől ritkán alszom el.
 this-ELAT the film-ELAT rarely sleep.1SG VM.away
 ‘This film rarely makes me fall asleep.’
 d. *Ettől a filmtől ritkán el alszom.
 this-ELAT the film-ELAT rarely VM.away sleep.1SG
- (38) a. Ettől a filmtől sok macska el alszik.
 this-ELAT the film-ELAT many cat VM.away sleep.3SG
 ‘This film makes many cat fall asleep.’
 b. Ettől a filmtől sok macska alszik el.
 this-ELAT the film-ELAT many cat sleep.3SG VM.away

- ‘This film makes many cat fall asleep.’
- c. Ettől a filmtől gyakran el alszom.
 this-ELAT the film-ELAT often VM.away sleep.1SG
 ‘This film often makes me fall asleep.’
- d. Ettől a filmtől gyakran alszom el.
 this-ELAT the film-ELAT often sleep.1SG VM.away
 ‘This film often makes me fall asleep.’

Since grammatical categories do not seem to affect these constraints, I will only use examples with quantified DPs in the dissertation for the sake of simplicity.

3.2.2 Quantifiers in the postverbal field

So far, I have discussed possible preverbal positions for different quantifiers in Hungarian. As presented in Chapter 2, the order of constituents in the postverbal field is much less constrained than in the preverbal field. All quantifiers, except the ones that have to appear in the Focus position, can freely appear after the verb.

(39) *Topic quantifiers*

- a. El aludt az összes macska.
 VM.away slept the all cat
 ‘All cats fell asleep.’
- b. El aludt a legtöbb macska.
 VM.away slept the most cat
 ‘Most cats fell asleep.’

(40) *Quantifier quantifiers*

- a. El aludt minden macska.
 VM.away slept every cat
 ‘Every cat fell asleep.’
- b. El aludt mindegyik macska.
 VM.away slept each cat
 ‘Each cat fell asleep.’

(41) *Focus quantifiers*

- a. *El aludt kevés macska.
 VM.away slept few cat
 Int: ‘Few cats fell asleep.’

- b. *El aludt legfeljebb négy macska.
 VM.away slept at-most four cat
 Int: ‘At most four cats fell asleep.’

(42) *Free quantifiers*

- a. El aludt sok macska.
 VM.away slept many cat
 ‘Many cats fell asleep.’
- b. El aludt néhány macska.
 VM.away slept some cat
 ‘Some cats fell asleep.’
- c. El aludt legalább négy macska.
 VM.away slept at-least four cat
 ‘At least four cats fell asleep.’

Quantifiers that have the Focus position as their obligatory position can only appear postverbally if the Focus position is already filled by some other expression.

- (43) a. A [kertben]_{FP} aludt el kevés macska.
 the garden-INESS slept VM.away few cat
 ‘It was in the garden that few cats fell asleep.’
- b. A [kertben]_{FP} aludt el legfeljebb négy macska.
 the garden-INESS slept VM.away at-most four cat
 ‘It was in the garden that at most four cats fell asleep.’

In order to have a better understanding of these distributional facts, we shall look at how quantifier scope works in Hungarian in the next section.

3.3 Quantifier scope in Hungarian

Hungarian has been said to “*wear its LF on its sleeve*” (Szabolcsi, 1997, p. 111), since, with a few exceptions, the left-to-right order of quantifiers (and other scope taking operators such as *wh*-words, negation, etc.) reflects their relative surface order. Postverbal quantifiers generally take narrow scope with respect to preverbal ones, and if there is more than one postverbal quantifier, they have ambiguous scope (Szabolcsi, 1997; Bródy and Szabolcsi, 2003; Bernardi and Szabolcsi, 2008, etc.).

Let’s see the possible interpretations for two preverbal quantifiers in two possible or-

ders:

- (44) Több, mint hat diák minden könyvet el olvasott.
 more than six student every book-ACC VM.away read.3SG
 ‘More than six students read every book.’

more than six > every
 *every > more than six

- (45) Minden könyvet több, mint hat diák el olvasott.
 every book-ACC more than six student VM.away read.3SG
 ‘For every book, there were more than six students who read them.’

every > more than six
 *more than six > every

In (44), *more than six students* takes scope over *every book*, so it means that there were more than six students who read each and every book. Whereas in (45), *every book* takes scope over *more than six students*, so it means that for every individual book there were more than six students who read each of them.

Preverbal quantifiers take wide scope with respect to postverbal ones:

- (46) Több, mint hat diák el olvasott minden könyvet.
 more than six student VM.away read.3SG every book-ACC
 ‘More than six students read every book.’

more than six > every
 *every > more than six

- (47) Minden könyvet el olvasott több, mint hat diák.
 every book-ACC VM.away read.3SG more than six student
 ‘For every book, there were more than six students who read them.’

every > more than six
 *more than six > every

Left-dislocated elements or contrastive topics (in italics), however, take narrow scope with respect to other preverbal quantifiers. In other words, they behave like postverbal

quantifiers that also take narrow scope relative to preverbal ones. The following two sentences then have the same scope interpretation, namely that there were more than six students who read every book.

- (48) *Minden könyvet, több, mint hat diák olvasott el.*
 every book-ACC more than six student read.3SG VM.away
 ‘As for every book, more than six students read them.’

more than six > every
 *every > more than six

- (49) *Több, mint hat diák olvasott el minden könyvet.*
 more than six student read.3SG VM.away every book-ACC
 ‘More than six students read every book.’

more than six > every
 *every > more than six

Multiple quantifiers in the postverbal field can follow each other in any order. Also, they have ambiguous scope, so all scope readings are possible, but preferred scope interpretations follow the surface order or are affected by prosodic factors (Bródy and Szabolcsi, 2003; Hunyadi, 1999; Surányi, 2003a)¹.

- (50) a. *El olvasott minden diák hat könyvet a legtöbb vizsgára.*
 VM-AWAY read.3SG every student six book-ACC the most
 vizsgára.
 exam-SUBLAT
 ‘Every student read six books for most exams.’
- b. *El olvasott minden diák a legtöbb vizsgára hat könyvet.*
 VM-AWAY read.3SG every student the most exam-SUBLAT six
 könyvet.
 book-ACC
 ‘Every student read six books for most exams.’
- c. *El olvasott hat könyvet minden diák a legtöbb vizsgára.*
 VM-AWAY read.3SG six book-ACC every student the most
 vizsgára.
 exam-SUBLAT

¹However, Gyuris and Jackson (2018) argued that there is no correlation between prosodic factors and scope interpretation in the postverbal field.

- ‘Every student read six books for most exams.’
- d. El olvasott hat könyvet a legtöbb vizsgára minden
 VM-AWAY read.3SG six book-ACC the most exam-SUBLAT every
 diák.
 student
 ‘Every student read six books for most exams.’
- e. El olvasott a legtöbb vizsgára minden diák hat
 VM-AWAY read.3SG the most exam-SUBLAT every student six
 könyvet.
 book-ACC
 ‘Every student read six books for most exams.’
- f. El olvasott a legtöbb vizsgára hat könyvet minden
 VM-AWAY read.3SG the most exam-SUBLAT six book-ACC every
 diák.
 student
 ‘Every student read six books for most exams.’
- every > six > most
 every > most > six
 six > every > most
 six > most > every
 most > every > six
 most > six > every

However, universal quantifiers in the postverbal field can take wide scope over preverbal ones, if stress on them is more salient than in a neutral sentence. Otherwise, they have narrow scope, just like any other postverbal quantifier:

- (51) Kevés diák olvasott el MINDEN KÖNYVET.
 few student read.3SG VM.away every book-ACC
 ‘Every book was read by few students.’
- every > few
 *few > every
- (52) Kevés diák olvasott el minden könyvet.
 few student read.3SG VM.away every book-ACC
 ‘Few students read every book.’
- few > every

*every > few

With this in mind, we can now show why obligatory Focus quantifiers can only appear in a postverbal position if the position is filled by another expression. Quantifiers in the Topic and Quantifier positions take wide scope over quantifiers in the Focus position, following surface order.

- (53) a. [A legtöbb diák]_{TOPP} [kevés könyvet]_{FP} olvasott el.
 the most student few book-ACC read.3SG VM.away
 ‘Most student read few books.’

most > few

*few > most

- b. [Minden diák]_{QP} [kevés könyvet]_{FP} olvasott el.
 every student few book-ACC read.3SG VM.away
 ‘Every student read few books.’

every > few

*few > every

But if the interpretation wants an obligatory Focus quantifier like *few books* to take wide scope over another quantifier, this latter has to appear in the postverbal field instead of its determined preverbal position.

- (54) a. Kevés könyvet olvasott el a legtöbb diák.
 few book-ACC read.3SG VM.away the most student
 ‘There were few books that most students read.’

few > most

*most > few

- b. Kevés könyvet olvasott el minden diák.
 few book-ACC read.3SG VM.away every student
 ‘There were few books that every student read.’

few > every

*every > few

3.4 Semantic properties of the QP

The Quantifier position in Hungarian is between the Topic position and the Focus position. As mentioned before, this position is not available for just any type of quantifier. It hosts universal quantifiers, such as *minden N*, ‘every N’, *mindegyik N*, ‘each N’, *mindkét N*, ‘both N’ etc. – these quantifiers can only appear here.

- (55) a. *[Minden macska]_{TopP} tegnap el aludt.
 every cat yesterday VM.away slept
 Int: ‘Yesterday, every cat fell asleep.’
- b. [Minden szobában]_{QP} [minden macska]_{QP} el aludt.
 every room-INESS every cat VM.away slept
 ‘In every room, every cat fell asleep.’
- c. *[Minden macska]_{FP} aludt el.
 every cat slept VM.away
 Int: ‘Every cat fell asleep.’

This is also the obligatory position for additive focus particles *is* ‘also’ and *még...is* ‘even’.

- (56) a. *[Misi is]_{TopP} tegnap el aludt.
 Misi also yesterday VM.away slept
 Int: ‘Yesterday, Misi also fell asleep.’
- b. [Minden délután]_{QP} [Misi is]_{QP} el aludt.
 every afternoon Misi also VM.away slept
 ‘Every afternoon, Misi also fell asleep.’
- c. *[Misi is]_{FP} aludt el.
 Misi also slept VM.away
 Int: ‘Misi also fell asleep.’
- (57) a. *[Még Misi is]_{TopP} tegnap el aludt.
 still Misi also yesterday VM.away slept
 Int: ‘Yesterday, even Misi fell asleep.’
- b. [Minden délután]_{QP} [még Misi is]_{QP} el aludt.
 every afternoon still Misi also VM.away slept
 ‘Every afternoon, even Misi fell asleep.’
- c. *[Még Misi is]_{FP} aludt el.
 still Misi also slept VM.away
 Int: ‘Even Misi fell asleep.’

This position has been assumed to be a special position for distributive quantifiers (Szabolcsi, 1997; É. Kiss, 2002, etc.). According to Szabolcsi (1997), a quantifier that appears in this position acts as a *distributor* – i.e. what is expressed in the predicate is distributed over every individual in its domain. So with a predicate that is ambiguous between a collective and a distributive reading, like *lift a piano*, will get a distributive reading with an expression in the Quantifier position:

- (58) a. Minden diák fel emelte a zongorát.
 every student VM.up lifted the piano-ACC
 ‘Every student lifted the piano.’
 distributive reading: OK
 collective reading: *
- b. Misi is fel emelte a zongorát.
 Misi also VM.up lifted the piano-ACC
 ‘Misi also lifted the piano.’
 distributive reading: OK
 collective reading: *

This position can also host quantifiers that are neither universal nor inherently distributive. Expressions such as *sok N*, ‘many N’, *legalább négy N*, ‘at least four N’, *több, mint négy N*, ‘more than four N’, are also possible in the Quantifier position, where they receive a distributive interpretation. These quantifiers however can also appear in the other two preverbal positions, where their preferred interpretation is the collective one, although the distributive one is also available.

- (59) a. Hat diák fel emelte a zongorát, mind meg akarta mutatni
 six student VM.up lifted the piano-ACC all VM.PERF wanted show-to
 milyen erős.
 how strong
 ‘Six students lifted the piano, they all wanted to show how strong they are.’
- b. #Hat diák fel emelte a zongorát, annyira nehéz volt.
 six student VM.up lifted the piano-ACC that-much heavy was
 ‘Six students lifted the piano, that’s how heavy it was.’
 distributive reading: OK
 collective reading: *

- (60) a. Hat diák emelte fel a zongorát, mind meg akarta mutatni
 six student lifted VM.up the piano-ACC all VM.PERF wanted show-to
 milyen erős.
 how strong
 ‘Six students lifted the piano, they all wanted to show how strong they are.’
- b. Hat diák emelte fel a zongorát, annyira nehéz volt.
 six student lifted VM.up the piano-ACC that-much heavy was
 ‘Six students lifted the piano, that’s how heavy it was.’

distributive reading: OK

collective reading: OK

3.5 Summary

In this chapter I presented syntactic and semantic properties of quantifier expressions in Hungarian. In Hungarian, different quantifiers show very distinct distributional patterns. Each of the three main preverbal positions – the Topic position, the Quantifier position and the Focus position – has a set of quantifiers that it can and cannot host. Quantifiers that have to be preceded by a definite article, namely *az összes N* ‘all N’ and *a legtöbb N* ‘most N’ have to appear in the Topic position and are excluded from the other two. The Quantifier position hosts universal quantifiers such as *minden N* ‘every N’, while the Focus position is the obligatory position for downward entailing quantifiers such as *kevés N* ‘few N’. A number of quantifiers are however unrestricted with respect to their preverbal positions and can appear in all three of them: these include *sok N*, ‘many N’, *néhány N* ‘some N’, bare numerals and some modified numerals like *legalább négy N* ‘at least four N’. Every quantifier can appear in the postverbal field, but DE quantifiers that have the Focus position as their obligatory preverbal position can only appear there if the Focus position is already filled by another expression. Scope interpretation in the preverbal field follows surface order, and postverbal quantifiers generally take narrow scope with respect to preverbal ones. Multiple postverbal quantifiers have ambiguous scope. The Quantifier position also hosts DPs headed by additive focus particles such as *x is* ‘x also’ and *még x is* ‘even x’. Expressions in the Quantifier position receive a distributive interpretation.

Chapter 4

Focus in Hungarian

Hungarian is well known for having a structural Focus position. This chapter presents the main syntactic, prosodic and semantic properties of focus in general and also of the Hungarian Focus position.

The chapter is organised as follows. I will first present a general overview of how focusing works in natural languages, namely the different focus marking strategies different languages employ, its relation to prosody, how it can be represented compositionally, and finally the expressions that associate with focus in different ways. Then I will present an overview of the literature first on focus movement to the preverbal position in Hungarian, then on the question whether the exhaustive interpretation of Hungarian preverbal focus is part of its truth conditions or merely a pragmatic inference. Finally, I will present the expressions that obligatorily appear immediately in front of the verb.

4.1 Background on focusing

Focus generally refers to a constituent within a sentence that is emphasised by grammatical means, such as prosodic salience or non-default word order and in general contributes new, non-presupposed or contrastive information.

In this section, I provide a general overview on focus in natural languages, which will be helpful in understanding how focusing works in Hungarian. First, I will briefly show the different focus marking strategies that different languages employ. Then, I will discuss the role prosody plays in focus marking and interpretation. Finally, I will present

focus semantics, before turning to a discussion on focus sensitivity and expressions that associate with focus.

4.1.1 Focus marking

Languages show an important variation in their strategies for focus marking. In many languages, the focused constituent is the one that is prosodically the most prominent in a sentence. English for example uses pitch accent to mark focus.¹

- (1) a. We saw a TIGER_F on the road.
 b. We saw a tiger on the ROAD_F.

This way of focus marking is used extensively in tonal languages, but other prosodic means of focus marking have also been observed crosslinguistically. In tone languages like Chicheŵa, an insertion of a phonological phrase boundary can mark the focus in a sentence, with the phrase boundary being marked by penultimate vowel lengthening (Kanerva, 1990, p. 98).

- (2) a. (Anaménya nyumbá ndí mwáála).
 pro-hit house with rock
 ‘He hit the house with a rock.’ All focus
- b. (Anaményá nyumbá ndí mwáála).
 pro-hit house with rock
 ‘He hit the house with a rock.’ VP/PP focus
- c. (Anaményá nyuúmba) (ndí mwáála).
 pro-hit house with rock
 ‘He hit the house with a rock.’ NP object focus
- d. (Anaméénya) (nyuúmba) (ndí mwáála).
 pro-hit house with rock
 ‘He hit the house with a rock.’ V focus

There are languages that mark focus with the help of a morphological focus marker. The following example illustrates this in Gùrùntùm, where the focus marker *à* always precedes the element of the sentence that is in focus (Hartmann and Zimmermann, 2009, p. 65).

¹In the dissertation, I will use allcaps for pitch accent and square brackets to mark semantic focus on larger constituents.

- (3) A: *Who is chewing the colanut?*
 B: Á fúrmýò bà wúm kwálingálá.
 FOC fulani PROG chew colanut
 ‘[The FULANI]_F is chewing the colanut.’

- (4) A: *What is he chewing?*
 B: Tí bà wúm-à kwálingálá.
 3SG PROG chew FOC colanut
 ‘He is chewing COLANUT_F.’

Some languages, like Spanish, use syntactic reordering for marking the focus of a sentence – focused subjects appear in a non-default sentence final position (Zubizarreta, 1998; Büring and Gutiérrez-Bravo, 2001, p. 41).

- (5) Q: Qué pasó?
 what happened
 ‘What happened?’
 A: [Juan compró ayer el PERIÓDICO]_F.
 Juan bought yesterday the newspaper
 ‘Juan bought the newspaper yesterday.’
- (6) Q: Quién compró el periódico ayer?
 who bought the newspaper yesterday
 ‘Who bought the newspaper yesterday?’
 A: Ayer compró el periódico [JUAN]_F.
 yesterday bought the newspaper Juan
 ‘JUAN bought the newspaper yesterday.’
 A: #[JUAN]_F compró ayer el periódico.
 Juan bought yesterday the newspaper

Finally, many languages employ mixed strategies for focus marking – many Slavic languages, German, Japanese, Korean, European Portuguese, Finnish etc. are like this. These languages can either use prosodic or syntactic structure to mark focus. According to Büring (2009), however, when one of these structures is marked, the other one is realised canonically.

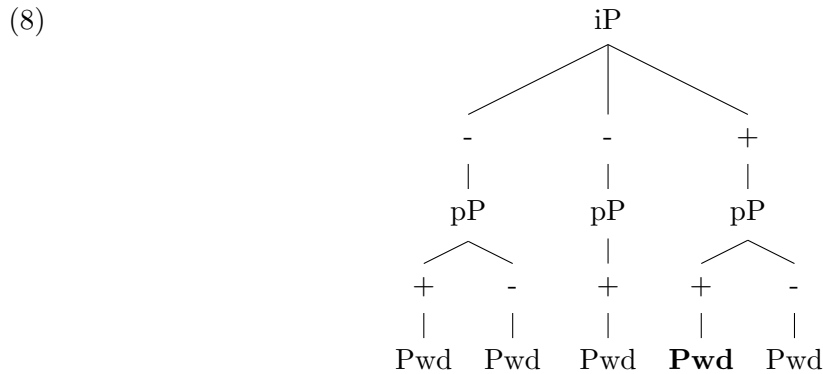
4.1.2 Focus and prosody

It has been observed that focus realisation can always be linked to structural markedness or *prominence*. This idea is reflected in Truckenbrodt (1995), who formulated a constraint called *Focus Prominence*:

- (7) *Focus Prominence*
Focus needs to be maximally prominent.

In some languages, this prominence can be detected in syntactic or morphologic terms, in others in prosodic terms, and in some languages in both.

I will outline here briefly how prosodic prominence can be understood, based on Büring (2009). He assumes a hierarchy of prosodic units, built up from *prosodic words* (PwD), *phonological phrases* (pP) and *intonational phrases* (iP). Among the constituents of a unit, the stronger or *more prominent* one will be the *head*, here the constituent that is marked in bold (Büring, 2009, p. 4).



Indeed many authors saw focus as being defined in PF (see Chomsky, 1971; Cinque, 1993, etc.). Chomsky (1971) argued that focus in English can be any constituent containing the nuclear stress which is defined by the *Nuclear Stress Rule* (Chomsky and Halle, 1968).

- (9) *Nuclear Stress Rule*
Stress is assigned to the rightmost stressable vowel in a major constituent, e.g. [the [black b́ird]].

They claimed that speakers assign stress automatically to a given syntactic structure.

“Once the speaker has selected a sentence with a particular syntactic structure and certain lexical items (largely or completely unmarked for stress as we shall see) the choice of stress contour is not a matter subject to further independent decision. That is, he need not make a choice among various “stress phenomena” or select one or another “superfix”. With marginal exceptions, the choice of these is completely determined as, for example, the degree of aspiration.” (Chomsky and Halle, 1968, p. 25)

This however fails to explain a large set of phenomena. Consider the next examples, taken from Cinque (1993, p. 257).

- (10) a. What did John do?
b. John LEFT_F.
- (11) a. Who left?
b. JOHN_F left.

The sentences in (10b) and (11b) have the same syntactic structure, however they differ in their intonational patterns depending on the question that precedes them. Bolinger (1972) argued against a syntactic representation of accent and suggested that accent placement is actually correlated with world knowledge, context and the speaker’s intentions in a given situation.

However, putting syntactic structures aside in stress and focus assignment is probably not on the right track either. If it was the case, then nothing would explain the different possible focus interpretations of a sentence in different contexts. Indeed, the intonation in (12) and (13) follows the same pattern, namely the one predicted by the NSR, however, as it is visible from the preceding questions, the two answers have different focus interpretations:

- (12) A: What did John do yesterday?
B: He [baked a CAKE]_F.
- (13) A: What did John bake yesterday?
B: He baked a [CAKE]_F.

A number of authors tackled *focus projection*, according to which pitch accent is in fact able to mark focus on a larger constituent than the accented expression itself. Jackendoff (1972) argued that containing main stress for a phrase is certainly a necessary but not a sufficient condition for focusing. He assumes a focus feature F, that determines the position of the accent and also the focal interpretation of the sentence. Once the speaker has chosen where to put the F feature, accent placement is determined by the stress rules of the language. Then the possible foci of a sentence will be the constituents of different size in which the syllable with main stress is assigned.

Selkirk (1996) introduced rules for focus projection. A word that is stressed bears the F feature that can either mark focus on the word itself or on a larger phrase containing the word, by focus projection.

(14) *Basic Focus Rule*

An accented word is F-marked.

(15) *Focus Projection*

- a. F-marking of the head of a phrase licenses the F-marking of the phrase.
- b. F-marking of an internal argument of a head licenses the F-marking of the head.

So a sentence like (16), with pitch-accent on the NP object, will be ambiguous between different focus interpretations, with each interpretation being an answer to a different wh-question.

(16) Mary bought a book about BATS.

- a. Mary bought a book about [BATS]_F.
(What did Mary buy a book about?)
- b. Mary bought a book [about BATS]_F.
(What kind of book did Mary buy?)
- c. Mary bought [a book about BATS]_F.
(What did Mary buy?)
- d. Mary [bought a book about BATS]_F.
(What did Mary do?)
- e. [Mary bought a book about BATS]_F.

(What's been happening?)

As for (17), F-marking on *Mary* cannot license F-marking on the verb or any other constituent by the rules in (14) and (15), *Mary* itself will be the focus of the sentence.

(17) [MARY]_F bought a book about bats.

(Who bought a book about bats?)

To avoid over-generating possibilities of accent placement on any constituent in a sentence, Selkirk (1996) suggests that F-marking of constituents must also be constrained by their given/new information status.

(18) *Given/New*

- a. Embedded F-markers indicate novelty in the discourse.
- b. The absence of F-marking indicates givenness in the discourse.

Schwarzschild (1999) notes that Selkirk's notion of givenness is not precise enough and cannot account for all cases of focus marking:

(19) A: Who did John's mother praise?
 B: She praised [HIM]_F.

Here, *him* is F-marked and focused (a felicitous answer to the wh-question) although it is given, because it is retrievable from the previous question. Selkirk (1996) solved this by restricting the relation between F-marking and novelty to *embedded* F-marking, i.e. an F-marking that projects and marks focus on a larger constituent rather than just on itself. But Schwarzschild (1999) suggested that a more accurate way to do this would be to look at the problem from the opposite side, and formulated four constraints on accent placement and focusing, to account for a wider range of examples:

- (20) a. GIVENNESS
 If a constituent is not F-marked, it must be GIVEN.
- b. AVOIDF
 F-mark as little as possible, without violating GIVENNESS.

- c. FOC
A Foc-marked phrase contains an accent.
- d. HEADARG
A head is less prominent than its internal argument(s).

Similarly, Reinhart (1995) and Neeleman and Reinhart (1998) defined sets of possible foci for sentences to account for every possible interpretation of sentences with a given stress pattern.

(21) The focus set of an iP (intonational phrase) consists of the constituents containing the main stress of iP.

(22), in which the intonation is neutral and accent is distributed according to the NSR, has a focus set that contains three possible foci.

- (22) a. A: What's this noise?
B: [My neighbor is building a DESK]_F.
- b. A: What's your neighbor doing?
B: My neighbor [is building a DESK]_F.
- c. A: What's your neighbor building?
B: My neighbor is building [a DESK]_F.
- Focus set: {iP, VP, DP_{object}}

However, with the questions in (23), the sentence with the same intonational pattern would not be felicitous:

- (23) a. A: Who's building a desk?
B: #[My neighbor]_F is building a DESK.
- b. A: Has your neighbour bought a desk already?
B: #My neighbor is [building]_F a DESK.

Whenever the focus set of a sentence with the default intonation does not contain the desired focus interpretation, a special operation should be applied so that accent falls on the constituent that needs to be in focus.

(24) Relocate the main stress.

This special operation results in a non-default intonation pattern, i.e. not the one that would be predicted by the NSR. Consider again the examples in (23), repeated below in (25) with the correct focus marking:

- (25) a. A: Who's building a desk?
B: [My NEIGHBOUR]_F is building a desk. Focus set: {DP_{subject}}
- b. A: Has your neighbour bought a desk already?
B: My neighbor is [BUILDING]_F a desk. Focus set: {V}

Neeleman and Reinhart (1998) argue that the stress shifting operation in the above examples can actually be described as two distinct ones: destressing and strengthening (see also Cinque, 1993). Reinhart (1996) argues that these two operations have different prosodic properties and discourse functions. Stress strengthening operates on the focus set – whenever the desired focused constituent is not in the focus set of the sentence with the default intonation (as in defined by the NSR), stress can shift to this constituent, marking the focus, as in (25a). Destressing on the other hand applies when a constituent that would bear main stress according to the NSR, like *desk* in (25b) has already been mentioned previously. These special stress-shifting operations however can only apply when necessary for discourse reasons, otherwise they are blocked by *interface economy* according to which these optional operations are always economy violations and can only apply to satisfy a certain interface need. The interface need in this case is for the desired focus to be in the focus set of a given utterance, which can be obtained by these stress shifting operations.

To sum up, we saw that the relation between accent placement and focus marking is determined by rules and constraints that operate on the interfaces of syntax, prosody and semantics. Let's now turn to this last ingredient, the semantics of focus in the next subsection.

4.1.3 Focus semantics and alternatives

We have seen that focusing can give rise to different interpretations of a sentence with a given syntactic structure, depending on what is focus marked in a sentence. In (26), two distinct focus interpretations are illustrated.

- (26) a. MARY_F likes Sue.
 b. Mary likes SUE_F.

To account for the semantics of focus, perhaps the most influential approaches have been *Structured Meanings* (Jacobs, 1983; Stechow, 1990; Krifka, 1991) and *Alternative Semantics*, proposed by Rooth (1985, 1992).

The Structured Meaning approach divides meanings into two parts, a background part and a focus part, as represented in (27).

- (27) $\langle B, F \rangle$

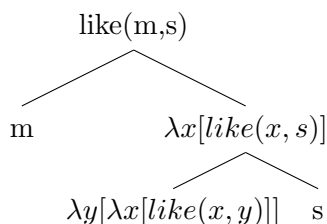
The pair is referred to as a *structured meaning*. Thus, the two sentences in (26) with different focus interpretations can be represented as follows:

- (28) a. MARY_F likes Sue. $\langle \lambda x.like(x, s), m \rangle$
 b. Mary likes SUE_F. $\langle \lambda y.like(m, y), s \rangle$

The Structured Meanings approach allows for a compositional analysis to sentences that involve single or multiple foci. However, it does not say much about *alternatives*, whose introduction is the essential function of focusing according to Rooth (1985, 1992).

According to the Alternative Semantics approach (Rooth, 1985, 1992), focus introduces a set of alternatives that allows a compositional analysis of sentences where focus has an effect on truth conditions. To better understand Alternative Semantics, let's first look at a simple case, without involving the semantic contribution of focus. Let's assume that the semantic value of a sentence is a proposition, the semantic value of a verb is a (one, two or three place) function and the semantic value of a proper name is an element of the domain of individuals. We can then compositionally derive the sentence in (29), along with each node in the tree structure below.

- (29) Mary likes Sue.



Alternative Semantics also takes focus into account and does so in a compositional way, by assuming two independent dimensions of meaning: the *ordinary semantic value* $\llbracket \alpha \rrbracket_o$ and a *focus semantic value* $\llbracket \alpha \rrbracket_f$. The ordinary semantic value of a sentence is simply the denotation it would have without considering focusing at all. The focus semantic value on the other hand is a set that contains all ordinary denotations that can be obtained by replacing the constituent that has been focused with any alternative expression of the same semantic type.

Let's look again at (29), first with focus on *Mary* then with focus on *Sue*. Note that while the ordinary semantic value of the two sentences is the same in (30a) and (31a), their focus semantic values will change depending on which constituent is focused in the sentence.

- (30) a. $\llbracket \text{MARY}_F \text{ likes Sue.} \rrbracket_o = \text{like}(m,s)$
 b. $\llbracket \text{MARY}_F \text{ likes Sue.} \rrbracket_f = \{\text{like}(x,s) \mid x \in E\}^2$
- (31) a. $\llbracket \text{Mary likes SUE}_F. \rrbracket_o = \text{like}(m,s)$
 b. $\llbracket \text{Mary likes SUE}_F. \rrbracket_f = \{\text{like}(m,y) \mid y \in E\}$

This way, the ordinary values are represented as propositions, and the focus values are represented as sets of alternative propositions. Therefore, the ordinary value will always be an element of the focus semantic value.

Alternative Semantics can account for a number of focus-related phenomena, such as question-answer congruence, reconstruction of elided VPs, focus on contrastive pairs, focus-triggered implicatures, and the focus sensitivity of expressions like the exclusive *only* (Beaver and Clark, 2008). Now let's turn to the presentation of focus sensitive operators.

²E is the domain of individuals.

4.1.4 Focus sensitivity and focus particles

In the sentences we considered so far, focusing had an effect on felicity conditions, but not on truth conditions. For example, the sentences (32) and (33) can be answers to two different questions:

- (32) Q: Who did Mary introduce to Sue?
 A: Mary introduced JOHN_F to Sue.
 A' #Mary introduced John to SUE_F.
- (33) Q: Who did Mary introduce John to?
 A: #Mary introduced JOHN_F to Sue.
 A': Mary introduced John to SUE_F.

The two sentences only differ in the location of focus, however, as we have seen, there is no difference in their truth conditions; they are either both true or both false. Now consider two similar sentences, with an additional *only*:

- (34) a. Mary only introduced JOHN_F to Sue.
 b. Mary only introduced John to SUE_F.

These two sentences have different truth conditions: (34a) means that the only person Mary introduced to Sue is John, while (34b) means that the only person to whom Mary introduced John is Sue. So if for example Mary also introduced John to Anna, the a. sentence can still be true but not the other; and if Mary also introduced Anna to Sue, then the a. sentence is false but the b. sentence can still be true.

Indeed, focus placement can affect truth conditions when combined with some focus sensitive operator or construction. Consider a few other examples, taken from Beaver and Clark (2008):

- (35) *Negation*
 a. Kim doesn't study LINGUISTICS_F at Northwestern.
 b. Kim doesn't study linguistics at NORTHWESTERN_F.
- (36) *Verbs of appearance*

- a. Mary seems to have fed Fido NUTRAPUP_F.
- b. Mary seems to have fed FIDO_F Nutrapup.

(37) *Belief operators*

- a. Jane thinks Mary fed Fido NUTRAPUP_F.
- b. Jane thinks Mary fed FIDO_F Nutrapup.

(38) *Quantificational adverbs*

- a. Kim always serves Sandy JOHNNIE WALKER_F.
- b. Kim always serves SANDY_F Johnnie Walker.

(39) *Emotive factives*

- a. The students were glad that BRADY_F taught semantics.
- b. The students were glad that Brady taught SEMANTICS_F.

(40) *Verbs of desire*

- a. The students hope that BRADY_F will teach semantics.
- b. The students hope that Brady will teach SEMANTICS_F.

(41) *Additive particles*

- a. Tonight SAM_F is having dinner in New York, too.
- b. Tonight Sam is having dinner in NEW YORK_F, too.

(42) *Particularizers*

- a. For example, Mary gave Fred PIZZA_F.
- b. For example, Mary gave FRED_F pizza.

The pairs of sentences above differ only in the location of focus, which shows clearly that focus placement is indeed responsible for the difference in meaning between a. and b. sentences. These sentences contain expressions that are sensitive to or associate with focus. What these expressions have in common is that their meanings are affected by the position of focus in a sentence.

These expressions are however not uniform in the way they associate with focus, as in for some of them, for instance *only*, focus sensitivity is conventionalised and part of its lexical meaning, while for others, like *always*, focus sensitivity is not conventionalised.

According to Beaver and Clark (2008), there are three types of focus association: (i) *Quasi Association*; (ii) *Free Association*; and (iii) *Conventional Association*.

Quasi Association includes propositional operators like negation, *either...or*, possibility modals like *perhaps*, verbs of appearance like *seem* and belief operators like *think*. What these expressions have in common other than that they are propositional operators, they are also all *non-veridical*. This means that the prejacent, i.e. the sentence without the focus sensitive item, is not entailed by the whole sentence, as illustrated below.

- (43)
- | | | |
|----|---------------------------------------|--------------------------------|
| a. | Perhaps Mary fed Fido Nutrapup. | \neq Mary fed Fido Nutrapup. |
| b. | Mary seems to have fed Fido Nutrapup. | \neq Mary fed Fido Nutrapup. |
| c. | Jane thinks Mary fed Fido Nutrapup. | \neq Mary fed Fido Nutrapup. |

Quasi Association in fact produces cancelable inferences rather than truth-conditional effects. Take for example (44).

- (44) *either...or*
- | | | |
|----|---|--|
| a. | Either Kim studies LINGUISTICS _F at Texas, or else she just happens to be a lambda calculus black belt. | |
| b. | Either Kim studies linguistics at TEXAS _F , or else she just happens to be a lambda calculus black belt. | |

In the a. sentence, an inference arises that among the things one can study at Texas, only studying linguistics leads to excellence in lambda calculus. In the b. sentence however, the inference is that among the schools one can study linguistics, only Texas leads to excellence in lambda calculus. Beaver and Clark (2008) argued that the focus sensitivity of these expressions is relatively weak and dependent on the context, rather than being grammatically encoded.

The second type, Free Association, is the resolution of a free variable and affects operators that perform quantification over an implicit domain. These include quantificational adverbs, quantificational determiners, modals, superlatives, counterfactuals, reason clauses, emotive factives and verbs of desire. Contrary to Quasi Association, Free Association produces truth-conditional differences depending on what the focus sensitive expression associates with. However, the focus sensitivity of these is not lexically encoded, as in they do not necessarily need a focused associate in a sentence.

The third type of focus association is Conventional Association and includes expressions that have a lexically encoded dependency on focus. These include exclusives like *only*, additives like *also*, *either* and *even*, intensifiers like *really*, particularisers like *for example* and downtoners like *at the very least*. Below I will discuss in more detail exclusives and additives, since phrases headed by these expressions, just like quantifiers, are constrained with respect to the preverbal position they occupy in Hungarian. At the end of this section, I will introduce the notion of *Strawson-Entailment*, in order to account for the monotonicity properties of these focus particles, so that they can be given a unified treatment with quantifiers.

4.1.4.1 Exclusives

The exclusive focus particle *only* is quite well studied in the literature. *Only* presupposes its prejacent³ (the sentence that *only* modifies) and asserts that the constituent associated with *only* is the only entity for which the predicate holds. Consider (45):

(45) Only KATIE_F danced.

Presupposition: *danced*(*k*)

Assertion: $\neg\exists y[y \neq k \wedge \textit{danced}(y)]$

The focus particle *only* is said to have non-scalar (46a) and scalar (46b) uses. However, it has been argued that these two uses can be understood as special cases of a single meaning and that the difference between the scalar and non-scalar readings comes rather from the expression *only* associates with, and on the structure of their set of alternatives (Schwarzschild, 1997; Jacobs, 1983; van Rooij, 2002; van Rooij and Schulz, 2003; Klinedinst, 2004; Beaver, 2004; Beaver and Clark, 2008; Coppock and Beaver, 2014; Panizza and Chierchia, 2019; Alxatib, 2020).

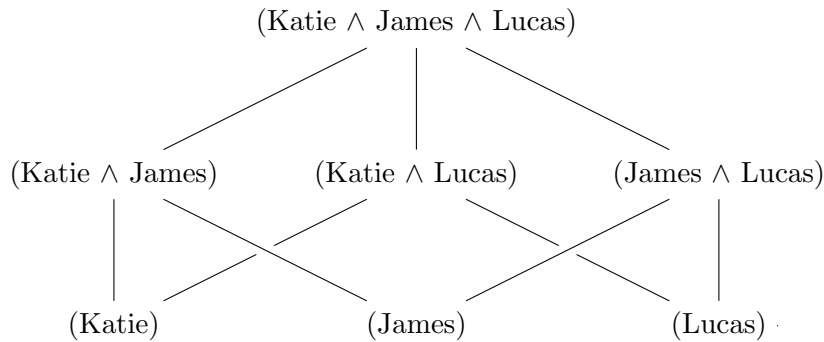
³von Stechow (1999) however notes, following Horn (1996, 1997), that whether the presupposition triggered by *only* is indeed the prejacent itself is arguable. Indeed, if we consider *only* with a numeral phrase, this presupposition does not necessarily hold:

- i. Q: How many people danced at the party?
A: Only [THREE PEOPLE]_F danced.

That *Three people danced* is not undoubtedly presupposed here. What is presupposed however, is that someone danced. Although if *Someone danced* is presupposed and *Only three people danced* is asserted, it is entailed that *three people danced*. Thus, what presupposition *only* triggers exactly about its prejacent does not really matter – what is certain, that a sentence with *only* indeed entails its prejacent.

- (46) a. Only KATIE_F won the silver medal.
 b. Katie only won [THE SILVER MEDAL]_F.

To understand the difference, we need to start with the idea of a scale, which is a salient (partial) ordering of propositions, from weaker to stronger. In the case of the non-scalar reading, the strength is general entailment. Take (46a): a relevant scale would be something like the lattice below. Note that the nodes denote propositions with the predicate omitted, and the lines indicate asymmetric entailment, such that higher nodes asymmetrically entail lower nodes they are connected to.



In (46b) however, the scale would be ⟨no medal, bronze medal, silver medal, gold medal⟩, where no expression entails any weaker one. Under this reading, there is a presupposition that the expression associating with *only* is in some way weaker than expected. This explains why the following sentences are infelicitous⁴:

- (47) a. #Katie only won [THE GOLD MEDAL]_F.
 b. #Katie only speaks [TWENTY THREE LANGUAGES]_F.
 c. #It is only [44 °C]_F today.

Many languages have more than one exclusive particle – consider for example the English *just*, *merely*, *exclusively*, *uniquely*, etc. Exclusives in one language may differ in their interpretation and distribution, as for example the English *exclusively* is only possible under the non-scalar reading. For instance, (48) can only have the interpretation that

⁴While these sentences would generally be considered infelicitous, in some contexts they can be uttered felicitously: if for example in some competition a diamond medal can also be awarded; if Katie enters a polyglot competition where twenty-three languages is not considered a lot; or if during the previous days it was even hotter than 44 °C, etc.

the study does not focus on anything other than secondary schools, there is no inference whatsoever about the unexpectedness of this:

(48) The study focuses exclusively on [SECONDARY SCHOOLS]_F.

According to Beaver and Clark (2008), the focus sensitivity of exclusives arises from their function to comment on the QUD and on alternatives. Now I turn to presenting additive focus particles.

4.1.4.2 Additives

Additive focus particles, like the English *too*, *also*, *as well*, *in addition*, etc. are focus sensitive and carry an additive presupposition.

(49) KATIE_F danced too.

Presupposition: $\exists y[y \neq k \wedge danced(y)]$

Assertion: $danced(k)$

However, unlike exclusives, additive particles do not contribute to the truth-conditions in a sentence – (49) has indeed the same truth conditions as the prejacent *Katie danced*.

The additive presupposition has often been analysed as existential, i.e. there exists an alternative to the focused expression for which the predicate holds and that is not entailed by the sentence itself (Karttunen and Peters, 1979). However, Kripke (2009) pointed out that if the additive presupposition was indeed existential, then the following sentence could be uttered out of the blue, since one can (supposedly) always find at least one person who is also having dinner in New York on any given day.

(50) SAM_F is having dinner in New York tonight, too.

Kripke (2009) proposed that the additive presupposition is anaphoric, meaning that there must be a specific and salient individual who is having dinner in New York too. Kripke's idea has been very influential and implemented in different ways (see Heim, 1992; Geurts and van der Sandt, 2004; Beaver and Zeevat, 2007; Chemla and Schlenker, 2012, etc.), but was also contested by Ruys (2015), who proposed that the infelicity of

(50) out of the blue is not due to the anaphoric nature of the additive presupposition, but can be explained in terms of Givenness (cf. Schwarzschild (1999)).

I will follow Kripke and assume that the additive presupposition is anaphoric, and update its semantics accordingly, as in (51), where the intended reference of y is disambiguated at LF by a referential index, based on Heim (1992), p. 189 (but slightly modified).

(51) KATIE_F danced too.

Presupposition: $y_i \neq k \wedge danced(y_i)$

Assertion: $danced(k)$

4.1.4.3 Negative additives

The English *either* is similar to *too*, in that it also triggers an additive presupposition, but can only be used in negative contexts. They are also similar in that, just like *too*, *either* is truth-conditionally vacuous, it merely triggers a presupposition.

(52) KATIE_F didn't dance either.

Presupposition: $y_i \neq k \wedge \neg danced(y_i)$

Assertion: $\neg danced(k)$

Either differs from *too* in that it is only possible in negative environments, cf. (53), and it has a negative additive presupposition.

(53) *KATIE_F danced either.

Note also, that *either* has two other uses in English: a disjunctive use as in (54a) and a determiner use as in (54b). Here however I am only concentrating on the additive use of *either*.

- (54) a. We're either going to Cambridge or to Philadelphia.
 b. We're not going to either city.

Rullmann (2003) treats the additive *either* as an NPI counterpart of *too*. He pointed out that if *either* was simply a negative allomorph of *too*, nothing would explain the

impossibility of (55).

(55) John washed the dishes. He shouldn't do the LAUNDRY_F (*either).

Rullmann (2003) argues that *either* and *too* differ in their meaning and presupposition. The additive *too* presupposes that there is an alternative to the uttered sentence that is affirmative and true, while *either* presupposes that there is an alternative to the uttered sentence that is negative and true. In (55) there is no relevant negative alternative for the antecedent, which explains the infelicity of *either* in the sentence.

4.1.4.4 Scalar additives

In addition to simple and negative additives, many languages also have one or more scalar additives – the only representative in English is the expression *even*. *Even* triggers two presuppositions, a scalar and an additive one (Karttunen and Peters, 1979; Rooth, 1985; Kay, 1990; Wilkinson, 1996; Herburger, 2000; Crnič, 2011; Francis, 2018; Greenberg, 2018):

(56) Even KATIE_F danced.

Additive presupposition: $y_i \neq k \wedge \text{danced}(y_i)$

Scalar presupposition: $y_i \neq k \wedge \text{danced}(k) <_{\text{likely}} \text{danced}(y_i)$

Assertion: $\text{danced}(k)$

Note that while *likelihood* is perhaps the most commonly used notion when talking about *even*, other kinds of scalar orderings have been proposed in the literature, such as noteworthiness, pragmatic strength, or exceeding the salient standard on some contextually relevant scale (cf. Kay, 1990; Herburger, 2000; Greenberg, 2018, among others). There is also no consensus on how the alternatives relate to the prejacent, i.e. whether all alternatives that are distinct from the prejacent need to be ranked higher or only most/some of them.

Furthermore, there is a debate whether the additive presupposition is always present with *even* (Rullmann, 1997; Crnič, 2011; Francis, 2018). Indeed, some counterexamples were presented in the literature, where *even* is used with non-entailment scales:

(57) Katie even won [THE GOLD MEDAL]_F.

(57) does not presuppose that Katie also won something else, just that is somehow noteworthy that she won the gold medal, which arises from the scalar presupposition. Some languages actually have expressions similar to *even* that only trigger a scalar presupposition but not an additive one, for example the Japanese *-(de)sae* (Donáti and Sudo, 2021). Thus, (58) can be easily uttered out of the blue, because it has no anaphoric additivity:

- (58) Katie-desae Nyuu Yooku-de yuuhan tabeteimasu.
 Katie-even New York-in dinner is.eating
 ‘Even Katie is having dinner in New York.’

4.1.4.5 Strawson Entailment and the monotonicity of focus particles

In Chapter 3, I have introduced monotonicity as one of the most important properties of quantifiers. Monotonicity is known to manifest itself in a number of grammatical phenomena, one of which is the licensing of *Negative Polarity Items* (NPIs). NPIs like *any*, are assumed to be licensed by downward entailing quantifiers (and contexts, like in the case of negation) but not by upward entailing ones (Fauconnier, 1975, 1979; Ladusaw, 1979):

- (59) a. Few students ate any kale for breakfast.
 b. *Some students ate any kale for breakfast.

NPIs are also licensed by *only*, although it is not DE in the sense defined in Chapter 3.

- (60) Only John ate any kale for breakfast.

- (61) kale \Rightarrow vegetable
 Only John ate vegetables for breakfast. \nRightarrow Only John ate kale for breakfast.

The entailment relation does not hold between the two sentences in (61), since there can be scenarios where the first sentence is true but not the second, for instance if John ate spinach for breakfast and no one else had any vegetables for breakfast. Since the presupposition, namely that the prejacent is true, is not satisfied for the second sentence, it cannot be interpreted.

To account for the NPI licensing property, hence the DE-ness of *only*, von Stechow (1999) proposed to define monotonicity using Strawson entailment instead of Generalised entailment, which makes sure to only interpret sentences provided that their presuppositions are satisfied.

- (62) *Strawson Entailment*, \xrightarrow{ST}
- a. For p and q of type t : $p \xrightarrow{ST} q$ iff $p = 0$ or $q = 1$.
 - b. For f and g of type $\langle \sigma, \gamma \rangle$, $f \xrightarrow{ST} g$ iff for all x of type σ , such that the presuppositions of $g(x)$ and $f(x)$ are satisfied, $f(x) \xrightarrow{ST} g(x)$.

Using Strawson entailment, a sentence of the form *Only John is P* is defined only if *John is P* is true. With this in mind, we can now define Strawson-DE-ness:

- (63) *Strawson Downward Entailigness*
 A function f of type $\langle \sigma, \gamma \rangle$ is Strawson-DE iff for all x, y of type σ such that $x \Rightarrow y$ and $f(x)$ is defined: $f(y) \xrightarrow{ST} f(x)$.

Strawson Downward Entailigness checks downward entailment only if the entailed proposition is *defined*, in other words if it has a defined semantic value (true or false), given that its presuppositions are satisfied.

- | | |
|--|---|
| <p>(64) $x \Rightarrow y$
 $f(x)$
 $\frac{\text{only}[f(y)]}{\xrightarrow{ST}} \text{only } f(x)$</p> | <p>(65) Kale is a vegetable. (kale \Rightarrow vegetable)
 John ate kale for breakfast.
 $\frac{\text{Only John ate vegetables for breakfast.}}{\xrightarrow{ST}} \text{Only John ate kale for breakfast.}$</p> |
|--|---|

Thus, if kale is a vegetable and we know that John ate kale for breakfast, then by uttering *Only John ate vegetables for breakfast*, it is Strawson-entailed that *Only John ate kale for breakfast*.

On the other hand, *Strawson Upward Entailigness* can also be defined as in (66):

- (66) *Strawson Upward Entailigness*
 A function f of type $\langle \sigma, \gamma \rangle$ is Strawson-UE iff for all x, y of type σ such that

$x \Rightarrow y$ and $f(y)$ is defined: $f(x) \xrightarrow{\text{ST}} f(y)$.

We can apply this to another presupposition triggering expression, like *even*. Indeed, *even* is also not monotonic in the original sense:

- (67) runs \Rightarrow moves
Even Misi runs. $\not\Rightarrow$ Even Misi moves.

Although by the entailment relation between the prejacent is upward, the scalar presupposition of *even* poses a problem: Misi could be very well unlikely to run, without being unlikely to move. However, if the sentences in (67) are only interpreted with their presuppositions satisfied, we can show that *even* is in fact Strawson UE:

- | | | | |
|------|--|------|--|
| (68) | $x \Rightarrow y$
$f(y)$
$\frac{\text{even}[f(x)]}{\xrightarrow{\text{ST}} \text{even } f(y)}$ | (69) | Kale is a vegetable. (kale \Rightarrow vegetable)
John ate vegetables for breakfast.
<u>Even John ate kale for breakfast.</u>
$\xrightarrow{\text{ST}}$ Even John ate vegetables for breakfast. |
|------|--|------|--|

If the presuppositions for both sentences are satisfied, namely that John is unlikely to eat vegetables, let alone kale, for breakfast, then by uttering *Even John ate kale for breakfast*, it is Strawson-entailed that *Even John ate vegetables for breakfast*.

Therefore, with Strawson Entailment, now we have a way to unify quantifiers and focus particles regarding their monotonicity. Namely, *also*⁵ and *even* are Strawson-UE, while *only* is Strawson-DE. With this in mind, we can unify quantifiers with DPs headed with focus particles in this sense. This will be essential to formulate the generalisations in Chapter 5 for the distribution of these expressions in Hungarian.

4.2 Focus movement

Hungarian is well-known for its structural Focus position. Focused expressions appear in the immediately preverbal position and receive a focus interpretation. Only one expres-

⁵Note that *also* and *too* are UE in the classical sense:

- i. John too ate kale for breakfast. \Rightarrow John too ate vegetables for breakfast.

sion can appear in this position, hence it is not iterative like the Topic and the Quantifier positions (see Chapters 2 and 3). Focus movement also triggers verb movement, so verbal modifiers appear after the verb as in (70b) instead of their default preverbal position as in (70a).

- (70) a. Misi el aludt.
 Misi VM.away slept
 ‘Misi fell asleep.’
 b. [MISI]_{FP} aludt el.
 Misi slept VM.away
 ‘[MISI]_{FP} fell asleep.’

Earlier approaches to focus movement assume that focus in Hungarian is directly represented in the syntax and that this movement is triggered by a formal focus-feature. Horváth (1986) observed that a focused expression is always adjacent to the verb in Hungarian, and that this movement is similar to case assignment. The movement takes place because a constituent with a focus feature has to be in the governing domain of the verb. Her analysis also accounts for other languages that have a structural focus position, such as Basque or Aghem, by the claim that the verb-focus order follows the direction of government for case assignment in a language.

Extending Horváth’s idea further, Bródy (1990) introduced a new functional projection immediately above the VP for focused constituents, the *Focus Phrase* (FP). He also assumed a formal [+f] feature triggering movement to the FP. Focus movement is overt Hungarian and triggered by the Focus-Criterion, similar to Rizzi’s (1990) Wh-Criterion.

- (71) *Focus-Criterion*
 a. At S-structure and LF the Spec of an FP must contain a [+f] phrase.
 b. At LF all [+f] phrases must be in an FP.



A focused constituent is in SpecFP – it moves up to this position from inside the VP. Then focus movement to SpecFP triggers verb movement from V to F, so the focused constituent immediately precedes the verb. Sentences containing a complex verb (a verb with a verbal modifier) are presented as evidence – the verb moves to F and leaves its VM in-situ:

- (73) a. Kati fel hívta Pétert.
 Kati VM.up called Péter-ACC
 ‘Kati called Péter.’
 b. Kati PÉTERT_i hívta fel hívta t_i.
 Kati Péter-ACC called VM.up called t
 ‘Kati called PÉTER.’

While these theories do not accord much attention to intonational properties of focus, Szendrői (2001, 2003) proposed a prosodic approach that derives the syntactic focus position directly from the intonational rules of Hungarian. She argued that the Hungarian data support the *Stress-Focus correspondence principle* proposed by Reinhart (1995) and Neeleman and Reinhart (1998).

- (74) *Stress-Focus Correspondence Principle*
 The focus of a clause is a(ny) constituent containing the main stress of the intonational phrase, as determined by the stress rule.

We have already seen in this chapter how this principle is able to account for cases in English, where focal stress is assigned in accordance to the NSR. If, on the other hand, one wants to assign focus interpretation to a constituent not contained in the above focus set, stress on this constituent has to be reinforced, thus, the nuclear accent distributed by the NSR is shifted.

Szendrői shows how this principle can be satisfied in Hungarian. Since intonational rules of Hungarian are less flexible than in English, instead of shifting the accent to the focused constituent, it has to move to the position that bears the main accent in the intonational phrase.

- (75) *Stress-driven movement:*
 In Hungarian, movement of the focused constituent to the left-periphery is trig-

gered by the *Stress-Focus Correspondence Principle*, the requirement that a focused constituent be stressed.

In a sentence with a focused expression, stress falls on this expression, as it is the leftmost element in the iP, so the Hungarian NSR is satisfied.

- (76)
-
- A nő a [KALAPJÁT]_{FP} vette le.
 the woman the hat-POSS3SG-ACC took VM.down
 ‘The woman took off her HAT.’

While Horváth (2005, 2007) also maintains Reinhart’s stress-based account for the theory of focus, she argued that the movement to the Focus position is due to a quantificational operator, namely an *Exhaustive Identification Operator* (EI-Op). This operator only indirectly interacts with focus, which she assumes to correspond to non-exhaustive information focus. In other words, it is not focusing itself, but the EI-Op that triggers the movement – a non-exhaustive, new information bearing constituent does not appear in the preverbal position:

- (77) Q: Hol tudhatnám meg a vonatok menetrendjét?
 where know-can-COND-1SG VM.PERF the trains schedule-POSS3SG-ACC
 ‘Where could I find out about the train schedule?’
 A: Meg tudhatod (például) az interneten (vagy
 VM.PERF know-can-2SG for-example the internet-SUPERESS or

telefonon is).
 phone-SUPERESS also
 ‘You could find out about it (for example) on the internet (or also by
 phone).’

4.3 Focus interpretation

The nature of the exhaustive interpretation of Hungarian structural focus, i.e. what is asserted is true only for the element in focus and false for all contextually relevant alternatives, has long been a topic of debate on which authors still disagree. From the 1980s, this interpretation was analysed as being part of the literal meaning of the element in focus, therefore being semantic, truth-conditional and compositional in nature (Szabolcsi, 1981, 1994a; Kenesei, 1986; É. Kiss, 1998; Balogh, 2006; Bródy and Szendrői, 2010). More recently, these approaches have been contested and others have been presented (Wedgwood, 2005; Wedgwood et al., 2006; Wedgwood, 2007) that deal with exhaustivity as a pragmatic implicature, which is also supported by experimental evidence (Onea, 2007; Onea and Beaver, 2009; Kas and Lukács, 2013; Gerőcs et al., 2014; Káldi and Babarczy, 2016). I will present an overview of these approaches in this section.

4.3.1 Truth-conditional approaches to exhaustivity

The majority of theoretical analyses of Hungarian focus interpretation assume that exhaustivity is part of the truth-conditions of a sentence with a preverbal focus and coded grammatically. Szabolcsi (1981) was perhaps the first to propose that certain word order rules affect the truth conditions of a sentence in Hungarian, namely that the position of the noun phrase in the preverbal field plays a role in the interpretation. She argued that constituents in the Focus position always receive an exhaustive interpretation.

- (78) a. MARI látta Pétert.
 Mari saw Péter-ACC
 ‘MARI saw Péter’
 b. $\forall x[\text{saw}(x,p) \leftrightarrow x=m]$

She proposed a test for exhaustivity, that verifies the entailment relation between two sentences containing a focused element – the first with a constituent containing a coordinated DP in the Focus position, while in the second one only one of the coordinated constituents is present. If the second sentence is not entailed by the first one, then it is

exhaustive:

- (79) a. If $[\alpha \text{ and } \beta]_F \text{VP} \models [\alpha]_F \text{VP}$, \rightarrow non-exhaustive
 b. If $[\alpha \text{ and } \beta]_F \text{VP} \not\models [\alpha]_F \text{VP}$ \rightarrow exhaustive

Consider the next two pairs of sentences. (80a) clearly entails (80b), because if it is true that Mari and Kati called Péter, it is also true that Mari called Péter. However, for (81a) and (81b), this relation is not so obvious, due to the exhaustivity effect on constituents in the Focus position. Under the exhaustive meaning (81b) is interpreted roughly as ‘only Mari’, and hence not entailed by ‘only Mari and Kati’.

- (80) a. Mari és Kati fel hívta Pétert.
 Mari and Kati VM-UP called Péter-ACC
 ‘Mari and Kati called Péter.’
 b. Mari fel hívta Pétert.
 Mari VM-UP called Péter-ACC
 ‘Mari called Péter.’
- (81) a. MARI ÉS KATI hívta fel Pétert.
 Mari and Kati called VM-UP Péter-ACC
 ‘MARI AND KATI called Péter.’
 b. MARI hívta fel Pétert.
 Mari called VM-UP Péter-ACC
 ‘MARI called Péter.’

Kenesei (1986) proposed that the main function of focus in Hungarian is not a kind of exhaustive enumeration, as was suggested by Szabolcsi (1981), but rather an *exclusion by identification* function, interpreted on a set of individuals in the universe of discourse. By selecting one element from a set, we exclude all the other elements. Thus, the sentence (82a), would have the semantic representation presented in (82b) with the introduction of an ι -operator:

- (82) a. MARI látta Pétert.
 Mari saw Péter-ACC
 ‘MARI saw Péter.’
 b. $\iota x[\text{saw}(x,p)] = m$

Szabolcsi (1994a) later agreed with Kenesei's proposition and accepted that the problem with her previous analysis was that it assumed that exhaustivity was part of the asserted meaning. She revised her previous analysis and proposed that exhaustivity is in fact presupposed, which can be best represented with the formula containing the ι -operator. (82a) presupposes that there is a single individual who has seen Peter and asserts that this unique individual is Mari.

This may be best presented in conjunction with the focus sensitive *only*, in which case exhaustivity is indeed asserted:

- (83) a. CSAK MARI ment el.
 only Mari went VM.away
 'Only Mari left.'
 presupposes: Mari left.
 asserts: Noone other than Mari left.

- (84) a. MARI ment el.
 Mari went VM.away
 'MARI left.'
 presupposes: There is a unique/maximal individual that left.
 asserts: It is Mari.

On the other hand, she underlines that the formula in (82b) is too restrictive because it cannot deal with plural constituents in focus. She therefore proposed (85), applied in (86) to account for plurals in focus.

- (85) *Exclusion by identification:*
 $\lambda z \lambda P [z = \iota x [P(x) \wedge \forall y [P(y) \rightarrow y \subseteq x]]]$

- (86) a. MARI ÉS KATI mentek el.
 Mari and Kati went VM.away
 'MARI and KATI left.'
 b. $[m \oplus k = \iota x [\text{left}(x) \wedge \forall y [\text{left}(y) \rightarrow y \subseteq x]]]$

É. Kiss (1998) went further and distinguished two types of focus, identificational focus and informational focus, and argued that they are semantically and syntactically different. The major difference between the two is that the first exhaustively identifies an

element in a given set in the context while the second simply marks new information. Identificational focus is marked by syntax, while informational focus is only marked by prosody and remains in-situ in the VP. Identificational focus functions as an operator, similar to quantifiers: it moves to a position where it can have wide scope on the constituents it c-commands. It presents a set of relevant elements in the context for which the predicate (or the background part) can potentially be true and identifies a subset for which the predicate is indeed true excluding all other elements. Donka Farkas (in a personal conversation with É. Kiss) proposed a refusal test to differentiate the two types of focus. In (87), with an informational focus, it is odd to use negation if we want to add new information. In (88) on the other hand, containing an identificational focus, it is indeed exhaustivity that is denied and not the assertion that Mari chose a hat for herself:

- (87) a. Mari ki nézett magának egy KALAPOT.
Mari VM.out chose for-herself a hat-ACC
'Mari chose a hat for herself.'
- b. #Nem, egy kabátot is ki nézett.
no a coat-ACC too VM.out chose
'No, she chose a coat too.'
- (88) a. Mari EGY KALAPOT nézett ki magának.
Mari a hat-ACC chose VM.out for-herself
'Mari chose a HAT for herself.'
- b. Nem, egy kabátot is ki nézett.
no a coat-ACC too VM.out chose
'No, she chose a coat too.'

Constituents with *csak* 'only' are always necessarily identificational foci. She assumes that even when *csak* is missing, there is always a covert *only*-like operator in the representation of a sentence with a preverbal focus.

Balogh (2006) on the other hand argued that preverbal focus should not be treated in the same way as focused constituents with *csak* 'only'. She assumed the existence of two separate operators, *EXH* and *ONLY*. Both mark exhaustivity semantically, but *ONLY* also has pragmatic effect, namely canceling of some expectation arising from the question.

- (89) Q: Ki hívta fel Emilt?
 who called VM.up Emil-ACC
 ‘Who called Emil?’
- A: ANNA hívta fel Emilt.
 Anna called VM.up Emil.ACC
 ‘ANNA called Emil.’
- A’: Csak ANNA hívta fel Emilt.
 only Anna called VM.up Emil-ACC
 ‘Only Anna called Emil.’

In (89), according to classical analyses of exhaustivity, both answers would have the same semantics:

- (90) $\forall x[\text{called}(x,e) \leftrightarrow x=a]$

However, when the question is asked using the plural form of *who*, answering with a singular focus without using *csak* is pragmatically odd.

- (91) Q: Kik hívták fel Emilt?
 who.PL called VM.up Emil-ACC
 ‘Which people called Emil?’
- A: #ANNA hívta fel Emilt.
 Anna called VM.up Emil.ACC
 ‘ANNA called Emil.’
- A’: Csak ANNA hívta fel Emilt.
 only Anna called VM.up Emil-ACC
 ‘Only Anna called Emil.’

The plural question explicitly expresses an expectation from the speaker that there is more than one person who has called Emil. In A’, *only* contradicts this expectation and identifies Anna as the only person who called Emil. Balogh (2006) concludes that in fact the operator responsible for exhaustivity is indeed EXH, and the function of ONLY is to cancel the expectation of plurality of the answer.

Bródy and Szendrői (2010) on the other hand, proposed that the operator responsible for the exhaustive interpretation is only present in question-answer pairs. Indeed, not all focused sentences are interpreted exhaustively, only the ones that are answers to corresponding questions with which they have the same syntactic structure. The fact

that exhaustivity is related to question-answer pairs is transparent in English clefts, but also in Hungarian where the surface position of *wh*-words is the same as that of the preverbal focus in answers. According to them, exhaustivity is due to a pair of semantic operators: *Q* which is present in the question and *EXH* which is present in the corresponding answer and is responsible for its exhaustive interpretation. In Hungarian, *Q* and *EXH* trigger movement of the *wh*-word and the focused constituent, while in English only the *wh*-word is subject to obligatory movement, triggered by *Q*. *EXH* is however only present in answers, while focusing is not restricted to answers. There are other instances of focus where it gets a contrastive, and not an exhaustive interpretation. Bródy and Szendrői (2010) point out that neither the element in focus nor the position can be directly responsible for the exhaustive interpretation. Recall that a focused element in itself is not necessarily exhaustive and neither is its position in the case of contrastive foci. They therefore suggest that the classical treatments of exhaustivity, which assume that the syntax of focus is directly responsible for its semantic interpretation, are erroneous.

This implies that if one wants to express exhaustivity outside of an answer to a *wh*-question, they must necessarily use *csak*, by which exhaustivity is in fact asserted. In (92), *csak* is obligatory, without it there is no exhaustivity effect with simply putting *Mari* in the Focus position:

- (92) Fel adtam egy szorgalmi feladatot a diákjaimnak és
VM.up gave a optional exercise-ACC the student.POSS.PL.1SG.DAT and
*(csak) MARI csinálta meg.
only Mari dit VM-PERF
'I assigned an extra credit project to my students, and only Mari did it.'

All in all, the above approaches treat the exhaustive interpretation of the Hungarian preverbal focus as being semantic in nature, but do so in different ways. These views have been challenged more recently, mostly by experimental findings. I will review these approaches in the next subsection.

4.3.2 Challenging truth-conditional approaches

The most cited theoretical works that challenged grammatical approaches to exhaustivity were presented by Wedgwood (2005, 2007)⁶. He based his approach on *Relevance Theory*

⁶For a critical review of his analysis, see É. Kiss (2006)

(see Sperber and Wilson, 1995) and argued that there is no need to assume a semantic exhaustivity operator, since this interpretation can simply be explained by the fact that the exhaustive interpretation is the optimal relevant reading in a natural communication situation.

In Wedgwood et al. (2006), the authors presented an example with a preverbal focus accompanied by a non-exhaustive adverb, *többek közt*, ‘among others’. In fact, this adverb triggers movement to the preverbal position, hence the infelicity of (93b). If exhaustivity was indeed grammatically encoded, this should lead to a contradiction, although this is not the case.

- (93) a. Péter többek közt MARI-t csókolta meg.
 Péter others among Mari-ACC kissed VM.PERF
 ‘Péter kissed MARI among others.’
- b. *Péter többek közt MARI-t meg csókolta .
 Péter others among Mari-ACC VM.PERF kissed

Yet another example may serve to contradict the theory of a semantic exhaustivity operator that would function as a covert *only*. If it was the case, then both (94a) and (94b) should be perfectly acceptable and both sentences should have exactly the same interpretation, yet they do not:

- (94) a. Azt tudtam, hogy Mari meg evett egy pizzát, de most
 that-ACC knew.1SG that Mari VM.PERF ate.3SG a pizza-ACC but now
 vettem észre, hogy csak egy pizzát evett meg.
 take mind-to that only a pizza-ACC ate.3SG VM.PERF
 ‘I know Mary ate a pizza but I’ve just discovered that it was only a pizza
 that she ate.’
- b. #Azt tudtam, hogy Mari meg evett egy pizzát, de most
 that-ACC knew.1SG that Mari VM.PERF ate.3SG a pizza-ACC but now
 vettem észre, hogy egy pizzát evett meg.
 take mind-to that a pizza-ACC ate.3SG VM.PERF

Wedgwood’s pragmatic approach to exhaustivity were then confirmed by experimental findings (see Onea, 2009; Onea and Beaver, 2009; Kas and Lukács, 2013; Gerócs et al., 2014; Káldi and Babarczy, 2016, among others). They showed that the exhaustive interpretation is not always reliably present in sentences with preverbal focus, but instead it also depends on contextual information and they then underlined Wedgwood’s proposal

that exhaustivity emerges through pragmatic inferences.

Onea and Beaver (2009) presented experimental evidence contradicting the truth conditional exhaustivity approach to Hungarian preverbal focus. In their experiment, they showed pictures representing an activity in which always more than one person was involved as an agent. Participants heard corresponding sentences with three conditions and three types of sentences: in the first condition the sentence contained *csak* ‘only’; in the second a preverbal focus without *csak*; and finally in the third condition the subject was not focused. Participants had to choose between three types of comments containing the missing information: contradicting the sentence-image correspondence with *No, X was also involved*, or accepting it with either *Yes, but X was also involved* or *Yes, and X was also involved*. The authors predicted that participants will choose the first comment when the sentence contains *csak*, and the third one for sentences without focus. They assumed that if the preverbal focus is indeed semantically exhaustive, then participants would also choose the denial comments for these sentences. However, the results clearly showed the opposite: sentences with a preverbal focus were significantly less rejected in non-exhaustive situations than those with *csak*. The majority of participants gave answers of the types ‘yes, but...’: this result therefore suggests that exhaustivity is not grammatically encoded in Hungarian.

Kas and Lukács (2013) carried out an experiment to test the exhaustivity of preverbal focus sentences, comparing this interpretation in two groups of children (of mean ages of 6;3 and 10;8) and adults. They conducted a picture-sentence verification task with six different sentence types and four different contexts. They presented (i) neutral SVO sentences without focus, (ii) SVO sentences with stress on the postverbal object, (iii) SVO sentences with subject focus and a verbal modifier, (iv) neutral SOV sentences, (v) SOV sentences with preverbal object focus and (vi) SOV sentences with object focus and a verbal modifier. The four settings were (i) an exhaustive setting with two agents acting on different objects, (ii) a non-exhaustive object setting with one agent acting on two objects, (iii) a control setting with a referential mismatch between the sentence and the picture and (iv) a non-exhaustive agent setting where two agents were acting on the same object. Participants had to judge whether the sentence they heard matched the scenario they were shown. The results showed that adults showed a significantly lower acceptance rate of focus in non-exhaustive contexts than both groups of children. The acceptance of focus was however significantly lower in the referential mismatch setting than in non-exhaustive contexts in all age groups. They concluded that adults showed higher sensitivity for focus, and that focus sensitivity was much less important in both

groups of children.

Gerócs et al. (2014) carried out two experiments, both confirming the pragmatic nature of exhaustivity. The first experiment consisted of a value judgment task based on the methods of Bott and Noveck (2004) applied on scalar implicatures. These methods were based on Relevance Theoretic predictions (Sperber and Wilson, 1995), namely that the probability of an implicature decreases if its processing cost is too high for available cognitive resources. That is, when cognitive resources are limited in one way or another, recipients are expected to process semantic content faster than implicatures. Gerócs et al.'s prediction was that if exhaustivity is indeed pragmatic, the likelihood of the implicature being computed should decrease by limiting cognitive resources, and if it is part of the semantics, it should be treated independently of the availability of these resources.

The first experiment was a picture-sentence verification task, where participants heard sentences with and without preverbal focus in exhaustive and non-exhaustive scenarios, and they had to decide whether the images matched the sentence. Half of the participants had to respond with a time limit (1000 ms) to increase the computational cost of implicatures, and the other with no limit. The results showed that without a time limit, there was no significant difference between exhaustive interpretations of sentences with and without preverbal focus. With the limited time on the other hand, the proportion of exhaustive responses was much lower for the sentences with, as well as for the sentences without preverbal focus. The lack of significant difference in the treatment of the two types of sentences suggests that in both cases exhaustivity is a result of pragmatic mechanisms, notably an effect of the preceding wh-question, by which the expectation for an exhaustive answer would be more present.

They carried out a second sentence-picture verification experiment to confirm this hypothesis, but without a preceding wh-question. They compared sentences with preverbal focus, sentences without focus, clefts and sentences with *only*-focus. Participants were shown four images, one with an exhaustive scenario, one with a non-exhaustive scenario and two distractors, and they had to choose one or more images for each sentence. The results showed that the sentences with *csak* were almost always interpreted exhaustively (98%), cleft sentences were interpreted exhaustively in 54% of the cases, sentences with preverbal focus were interpreted exhaustively in 41% of the cases, and sentences without preverbal focus in 7% of the cases. The authors concluded that these results support the pragmatic inference view of the exhaustive interpretation.

Káldi and Babarczy (2016) conducted a visual-world experiment, both with a multiple choice and a forced choice task. The authors found that with the forced choice, preverbal focus was interpreted exhaustively, while in the multiple choice task the rate of non-exhaustive interpretations increased. They concluded that the difference between forced-choice and multiple-choice experiments also supports the pragmatic status of the exhaustive interpretation. While the forced-choice task introduces a contextual restriction suggesting that the maximal number of potential referents is one, the processing system does not compute potential alternatives, the multiple-choice task allows it to do so.

To sum up, the above experimental works all suggest that while speakers do have a tendency to interpret preverbal focus sentences exhaustively, this correlation is considerably lower than with sentences containing *csak* ‘only’. Moreover, they showed that pragmatic factors, such as context or time limit, play an important role in participants’ judgments.

4.4 Expressions in the preverbal position

The preverbal position is the obligatory position for certain expressions in Hungarian. Namely *only*-phrases, DE quantifiers such as *kevés macska*, ‘few cats’, *either*-phrases, negated constituents and also *wh*-phrases have to appear right in front of the verb – they are all excluded from other preverbal positions, as shown by the impossibility of the default VM-V order in the b. sentences.

- (95) a. Csak Misi aludt el.
only Misi slept VM.away
‘Only Misi fell asleep.’
b. *Csak Misi el aludt.
only Misi VM.away slept
- (96) a. Kevés macska aludt el.
few cat slept VM.away
‘Few cats slept.’
b. *Kevés macska el aludt.
few cat VM.away slept
- (97) a. Nem Misi aludt el.
not Misi slept VM.away

- ‘It was not Misi who fell asleep.’
- b. *Nem Misi el aludt.
not Misi VM.away slept
- (98) a. Misi sem aludt el.
Misi either slept VM.away
‘Misi didn’t fall asleep either.’
- b. *Misi sem el aludt.
Misi either VM.away slept
- (99) a. Ki aludt el?
who slept VM.away
‘Who slept?’
- b. *Ki el aludt?
who VM.away slept

What is also notable about these expressions is that they are also constrained in their possibility to appear in the postverbal field: they are all excluded from the postverbal field if the immediately preverbal position is empty.

- (100) a. *El aludt csak Misi.
VM.away slept only Misi
Int: ‘Only Misi fell asleep.’
- b. *El aludt kevés macska.
VM.away slept few cat
Int: ‘Few cats fell asleep.’
- c. *El aludt nem Misi.
VM.away slept not Misi
Int: ‘It was not Misi who fell asleep.’
- d. *El aludt Misi sem.
VM.away slept Misi either
Int: ‘Misi didn’t fall asleep either.’
- e. *El aludt ki?
VM.away slept who
Int: ‘Who fell asleep?’

Only-phrases and DE quantifiers can however appear in the postverbal field if the immediately preverbal position is filled by some other expression:

- (101) a. Anna hívta fel csak Misi.
 Anna called VM.up only Misi-ACC
 ‘It was Anna who called only Misi.’
 b. Anna hívott fel kevés macskát.
 Anna called VM.up few cat-ACC
 ‘It was Anna who called few cats.’

For *wh*-phrases however, this is not sufficient, since they can only appear postverbally if the immediately preverbal position is filled by another *wh*-phrase:

- (102) a. Ki hívott fel kit?
 who called VM.up who-ACC
 ‘Who called whom?’
 b. Kit hívott fel ki?
 who-ACC called VM.up who
 ‘Who was called by who?’
 c. *Anna hívott fel kit?
 Anna called VM.up who-ACC
 Int: ‘Who did Anna call?’

Either-phrases can appear in the postverbal field, but only if the verb itself is negated. Note that there is essentially no difference in the interpretation with (98a), repeated below in (103b).

- (103) a. Nem aludt el Misi sem.
 not slept VM.away Misi either
 ‘Misi didn’t fall asleep either.’
 b. Misi sem aludt el.
 Misi either slept VM.away
 ‘Misi didn’t fall asleep either.’

Negated constituents however can never appear postverbally:

- (104) a. *Anna hívta fel nem Misi.
 Anna called VM.up not Misi-ACC
 b. *Ki hívta fel nem Misi?
 who called VM.up not Misi-ACC

- c. *Nem aludt el nem Misi.
not slept VM.away not Misi

To my knowledge, there is no convincing unified formal account to explain why these expressions have to appear in an immediately preverbal position in the preverbal field. Olsvay (2000) calls sentences where the default VM-V order is reversed *non-neutral sentences* and writes that they can be regarded as negative sentences in a broad sense, since they do not only provide information about the existence of an event, a set or an individual, but they also deny the existence of something. É. Kiss (2002) claimed that these expressions all move to the preverbal focus position because they all have an inherent [+focus] feature assigned to them in the lexicon that has to be checked. According to her, this feature is due to their relation to exhaustive identification. First, wh-phrases typically request an exhaustive answer. Second, *only* is an overt exhaustivity operator. For *negative* expressions she writes: “*it is less clear what semantic property is responsible for their inherent [+focus] feature...*” (p. 90). In É. Kiss (2009), she compared positive and negative adverbs of degree, manner, and frequency with respect to their possible positions in the preverbal field. She argued that other preverbal positions, except for the Focus position allow for an *upward extending interpretation*, as in for instance *négyszer* ‘four times’ is interpreted as ‘at least four times’. With negative adverbs however, this upward extending interpretation would lead to a semantic anomaly, and this causes them to appear in the Focus position, where exhaustivity blocks this interpretation allowed in other preverbal positions. Imrényi (2009) unifies negation with focus as in that they both express *restriction* on some contextually relevant set.

In the next chapter, I will provide a unified account for expressions that appear in the immediately preverbal position on the one hand, and for those that appear in the so-called Quantifier position, that precedes the immediately preverbal position. I will however only consider declarative sentences, so I will leave wh-phrases out of the discussion. For more information on these, see Puskás (1992, 2000); Lipták (2002); Cable (2008) among others.

4.5 Summary

In this chapter I presented how focusing works in natural languages, with a special attention on focus in Hungarian. Languages employ different strategies for marking the focus in a sentence, such as prosodic prominence, morphological focus markers or syntactic reordering. In languages that use prosodic prominence to mark focus, accent placement

and focus interpretation is determined by rules and constraints: the focus of a sentence can either be the constituent bearing the main stress itself, or can project up to mark focus on a larger constituent. Focus can be represented compositionally and its main semantic effect is to introduce alternatives to the context. Certain expressions, such as *only* or *also* are focus sensitive, as in their meaning is affected by the position of focus in a sentence. In Hungarian, the focus of a sentence generally appears in a designated Focus position, which is the immediately preverbal one. This is especially apparent in sentences where there is a verbal modifier attached to the verb, since this verbal modifier appears after the verb when the Focus position is filled, instead of its default preverbal position. Various theories have been presented to account for focus movement, namely by the presence of a formal focus feature, intonational rules of Hungarian and also by exhaustivity. The nature of this exhaustive interpretation has also been a subject of debate. Namely, it has been argued that it is in fact part of the truth conditional meaning of a sentence with preverbal focus. This view was later challenged both theoretically and experimentally, suggesting that the exhaustive interpretation is in fact merely a pragmatic inference. The immediately preverbal position is also special in that some expressions, namely *only*-phrases, negative quantified expressions, *either*-phrases, negated constituents and *wh*-phrases have to appear here in the preverbal field. In the next chapter, I will present a generalisation about these expressions in attempt to explain why especially these expressions are the ones that have to appear in the immediately preverbal position in Hungarian.

Chapter 5

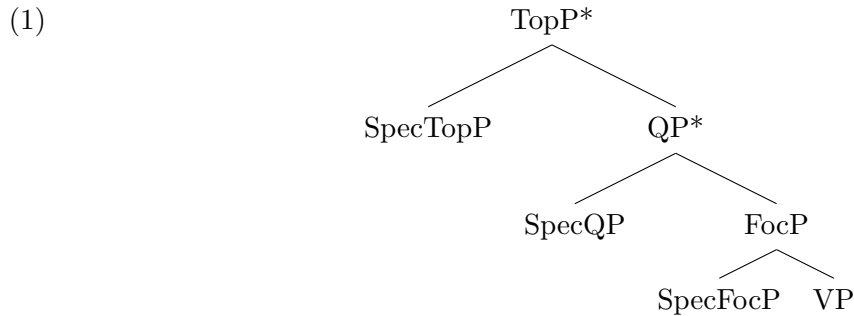
Compset based word order constraints in the preverbal field

As presented in the previous chapters, in Hungarian some DPs have designated positions in the preverbal field, while some others can appear in any of the preverbal positions. In this chapter, I will present a novel approach to word order constraints in the preverbal field, based on how these expressions relate to the relevant complement set. Namely, I will show that expressions that entail that the complement set is empty have to appear in the Quantifier position, those that entail that the complement set is not empty (at least in a proportional/partitive sense) have to appear in the Focus position, and finally those that do not give rise to such entailments can appear in any of the preverbal positions.

The chapter is organised as follows. In Section 5.1, I will present the distribution of quantifiers and DPs headed by focus particles in the preverbal field. Then I will provide an overview of how different quantifiers relate to the complement set, extending this to focus particles, too. In Section 5.3, I will present the generalisations based on the *Compset constraints*. Finally, in Section 5.4, I will explain what predictions the Compset constraints make about the interpretational differences with free expressions in different positions and compare them to the actual data.

5.1 Distribution of DPs in the preverbal field

In the previous chapters, we saw that the Hungarian preverbal field is traditionally divided into three positions: the Topic position, the Quantifier position and the Focus position.



We also saw that while some DPs can appear in more than one of these positions, others have exactly one possible position they can appear in. To check whether a particular expression can appear in a particular position, distributional properties of other elements in a sentence can help. First, the position of a verbal modifier (VM) clearly shows whether an expression is in the Focus position or not: if the VM follows the verb, we can be certain that a preverbal expression is in the Focus position, otherwise in one of the other two. To distinguish between the Topic and the Quantifier positions, we can check whether a (non focused) adverb can follow the expression. If it can, then the expression occupies the Topic position, since adverbs can only intervene between the Topic and the Quantifier positions, but not between the Quantifier and the Focus positions. The absence of an adverb with the VM-V order maintained is however not a sufficient sign for an expression being possible or obligatory in the Quantifier position, since it could very well be in the Topic position. To show that some expression is indeed in the Quantifier position, we can make use of the iterativity of this position. If an expression can follow an obligatory Quantifier expression, such as a universal quantifier, with the VM-V order maintained, then we can confirm that this expression is indeed in the Quantifier position and not in the Topic position. Here is a summary of these distributional facts, that will be useful later on to illustrate the distributional properties of relevant expressions amongst these positions:

(*[DP] _Q)	[DP] _{TopP}	(adverb)	VM	V
[DP] _Q	[DP] _Q	(*adverb)	VM	V
[DP] _Q	[DP] _F	(*adverb)	V	VM

In the next subsections, I will review the quantifiers and focus particles each of these preverbal positions can host.

5.1.1 Topic position

The only quantifiers attracted by the Topic position are *a legtöbb N*, ‘most N’ and *az összes N* ‘all N’ – they are thus excluded from the Quantifier and Focus positions.

- (2)
- a. [A legtöbb macska]_{TopP} tegnap el aludt.
the most cat yesterday VM.away slept
‘Yesterday, most cats fell asleep.’
- b. *[Minden szobában]_{QP} [a legtöbb macska]_{QP} el aludt.
every room-INESS the most cat VM.away slept
Int: ‘In every room, most cats fell asleep.’
- c. *[A legtöbb macska]_{FP} aludt el.
the most cat slept VM.away
Int: ‘Most cats fell asleep.’
- (3)
- a. [Az összes macska]_{TopP} tegnap el aludt.
the all cat yesterday VM.away slept
‘Yesterday, all cats fell asleep.’
- b. *[Minden szobában]_{QP} [az összes macska]_{QP} el aludt.
every room-INESS the all cat VM.away slept
Int: ‘In every room, all cats fell asleep.’
- c. *[Az összes macska]_{FP} aludt el.
the all cat slept VM.away
Int: ‘All cats fell asleep.’

5.1.2 Quantifier position

Universal quantifiers like *minden N*, ‘every N’, *mindegyik N*, ‘each N’, *mindkét N* ‘both N’, *also-* and *even-*phrases have to appear in the Quantifier position and are excluded from the Topic and Focus positions.

- (4) a. *[Minden macska]_{TopP} most el aludt.
 every cat now VM.away slept
- b. [Minden szobában]_{QP} [minden macska]_{QP} el aludt.
 every room-INESS every cat VM.away slept
 ‘Every cat fell asleep in every room.’
- c. *[Minden macska]_F aludt el.
 every cat slept VM.away
- (5) a. *[Mindegyik macska]_{TopP} tegnap el aludt.
 each cat yesterday VM.away slept
 Int: ‘Yesterday, each cat fell asleep.’
- b. [Minden szobában]_{QP} [mindegyik macska]_{QP} el aludt.
 every room-INESS each cat VM.away slept
 ‘In every room, each cat fell asleep.’
- c. *[Mindegyik macska]_{FP} aludt el.
 each cat slept VM.away
 Int: ‘Each cat fell asleep.’
- (6) a. *[Mindkét macska]_{TopP} tegnap el aludt.
 both cat yesterday VM.away slept
 Int: ‘Yesterday, both cats fell asleep.’
- b. [Minden szobában]_{QP} [mindkét macska]_{QP} el aludt.
 every room-INESS each cat VM.away slept
 ‘In every room, both cats fell asleep.’
- c. *[Mindkét macska]_{FP} aludt el.
 both cat slept VM.away
 Int: ‘Both cats fell asleep.’
- (7) a. *[Misi is]_{TopP} tegnap el aludt.
 Misi also yesterday VM.away slept
- b. [Minden nap]_{QP} [Misi is]_{QP} el aludt.
 every day Misi also VM.away slept
 ‘Misi also fell asleep every day.’
- c. *[Misi is]_F aludt el.
 Misi also slept VM.away
- (8) a. *[Még Misi is]_{TopP} tegnap el aludt.
 still Misi also yesterday VM.away slept
- b. [Minden nap]_{QP} [még Misi is]_{QP} el aludt.
 every day still Misi also VM.away slept
 ‘Even Misi fell asleep every day.’

- c. *[Még Misi is]_F aludt el.
still Misi also slept VM.away

5.1.3 Focus position

The Focus position is the obligatory position for DE quantifiers such as *kevés N* ‘few N’, *legfeljebb négy N*, ‘at most four N’, *kevesebb, mint négy N*, ‘fewer/less than four N’, for the non-monotonic quantifier *pontosan négy N*, ‘exactly four N’, and for *only*-phrases.

- (9) a. *[Kevés macska]_{TopP} tegnap el aludt.
few cat yesterday VM.away slept
Int: ‘Yesterday, few cats fell asleep.’
- b. *[Minden szobában]_{QP} [kevés macska]_{QP} el aludt.
every room-INESS few cat VM.away slept
Int: ‘In every room, few cats fell asleep.’
- c. [Kevés macska]_{FP} aludt el.
few cat slept VM.away
‘Few cats fell asleep.’
- (10) a. *[Legfeljebb négy macska]_{TopP} tegnap el aludt.
at-most four cat yesterday VM.away slept
Int: ‘Yesterday, at most four cats fell asleep.’
- b. *[Minden szobában]_{QP} [legfeljebb négy macska]_{QP} el aludt.
every room-INESS at-most four cat VM.away slept
Int: ‘In every room, at most four cats fell asleep.’
- c. [Legfeljebb négy macska]_{FP} aludt el.
at-most four cat slept VM.away
‘At most four cats fell asleep.’
- (11) a. *[Kevesebb, mint négy macska]_{TopP} tegnap el aludt.
fewer than four cat yesterday VM.away slept
Int: ‘Yesterday, fewer than four cats fell asleep.’
- b. *[Minden szobában]_{QP} [kevesebb, mint négy macska]_{QP} el aludt.
every room-INESS fewer than four cat VM.away slept
Int: ‘In every room, fewer than four cats fell asleep.’
- c. [Kevesebb, mint négy macska]_{FP} aludt el.
fewer than four cat slept VM.away
‘Fewer than four cats fell asleep.’
- (12) a. *[Pontosan négy macska]_{TopP} tegnap el aludt.
exactly four cat yesterday VM.away slept

Int: ‘Yesterday, exactly four cats fell asleep.’

- b. *[Minden szobában]_{QP} [pontosan négy macska]_{QP} el aludt.
 every room-INESS exactly four cat VM.away slept
 Int: ‘In every room, exactly four cats fell asleep.’
- c. [Pontosan négy macska]_{FP} aludt el.
 exactly four cat slept VM.away
 ‘Exactly four cats fell asleep.’
- (13) a. *[Csak Misi]_{TopP} tegnap el aludt.
 only Misi yesterday VM.away slept
- b. *[Minden nap]_{QP} [csak Misi]_{QP} el aludt.
 every day only Misi VM.away slept
- c. [Csak Misi]_F aludt el.
 only Misi slept VM.away
 ‘Only Misi fell asleep.’

5.1.4 Free expressions

Quantified DPs that are possible in all three preverbal positions are *sok N*, ‘many N’, *néhány N*, ‘some N’, *négy N*, ‘four N’, *legalább négy N*, ‘at least four N’ and *több, mint négy N* ‘more than four N’.

- (14) a. [Sok macska]_{TopP} tegnap el aludt.
 many cat yesterday VM.away slept
 ‘Yesterday, many cats fell asleep.’
- b. [Minden szobában]_{QP} [sok macska]_{QP} el aludt.
 every room-INESS many cat VM.away slept
 ‘In every room, many cats fell asleep.’
- c. [Sok macska]_{FP} aludt el.
 many cat slept VM.away
 ‘Many cats fell asleep.’
- (15) a. [Néhány macska]_{TopP} tegnap el aludt.
 some cat yesterday VM.away slept
 ‘Yesterday, some cats fell asleep.’
- b. [Minden szobában]_{QP} [néhány macska]_{QP} el aludt.
 every room-INESS some cat VM.away slept
 ‘In every room, some cats fell asleep.’
- c. [Néhány macska]_{FP} aludt el.
 some cat slept VM.away

‘Some cats fell asleep.’

- (16) a. [Négy macska]_{TopP} tegnap el aludt.
 four cat yesterday VM.away slept
 ‘Yesterday, four cats fell asleep.’
- b. [Minden szobában]_{QP} [négy macska]_{QP} el aludt.
 every room-INESS four cat VM.away slept
 ‘In every room, four cats fell asleep.’
- c. [Négy macska]_{FP} aludt el.
 four cat slept VM.away
 ‘Four cats fell asleep.’
- (17) a. [Legalább négy macska]_{TopP} tegnap el aludt.
 at-least four cat yesterday VM.away slept
 ‘Yesterday, at least four cats fell asleep.’
- b. [Minden szobában]_{QP} [legalább négy macska]_{QP} el aludt.
 every room-INESS at-least four cat VM.away slept
 ‘In every room, at least four cats fell asleep.’
- c. [Legalább négy macska]_{FP} aludt el.
 at-least four cat slept VM.away
 ‘At least four cats fell asleep.’
- (18) a. [Több, mint négy macska]_{TopP} tegnap el aludt.
 more than four cat yesterday VM.away slept
 ‘Yesterday, more than four cats fell asleep.’
- b. [Minden szobában]_{QP} [több, mint négy macska]_{QP} el aludt.
 every room-INESS more than four cat VM.away slept
 ‘In every room, more than four cats fell asleep.’
- c. [Több, mint négy macska]_{FP} aludt el.
 more than four cat slept VM.away
 ‘More than four cats fell asleep.’

5.1.5 Interim summary

The table below summarises the data presented above.

Topic	Quantifier	Focus	Free expressions
<i>a legtöbb</i> 'most'	<i>minden</i> 'every'	<i>kevés</i> 'few'	<i>sok</i> 'many'
<i>az összes</i> 'all'	<i>mindkét</i> 'both'	<i>legfeljebb n</i> 'at most n'	<i>néhány</i> 'some'
	<i>mindegyik</i> 'each'	<i>kevesebb, mint n</i> 'less than n'	<i>n</i> 'n'
	<i>x is</i> 'also x'	<i>pontosan n</i> 'exactly n'	<i>legalább n</i> 'at least n'
	<i>még x is</i> 'even x'	<i>csak x</i> 'only x'	<i>több, mint n</i> 'more than n'

I propose that *a legtöbb N* 'most N' and *az összes N* 'all N' have to appear in the Topic position because of syntactic constraints. They are the only quantifiers in Hungarian that have to be preceded by the definite article *a/az* 'the', regardless of definiteness. Since the Topic position is the only possible position for unfocused definite descriptions, this explains why *a legtöbb macska* 'most cats' and *az összes macska* 'all cats' have to appear here. For the rest, I will argue in this chapter that their distribution is based on how they behave with respect to a contextually relevant complement set. Namely, expressions that entail that the complement set is empty have to appear in the Quantifier positions, those that entail that the complement set is non-empty (at least in a proportional/partitive sense) have to appear in the Focus position, and finally those that do not give rise to any such entailment can appear in any preverbal position. In the next section I introduce complement sets and what predictions different expressions make about its emptiness and non-emptiness.

5.2 The complement set

The main function of quantifiers is to indicate amounts and quantities. However, as I have shown in Chapter 3, quantifiers differ not only in the quantities they express, but also in their distribution, the inferences they convey, whether they are focus sensitive or not, etc. Some quantifiers in fact can roughly indicate the same quantity, and yet be different in how they express this quantity. They differ for instance in how they relate to different sets that can be obtained by different operations such as intersection ($A \cap B$) and set difference ($A - B$). In this section, I will present how different quantifiers relate to these sets, extending this to focus particles also, in order to propose a three-way

classification that can account for the distribution of quantifiers and DPs headed by focus particles in the Hungarian preverbal field.

5.2.1 Pronominal reference to sets

In an experiment, Moxey and Sanford (1993) found that quantifiers like ‘few’, ‘very few’, ‘only a few’, ‘not many’ and ‘a few’ are basically indistinguishable in the quantity they express (see also Moxey and Sanford, 2000; Sanford and Moxey, 2003). Consider the following sentences:

- (19) a. Few people came to my party.
b. A few people came to my party.

These two sentences can easily refer to the same amount of people, yet they differ in the perspective the speaker takes when uttering them, in that (19a) takes a negative perspective, while (19b) takes a positive one. This is even more visible in the examples in (20), taken from Sanford et al. (2002), p. 130:

- (20) a. In the airplane crash, a few people were killed, which is a #good/terrible thing.
b. In the airplane crash, few people were killed, which is a good/#terrible thing.

The above sentences can also express the same amount, however the positive continuation is odd for (20a), while the negative one is odd for (20b). This is presumably because (20a) actually concentrates on the people that were killed, while (20b) concentrates also on the people who were not killed.

Indeed, quantifiers can make reference to different sets associated with the quantificational sentence. Schematically, a sentence $Q(A)(B)$, A is the *maximal set* (maxset), the intersection of A and B is the *reference set* (refset) and finally the *complement set* (compset) is the difference of A with B (Nouwen, 2003a,b).

- (21) $Q(A)(B)$
a. maxset = A
b. refset = $A \cap B$

c. $\text{compset} = A - B$

Let's apply this to a sentence containing a quantifier.

(22) $A = \{x \mid x \text{ is a student}\}$, $B = \{y \mid y \text{ came to the party}\}$
 Most students came to the party.

The maximal set A is the set of students. The reference set $A \cap B$ is the intersection of the set of students and the set of individuals who came to the party, hence the set of students who came to the party. Finally, the complement set $A - B$ is the set of students who did not come to the party.

These sets may give rise to three types of anaphoric reference, listed below.

- (23) Few students came to the dinner.
- | | |
|---|---------|
| a. But they all came to the party afterwards. | maxset |
| b. They really liked the restaurant. | refset |
| c. They stayed at home instead. | compset |

However, quantificational determiners differ in their possibility to give rise to different kinds of anaphora. Reference to the refset is generally possible with all determiners, while anaphoric reference to the maxset and the compset is more restricted. Below I will briefly summarise these restrictions based on Nouwen (2003b).

5.2.1.1 Refset reference

Nouwen (2003b) argues that determiners generally introduce a referent for the reference set:

- (24) a. All students came to the party. They had a good time.
 b. Some students came to the party. They had a good time.
 c. Many students came to the party. They had a good time.
 d. Few students came to the party, but they had a good time.

The only obvious exception to this, is the determiner 'no'.

- (25) No students came to the party. They had a good time. *refset

Indeed, as he argues, pronouns carry a non-emptiness presupposition. To account for possible antecedents for anaphoric expressions, Hendriks and De Hoop (2001) formulated the *Emptiness* constraint:

- (26) *Emptiness*
As the antecedent of an anaphoric expression, do not choose a set which is or may be empty.

Since from ‘no N’ it follows that the refset is empty, a refset anaphora is not available.

5.2.1.2 Maxset reference

Determiners are more restricted in their possibility to give rise to maxset anaphora. Namely, according to Nouwen (2003b), only strong quantifiers are good candidates for maxset anaphora. The strong versus weak distinction comes from Milsark (1974) to explain the fact that some but not all determiners are possible in existential sentences in English: namely, weak ones are possible, but not strong ones:

- (27) a. There are four/a few/many/few/no/some cats in the garden.
b. *There are most/all/both/the cats in the garden.

Barwise and Cooper (1981) defined positive strong, negative strong and weak determiners in the following way:

- (28) a. A determiner D is positive strong if for every model M , if $D(A)$ is defined, then $D(A)(A) = 1$.
b. A determiner D is negative strong if for every model M , if $D(A)$ is defined, then $D(A)(A) = 0$.
c. A determiner D is weak if it is neither positive strong nor negative strong.

For example ‘every’ is a positive strong determiner because ‘Every cat is a cat’ is always true, ‘no’ is a negative strong determiner because ‘No cats are cats’ is always false,

and ‘many’ is a weak determiner because ‘Many cats are cats’ is true only if there are many cats, otherwise it is false. Thus, strong determiners presuppose their domain of quantification i.e. the maxset, which seems to be a necessary condition for being able to give rise to a maxset anaphora. Weak determiners make no such presupposition and hence cannot refer to the maxset.

- (29) a. Most students came to the party. Some of them, however, stayed at home.
 b. There are very few students here. #Some of them are somewhere else.

Note however, that according to some, such determiners can also have strong uses, namely with a proportional reading, in which case a maxset reference is available:

- (30) Few students came to the party. Some of them stayed at home.

5.2.1.3 Compset reference

The study of compset anaphora was first initiated in psycholinguistic research. In a series of experiments (Moxey and Sanford, 1986, 1993; Sanford et al., 1994; Paterson et al., 1998, etc.), researchers found that quantificational determiners like ‘a few’, ‘few’, ‘very few’, ‘only a few’, ‘not many’, etc. did not show a considerable variation in the quantities they refer to. They found however, that subjects preferred to use the plural pronoun anaphora to refer to the compset with determiners like ‘few’, ‘very few’, ‘only a few’, ‘not many’, while they preferred to refer to the refset with determiners like ‘a few’ and ‘many’. It is since then generally accepted that *positive*, i.e. upward entailing quantifiers never allow for a compset anaphora, only downward entailing ones do:

- (31) a. Many/Most/A few/Some students came to the party. # They were too busy.
 b. Few/No/Not many/Very few students came to the party. They were too busy.

However, not all DE quantifiers allow for a compset anaphora. Nouwen (2003b) argued that only proportional, but not cardinal (or intersective) DE quantifiers are good candi-

dates for a compset anaphora.¹ Proportional quantifiers, like ‘less than thirty percent’, ‘half of the’ or ‘few of the’ take into account not only the refset, i.e. the intersection of A and B, but also the compset, i.e. the elements of A that are not in B. On the other hand, cardinal quantifiers only take into account the refset and provide information about their cardinality.

(32) Less than ten/At most ten students came to the party. #They were too busy.

However, examples like (32) become better if the cardinal DE quantifiers are in a partitive construction, as in (33):

(33) Less than ten/At most ten of the students came to the party. They were too busy.

This is in line with the Emptiness constraint proposed by Hendriks and De Hoop (2001), since DE quantifiers in a partitive construction entail that the compset is not empty, and thus allow for a complement anaphora. UE quantifiers and cardinal DE quantifiers leave the possibility for the compset to be empty and hence are not good candidates for a compset anaphora.

5.2.2 Compset (non-)emptiness

Different quantifiers give rise to different entailment patterns with respect to the maxset, the refset and the compset. Interestingly, if we classify quantifiers with respect to the predictions they make about the compset, namely whether it is empty, non-empty or can be both empty and non-empty, it gives us (roughly) the same classification introduced in Section 5.1 for the distribution of quantifiers and DPs headed by focus particles in Hungarian. Namely, quantifiers that entail that the compset is empty have to appear in the Quantifier position in Hungarian, those that entail that the compset is not-empty

¹However, Corblin (1996) argues that these are cases of pseudo-reference to the complement set, and that these are in fact cases of reference to the maxset.

- i. Few women from this village came to the feminist rally. No wonder. They don't like political rallies very much.

He argues that in i., the pronoun refers *generally* to the women from the village, which can be confused with a compset reference. Geurts (1997) also argued that these are cases of *collective reference*, which are quite common with plural definite descriptions. I will nonetheless follow Nouwen (2003b) here and accept that these are cases of compset anaphora.

(in a proportional/partitive sense) have to appear in the Focus position, and those that do not make such entailment are the free expressions that can appear in both positions.

We have seen that only proportional and partitive DE quantifiers can give rise to a compset anaphora.² Indeed, these types of quantifiers entail that the relevant compset is not empty. Consider the following examples:

- (34)
- a. Few of the students came to the party. #In fact all of them did.
 - b. At most five of the students came to the party. #In fact all of them did.
 - c. Less than five of the students came to the party. #In fact all of them did.

However, while cardinal DE quantifiers make a strong inference about the non-emptiness of the compset, they do not entail this. In fact, with these, the possibility that the maxset equals the refset is not ruled out:

- (35)
- a. Few students came to the party, because there are few students.
 - b. At most five students came to the party, because there are only five students.
 - c. Less than five students came to the party, because there are only four students.

Compare these with partitive DE constructions:

- (36)
- a. Few of the students came to the party, #because there are few students.
 - b. At most five of the students came to the party, #because there are only five students.
 - c. Less than five of the students came to the party, #because there are only four students.

Non-DE quantifiers are not unified in the predictions that they make about the compset. Non-monotonic quantifiers like ‘exactly five’, when used in a partitive construction, also entail that the compset is not empty:

²Note that while proportionality and partitivity are separate notions, the differences between them are irrelevant here, since they are both sufficient conditions for the claims I make in this section.

- (37) a. Exactly five of the students came to the party. #In fact all of them did.
 b. Exactly five of the students came to the party, #because there are exactly five students.

UE universal quantificational determiners like ‘every’, ‘both’ or ‘all’ say that all elements of the A set are also elements of the B set, i.e. the maxset equals the refset. Following from this, the A set contains no elements that is not also in the B set, so they entail that the compset is empty both in partitive and non-partitive constructions.

- (38) a. Every (one of the) student came to the party. #Some of them stayed at home.
 b. Both (of the) students came to the party. #Some of them stayed at home.
 c. All (of the) students came to the party. #Some of them stayed at home.

Non-universal UE quantificational determiners like ‘many’, ‘some’, ‘most’, ‘five’, ‘at least five’ and ‘more than five’ make no such entailment about the compset. While in partitive constructions, some of these determiners also make a strong inference³ about the non-emptiness of the compset, they do not entail this.

- (39) a. Many (of the) students came to the party. In fact all of them did.
 b. Some (of the) students came to the party. In fact all of them did.
 c. Most (of the) students came to the party. In fact all of them did.
 d. Five (of the) students came to the party. In fact all of them did.
 e. At least five (of the) students came to the party. In fact all of them did.
 f. More than five (of the) students came to the party. In fact all of them did.

Classifying quantifiers with respect to the emptiness of the compset gives us a three-way classification. For this however, we need to make two assumptions: (i) first that the domain of quantification (the maxset) is non-null; and (ii) that they are understood in the proportional/partitive sense.⁴ With this in mind, we can show that some quantifiers entail that the complement set is empty, some entail that the complement set is non-empty, and finally some of them do not give rise to any such entailment. The table below

³Namely, determiners like ‘many’, ‘some’ and ‘five’ convey *scalar implicatures*. I will discuss these types of inferences more in detail in Chapter 6.

⁴I will omit the partitive ‘of the’ from the table below for the sake of simplicity.

summarises this classification.

Empty compset	Non-empty compset	No entailment
every	no	some
both	few	many
each	at most n	most
all	less than n	n
	exactly n	at least n
		more than n

5.2.3 Focus particles and the compset

Until now, we discussed relevant compsets for quantifiers. If, however, we want to account for the distribution of focus particles in the Hungarian preverbal field the same way we account for quantifiers, we have to extend the above observations to focus particles, too. In order to do so, we have to redefine the A set for focus particles and show that a sentence with *only* entails that the compset is not empty and that a sentence with *also* and *even* entail that the compset is empty.

In order to do this, I propose to substitute the A set with the set of contextually relevant alternatives for the expression that associates with the relevant focus particle as shown in (40). Let Φ be the focus particle, C the set of contextually relevant alternatives (as in Rooth, 1992), x the denotation of the DP it associates with and B the VP.

- (40) $\Phi(C)(x)(B)$
- a. $\text{maxset} = C$
 - b. $\text{refset} = C \cap B$
 - c. $\text{compset} = C - B$

Now let's see how to apply this to actual focus particles. Assume the following semantics for *only*:

- (41) $\text{only}(C)(x)(B)$
- Presupposition: $B(x)$
- Assertion: $\neg \exists y \in C [y \neq x \wedge B(y)]$

- (42) Let $A = C$, $x = m$ and $B = \{y \mid y \text{ is sleeping}\}$
 Only Misi_F is sleeping.

Presupposition: $\text{sleeps}(m)$

Assertion: $\neg\exists y \in C[y \neq m \wedge \text{sleeps}(y)]$

Following Rooth (1992), I assume that C has as its members Misi and at least one other alternative, then we know for sure that there is at least one alternative to Misi who is not sleeping, hence the compset is non-empty.

Now let's turn to additive particles. Here I will concentrate on *also*, assuming that it differs from *even* only in that *even* also has a scalar presupposition (see Chapter 4 for more details), which does not play an important role here. (43) is a reminder of the semantics of *also*, assuming that its presupposition is anaphoric and not merely existential (cf. Kripke, 2009):

- (43) $\text{also}_i(C)(x)(B)$

Presupposition: $y_i \in C \wedge y_i \neq x \wedge B(y_i)$

Assertion: $B(x)$

- (44) If $A = C$, $x = m$ and $B = \{y \mid y \text{ is sleeping}\}$
 Also Misi_F is sleeping.

Presupposition: $y_i \in C \wedge y_i \neq m \wedge \text{sleeps}(y_i)$

Assertion: $\text{sleeps}(m)$

Assuming that *also* is anaphoric (see Kripke, 2009; Heim, 1992; Geurts and van der Sandt, 2004; Beaver and Zeevat, 2007; Chemla and Schlenker, 2012, and others), we can show that the relevant compset is empty in (44). Indeed, the anaphoricity of *also* requires that there is one alternative of the associate for which the predicate holds. This alternative must be distinct but comparable to the associate, and can be singular or plural, since naturally, there can be more than one relevant entities for which the predicate holds. Hence, I assume that C contains only the expression *also* associates with plus its contextually relevant alternatives for which the predicate holds. While this might not seem so straightforward at first, we can see that it is also not completely counterintuitive. Namely, if a sentence like (44) is uttered out of the blue, by the anaphoricity of *also*, both the speaker and the hearer has to share knowledge (at least partly), about

the identity of the sleepers, while the non-sleepers are not relevant. Naturally, there can be non-sleepers in the context, but they have to be explicitly mentioned, as in (45a), by which another set D is introduced, from which the speaker selects the relevant entities that are not in the set B , namely the set of sleepers. This however does not equal the compset $C - B$, but rather another set $D - B$. This obviously also works with quantifier determiners, compare (45a) and (45b):

- (45) a. Luci is sleeping, $[\text{Misi}]_F$ is also sleeping, but Shoshana is not.
 b. Every student came to the party, but none of the professors did.

This way, additives are comparable to universal quantifiers. Indeed, É. Kiss (2002) treats additive particles as meaning roughly ‘every relevant individual plus x’. Furthermore, additive particles have been analysed as conjunctions that are treated as universals (Szabolcsi, 2015; Ahn, 2015; Nicolae, 2020, etc.). Therefore, the same way as a sentence with a universal quantifier, (44) entails that the maxset equals the refset and hence the compset is empty.

Indeed, if we compare (42) and (45) with respect to the possibility of a compset anaphora, we see that there is a contrast between the two. A similar sentence with *even* as in (46c) is odd too:

- (46) What are the cats doing? Are any of them sleeping?
 a. Only $[\text{Misi}]_F$ is sleeping, they are playing.
 b. (Luci is sleeping and) $[\text{Misi}]_F$ also is sleeping, #they are playing.
 c. (Luci is sleeping and) even $[\text{Misi}]_F$ is sleeping, #they are playing.

Now we can add these focus particles to the table from the previous subsection:

Empty compset	Non-empty compset	No entailment
every	no	many
both	few	some
each	at most n	most
all	less than n	n
also	exactly n	at least n
even	only	more than n

With this in mind, now we can account for the distribution of the above expressions in Hungarian.

5.3 The Compset constraints

Let's compare the distribution of quantifiers and focus particles in the Hungarian preverbal field with the table in the previous section:⁵

Quantifier	Focus	Free expressions
<i>minden</i> 'every'	<i>kevés</i> 'few'	<i>sok</i> 'many'
<i>mindkét</i> 'both'	<i>legfeljebb n</i> 'at most n'	<i>néhány</i> 'some'
<i>mindegyik</i> 'each'	<i>kevesebb, mint n</i> 'less than n'	<i>n</i> 'n'
<i>x is</i> 'also x'	<i>pontosan n</i> 'exactly four'	<i>legalább n</i> 'at least n'
<i>még x is</i> 'even x'	<i>csak x</i> 'only x'	<i>több, mint n</i> 'more than n'

The comparison shows that these three preverbal categories are almost identical to the three-way classification of quantifiers and focus particles with respect to the emptiness of the compset.

The two expressions that appear in different categories in the two tables are *az összes* 'all' and *a legtöbb* 'most'.

- (47) Let $A = \{x \mid x \text{ is a cat}\}$ and $B = \{y \mid y \text{ is a sleeper}\}$
- a. All cats are sleeping. $\models A - B = \emptyset$
 - b. Most cats are sleeping. $\not\models A - B = \emptyset$
- $\not\models A - B \neq \emptyset$

(47a) entails that the compset is empty and (47b) does not entail anything about the

⁵The determiner 'no' figures in the table in the previous section, but I will leave this out of the discussion, since it would involve further syntactic changes, i.e. it would be a negative sentence. See the relevant section about negation in Hungarian in Chapter 2.

compset. In this sense, following the classification with respect to the compset, *az összes* ‘all’ would have to appear in the Quantifier position, while *a legtöbb* ‘most’ would be a free expression. However, we have seen that both of these quantifiers must appear in the Topic position. Since this is probably due to syntactic constraints, in that these are the only two quantifiers in Hungarian that have to be preceded by a definite article (see Chapter 2 and Chapter 3). I will assume that these semantic constraints simply do not play a role in the distribution of these two quantifiers the same way they do for others.

For the rest of the above expressions, the *Compset constraints* can be formulated as follows:

(48) *The Compset constraints*

An expression in the Hungarian preverbal field:

- a. must appear in the Quantifier position if it entails that the relevant compset is empty, provided that the domain of quantification is non-empty.
- b. must appear in the Focus position if it entails (in the proportional/partitive sense) that the relevant compset is non-empty, provided that the domain of quantification is non-empty.
- c. can appear in any preverbal position if it does not entail that the relevant compset is empty, nor that it is non-empty.

These constraints successfully account for the distribution of quantified DPs and DPs headed by focus particles in the Hungarian preverbal field. Note however, that neither proportionality, nor partitivity play a role in the distribution of the above expressions in Hungarian. Indeed, expressions that in the proportional/partitive sense entail that the compset is not-empty, have to appear in the Focus position in Hungarian both in partitive and non-partitive constructions:

- (49)
- a. A macskák közül kevesen aludtak el.
the cats out-of few-ADV slept-3PL VM.away
‘Few of the cats fell asleep.’
 - b. *A macskák közül kevesen el aludtak.
the cats out-of few-ADV VM.away slept-3PL
 - c. Kevés macska aludt el.
few cat slept VM.away

- ‘Few cats fell asleep.’
- d. *Kevés macska el aludt.
 few cat VM.away slept
 ‘Few cats fell asleep.’

The reason why partitivity does not matter is an interesting question, but I will leave this as an open problem for future research.

5.4 Free expressions in different positions

We have seen that some expressions can appear in more than one of the preverbal positions. These include *sok* ‘many’, *néhány* ‘some’, bare numerals, and UE modified numerals like *legalább n* ‘at least n’ and *több, mint n* ‘more than n’. The following sentences show this: (i) in the a. sentences the possibility of an (unfocused) adverb following these expressions shows that they are possible in the Topic position; (ii) in the b. sentences, the fact that they can follow universals shows that these expressions are also possible in the Quantifier position; and finally (iii) in the c. sentences the non-default V-VM order shows that they are possible in the Focus position.

- (50) a. [Sok macska]_{TopP} most el aludt.
 many cat now VM.away slept
 ‘Many cats fell asleep now.’
- b. [Minden szobában]_{QP} [sok macska]_{QP} el aludt.
 every room.in many cat VM.away slept
 ‘Many cats fell asleep in every room.’
- c. [Sok macska]_{FP} aludt el.
 many cat slept VM.away
 ‘Many cats fell asleep.’
- (51) a. [Néhány macska]_{TopP} most el aludt.
 some cat now VM.away slept
 ‘Some cats fell asleep now.’
- b. [Minden szobában]_{QP} [néhány macska]_{QP} el aludt.
 every room.in some cat VM.away slept
 ‘Some cats fell asleep in every room.’
- c. [Néhány macska]_{FP} aludt el.
 some cat slept VM.away
 ‘Some cats fell asleep.’

- (52) a. [Négy macska]_{TopP} most el aludt.
four cat now VM.away slept
'Four cats fell asleep now.'
- b. [Minden szobában]_{QP} [négy macska]_{QP} el aludt.
every room.in four cat VM.away slept
'Four cats fell asleep in every room.'
- c. [Négy macska]_{FP} aludt el.
four cat slept VM.away
'Four cats fell asleep.'
- (53) a. [Legalább négy macska]_{TopP} most el aludt.
at-least four cat now VM.away slept
'At least four cats fell asleep now.'
- b. [Minden szobában]_{QP} [legalább négy macska]_{QP} el aludt.
every room.in at-least four cat VM.away slept
'At least four cats fell asleep in every room.'
- c. [Legalább négy macska]_{FP} aludt el.
at-least four cat slept VM.away
'At least four cats fell asleep.'
- (54) a. [Több, mint négy macska]_{TopP} most el aludt.
more than four cat now VM.away slept
'More than four cats fell asleep now.'
- b. [Minden szobában]_{QP} [több, mint négy macska]_{QP} el aludt.
every room.in more than four cat VM.away slept
'More than four cats fell asleep in every room.'
- c. [Több, mint négy macska]_{FP} aludt el.
more than four cat slept VM.away
'More than four cats fell asleep.'

The three preverbal positions have been linked to different interpretational patterns (see Chapter 2 and Chapter 3). Since the Compset constraints do not make predictions for the Topic position and its expressions, I will concentrate here on a comparison in the other two preverbal positions.

In this section, I will examine whether the generalisations presented in the previous section can account for interpretational differences for free expressions in different preverbal positions. Namely, if a free expression appears in the Quantifier position the expectation would be that the sentence has at least an inference that the compset is empty; while in the Focus position, the inference would be that the compset is not empty. In order

to verify this prediction, I will first demonstrate whether an ‘in fact all’ continuation – explicitly stating that the compset is empty – is possible for different free expressions in different positions. Then, I will show which combinations are possible in contexts where the quantifiers refer to a quantity that is contrary to the expectations of the speaker or the hearer, since obligatory Quantifier and obligatory Focus expressions also differ in this respect. Namely, obligatory Quantifier expressions are good in more-than-expected contexts but bad in less-than-expected contexts, while obligatory Focus expressions are good in less-than-expected contexts and bad in more-than-expected contexts. I will show whether free expressions follow these patterns depending on the position they appear in.

5.4.1 ...*in fact all did*

A continuation with *in fact all did* should only be compatible with a sentence that allows for the compset being empty. Hence, according to the Compset constraints, this continuation should not be felicitous in sentences where free expressions appear in the Focus position, only when they appear in the Quantifier position. Let’s see whether this prediction is borne out:

- (55) a. [Sok macska]_{QP} el aludt, sőt az összes.
 many cat VM.away slept in-fact the all
 ‘Many cats fell asleep, in fact all did.’
 b. [Sok macska]_{FP} aludt el, sőt az összes.
 many cat slept VM.away in-fact the all
 ‘Many cats fell asleep, in fact all did.’
- (56) a. [Néhány macska]_{QP} el aludt, sőt az összes.
 some cat VM.away slept in-fact the all
 ‘Some cats fell asleep, in fact all did.’
 b. # [Néhány macska]_{FP} aludt el, sőt az összes.
 some cat slept VM.away in-fact the all
 ‘Some cats fell asleep, in fact all did.’
- (57) a. [Négy macska]_{QP} el aludt, sőt az összes.
 four cat VM.away slept in-fact the all
 ‘Four cats fell asleep, in fact all did.’
 b. # [Négy macska]_{FP} aludt el, sőt az összes.
 four cat slept VM.away in-fact the all
 ‘Four cats fell asleep, in fact all did.’

- (58) a. [Legalább négy macska]_{QP} el aludt, sőt az összes.
 at-least four cat VM.away slept in-fact the all
 ‘At least four cats fell asleep, in fact all did.’
- b. [Legalább négy macska]_{FP} aludt el, sőt az összes.
 at-least four cat slept VM.away in-fact the all
 ‘At least four cats fell asleep, in fact all did.’
- (59) a. [Több, mint négy macska]_{QP} el aludt, sőt az összes.
 more than four cat VM.away slept in-fact the all
 ‘More than four cats fell asleep, in fact all did.’
- b. [Több, mint négy macska]_{FP} aludt el, sőt az összes.
 more than four cat slept VM.away in-fact the all
 ‘More than four cats fell asleep, in fact all did.’

Interestingly, the sentences above are not clearly in line with this prediction. They show namely that while *many*, *at least four* and *more than four* allow for an *in fact all* continuation in both positions, sentences with *four* and *some* allow it only when they appear in the Quantifier position. Hence, the above data only partly supports the predictions based on the Compset constraints. I will return to this point in Chapter 6, but in a nutshell, I assume that *some* and bare numerals convey a stronger *not all* inference than the other free expressions, which gets even more reinforced with main stress associated with the Focus position, which explains why (56b) and (57b) are odd.

5.4.2 Contrary to expectations

There is another contrast that can be established between expressions that have to appear in the Quantifier position and those that have to appear in the Focus position. Namely, the former are compatible with a more-than-expected continuation, while the latter with a less-than-expected continuation, but not the other way around.

- (60) [Minden diák]_{QP} el jött a buliba...
 every student VM-away came the party-to
 ‘Every student came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

- (61) [Misi is]_{QP} el jött a buliba...
 Misi also VM-away came the party-to
 ‘Misi also came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’
- (62) [Kevés diák]_{FP} jött el a buliba...
 few student came VM-away the party-to
 ‘Few students came to the party...’
- a. #pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’
- (63) [Csak Misi]_{FP} jött el a buliba...
 only Misi came VM-away the party-to
 ‘Only Misi came to the party...’
- a. #pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

Now let’s see case by case whether the free expressions follow this pattern in the respective positions.

- (64) [Sok diák]_{QP} el jött a buliba...
 many student VM-away came the party-to
 ‘Many students came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’

- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

(65) [Sok diák]_{FP} jött el a buliba...
 many student came VM-away the party-to
 ‘Many students came to the party...’

- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’

- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

With *many*, regardless of the position, only the more-than-expected continuation is available. This is not surprising, since the meaning of *many* itself is incompatible with a less-than-expected reading.

(66) [Néhány diák]_{QP} el jött a buliba...
 some student VM-away came the party-to
 ‘Some students came to the party...’

- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’

- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

(67) [Néhány diák]_{FP} jött el a buliba...
 some student came VM-away the party-to
 ‘Some students came to the party...’

- a. #pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’

- b. pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

Sentences with *some* follow the predicted patterns, in that if *some* appears in the Quan-

tifier position, only the more-than-expected continuation is possible, while if it appears in the Focus position, only the less-than-expected continuation is possible.

- (68) [15 diák]_{QP} el jött a buliba...
 15 student VM-away came the party-to
 ‘15 students came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

- (69) [15 diák]_{FP} jött el a buliba...
 15 student came VM-away the party-to
 ‘15 students came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

Sentences with bare numerals differ from sentences with *some* in that the more-than-expected continuation is also available with the numeral in the Focus position. If however, in the context the maxset (i.e. the set of students) have a significantly larger cardinality than 15, then the more-than-expected continuation becomes less felicitous:

- (70) (100-ból) [15 diák]_{QP} jött el a buliba...
 100-ELAT 15 student came VM-away the party-to
 ‘(Out of a 100,) 15 students came to the party...’
- a. #pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

Sentences with lower bounded modified numerals behave like sentences with *many*: indeed, their meaning is incompatible with a less-than-expected reading too.

- (71) [Legalább 15 diák]_{QP} el jött a buliba...
 at-least 15 student VM-away came the party-to
 ‘At least 15 students came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’
- (72) [Legalább 15 diák]_{FP} jött el a buliba...
 at-least 15 student came VM-away the party-to
 ‘At least 15 students came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’
- (73) [Több, mint 15 diák]_{QP} el jött a buliba...
 more than 15 student VM-away came the party-to
 ‘More than 15 students came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’
- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’
- (74) [Több, mint 15 diák]_{FP} jött el a buliba...
 more than 15 student came VM-away the party-to
 ‘More than 15 students came to the party...’
- a. pedig drága volt a belépő.
 although expensive was the ticket
 ‘although the ticket was expensive.’

- b. #pedig jó volt a koncert.
 although good was the concert.
 ‘although the concert was good.’

5.4.3 Interim summary

Let’s summarise the data from this section.

	...in fact all		more-than-exp		fewer-than-exp	
	Q	F	Q	F	Q	F
<i>many</i>	OK	OK	OK	OK	*	*
<i>some</i>	OK	*	OK	*	*	OK
<i>n</i>	OK	*	OK	OK/* ⁶	*	OK
<i>at least n</i>	OK	OK	OK	OK	*	*
<i>more than n</i>	OK	OK	OK	OK	*	*

The table shows that the data does not fully reflect the predictions made by the Compset constraints to account for the interpretational differences that arise with free expressions in different positions. However, there are some interesting patterns that are in line with these predictions.

The *in fact all* continuation, suggesting that the compset is empty, is possible with all expressions when they appear in the Quantifier position. When they appear in the Focus position however, this continuation is only infelicitous for *some* and bare numerals, which can probably be explained by the inferences these expressions convey, as I will discuss in Chapter 6.

If we compare the more-than-expected and fewer-than-expected continuations in each position, we see that sentences with free expressions in the Quantifier position show a clear symmetry: the more-than-expected continuation is always possible, while the fewer-than-expected continuation never is. When they appear in the Focus position, these patterns also show a clear symmetry: (i) *some* and bare numerals are infelicitous with the more-than-expected continuation (however bare numerals allow for this continuation if it is not known in the context that the maxset is significantly larger than the refset)

⁶The felicity conditions depend on the cardinality of the refset with respect to the cardinality of the maxset: if the maxset is significantly larger than the refset, the *more-than-expected* continuation is odd, while if the difference between the two is less significant, then this continuation is acceptable.

and felicitous with the fewer-than-expected continuation, (ii) *many*, *at least n* and *more than n* are felicitous with the more-than-expected continuation and infelicitous with the fewer-than-expected continuation.

All in all, the Compset constraints account for the distribution of the free expressions, but not entirely for their interpretation when they appear in different positions. Indeed, this category is less uniform than the Quantifier expressions on the one hand and the Focus expressions on the other. What they have in common is that they make no entailment about the emptiness of a relevant compset. The data in this section also shows however that *some* and bare numerals behave differently than the other free expressions. To account for the interpretational differences that arise when they appear in different positions, one would have to look more closely at the semantics and pragmatics of each of these expressions. I will however leave this for future research.

5.5 Summary

In this chapter I presented the Compset constraints, that can successfully account for the distribution of quantifiers and DPs headed by focus particles in the Hungarian preverbal field. In a quantificational sentence of the form $Q(A)(B)$, the compset is the difference of A with B , so $A - B$. Different quantifiers make different predictions about the relevant compset. Some quantifiers, like *every* entail that the compset is empty: if *Every cat fell asleep* is true, there are no cats that did not fall asleep. Others, like *few* in a proportional sense, entail that the compset is not empty: if *Few (of the) cats fell asleep* is true, there must also be some cats that did not fall asleep. Finally, quantifiers like *some* convey no entailment about the compset: *Some cats fell asleep* is compatible with both the compset being empty and non-empty. We can also extend this to focus particles if we replace the A set with the set of alternatives to the expression the focus particle associates with. While *Only Misi fell asleep* entails that there are alternatives to Misi who did not fall asleep, *Also Misi fell asleep* entails that there are no relevant alternatives to Misi who did not fell asleep. This three-way classification of quantifiers and focus particles is almost identical to the three-way classification of the distributional properties of these expressions in the Hungarian preverbal field. Namely, expressions that entail that the compset is empty must appear in the Quantifier position, those that entail (in a proportional/partitive sense) that the compset is non-empty must appear in the Focus position, and those that make no such entailment can appear in any preverbal position. There are two quantificational determiners, namely *az összes* ‘all’ and *a legtöbb* ‘most’ for which this

generalisation does not make the correct predictions, since they both have to appear in the Topic position. However, these are probably constrained syntactically, in that they both have the form of definite descriptions, for which, when unfocused, the Topic position is the only possible position in the preverbal field. Finally, I showed that the Compset constraints can only partly account for the interpretational differences that may arise with free expressions in different positions, but this is probably due to the fact that these expressions differ largely in their semantics and pragmatics.

Chapter 6

The Hungarian Focus position revisited

Hungarian is well-known for having a structural position for focused constituents. Indeed, many authors argued that expressions land in this position because of a formal focus feature (Horváth, 1986; Bródy, 1990; É. Kiss, 2002, etc.) or as a result of intonational rules of Hungarian (Szendrői, 2001, 2003). Later, it was argued that it is not directly focusing, but exhaustivity that is responsible for movement to this position (É. Kiss, 1998; Horváth, 2005, 2007). While focused expressions most often do land in this position and are interpreted exhaustively, I will argue that this fact is merely a consequence of distinct operations and constraints and that this position can be seen as a *marked* position. While this chapter possibly raises more questions than it gives answers to, the ideas presented here might contribute to the way we think about focus in general and to the (to my knowledge) understudied territory of the relationship between focus and negativity/DE-ness.

The chapter is organised as follows. In 6.1, I will argue that focusing is neither a necessary nor a sufficient condition for expressions to move to the immediately preverbal position. I will show data suggesting on the one hand that focus is possible outside of this position and on the other hand that expressions can also move here for reasons other than focusing. Then in 6.2, I will show that exhaustivity is not an obligatory effect in this position and I will argue that it is in fact a conversational implicature that gets reinforced by marked intonation. Finally, in 6.3, I will argue that this position is both prosodically and structurally marked, and that it attracts expressions that are also

marked semantically.

6.1 Focus \neq FP

Hungarian is well known for having a designated sentence position for focused constituents. Earlier approaches claimed that there is a functional projection, right in front of the verb, where focused constituents move and receive an exhaustive or identificational interpretation (Horváth, 1986; Bródy, 1990; Szabolcsi, 1981, 1994a; Kenesei, 1986; É. Kiss, 2002, etc.)

The Hungarian preverbal Focus position is indeed the position for expressions that are answers to questions, corrections, contrastive, or need to be emphasised. This is clearly visible from the position of the verbal modifier: instead of appearing in its default preverbal position, it has to appear after the verb, whenever the Focus position is filled.

- (1) Q: Ki aludt el?
 who slept VM.away
 ‘Who fell asleep?’
 A: [MISI]_{FP} aludt el.
 Misi slept VM.away
 ‘[MISI]_{FP} fell asleep.’
 A’:#Misi el aludt.
 Misi VM.away slept
- (2) A: Luci el aludt.
 Luci VM.away slept
 ‘Luci fell asleep’
 B: Nem, [MISI]_{FP} aludt el.
 no Misi slept VM.away
 ‘No, [MISI]_{FP} fell asleep.’
 B’:#Nem, Misi el aludt.
 no Misi VM.away slept

However, focus is neither a sufficient nor a necessary condition for an expression to occur in this position. Focus is actually possible outside of this position, and expressions can appear in this position for reasons other than focusing. In the next subsections I will present data supporting these claims.

6.1.1 Foci outside of FP

In the previous chapters I have shown that certain expressions are excluded from the Focus position in Hungarian. These include quantifiers *az összes N* ‘all N’ and *a legtöbb N*, ‘most N’ that have the Topic position as their obligatory position, and universal quantifiers, *also-* and *even-*phrases for which the obligatory position is the Quantifier position. The b. examples show that these expressions are impossible in the Focus position.

- (3) a. [A legtöbb macska]_{TopP} el aludt.
 the most cat VM.away slept
 ‘Most cats fell asleep.’
 b. *[A legtöbb macska]_{FP} aludt el.
 the most cat slept VM.away
- (4) a. [Az összes macska]_{TopP} el aludt.
 the all cat VM.away slept
 ‘All cats fell asleep.’
 b. *[Az összes macska]_{FP} aludt el.
 the all cat slept VM.away
- (5) a. [Minden macska]_{QP} el aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’
 b. *[Minden macska]_{FP} aludt el.
 every cat slept VM.away
- (6) a. [Misi is]_{QP} el aludt.
 Misi also VM.away slept
 ‘Misi also fell asleep.’
 b. *[Misi is]_{FP} aludt el.
 Misi also slept VM.away
- (7) a. [Még Misi is]_{QP} el aludt.
 still Misi also VM.away slept
 ‘Even Misi fell asleep.’
 b. *[Még Misi is]_{FP} aludt el.
 still Misi also slept VM.away

Although these expressions are excluded from the Focus position, this does not mean

that they cannot be focused. In fact, (3a), (4a) and (5a) can be suitable answers to questions such as *Who fell asleep?* or *How many cats fell asleep?*. While the word order remains the same whether these expressions are in narrow focus or not, the prosody indicates this difference between these two interpretations. Namely, in broad focus or out-of-the-blue contexts, there is also phrasal stress on the verb (Vogel and Kenesei, 1987, 1990; É. Kiss, 1992), in narrow focus contexts, the verb is destressed. This then leaves the quantifier phrase prosodically prominent, indicating that it is focused:

- (8) Q: Mi a baj?
 what the problem
 ‘What’s the matter?’
 A: A LEGtöbb macska EL aludt.
 the most cat VM.away slept
 ‘Most cats fell asleep.’
 A’:#A LEGtöbb macska el aludt.
 the most cat VM.away slept
 ‘Most cats fell asleep.’
- (9) Q: Hány macska aludt el?
 how-many cat slept VM.away
 ‘How many cats fell asleep?’
 A: #A LEGtöbb macska EL aludt.
 the most cat VM.away slept
 ‘Most cats fell asleep.’
 A’: A LEGtöbb macska el aludt.
 the most cat VM.away slept
 ‘Most cats fell asleep.’
- (10) Q: Mi a baj?
 what the problem
 ‘What’s the matter?’
 A: AZ ÖSSZes macska EL aludt.
 the all cat VM.away slept
 ‘All cats fell asleep.’
 A’:#AZ ÖSSZes macska el aludt.
 the all cat VM.away slept
 ‘All cats fell asleep.’
- (11) Q: Hány macska aludt el?
 how-many cat slept VM.away

‘How many cats fell asleep?’

A: #AZ ÖSSZes macska EL aludt.
 the all cat VM.away slept
 ‘All cats fell asleep.’

A’: AZ ÖSSZes macska el aludt.
 the all cat VM.away slept
 ‘All cats fell asleep.’

(12) Q: Mi a baj?
 what the problem
 ‘What’s the matter?’

A: MINden macska EL aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’

A’:#MINden macska el aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’

(13) Q: Hány macska aludt el?
 how-many cat slept VM.away
 ‘How many cats fell asleep?’

A: #MINden macska EL aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’

A’: MINden macska el aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’

On the other hand, *also* and *even* are focus particles, (see Chapter 4), so they have to associate with a focused expression in the sentence. This means that *also*- and *even*-phrases are still focused in sentences like (6) and (7), even if they are outside the Focus position (see Balogh, 2020; Balogh and Langer, 2021, for a discussion).

There is also a case of focus where instead of there being a covert *only*-like operator, there seems to be a covert *even* in the interpretation. In this case, the focused constituent receives extra stress, but it does not trigger the inversion of the verb and the verbal modifier:

(14) Ha MISI el aludt, akkor nagyon késő lehet.
 if Misi VM.away slept then very late might-be

‘If (even) MISI fell asleep, then it must be really late.’

Note that this order is not due to the embedded context. Indeed, the sentence below with the inversed V-VM order is also possible:

- (15) Ha MISI aludt el, akkor nincs baj.
 if Misi slept VM.away is-not problem
 ‘If MISI fell asleep, then there’s no problem.’

Multiple foci are also possible in Hungarian, but still the preverbal position can only host one element – additional focused expressions have to appear in the postverbal field. See Puskás (2000) and Surányi (2003b) among others for more information on multiple foci constructions in Hungarian.

- (16) Q: Ki hívott fel kit?
 who called VM.up who-ACC
 ‘Who called who?’
 A: [HANNA]_F hívta fel [DODÓT]_F.
 Hanna called VM.up Dodó-ACC
 ‘Hanna called Dodó.’
 A’: *[HANNA]_F [DODÓT]_F hívta fel.
 Hanna Dodó-ACC called VM.up

In fact, following É. Kiss (1998), some authors distinguish two types of focus in Hungarian: *identificational* and *informational* focus. The first has to appear in the preverbal position where it receives an identificational or exhaustive interpretation, while the second stays in-situ and merely presents new information without being interpreted exhaustively. This has led Horváth (2007) to consider that it is in fact not directly focusing, but exhaustivity that is responsible for movement to the preverbal position. I will argue against this view in the next section, but I will first present data indicating that there can be reasons other than focusing for some constituents to move to the preverbal position.

6.1.2 Non-focus in FP

There are cases when the Focus position is filled, but not as a direct consequence of focusing. As we have seen in the previous chapter, some expressions always have to

appear in the Focus position when they are in the preverbal field: namely downward entailing quantifiers and the non-monotonic quantifier *pontosan négy N* ‘exactly four cats’ are impossible in other preverbal positions.

- (17) a. Kevés macska aludt el.
few cat slept VM.away
‘Few cats fell asleep.’
b. *Kevés macska el aludt.
few cat VM.away slept
- (18) a. Legfeljebb négy macska aludt el.
at-most four cat slept VM.away
‘At most four cats fell asleep.’
b. *Legfeljebb négy macska el aludt.
at-most four cat VM.away slept
- (19) a. Pontosán négy macska aludt el.
exactly four cat slept VM.away
‘Exactly four cats fell asleep.’
b. *Pontosan négy macska el aludt.
exactly four cat VM.away slept

From the above examples, it is not obvious whether these expressions are focused or not. However, if we compare broad focus with narrow focus contexts, we see that these expressions remain in the preverbal position in either case, while free expressions like *four cats* are infelicitous there in broad focus contexts. Therefore, DE expressions have to appear in the immediately preverbal position regardless of what is focused in the sentence.

- (20) Q: Mi a baj?
what the problem
‘What’s the matter?’
A: *Kevés macska el aludt.
few cat VM.away slept
A’: Kevés macska aludt el.
few cat slept VM.away
‘Few cats fell asleep.’

- (21) Q: Hány macska aludt el?
 how-many cat slept VM.away
 ‘How many cats fell asleep?’
 A: *Kevés macska el aludt.
 few cat VM.away slept
 A’: Kevés macska aludt el.
 few cat slept VM.away
 ‘Few cats fell asleep.’
- (22) Q: Mi a baj?
 what the problem
 ‘What’s the matter?’
 A: Négy macska el aludt.
 four cat VM.away slept
 ‘Four cats fell asleep.’
 A’:#Négy macska aludt el.
 four cat slept VM.away
 ‘Four cats fell asleep.’
- (23) Q: Hány macska aludt el?
 how-many cat slept VM.away
 ‘How many cats fell asleep?’
 A: #Négy macska el aludt.
 four cat VM.away slept
 ‘Four cats fell asleep.’
 A’: Négy macska aludt el.
 four cat slept VM.away
 ‘Four cats fell asleep.’

Also, there is a set of verbs that tend to avoid bearing main stress and trigger the raising of their argument into the Focus position. First, *climbing verbs* (see Komlósy, 1992) cannot bear sentential stress, unless they are contrastively or emphatically focused (Szendrői, 2001, 2003).

- (24) a. SZÉT akarom szedni a rádiót.
 VM.apart want.1SG take-INF the radio-ACC
 ‘I want to take apart the radio.’
 b. A RÁDIÓT akarom szét szedni.
 the radio-ACC VM.apart want.1SG take-INF
 ‘It is the radio that I want to take apart.’

- c. AKAROM szét szedni a rádiót.
 want.1SG VM.apart take-INF the radio-ACC
 ‘I indeed want to take the radio apart.’
- d. *Akarom szét szedni a rádiót.
 want.1SG VM.apart take-INF the radio-ACC

There is also a class of verbs called *stress avoiding verbs*, for instance *tartozik* ‘belongs’, that cannot bear main stress either. These verbs trigger the movement of their argument to the preverbal position, without any special interpretation effects (Balogh, 2012).

- (25) a. Az intézetünk a FILOZÓFIA tanszékhez tartozik.
 the institute-our the philosophy department.ALLATIVE belongs
 ‘Our institute belongs to the philosophy department.’
- b. *Az intézetünk tartozik a filozófia tanszékhez.
 the institute-our belongs the philosophy department.ALLATIVE

We can thus conclude that the immediately preverbal position is not always directly linked to focusing. In the next section I will show that movement to this position cannot be merely reduced to an obligatory exhaustive interpretation either.

6.2 Exhaustivity as a strengthened implicature

An exhaustive interpretation has been linked to the Focus position almost since the earliest works investigating this position. Some authors assumed that this interpretation is the most important semantic characteristic of this position and is essentially semantic in nature (Szabolcsi, 1981, 1994a; Kenesei, 1986; É. Kiss, 1998; Balogh, 2006; Bródy and Szendrői, 2010). Horváth (2005, 2007) even argued that it is an exhaustivity operator that is responsible for movement to this position. Later, these approaches were contested by Wedgwood (2005); Wedgwood et al. (2006); Wedgwood (2007) proposed that exhaustivity is not part of the literal meaning of a sentence with focus. This claim was later supported by experimental evidence (Onea, 2009; Onea and Beaver, 2009; Kas and Lukács, 2013; Gerőcs et al., 2014; Káldi and Babarczy, 2016, etc.). In this section, I will first show some data contradicting the view that exhaustivity is obligatory in this position, then I will argue that the exhaustive interpretation of Hungarian preverbal focus is in fact a *reinforced* conversational implicature.

6.2.1 Exhaustivity is not obligatory

Here I will present a number of examples showing that the preverbal Focus position can be filled without necessarily giving rise to an exhaustive interpretation. This suggests that exhaustivity is not strictly encoded in the semantics of preverbal focus.

First, in simple examples like (26) with the Focus position filled, the exhaustive reading is cancellable, unless it leads to pragmatic oddness:

- (26) Hanna [DODÓTÓL]_F kért tanácsot, és Esztertől is.
 Hanna Dodó.ELATIVE asked.3SG advice.ACC and Eszter.ELATIVE too
 ‘Hanna asked for advice from [DODÓ]_F, and also from Eszter.’

Preverbal focus can also be used to mark contrast in correction sentences as in (27). The continuation ‘and a dress’ shows that the preverbal focus here does not have to be interpreted exhaustively (Bródy and Szendrői, 2010).

- (27) A: Mari ki nézett magának egy kalapot.
 Mari VM-OUT looked.3SG her.DAT a hat.ACC
 ‘Mari picked a hat for herself.’
- B: Nem, Mari egy [SÁLAT]_F nézett ki magának meg egy
 no Mari a scarf.ACC looked.3SG VM-OUT her.DAT and a
 ruhát.
 dress.ACC
 ‘No, Mari picked a [SCARF]_F and a dress.’

Contrastive topics require a focused associate, meaning that there has to be a focused constituent in the same sentence (Gyuris, 2002). They then trigger the focusing of some element, but again, without an obligatory exhaustive interpretation, as shown in (28).

- (28) A ‘számítógépet’ [A FIZETÉSÉBŐL]_F vette, de a szülei
 the computer.ACC the salary.ELATIF bought but the parent.POSS3SG.PL
 is segítettek azért.
 also helped thus
 ‘She bought the computer with her [SALARY]_F, but her parents helped too.’

As presented in the previous section, there is a set of verbs that tend to avoid receiving main stress and trigger the raising of their argument into the Focus position, without necessarily being interpreted exhaustively (Szendrői, 2001, 2003; Balogh, 2012).

- (29) a. Az intézetünk a [FILOZÓFIA TANSZÉKHEZ]_F tartozik. És
the institute-our the philosophy department.ALLATIVE belongs and
a matematika tanszékhez is.
the mathematics department.ALLATIVE too
‘Our institute belongs to the [PHILOSOPHY DEPARTMENT]_F. And to
the Mathematics Department too.’
- b. A [BALATONON]_F töltötte a nyarat, de volt egy hetet
the Balaton.SUPERESS spent the summer.ACC but was a week.ACC
Horvátországban is.
Croatia.INESS too
‘She spent the summer at the lake [BALATON]_F, but she was in Croatia
for a week, too.’

There is also a number of adverbs that associate with focus but are inherently non-exhaustive, like *többek között* ‘among others’ and *jórészt* ‘mainly’. These adverbs require the presence of a focused element, which would clearly contradict an analysis according to which exhaustivity is obligatory with preverbal focus, as these adverbs entail the background being true for other alternatives too (Wedgwood, 2005; Wedgwood et al., 2006). Yet, sentences like (30) are completely fine.

- (30) A küldöttségben Chris Patten, az unió külügyi biztosa
the delegation-in Chris Patten the union foreign commissioner-POSS3SG
mellett helyet kap Javier Solana, akiket újjukra *többek között* [ANNA
beside place.ACC gets Javier Solana whom way-on others among Anna
LINDH]_F svéd külügyminiszter kíséri majd el.
Lindh Swedish foreign-minister accompany FUTURE VM-AWAY
‘In the delegation, Javier Solana will be included in addition to Chris Patten, the
foreign commissioner of the EU, and they will also be accompanied by among
others the Swedish foreign minister [ANNA LINDH]_F.’

Lower bounded modified numerals like *legalább n* ‘at least n’ and *több, mint n* ‘more than n’ are free expressions and hence can appear in the Focus position. If this position was indeed always obligatorily exhaustive, this would be in contradiction with the inherent

upper-unboundedness of these modified numerals.

- (31) a. [Legalább négyen]_F sérültek meg a balesetben.
 at-least four.EN injured VM-PERF the accident-in
 ‘[At least four people]_F were injured in the accident.’
- b. [Több, mint négyen]_F sérültek meg a balesetben.
 more than four.EN injured VM-PERF the accident-in
 ‘[More than four people]_F were injured in the accident.’

These data show that the exhaustive interpretation of Hungarian preverbal focus is not always present, which is a problem for approaches based on the obligatoriness of the exhaustive interpretation linked to this position. This suggests that the exhaustive reading that arises in the Focus position is merely a pragmatic inference. This is indeed what Wedgwood proposed and what was then confirmed by experiments (Onea, 2009; Onea and Beaver, 2009; Kas and Lukács, 2013; Geröcs et al., 2014; Káldi and Babarczy, 2016, etc.). Here I will argue that exhaustivity is in fact a conversational implicature that gets strengthened by focus or prosodic prominence.

6.2.2 Implicatures

Implicatures are inferences that the hearer makes from an utterance, based on assumptions about the speaker’s state of knowledge. Implicatures are then neither what is *said* in an utterance, nor what is entailed by the expressions used in the utterance, hence not part of the truth-conditional content of an utterance.

- (32) A: I am out of petrol.
 B: There is a garage around the corner.

In the above dialogue, if we strictly stick to the truth-conditional content, there is no connection between the two utterances. However, the unspoken connection between them, namely something like *...where you can buy petrol* is quite obvious for most speakers.

The notion of implicature was introduced by Grice (1975), who also developed a theory to explain and predict them. He postulated the *Cooperative Principle* that speakers follow in order to have a meaningful and successful communication, and four maxims as a (tentative) theory of what it means to follow the Cooperative Principle:

(33) *The Cooperative Principle*

Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged.

(34) *Maxim of Quantity*: Make your contribution as informative as is required. Do not make your contribution more informative than is required.

Maxim of Quality: Do not say what you believe to be false. Do not say that for which you lack adequate evidence.

Maxim of Relation: Be relevant.

Maxim of Manner: Avoid obscurity of expression. Avoid ambiguity. Be brief. Be orderly.

The implicature in (32) is *conversational*, in that it arises from the conversational context and from the hearer's assumptions that the speaker respected the Cooperative Principle, and not from the conventional meaning of the sentence itself¹.

Although implicatures are by definition context dependent inferences, there are expressions, such as *some*, that are often associated with implicatures.

(35) Katie read some of the books.

From (35), the hearer will infer that Katie did not read all of the books, only some of them. Implicatures like this are often called *scalar implicatures* (SI), because they are triggered by expressions that are on the same scale as some other, more informative expression. Simply put, SIs are based on the Maxim of Quantity, in that the hearer assumes that the speaker uttered the most informative proposition for which they had evidence for. For instance, *some* has as its scale-mate *all*, where *all* is the more informative expression. Indeed, *Katie read all of the books* entails *Katie read some of the books*. So if the speaker uttered (35), the hearer, assuming that the speaker is opinionated about the situation, will infer that the stronger alternative is not true, otherwise the speaker would have uttered it. Hence, the scalar implicature of a sentence S is the

¹Note that Grice contrasted conversational implicatures with *conventional implicatures*, which are determined on the other hand by the conventional meaning of the words used in a sentence, for example the causal relation marked by the word *therefore* in *He is an Englishman; he is, therefore, brave*. The existence of conventional implicatures is not uncontroversial, for more discussion see Karttunen and Peters (1979); Bach (1999); Potts (2005, 2007); McCready (2010); Gutzmann (2014) among others.

negation of relevant and more informative alternatives.

- (36) a. Katie read some of the books.
b. $\rightsquigarrow^2 \neg$ Katie read all of the books.

Thus, according to the Gricean theory of SIs, they arise from reasoning about hypothetical utterances of alternative expressions. It is known, however, in order to obtain the needed results, the class of alternatives must be properly constrained. Consider for instance (37), that also entails (36a):

- (37) Katie read some but not all of the books.

Like the sentence under negation in (36b), (37) is also strictly more informative than (36a). So the hearer, by the same reasoning as above, could infer the negation of (37) from hearing (36a):

- (38) a. Katie read some of the books.
b. $\rightsquigarrow \neg$ Katie read all of the books.
c. $\rightsquigarrow \neg$ Katie read some but not all of the books.

However, we are faced with a problem: given that (38a) is true, the two alternative sentences cannot be simultaneously false. From the negation of the first alternative in (38b) it would follow that Katie read either none or some of the books, and from the negation of the second it would follow that Katie read either none or all of the books. This is called the *symmetry problem* and has to do with the need to somehow restrict the alternatives one would consider for a given sentence.

But how exactly should alternatives be restricted? Intuitively, to determine that (38b) but not (38c) is a good alternative for (38a), we have to show that *all* is an alternative expression to *some*, but *some but not all* is not. Horn (1972) offered a simple solution, which was later developed further by Gazdar (1979); Atlas and Levinson (1981) and others, namely that some expressions are lexically specified as belonging to a scale, i.e. an ordered set of lexical items in which order is defined in terms of logical strength. Scales can contain for example the conjunctions ⟨or, and⟩, quantificational determiners

²I will use the symbol \rightsquigarrow to mark that one sentence implicates another.

like ⟨some, all⟩, numerals ⟨one, two, three...⟩ modals ⟨may, must⟩ or ⟨possible, certain⟩, scalar verbs ⟨like, love, adore⟩ or scalar adjectives ⟨warm, hot⟩, among others. A stronger expression entails the weaker expression which is lower on the same scale. A sentence S, containing a scalar item x, has scalar alternatives which are all the sentences that can be obtained from S by replacing x with one of the expressions from the same scale.

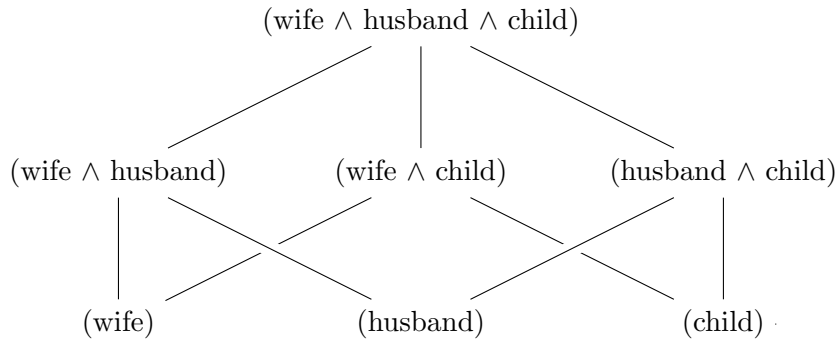
- (39) a. Katie or James is coming tonight.
b. $\rightsquigarrow \neg$ Katie and James are coming tonight.
- (40) a. I have three children.
b. $\rightsquigarrow \neg$ I have four children.
- (41) a. It is possible that Katie will visit me in the summer.
b. $\rightsquigarrow \neg$ It is certain that Katie will visit me in the summer.
- (42) a. I liked the movie yesterday.
b. $\rightsquigarrow \neg$ I loved the movie yesterday.
- (43) a. The soup is warm.
b. $\rightsquigarrow \neg$ The soup is hot.

Constraints on scales have been proposed in the literature. According to Gazdar (1979), relevant alternatives must share selectional restrictions and item-induced presuppositions. Atlas and Levinson (1981) argued that alternatives must belong to the same semantic field, have the same brevity, and be lexicalised to the same degree. Hirschberg (1985) proposed that alternatives must form a *salient* scale in a given discourse and also observed that scales can also be constructed from items that are related to each other by non-entailment scales, such as rank orderings or even ad-hoc orderings that are relevant in the given context. She also argued that alternatives can also be represented as partially ordered sets. Consider the following dialogue:

- (44) A: Do you speak Portuguese?
B: My husband does.

The answer in (44) implicates that the speaker does not speak Portuguese and that no other relevant people do other than the husband. The alternatives than can be

represented as below:



The *Monotonicity Constraint* on scales (Horn, 1989; Matsumoto, 1995) says that items on a scale have to be of the same monotonicity. Hence, ⟨no, few, some, all⟩ is not a valid scale for implicatures, but it has to be broken down to two scales, ⟨some, all⟩ and ⟨few, no⟩. The structural approach was proposed by Katzir (2007) and Fox and Katzir (2011), according to which alternatives cannot be more complex than the original utterance, unless they are contextually relevant. Problems for many of the above approaches were presented, hence how exactly scales or alternatives are constructed is still an ongoing debate (see Breheny et al., 2018, for an overview).

Scalar implicatures, and conversational implicatures in general are cancellable, meaning that they can be explicitly canceled by the speaker without leading to a contradiction:

- (45) A: Did Katie read some of the books?
 B: Yes, she read some of the books, in fact she read them all.

In fact, the cancellability test has traditionally been considered one of the most reliable criteria for distinguishing conversational implicatures from other linguistic phenomena, such as conventional implicatures, entailment and presuppositions. Although cancellability is an important feature of implicatures there is surprisingly little work on the properties of the cancellation mechanism itself. Weiner (2006) argued that not all implicatures are cancellable.

- (46) *Suppose that Alice and Sarah are in a crowded train; Alice, who is obviously able-bodied, is sprawled across two seats, and Sarah is standing. Sarah says to*

Alice:

I'm curious as to whether it would be physically possible for you to make room for someone else to sit down. [...] Not that you should make room; I'm just curious.

The first sentence uttered by Sarah conveys the implicature that Alice should make room, which is explicitly cancelled in by the second sentence. Weiner argues that in this case however, the implicature is not actually cancelled but instead is strengthened. On the other hand, Dahlman (2013) argues that what Weiner has shown is merely that implicatures cannot be canceled when the speaker does not intend to cancel them.

Mayol and Castroviejo (2011) argued that implicatures can be canceled only if there is a new QUD introduced to the discourse. Compare the following dialogues:

- (47) Q: Who has two cars?
A: [I]_F have two cars. Actually, I have [three]_F.
- (48) Q: How many cars do you have?
A: I have [two]_F cars. #Actually, I have [three]_F.

They also proposed an alternative theory, according to which '*linguistic material in a Focus position cannot be cancelled*'. Indeed, in (47), the implicature triggering expression is not focused and can be easily cancelled, while in (48), with focus on *two*, the cancellation results in oddness.

All in all, we have seen that implicatures are pragmatic inferences, their mechanism being based on negating relevant alternatives that are stronger than the original utterance. They are typically cancellable, but less so if the expression triggering the implicature is focused. Indeed, implicatures and focusing seem to interact, at least in some cases, which is not surprising, since both phenomena involve alternatives. In the next subsection I will briefly discuss how focusing and implicature computation can influence each other.

6.2.3 The role of focus in implicature computation

Implicatures are pragmatic inferences, hence not part of the literal meaning. In fact, a growing number of experimental studies are concerned with the processing of implicatures and in general they showed that this computation has a higher cognitive cost than

the processing of the literal meaning (Bott and Noveck, 2004; Bott et al., 2012; Huang and Snedeker, 2009; Tomlinson Jr et al., 2013; Degen and Tanenhaus, 2015; Husband and Ferreira, 2016; Gotzner et al., 2016; Gotzner and Spalek, 2017; Chemla and Bott, 2014; van Tiel et al., 2019, among others).

Certain linguistic and extra-linguistic factors can influence how easily speakers compute implicatures and also how difficult it is to cancel them. It can depend on the scalar items themselves, as some give rise to more robust implicatures than others, on their grammatical form, as in *some* versus *some of the*, grammatical class or frequency. Following from this, the presence of alternatives can also play a role, as in how salient the alternatives are, how distinct they are from the original utterance, whether the scales are bounded or unbounded, etc. (Degen and Tanenhaus, 2011; Van Tiel et al., 2016). In fact, many such factors were argued for and against in the literature and for some of them different experiments indeed showed surprisingly different results. These factors possibly interact and there is probably need for more experimental work on this subject to get a clearer picture of exactly what factors can influence implicature computation and how.

Focusing has also been argued to have a strong connection with implicature computation (see Groenendijk and Stokhof, 1984; Rooth, 1992; Fox and Katzir, 2011; van Rooij and Schulz, 2004; Schulz and van Rooij, 2006; Chierchia, 2013). Indeed, both mechanisms make use of alternatives. Simply put, the function of focus is to introduce a set of alternatives (Rooth, 1985, 1992) and the main role of implicatures is to negate alternatives that are stronger than the utterance. Consider the following examples:

- (49) a. [ANNA]_F likes eggplants.
 b. Anna likes [EGGPLANTS]_F .

(49a) introduces an alternative set for ‘Anna’, so the addressee will infer that from a salient alternative set, Anna and nobody else likes eggplants. (49b) on the other hand introduces alternatives for ‘eggplants’, hence the addressee will infer that Anna likes eggplants and no other vegetables or food.

Experimental evidence shows that focusing plays a role in implicature computation. Chevallier et al. (2008) and Schwarz et al. (2008) showed that listeners are more likely to strengthen the interpretation of a scalar item when the word has been prosodically focused. They found that the exclusive interpretation of ‘or’ or the ‘some but not all’

interpretation of ‘some’ is more available with pitch accent on it, and it also takes less time to interpret than without pitch accent. Onea and Beaver (2009) and Tomlinson Jr et al. (2017) also found that focusing can facilitate the computation of exhaustivity implicatures, without involving lexical scalar alternatives. Gotzner (2019) conducted two experiments and found that (i) contrastive focal intonation makes an exhaustive interpretation equally available as with *only*, but (ii) that the reaction time was significantly higher in bare focus conditions than in conditions with an overt *only*. These results show that while focal accent does have a strong effect on implicature computation, it comes with a higher cognitive cost, suggesting that the strengthened meaning is not grammatically encoded.

Thus, these studies have shown that focusing does not grammatically encode a strengthened or exhaustive meaning. However, it encourages implicature computation by making the relevant alternatives more salient in the context and providing a strong cue that an inference should be derived.

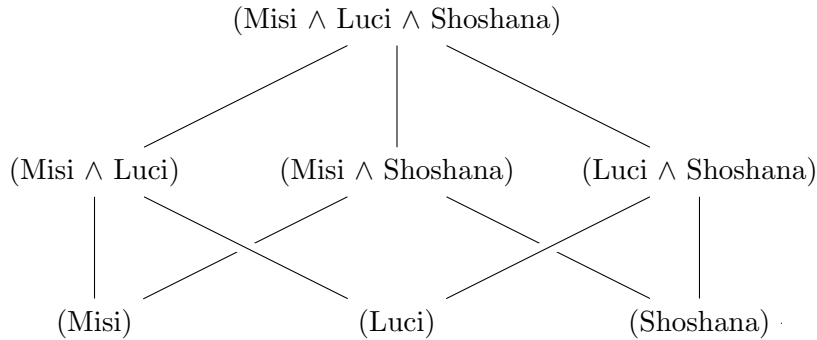
6.2.4 Exhaustivity and the Focus position

The Hungarian Focus position has been said to give rise to an obligatory exhaustive interpretation. While this interpretation is indeed tightly linked to this position, I will argue that this reading is merely a conversational implicature that is reinforced by focusing.

In fact, if not suggested otherwise by the linguistic or extralinguistic context, an exhaustivity inference arises regardless of the position of the DP. Compare the following two sentences:

- (50) a. Misi el aludt.
 Misi VM.away slept
 ‘Misi fell asleep.’
 b. [MISI]_{FP} aludt el.
 MISI slept VM.away
 ‘MISI fell asleep.’

For both sentences, the set of alternatives has the following form, and the hearer infers that the alternatives that are stronger than the original utterance are false:



Most speakers agree however, that when *Misi* is in the Focus position, the exhaustive reading is stronger. But as Gotzner (2019) argued, this is presumably because by a focal accent the alternatives become more salient in the context which facilitates implicature computation.

This is also visible from the difference in implicature cancellation. The implicature in both (50a) and (50b) can be canceled, but it is indeed significantly more marked when *Misi* is in the Focus position. This is in line with what was proposed by Mayol and Castroviejo (2011), namely that linguistic material in a Focus position cannot be cancelled.

- (51) a. *Misi* el aludt és *Luci* is.
Misi VM.away slept and *Luci* also
 ‘*Misi* fell asleep and *Luci* also.’
- b. ?[*MISI*]_{FP} aludt el és *Luci* is.
MISI slept VM.away and *Luci* also
 ‘*MISI* fell asleep, and *Luci* also.’

Also, with a scalar item, for example a bare numeral in the Focus position, cancellation is even more marked, if not infelicitous.

- (52) a. *Négy macska* el aludt, sőt az összes.
 four cat VM.away slept in-fact the all
 ‘Four cats fell asleep, in fact all.’
- b. #[*NÉGY MACSKA*]_{FP} aludt el, sőt az összes.
 four cat slept VM.away in-fact the all
 ‘FOUR CATS fell asleep, in fact all.’

Since both scalar items and focus activate alternatives and make them salient, it is not surprising that when the two are combined, implicatures get reinforced, in that they are computed more easily and/or are harder to cancel.

This also explains part of the data presented in Chapter 5 with free expressions in different preverbal positions. I repeat the relevant part of the table summarising the data below:

...in fact all	Q	F
<i>many</i>	OK	OK
<i>some</i>	OK	*
<i>n</i>	OK	*
<i>at least n</i>	OK	OK
<i>more than n</i>	OK	OK

I have shown that an *...in fact all* continuation is possible with all free expressions in the Quantifier position, but not for *some* and bare numerals in the Focus position. Why are these two expressions special in this regard? First, the superlative *at least n* and the comparative *more than n* were argued not to convey scalar implicatures like bare numerals do (at least in non-embedded contexts), since they give rise to ignorance/irrelevance implicatures instead (Geurts and Nouwen, 2007; Nouwen, 2010a; Cohen and Krifka, 2014; Büring, 2008; Coppock and Brochhagen, 2013; Mayr, 2013; Nouwen, 2015; Schwarz, 2016b,a; Mendia, 2016; Buccola and Haida, 2019).

- (53) a. I read three books. $\rightsquigarrow \neg$ I read four books.
 b. I read at least three books. $\not\rightsquigarrow \neg$ I read at least four books.
 c. I read more than three books. $\not\rightsquigarrow \neg$ I read more than four books.

In (53b) and (53c), the implicature is not about the falsity of stronger alternatives, but rather about the speaker being ignorant about the exact number of the books (ignorance implicature), or that the exact number is irrelevant in the given situation (irrelevance implicature).

However, *many* is a scalar item that usually gives rise to a scalar implicature *not all*, just like *some* and in fact they are even scale-mates, as in *many* entails *some*. At least to my knowledge, there is no work on comparing the robustness of the implicatures conveyed by these two expressions, but if we compare the following dialogues, most speakers agree

that the first one seems more natural than the second one:

- (54) Q: How many students came to the party?
A: Many students came, in fact all of them did.
- (55) Q: How many students came to the party?
A: Some students came, in fact all of them did.

To account for this difference, more research has to be done, but the reason could be that *many* is closer than *some* on the scale to the most informative *all*, so *some* is more distinct and this is perhaps why the scalar implicature it conveys is more robust.

To conclude, I argued that exhaustivity is not obligatory for constituents in the immediately preverbal position. This interpretation is a conversational implicature, that gets reinforced by focus intonation, in that relevant alternatives become more salient, so an exhaustive interpretation is more available and is harder to cancel.

6.3 Markedness

In linguistics, *markedness* was first introduced by Trubetzkoy and Jakobson in the 1930s, and has been used in various senses ever since in phonology, syntax, semantics and also in pragmatics. Markedness always involves a pair of items, one of which is the marked one while the other is the unmarked one. Usually, the marked item is assumed to be formally more complex, more difficult to acquire and to process, less frequent and has restricted distribution in comparison to the unmarked one.

I propose that the Hungarian preverbal position is a prosodically and structurally *marked* position. It hosts focused expressions, (Strawson-)DE expressions and possibly negative expressions too, that are all marked notions in some sense. This suggests that semantic markedness is also associated to this position.

6.3.1 Focus and markedness

Different languages use different strategies to mark a focused constituent, such as prosodic prominence, syntactic reordering, morphological markers or a combination of these (see more in Chapter 4). What is probably common to all natural languages, is that a sentence containing a narrow focused constituent generally has a marked form

with respect to neutral sentences (Jackendoff, 1972; Truckenbrodt, 1995; Büring, 2009; Selkirk, 2008). However, sometimes the neutral form can be ambiguous between an all-focus and a narrow focus interpretation (namely by focus projection rules, see Selkirk (1984)), for instance (56a) in English or (57a) in Spanish, but if one wants to narrow focus something else in the sentence, then a marked form has to be used:

- (56) a. My neighbour is building a DESK. Object, VP, All-focus
 b. My NEIGHBOUR is building a desk. Subject

In English, the unmarked form is (56a), where main stress falls on the last constituent, as predicted by the Nuclear Stress Rule (Chomsky and Halle, 1968). With this intonation, the focus can be on the object, or project out for a VP or an all-focus interpretation. However, if one wants to put focus on the subject, the main stress has to be shifted (Reinhart, 1995; Neeleman and Reinhart, 1998).

- (57) a. Juan compró ayer el PERIÓDICO.
 Juan bought yesterday the newspaper
 ‘Juan bought the newspaper yesterday.’ Object, VP, All-focus
 b. Ayer compró el periódico JUAN.
 yesterday bought the newspaper Juan
 ‘JUAN bought the newspaper yesterday.’ Subject

Similarly in Spanish, the unmarked form is ambiguous between all-focus, VP focus and focus on the object, but if one wants to focus the subject, it has to move to a sentence final position as in (57b) (Zubizarreta, 1998).

- (58) a. Tí bà wúm kwálingá. All-focus
 3SG PROG chew colanut
 ‘He is chewing colanut.’
 b. Tí bà wúm-á kwálingá. Object, V, VP
 3SG PROG chew-FOC colanut
 ‘He is chewing colanut.’

In Gùrùntùm, focus is marked with the morphological marker *á*, which is not present in the unmarked all-focus sentence (58a), and follows the verb if one wants to focus the object, the verb or the whole VP (Hartmann and Zimmermann, 2009).

In Hungarian, focus in general is marked both structurally and prosodically. Focused constituents move to the immediately preverbal position, which is the one that bears main stress in an intonational phrase (Szendrói, 2001, 2003). This results in an inversion of the verbal modifier and the verb, in that verbal modifiers follow the verb instead of appearing in their default preverbal position when the Focus position is filled.

- (59) a. Misi el aludt.
 Misi VM.away slept
 ‘Misi fell asleep.’
 b. [MISI]_F aludt el.
 Misi slept VM.away
 ‘[MISI]_F fell asleep.’

Most types of constituents can move to this position and receive focal stress, but we have seen that some constituents such as *minden macska* ‘every cat’ are excluded from this position while others like *kevés macska* ‘few cats’, have to appear here regardless of focusing. However, the intonation in all-focus sentences differs from the intonation of narrow focus sentences with both types of expressions. Namely, in the *neutral* all-focus sentence there is secondary stress on the verb too (and on the VM when it follows the verb) as in the a. sentences, but can be destressed when the focus is on the subject as in the b. sentences.³

- (60) a. [MINden macska]_{QP} EL aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’ All-focus
 b. [MINden macska]_{QP} el aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’ Subject
- (61) a. [KEvés macska]_{FP} Aludt El.
 few cat slept VM.away
 ‘Few cats fell asleep.’ All-focus
 b. [KEvés macska]_{FP} aludt el.
 few cat slept VM.away
 ‘Few cats fell asleep.’ Subject

³Most of my informants agree with these judgments, but a thorough prosodic study should be conducted to verify them.

This suggests that in Hungarian prosody plays a more important role in focusing than the position itself. This is in line with Szendrői's suggestion that focused constituents move to this position not because of some formal focus feature, but simply because this is the position that is prosodically the most prominent. Indeed, most constituents appear in this position in order to receive focal interpretation, unless they are excluded from there as a result of syntactic or semantic constraints (see Chapter 5).

6.3.2 Negativity and markedness

The study of negation in natural languages has been of interest since Plato and Aristotle and is still a fruitful subject today. Indeed, negation and negativity are universal and all human languages have a way to express it. What is also common in languages is that they all seem to have an overt marker for negation, while affirmation usually does not receive any overt marking (Greenberg, 1966). Intuitively, negative sentences are indeed assumed to be *marked* with respect to affirmative ones. It has been argued that in a binary opposition, the marked term is the one that tends to be formally more complex, distributionally more restricted, less frequent and semantically less neutral. Negation indeed fits these criteria (Horn, 1989).

First, as I have argued above, negative sentences are universally more complex syntactically or morphologically than affirmative sentences. This is also true for words. While there are many inherently, but not formally negative words, such as *deny* or *short*, many negative words are formed from positive ones with the use of a negative affix (*happy/unhappy*), but this is much more unlikely in the opposite direction (*sad/*unsad*) (Osgood and Richards, 1973; Horn, 1989).

Also, as Givón (1978) has argued, negative sentences are syntactically more constrained than affirmative ones:

- (62) a. When John comes/?doesn't come, I'll leave.
b. When did John arrive/?not arrive?
c. How did he do it/?not do it?

Furthermore, (Horn, 1989) also cites psycholinguistic studies indicating that negation is harder and takes longer in both language acquisition (Klima and Bellugi, 1966; Bellugi, 1967; McNeill and McNeill, 1968; Bloom, 1970; Pea, 1978; Volterra and Antinucci, 1979) and processing (Clark, 1966; Just and Carpenter, 1971; Wason, 1972; Clark, 1974).

In fact, not only plain negation, but downward entailingness has also been argued to be semantically marked:

“Upward monotonicity is the unmarked case in natural language semantics: though a non-circular explanation of this fact is hard to come by, it seems clear that sentences are by default upward monotonic, and only downward monotonic when some special element is introduced, like negation.” (Beaver and Clark, 2008, p. 72)

We have seen that (Strawson-)DE expressions have to appear in the immediately pre-verbal position in Hungarian:

- (63) a. Kevés macska aludt el.
 few cat slept VM.away
 ‘Few cats fell asleep.’
 b. *Kevés macska el aludt.
 few cat VM.away slept
- (64) a. Csak Misi aludt el.
 only Misi slept VM.away
 ‘Only Misi fell asleep.’
 b. *Csak Misi el aludt.
 only Misi VM.away slept

Similarly to the above construction, in Hungarian both sentential negation as in (65) and constituent negation as in (66) and (67) causes inversion in the VM-V order:

- (65) a. Misi nem aludt el.
 Misi not slept VM.away
 ‘Misi didn’t fall asleep.’
 b. *Misi nem el aludt.
 Misi not VM.away slept
- (66) a. Misi sem aludt el.
 Misi either slept VM.away
 ‘Misi didn’t fall asleep either.’
 b. *Misi sem el aludt.
 Misi either VM.away slept

- (67) a. Nem Misi aludt el.
not Misi slept VM.away
'It was not Misi who fell asleep.'
- b. *Nem Misi el aludt.
not Misi VM.away slept

Thus, negation and DE-ness, just like focusing, are all marked categories in language. In Hungarian, these all involve a similar marked structure in that they are associated with a marked intonation and a non default word order.

6.3.3 Structural markedness and the Focus position

The immediately preverbal position, which is most often referred to as the Focus position, is a *marked* position in that when it is filled, it results in a non-default sentence structure and prosody. Indeed, this position bears the main stress in the intonational phrase and when there is a verbal modifier, it has to appear after the verb instead of its default preverbal position.

It seems that focus, downward entailingness and negation are all connected to this particular structure. How exactly these notions are connected to each other and this structure would require more investigation, but they indeed share a number of properties. First, as I have argued above in this section, they all involve some sort of markedness or prominence both formally and semantically.

Also, they all involve some kind of upper bound in the interpretation. With negation, *only*-phrases and DE quantifiers, this upper bound is inherently truth conditional, while focus reinforces an exhaustivity implicature. Indeed, expressions without an inherent upper bound, when they appear in this position, are interpreted exhaustively – that is, the implicature that no stronger alternatives are true becomes stronger.

I have shown in Chapter 5 that expressions that obligatorily move to this position entail that the relevant compset is not empty. This property is not exactly equivalent to exhaustivity but they are comparable. Assuming the following semantics for exhaustivity, we can see that it is merely the scope of the negation operator that distinguishes the two:

- (68) *Exhaustivity*
 $\exists x[P(x) \wedge \neg \exists y[y \neq x \wedge P(y)]]$

- (69) *Non-empty compsetness*
 $\exists x[P(x) \wedge \exists y[y \neq x \wedge \neg P(y)]]$

In fact, exhaustivity, just like the expressions attracted to this position, entails that the relevant compset is not empty. Thus, it is possible that it is not the position itself that generates the exhaustivity interpretation, but the other way around. Namely, when the interpretation wants a certain expression to be exhaustive, by the entailment of non-empty compsetness, it has to move to the preverbal position.

However, as I have also shown in Chapter 5, expressions that entail that the compset is empty, namely universals, *also-* and *even-*phrases, are excluded from this position. In fact, these expressions can be viewed as the strongest alternatives in their relevant ALT set. As a consequence for these expressions, there is no stronger alternative to negate, so the introduction of an upper bound would be superfluous, since it is inherently in their semantics.

If however, a more restricted universal like *minden szürke macska* ‘every grey cat’ is in contrast with a broader one like *minden macska* ‘every cat’, it has to appear in the Focus position, as in (70). Indeed, an upper bound is introduced in this case, attracting the expression to the Focus position. Also, in this case, with ‘every grey cat’ there is an entailment that the compset is not empty, in that there are (non-grey) cats who did not fall asleep:

- (70) A: Minden macska el aludt.
 every cat VM.away slept
 ‘Every cat fell asleep.’
 B: Nem, minden SZÜRKE macska aludt el.
 no every grey cat slept VM.away
 ‘No, every GREY cat fell asleep.’
 B’:#Nem, minden SZÜRKE macska el aludt.
 no every grey cat VM.away slept

Note that (contrastive) focusing alone is not sufficient to attract a universal expression to the Focus position: if the contrast causes broadening instead of setting an upper bound, the universal still has to appear in the Quantifier position, as shown in (71):

- (71) A: Minden szürke macska el aludt.
 every grey cat VM.away slept
 ‘Every grey cat fell asleep.’
 B: Nem, MINDEN macska el aludt.
 no every cat VM.away slept
 ‘No, EVERY cat fell asleep.’
 B’:#Nem, MINDEN macska aludt el.
 no every cat slept VM.away
 ‘No, EVERY cat fell asleep.’

Furthermore, as I have shown in Chapter 2, there are other instances of inversion of the verbal modifier and the verb. These include *wh*-questions as in (72a), imperative sentences as in (72b) and progressive aspect as in (72c).

- (72) a. Ki ment át az utcán?
 who went VM.across the street-SUPERESS
 ‘Who crossed the street?’
 b. Menj át az utcán!
 go.IMPER.2SG VM.across the street-SUPERESS
 ‘Cross the street!’
 c. Peti ment át az utcán, amikor meg látta
 Peti went VM.across the street-SUPERESS when VM.PERF saw
 Annát.
 Anna-ACC
 ‘Peti was crossing the street when he saw Anna.’

Onea (2007, 2008) proposed that while with the VM preceding the verb the event described by the verb is introduced, with the VM following the verb, the event is rather presupposed. Whether it is possible to give a unified semantic account for all expressions and constructions triggering the inversion of the VM and the verb in Hungarian would require further research.

In conclusion, I propose that the immediately preverbal position, most often referred to as the Focus position, is more closely linked to non-empty compsetness than to focusing itself, and in fact focus and exhaustivity effects are merely the consequence of the compset being non-empty.

6.4 Summary

In this chapter I revisited some aspect of the immediately preverbal position in Hungarian that is most often referred to as the Focus position. First I showed that while focused expressions most often do appear in this position, focusing is neither a necessary nor a sufficient condition for constituents to move here. I presented data suggesting that focus is possible outside of this position. While some expressions, such as *a legtöbb* ‘most’, *az összes* ‘all’, other universal quantifiers and *also-* and *even-*phrases are excluded from this position, this does not mean that they cannot be focused. Then, I presented data indicating that sometimes expressions do appear in this position but not as a direct result of focusing. Namely, downward entailing expressions always have to appear here, even when they are not focused. Also, there is a set of verbs in Hungarian that want to avoid bearing the main stress in the intonational phrase, so they trigger the movement of some expression to the preverbal position. The position has also been linked to exhaustivity. While this interpretation is very often present in this position, I showed that in some cases it is not obligatory. Then I argued that this interpretation is in fact a conversational implicature that is reinforced in this position by a marked intonation. Finally, I suggested that what is constant about this position, the intonation associated with it and the expressions it hosts, is markedness. Indeed, when this position is filled, both the syntactic structure and the intonation is marked with respect to neutral sentences, and foci, Strawson-DE expressions and possibly negative expressions can also be viewed as marked categories.

Chapter 7

Conclusions and outlook

In this dissertation I proposed a novel, complement set based approach for word order constraints in the Hungarian preverbal field. I argued that the distribution of quantifiers and DPs headed by focus particles depends on the entailment they give rise to with respect to the emptiness of the contextually relevant compset. Namely, (i) expressions such as ‘every N’, ‘both N’, ‘also x’ and ‘even x’, that entail that the compset is empty have to appear in the Quantifier position, (ii) expressions such as ‘few N’, ‘at most n N’, ‘less than n N’, ‘exactly n N’ and ‘only x’, that (at least in a proportional/partitive sense) entail that the compset is not empty have to appear in the Focus position, and (iii) finally those that do not give rise to any such entailment, like ‘many N’, ‘some N’, bare numerals, ‘at least n N’ and ‘more than n N’ can appear in either position.

I also showed that these constraints can partly account for the interpretational differences that arise with non-restricted quantifiers, when they appear in different preverbal positions. Namely, quantifiers that give rise to scalar implicatures, like ‘some N’ and bare numerals, when they appear in the Focus position, also make a strong inference that the compset is not empty and hence are infelicitous with an ‘in fact all’ continuation. This inference does not arise with ‘many N’, ‘at least n N’ and ‘more than n N’. For the last two, this is not surprising, since they do not give rise to scalar implicatures either. However, the reason why this inference does not arise with ‘many N’ remains an open question.

Finally, in the light of the Compset constraints, I revisited some aspects of the Focus position in Hungarian. First I showed that while this position is undoubtedly related to focus, it would be a mistake to reduce its semantic properties to focusing alone. On the

one hand, focus is possible outside of this position, and on the other hand, expressions can appear in this position for reasons other than focusing. Second, I reexamined the question of the exhaustive interpretation that is closely linked to this position. I showed that this interpretation is not always obligatory in this position and argued that it is in fact a conversational implicature that gets reinforced by focusing. Finally, I tackled the question of *markedness* and presented the idea that this position can be viewed as a marked position in several respects: (i) it involves a non-default marked sentence structure; (ii) it is associated with a non-default intonation pattern; and (iii) it attracts expressions that are semantically marked.

The dissertation consists of five main chapters. In Chapter 2, I reviewed some basic information about Hungarian morphology and syntax. I briefly presented the extensive case system of Hungarian, that allows for a fairly flexible word order: grammatical functions such as subject and object need not be assigned particular positions in the Hungarian sentence, since these are encoded via case marking. I also presented the system of verbal modifiers that can help diagnose whether a particular expression occupies the Focus position or some other preverbal position. Then I presented the structure of the preverbal field, which is divided into three main positions: the Topic position, followed by the Quantifier position and then the preverbal Focus position. I briefly presented the interpretations these positions are associated with and listed what kinds of expressions they can and cannot host. I briefly presented the Hungarian postverbal field and showed that the preverbal restrictions with respect to the relative order of expression that can appear there are basically non-existent in the postverbal field, hence the word order is considerably more free there. Finally I presented the main properties of negation and negative sentences in Hungarian.

In Chapter 3, I presented syntactic and semantic properties of quantifier expressions in Hungarian. I started with presenting *Generalised Quantifier Theory* (GQT) which was the leading theory of quantifiers in formal semantics for decades. I presented its main contributions and relevant semantic properties of quantifiers they identified, such as conservativity or monotonicity. I also introduced some challenges for GQT, suggesting that quantifiers differ from each other considerably and should probably not be given a unified account. I continued with presenting the distribution of different quantifiers in Hungarian. In the preverbal field, each position has a set of quantifiers that it can and cannot host. Quantifiers that have to be preceded by a definite article, namely *az összes N* ‘all N’ and *a legtöbb N* ‘most N’ have to appear in the Topic position and are excluded from the other two. The Quantifier position hosts universal quantifiers such as *minden*

N ‘every N’, while the Focus position is the obligatory position for downward entailing quantifiers such as *kevés N* ‘few N’. A number of quantifiers are however unrestricted with respect to their preverbal positions and can appear in all three of them: these include *sok N*, ‘many N’, *néhány N* ‘some N’, bare numerals and some modified numerals like *legalább n N* ‘at least n N’. Then I presented the distribution of quantifiers in the postverbal field and showed that they can all appear in the postverbal field, but DE quantifiers that have the Focus position as their obligatory preverbal position can only appear there if the Focus position is already filled by another expression. I also briefly discussed quantifier scope relations in Hungarian and showed that in the preverbal field, scope interpretation in the preverbal field follows surface order, but postverbal quantifiers generally take narrow scope with respect to preverbal ones. Finally, I presented the main syntactic and semantic properties of the Quantifier position.

In Chapter 4, I presented focusing and the Focus position in Hungarian. I started with presenting focus in natural languages, namely I showed what strategies different languages employ to mark focus, how it is related to prosodic prominence and how it can be represented in compositional semantics. I also discussed the semantics of focus sensitive expressions like *only* and *also*, since their distribution in Hungarian follows the same constraints as the distribution of quantifiers in the preverbal field. Then I turned to discuss focusing in Hungarian. I first presented different approaches to account for focus movement, namely approaches based on the presence of a formal focus feature, on the intonational rules of Hungarian and also on exhaustivity. Then I also reviewed what different authors have proposed about the nature of the exhaustive interpretation of the Focus position. Namely, it has been argued that it is in fact part of the truth conditional meaning of a sentence with preverbal focus. This view was later challenged both theoretically and experimentally, suggesting that the exhaustive interpretation is in fact merely a pragmatic inference. Finally, I discussed the behaviour of expressions that are attracted to the Focus position in Hungarian.

In Chapter 5, I presented the Compset constraints, that can successfully account for the distribution of quantifiers and DPs headed by focus particles in the Hungarian preverbal field. After a short reminder of the distribution of different quantifiers and DPs headed by focus particles in the Hungarian preverbal field, I presented what entailment these expressions make about their relevant complement set. In a quantificational sentence of the form $Q(A)(B)$, the compset is the difference of A with B , so $A - B$. I showed that different quantifiers make different predictions about the relevant compset. Some quantifiers, like *every* entail that the compset is empty: if *Every cat fell asleep* is true,

there are no cats that did not fall asleep. Others, like *few* in a proportional sense, entail that the compset is not empty: if *Few (of the) cats fell asleep* is true, there must also be some cats that did not fall asleep. Finally, quantifiers like *some* convey no entailment about the compset: *Some cats fell asleep* is compatible with both the compset being empty and non-empty. I also extended this classification to focus particles: I proposed to replace the *A* set with *C*, the set of alternatives to the expression the focus particle associates with. This way, *Only Misi fell asleep* entails that there are alternatives to Misi who did not fall asleep, *Also Misi fell asleep* entails that there are no relevant alternatives to Misi who did not fell asleep. I showed that this three-way classification of quantifiers and focus particles is almost identical to the three-way classification of the distributional properties of these expressions in the Hungarian preverbal field. Namely, expressions that entail that the compset is empty must appear in the Quantifier position, those that entail (in a proportional/partitive sense) that the compset is non-empty must appear in the Focus position, and those that make no such entailment can appear in any preverbal position. There are two quantifiers, namely *az összes N* ‘all N’ and *a legtöbb N* ‘most N’ for which this generalisation does not make the correct predictions, since they both have to appear in the Topic position. However, I proposed that they are constrained syntactically, in that they both have the form of definite descriptions, for which, when unfocused, the Topic position is the only possible position in the preverbal field. Finally, I showed that the Compset constraints can also partly account for the interpretational differences that may arise with free expressions in different positions.

In light of the above, in Chapter 6, I revisited some aspect of the immediately preverbal position in Hungarian that is most often referred to as the Focus position. First I showed, that while focused expressions most often do appear in this position, focusing is neither a necessary nor a sufficient condition for constituents to move here. I presented data suggesting that focus is possible outside of this position. While some expressions, such as *a legtöbb N* ‘most N’, *az összes N* ‘all N’, other universal quantifiers and *also-* and *even-*phrases are excluded from this position, this does not mean that they cannot be focused. Then, I presented data indicating that sometimes expressions do appear in this position but not as a direct consequence of focusing. Namely, downward entailing expressions always have to appear here, even when they are not focused. Also, there is a set of verbs in Hungarian that want to avoid bearing the main stress in the intonational phrase, so they trigger the movement of some expression to the preverbal position. I also rediscussed the exhaustive interpretation associated with this position. I showed that while this interpretation is very often present in this position, in some cases it is not

obligatory. Then I argued that this interpretation is in fact a conversational implicature that is reinforced in this position by a marked intonation. Finally, I suggested that what is constant about this position, the intonation associated with it and the expressions it hosts, is markedness. Indeed, when this position is filled, both the syntactic structure and the intonation is marked with respect to neutral sentences, and foci, DE expressions and possibly negative expressions can also be viewed as marked categories.

I believe that this dissertation makes three main contributions. First, the most explicit one are the constraints I proposed that can successfully account for the distribution of quantifiers and DPs headed by focus particles in the Hungarian preverbal field. However, there remains a number of open questions. First, I showed that there are two quantifiers in Hungarian for which the Compset constraints do not make the right predictions, namely *az összes N* ‘all N’ and *a legtöbb N* ‘most N’. I argued that they have to appear in the Topic position, because they are both preceded by a definite article, and this position is the only position available for non-focused definite descriptions. However, while most definite descriptions, even quantified ones, can be focused and hence appear in the Focus position, these two cannot: further investigation of these quantifiers and the Topic position is necessary to solve this puzzle. Then, I showed that the Compset constraints can only partly account for the interpretational differences that arise with free expressions in different positions. These expressions should be further investigated, also with respect to their relation with scalar implicatures and exhaustivity, for instance the difference in robustness between the quantifier ‘some N’ and ‘many N’. Finally, I showed that DE quantifiers entail that the compset is non-empty only with a proportional reading and in partitive constructions, they nonetheless have to appear in the Focus position in Hungarian, even when they are not proportional or partitive. This is also a remaining issue that I will leave for future research.

Second, at least to my knowledge, the role of the complement set in language has been mostly studied in relation to anaphoric reference (see references in Chapter 5). In this dissertation, I proposed that it can also play a role in word ordering, at least in Hungarian. It would be interesting to see whether other languages display similar constraints in this respect. Also, complement set, complement anaphora or how different expressions relate to this set might be related to other linguistic phenomena, for instance NPI licensing, as has been claimed by Sailer (2007). Namely, he argued that if a quantifier can serve as antecedent for complement anaphora, it can also license strong NPIs in German. Further research on related topics could expose the so far understudied role of complement sets in language.

Last, in Chapter 6, I discussed the relation between focus and negativity (in a broad sense). While this relation is rather intuitive and some aspects of it has been well studied in the literature, there is a lot of work to be done in order to better understand its exact nature. I hope that this dissertation at least partly contributed to this question.

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