Towards the typology of raising: A functional approach

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1. Introduction[1]

There are a number of phenomena that are traditionally viewed as syntactic and are described primarily within formal linguistic frameworks. Semantic and pragmatic features of these phenomena often remain underestimated or ignored. Moreover, since formal syntactic theories tend to concentrate on a limited number of languages, the phenomena in question are often characterized on the basis of data from at most four or five languages. It may be that a theoretical explanation is proposed for just one syntactic pattern, and this may not be the most frequently attested pattern cross-linguistically.

Raising[2] seems to constitute an example of such a case. This phenomenon can be exemplified by the English sentences *I believe **him** to be a linguist; **He** appears to be a good linguist*. It has been argued that the noun phrases (NPs) marked with bold font are 'raised', because they show morphosyntactic properties of the matrix verb's argument (direct object or subject), while semantically they belong to the embedded clause. The constructions analogous to English raising are cross-linguistically widespread, e.g. in Altaic, Caucasian, North American and other languages (see Serdobolskaya 2005 for details). However, they do not show the same morphosyntactic properties as the English construction. In many languages, the raised NP does not have the morphosyntactic properties of the main verb's direct object, even if it seems to belong to the matrix clause. The grammatical role of the raised NP (subject, direct object, or indirect object) within the embedded clause also differs among languages.

The English syntactic pattern of raising thus seems not to be the only nor even necessarily the most frequent model; rather it seems to constitute one type of construction observed cross-linguistically. Accordingly, the discrepancy between the standard concept of raising and the constructions observed in other languages makes it difficult to formulate an exact definition of the term 'raising'. Such a definition can only be proposed through a

thorough analysis of the constructions occurring in languages of the world (widening the sample considered in this chapter). A tentative definition is, however, suggested in Section 2.2.

Most researchers claim that the raised NP has no semantic association with the matrix verb (see the comments regarding example 3 in Section 2.1). The absence of a semantic distinction has been used as a diagnostic test to distinguish raising from infinitival control, e.g. *I believe him to be a linguist* vs. *I persuaded him to be a linguist*. However, this claim is not borne out even in English, as has been shown in Borkin (1973), Pesetsky (1991), etc.: the choice of raising construction or *that*-clause (e.g. *I believe him to be a linguist / that he is a linguist*) is highly influenced by the semantics of the matrix verb. In this chapter, data from various unrelated languages[3] is considered, showing that in most cases the choice of the raising construction is determined by semantic and pragmatic factors. In this way, the chapter seeks to bring typological data to bear on the current views of raising.

The chapter is organized as follows. In Section 2, syntactic patterns of raising are considered. Section 3 deals with the semantic and pragmatic properties of raising, and Section 4 concludes the chapter.

2. Syntax of raising

2.1. Syntactic properties of raising and long-distance agreement

The term 'raising' has originally been used to refer to the constructions exemplified by the English sentence *I believe him to be a linguist*. The pronoun *him* in this example is, semantically, the subject of the embedded clause; however, it receives the object case from the matrix verb *believe*. This NP has been termed the 'raised' NP. It has been shown that the raised NP has the syntactic properties of the matrix verb's direct object (see Postal 1974, Davies and Dubinsky 2004). For example, it becomes the subject if the matrix verb is passivized:

English (Indo-European, Germanic; Postal 1974: 40)
(1)   *Jack believed **Joan** to have been famous. – **Joan** was believed to have been famous by Jack.*

In addition, it can be replaced by reflexive and reciprocal pronouns co-referential with the antecedent in the matrix clause:

English (Indo-European, Germanic; Postal 1974: 42)
(2)   *Jack believed* **himself** *to be immortal.*

Postal and others analyze a large number of properties associated with raising, such as quantifier scope, adverb position, etc. I propose to distinguish between two groups of tests: structural and constituency tests. Structural properties define the position occupied by the NP in question (the matrix verb's direct object, subject or other), while constituency tests show whether the raised NP forms a constituent with the matrix or the dependent verb.

Structural tests involve passivization, reflexivization, and reciprocality, as exemplified in (1–2). Constituency tests investigate the formation of clefts and pseudoclefts (*What I believe is that Bill is intelligent / *Bill to be intelligent*; Postal 1974: 132), the conjoining of the matrix clauses, the possibility of replacing the dependent clause with an anaphoric pronoun, the possibility of the dependent clause's appearing as an independent utterance (as an answer to a question, e.g. What *do you want? – *Nixon to win*), the linear position of the raised NP, Pied-Piping effects, acceptance of particles modifying the whole dependent clause, etc. (See Testelec 2001 for the discussion of constituency tests in general, Postal 1974 for language-specific constituency tests applied to English raising, and Serdobolskaya 2005 for the detailed discussion of these tests in raising constructions cross-linguistically.)

Another group of tests (e.g. idioms' test, dummy subjects', dependent verb passivization test, etc.) may be employed to determine the difference between raising and control, i.e. constructions in which the NP in the matrix clause is raised, and those in which it originates as an argument of the matrix verb (see Serdolbolskaya 2005 for details). For example, dummy subjects are only possible in raising constructions:

English (Indo-European, Germanic; Kuno 1976: 30, ex. 49–50)
(3)   a. *I expected* **it** *to rain.*
       b. ** I persuaded* **it** *to rain.*

For the most part, the tests involved in this group are based on the following heuristics. The raised NP does not refer to a participant of the situation encoded by the matrix verb; hence, it can be a dummy subject (as in 3a), a part of an idiom etc. The matrix verb does not impose any selectional semantic restrictions on the raised NP (it can even have no deno-

tatum, as in 3a). If the NP in question were an argument of the matrix verb, it would be sensitive to these restrictions. However, it is not. The raised NP is sensitive to the selectional restrictions imposed by the dependent verb. Hence, discussions of these tests (e.g. Postal 1974, Kuno 1976) typically presuppose that the matrix verb does not have any semantic association with the raised NP. However, this claim is not borne out even for English, see (17a, b).

The tests discussed above are used by typologists and syntacticians as arguments for the existence or absence of raising in languages of the world. Usually, a construction is interpreted as involving raising if the NP in question acquires case marking from the matrix verb, and shows structural and constituent properties of the matrix verb's direct object.

Within the generative grammar paradigm, raising in English has been described in terms of the matrix verb assigning case to the lower clause's subject: as the dependent verb is the infinitive, it is impossible for its subject to be assigned case in the lower clause.[4] However, in many languages raising is possible from finite clausal complements (4) and from nominalizations (5). In both types of constructions the subject of the lower clause can be assigned case marking either by the dependent verb (nominative in [4]; nominative and genitive in [5]), or from the matrix verb (accusative in [4] and [5]):[5]

Japanese (Kuno 1976: 24)
(4) *Yamada   wa   **Tanaka o** / **ga**   hannin   da*
    Yamada   TOP   Tanaka **ACC NOM** criminal COP.PRS
    to   *dantei-si-ta.*
    COMP   sure-do-PST
    'Yamada was sure that Tanaka is a criminal.'

Uzbekh (Altaic, Turkic)
(5) ***Olim-ni* / *Olim* / *Olim-ning*** *kel-gan-i*
    Olim-**ACC** Olim(**NOM**) Olim-**GEN**   go-PART.PST-3SG
    men-ga   shubhali   ko'rinyapti.
    I-DAT   doubtful   seem
    'I doubt that Olim has (already) come.'

In Uzbekh, as in other Turkic languages, the subject of a nominalization can occur either in genitive, nominative, or accusative case. The accusative case constructions show the properties of raising.

2.2. Cross-linguistic varieties of raising

Raising in English and Japanese, the languages in which it has been most extensively documented, shows the following syntactic properties (the principles given below are taken from Postal 1974 [generative grammar] and Perlmutter and Postal 1983 [relational grammar]):

(i)   raising is possible from complement clauses only;
(ii)   only the subject of the lower clause can be raised;
(iii) the raised NP occupies the syntactic position of one of the matrix verb's complements (subject or direct object);
(iv)   the dependent clause does not occupy this position.

All these principles find their counterexamples in the languages of the world. In fact, in summarizing the properties of the constructions found in languages other than English, it should be concluded that languages in which raising exhibits all of the properties (i-iv) are much rarer than those in which it does not.

For example, regarding (i) (raising from complement clauses only), raising is possible from adverbial clauses in Altaic languages (in a non-raising construction, the pronoun in (6) would appear in nominative case):

Mongolian (Altaic, Mongolic; Sanžeev 1960: 74)
(6)   [*Čam-ajg*   *amralt-aas*   *ire-x-ees*]   *emne*
       [you.OBL-**ACC**   holiday-EL   return-PART.FUT-EL]   before
       bi   *ene*   *ažl-aa*   *duusga-na.*
       I   this   work-POSS.SJ   finish-PRS
       'I'll end up this work before you come after holiday.'

Similarly, Joseph (1990) argues for raising in Modern Greek constructions with the preposition *me* 'with', which function as temporal simultaneity clauses. Raising is observed in Irish temporal clauses with the conjunction *i ndiaidh* (Carnie and Harley 1997). LDA from adverbial clauses is likewise attested in Kashmiri (Hook and Kaul 1987: 56).

With respect to (ii) (only the subject of the lower clause can be raised), in Kipsigis not only subjects can be raised (7b), but also direct objects (8), indirect objects (9) and non-argument NPs (10):

Kipsigis (Nilo-Saharan, Nilotic; Jake and Odden 1979: 134–137)

(7)   a.   *mɔ́cè   mù:sá   [à-lápát].*
            want   Musa(SJ)   1SG.SJ-run

      b.   *mɔ́c-ɔ́:n   mù:sá   [à-lápát].*
            wants-**1SG.OBJ**   Musa(SJ)   1SG.SJ-run
      (a=b) 'Musa wants me to run.'

(8)   *mɔ́c-ɔ́:n   mù:sá   [kɔ̀-tíl-an   Kíplàŋàt].*
      wants-**1SG.OBJ**   Musa(SJ)   3SG.SJ-cut-1SG.OBJ   Kiplangat(SJ)
      'Musa wants Kiplangat to cut me.'

(9)   *mɔ́cè   mù:sá   **cì:tɔ́** [kɔ̀-tíl-cí   Kíplàŋàt   pè:ndɔ́].*
      wants   Musa(SJ) man   3SG.SJ-cut-BEN   Kiplangat(SJ)   meat
      'Musa wants Kiplangat to cut the meat for the man.'

(10) *mɔ́cè   mù:sá   **rô:twé:t** [kɔ̀-tíl-é:n   pè:ndɔ́].*
      wants   Musa(SJ) knife   3SG.SJ-cut-INSTR   meat
      'Musa wants Kiplangat to cut the meat with a knife.'

Similarly, in Niuean, A, S, and P arguments of the dependent verb can be raised (see Seiter 1983: 321). In Blackfoot and Quechua, raising of not only core arguments is attested, but also of obliques, and, in Quechua, of adverbials.

   Condition (ii) (only the subject of the lower clause can be raised) also appears to entail that only one NP could be raised at a time. However, some languages violate this constraint:

Cuzco Quechua (Quechuan; Muysken and Lefebvre 1988: 146)

(11) *Mariyacha   **Xosecha-q-ta   platanu-ta   merkadu-pi***
      Maria   Jose-GEN-ACC   banana-ACC   market-LOC
      muna-n   [ranti-na-n-ta].
      want-3   buy-NMZ-3-ACC
      'Maria wants José to buy bananas in the market.'

   In Quechua, the raised arguments are marked as follows: the A/S arguments get accusative marking (in a non-raising counterpart, *Xosecha* in (11) would be marked with genitive without accusative), while all other arguments preserve their original marking; raising affects their linear and structural position, as the position of the underlined NPs in (11) (see argumentation in Muysken and Lefebvre 1988). Some Irish constructions

headed by the verbal noun allow raising of both core arguments of the dependent verb (see Stenson 1981, Postal 1986 for discussion).

We turn now to (iii) (the raised NP occupies the syntactic position of one of the matrix verb's complements [subject or direct object]), and (iv) (the dependent clause does not occupy this position); let us investigate these properties in detail. According to the Relational Grammar analysis of raising, the raised NP forces the dependent clause out of its syntactic position, which is the position of the direct object of the matrix verb. The dependent clause then acquires chômeur status (i.e. it is a demoted element with the status assigned to agents in passive constructions; cf. the Motivated Chômage Law and Stratal Uniqueness Law in Relational Grammar, Perlmutter and Postal 1983). However, this rule does not always hold. In a number of languages the raised argument seems to belong to the matrix clause from the point of view of the constituency structure; yet it does not occupy the syntactic position of subject or direct object in the matrix clause.

For example, in Tuvinian, raising occurs from both nominalizations (12) and finite complements with compementizers (13):

Tuvinian (Altaic, Turkic)

(12) ***Ajas-tə***   *čedi-p*   *kel-gen*   *dep*
        Ajas-**ACC**   reach-CONV   come-NMZ.PST   COMP
        ava-zə   *bil-ir.*
        mother-POSS.3SG   know-NMZ.FUT
        'Mother knows that Ajas has come.'

(13) ***Ada-je-m-nə***   *končǔžu-p*
        father-mother-my-**ACC**   quarrel-CONV
        tur-gan-ən   *men*   *dəŋna-də-m.*
        stay-NMZ.PST-ACC.POSS.3   I   hear-PST-1SG
        'I heard my parents quarrelling.'

The construction exemplified in (13) is intriguing, as both the nominalized verb and the raised NP get accusative marking from the matrix verb. If raising had taken place, the passivization of the matrix verb would make *adajemnə* 'my parents' the subject. However, such sentences are judged as unacceptable:

Tuvinian (Altaic, Turkic)

(14) ***Ada-je-m***   *končužu-p*   *tur-gan-ən*
      father-mother-my   quarrel-CONV   stay-NMZ.PST-POSS.3
      koža-lar-ga   *dəŋna-l-gan.*
      neighbour-PL-DAT   hear-PASS-NMZ.PST
      ('My parents have been heard quarrelling by the neighbours.')

This unacceptibility does not follow from any semantic restrictions on the passive, since the verb 'hear' with a nominal argument *ada-je-m* permits passivization. Other properties confirm that the raised NP does not occupy the position of direct object in the matrix clause; for example, constituency tests show contradictory results (Serdobolskaya 2006). In sum, it can be concluded that the raised NP in Tuvinian is an element of the matrix clause; however, it does not occupy the direct object position there, even though it is marked with the accusative.

     This peculiarity of the Tuvinian data seems to be due to the special status of the accusative case in this language, and in Turkic languages in general. Roughly speaking, the accusative in Tuvinian tends to be used with definite and/or topical NPs, while other NPs tend to remain unmarked (see Muravyova 1992). The accusative is also used to mark adverbials of time:

Tuvinian (Altaic, Turkic)

(15) *Kəž-**ən***   *ulug*   *balək-tə*   *tudu-p*
      winter-**ACC**.POSS.3   big   fish-ACC   catch-CONV
      al-gan   *men.*
      AUX-NMZ.PST   I
      'In winter, I caught this big fish.'

In sum, the accusative in Tuvinian does not only have a syntactic function, but also marks definiteness and topicality. Raising in Tuvinian looks like a movement to a left periphery of the matrix clause, rather than a transformation to direct object.

     A similar argument seems to hold for Kalmyk (Mongolic). As shown in (6), Mongolic languages allow raising from adverbial clauses. In this case, the raised NP gets accusative marking, though the matrix verb does not have a direct object argument slot, and hence cannot assign accusative case. Instead, a new syntactic position seems to be created especially for the raised NP. This seems to follow from the special status of the accusative form in these languages – as in Turkic languages, the accusative in

Kalmyk serves as a marker of topicality, definiteness and animacy, rather than purely as a grammatical marker. Again, this leads to the conclusion that the accusative subject in these languages is not 'raised' to direct object position of the matrix verb, but occupies a position on the left periphery of the whole sentence.

The movement to left periphery analysis was first proposed for long-distance agreement (LDA, by which an NP in the dependent clause controls the agreement of the matrix verb) in Tsez by Polinsky (2000). However, Tsez constructions differ from the Tuvinian and Kalmyk cases in that the NP that triggers long-distance agreement in Tsez shows all the (structural and constituent) properties of the lower clause element. In Tuvinian and Kalmyk, it demonstrates the properties of an element of the matrix clause (while still preserving some properties of the lower clause element). I conclude that the Tuvinian and Kalmyk constructions are to be analyzed as raising to the left periphery of the whole sentence, while in Tsez raising to the left periphery of the lower clause is attested (Polinsky 2002).

A similar phenomenon is observed in Komi-Zyrian and Mari. The subject NP associated with nominalized verbs receives genitive or nominative case marking. The subject in the genitive case shows a number of constituent and structural properties of an element of the matrix clause, as in the Tuvinian example. However, the subject does not get case assignment from the matrix verb. The nominalization keeps its syntactic position as an argument of the matrix verb (see Serdobolskaya 2005 for a detailed analysis.) A similar situation holds for some constructions in Irish (see Stenson 1981).

The claim that the raised NP must force the dependent clause out of its syntactic position does not hold in many other languages of the world, besides Tuvinian and Kalmyk. For example, in Turkish (Mulder 1976), Irish (Postal 1986), and in long-distance agreement constructions in Kashmiri (Hook and Kaul 1987), a new syntactic position is created especially for the raised NP. In Turkish, it is a nominative position that is created in the context of the verb *görün* 'seem' (which otherwise has neither nominative nor accusative arguments); in Irish the raised NP occurs with a preposition, associated with a matrix verb that otherwise has no prepositional arguments; and in Kashmiri intransitive matrix verbs can have an NP raised to direct object position (cf. the analysis of Cuzco Quechua in Muysken and Lefebvre 1988).

To conclude this section, the constructions resembling raising that are attested cross-linguistically do not show the same syntactic properties as does raising in English. There are thus two alternative ways of dealing

with the term 'raising': it can be used to refer to the English model of rais-
ing only, or it can be extended to all the constructions examined in this
section. I take the second alternative and propose to define raising as a
construction in which one of the arguments of the dependent clause dem-
onstrates morphosyntactic properties of an element of the matrix clause
(namely, morphological marking of the raised NP, matrix verb agreement,
or constituency properties).

In fact, this definition can be applied to all those constructions de-
scribed as involving long-distance agreement (LDA; see e.g. Polinsky
2000), the phenomenon by which an NP in the dependent clause controls
the agreement of the matrix verb. This phenomenon appears to be closely
related to raising; consider this example from Qunqi Dargwa:

Qunqi Dargwa (East Caucasian, Dargwa)
(16)   *dammij   pikri   b=iχ-ub-ak:u /   d=iχ-ub-ak:u*
       I.DAT   think   **N**=become-PST-NEG   **NPL**=become-PST-NEG
       [*gilad   neʁₒ   d=erč:-ni*].
       child.PL.ERG   soup   NPL=eat-MSD
       'I didn't notice that the children had eaten up the soup.'

In (16), the matrix verb *pikri biχub* 'to notice' can be marked as neuter
singular (agreeing with the situation encoded by the lower clause). The
marker of neuter plural is also possible (agreeing with the NP *neʁₒ*, as sub-
stances in Dargwa trigger neuter plural agreement).

LDA is widely attested cross-linguistically, especially in head marking
languages.[6] It has been documented in languages of Daghestan: Dargwa,
Tsakhur, Godoberi, Bagwalal, etc. (Kibrik 2003), Tsez (Polinsky 2000); in
the Indo-Aryan languages Hindi (Butt 1993) and Kashmiri (Hook, Kaul
1987); in Itelmen (Bobaljik, Wurmbrand 2005); and in languages of North
America, such as Seri (Hokan), members of the Algonquian family (Black-
foot, Passamaquoddy, Cree), the Wakashan family (Kwakwala), and others
(cf. Bruening 2001).

In Section 3, I show that LDA constructions show the same semantic
and pragmatic properties as raising constructions.

2.3. Cross-linguistic parameters of raising

On the basis of the patterns described in 2.2, I analyze the following pa-
rameters of raising constructions:

1. *Raising effects*. The raised status of the analyzed NP can affect either its case marking, as in English and Japanese, its agreement pattern (LDA), or its constituency properties. There are a number of constructions where no morphological evidence for raising can be observed, yet there is evidence that raising to the matrix clause has occurred (e.g. in Malagasy, Keenan 1976; Cuzco Quechua, Muysken and Lefebvre 1988; and Komi-Zyrian and Mari, Serdobolskaya 2005).

2. *Grammatical role of the raised NP*. As shown in 2.2, in many languages it is not only the subject of the dependent clause that can be raised (as in English). In ergative languages, it is usually the NP in absolutive case that triggers various kinds of agreement, including LDA.

3. *Dependent clause type*. The dependent clause types that allow raising include infinitival clauses (English), nominalizations (Turkic), masdars (Tsez), and finite clauses with complementizers (Nieuan).

4. *Syntactic function of the dependent clause*. In most languages in the present sample, restrictions on raising are imposed, depending on the grammatical role of the lower clause within the main clause. For example, in many ergative languages, only dependent clauses that occupy the place of an absolutive argument can host LDA.

5. *Number of NPs that can be raised at a time*.

6. *Availability of an alternative construction* (a construction without raising/LDA).

7. *Constituency tests* (see 2.1) either show that the raised NP belongs to the matrix clause (M in the table below), or to the dependent clause (D); it may also be that different constituency test contradict each other (M/D).

8. *Structural tests* (see 2.1) that reveal the structural properties of the NP. For example, the passivization test (mentioned above) shows that the NP in question occupies the position of direct object of the main verb (the abbreviation DO in the table); the reflexivization (or reciprocal) tests only show that the NP occupies a position in a matrix clause, and it remains unclear which position this is (M in the table). The failure of these test shows that the NP remains in the lower clause (D).

9. *Matrix verb type*. In some languages, raising is restricted according to the matrix verb's type (factives only, or mental verbs only, etc.). If no restrictions can be observed, the matrix verb type is marked as 'various'.

The cross-linguistic parameters of raising are summarized in Table 1 (see Serdobolskaya [2005] for detailed discussion).

Table 1. Typological parameters of raising (based on Serdobolskaya 2005)

Languages	Case/ LDA / word order	Grammatical role of the raised NP	Depend. clause marking	Depend. clause position	Number of NPs	Altern. constructions	Constituency tests	Structural properties	Matrix verb type
English	case, wo	subj	inf.	DO/subj	1	yes	M	DO/S[7]	mental
Japanese	case, wo	subj, dat	comp	DO, ?	1	yes	M	M	mental
Berber	agr., wo	subj	comp	DO/subj	1	yes	M	DO	mental
Malagasy	case, wo/ wo	subj	comp	DO/subj	1	yes	?	DO/S	mental
Niuean	case	A, P, S	comp	subj	1	yes	?	S	aspectual, modal, phasal
Passama-quoddy	agr., wo	A, S, P, ?	comp	?ABS	1	yes	D	?ABS	mental
Tuvinian	case	subj	comp, nmz	DO	1	yes	M, D	M, D	perception, tell
Khakas	case, wo	subj	comp, nmz	DO, IndO	1	yes	M	D	perception, non-factives
Kalmyk	case, wo	subj	nmz, conv, comp	various	1	yes	M, D	?	various
Komi-Zyrian	wo	subj	nmz	various	1	yes	M, D	M, D	various
Mari	wo	subj	nmz	various	1	yes	M, D	M, D	various
Tsez	agr.	abs	comp, nmz	ABS	1	yes	D	D	various
Dargwa	agr., wo	abs	inf.	various	1	yes/ no[8]	?	?	cause, phasal, wait, like, seem, modal
Tsakhur	agr.	abs	msd, comp, paren.	ABS	1	yes/ no	?	?	want, forget, like, know, need, learn
Bagwalal	agr., wo	abs	inf.	ABS	1	yes/ no	?	?	modal, want, phasal
Blackfoot	agr.	A, S, P, obl	nmz, comp	?ABS	1	yes	D	?	want, mental, perception
Cree	agr., wo	A, S	subor-dinator	subj	1	yes	?	?	non-factives

Table 1 continued. Typological parameters of raising (based on Serdobolskaya 2005)

Languages	Case/ LDA / word order	Grammatical role of the raised NP	Depend. clause marking	Depend. clause position	Number of NPs	Altern. constructions	Constituency tests	Structural properties	Matrix verb type
Kipsigis	case, agr, wo	A, S, P, obl	comp, paren.	DO	1	yes	?	?	believe, tell, perception, cause, want
Tagalog	case, wo	ABS, obl	comp	TOP	1	yes	?	?	modal, want, avoid, mental
Kurdish	case, LDA, wo	P, S/ A, P, S	sub-junct.	subj	1	yes	?	?	mental
Hindi	agr., wo	DO	inf.	subj	1	yes	?	?	modal
Kashmiri	agr., ?wo	DO	inf.	various	1	?	?M	?DO	aspect., modal, phase, cause, want, purp.
Itelmen	agr.	DO, IO, obl	inf.	DO, ?	1	yes	?D	?	cause, modal, forget, want
Quechua	case	A, S, P, obl	nmz	DO	>1	yes	?	M	perception, mental, want
Irish	case, wo	subj, DO	nmz	various	>1	yes/ no	?	?	various
Modern Greek	case	subj	sub-junct.	adverbial	1	yes	?	?	preposition 'with'

On the basis of the results given in Table 1, the following types of con-structions can be identified:

1. Raising to subject/direct object (English, Japanese, Berber, Mala-gasy, Nieuan, and, possibly, Passamaquoddy). In the constructions of this type the raised NP has most of the morphological, constituency and struc-tural properties of the matrix verb's subject/direct object.

2. Raising to the left periphery of the matrix clause. The raised NP has structural and constituent properties of an element of the matrix clause. It receives morphological marking either in the matrix clause (Tuvinian, Kalmyk, Turkish, and, possibly, Cuzco Quechua) or in the lower clause (Komi-Zyrian, Mari).

3. Raising to the left periphery position inside the dependent clause (Tsez, and possibly Irish, Itelmen; Bobaljik and Wurmbrand 2005). The

NP in question has no properties of an element of the matrix clause – neither in structure nor constituency.

4. Clause reduction (Qunqi Dargwa, Kashmiri, and, possibly, Tsakhur, Bagwalal, and Hindi). Noonan (1985) defines clause reduction as a complementation construction in which the dependent verb has a reduced set of grammatical relations. These constructions are very similar to raising; however, they differ in the following way. In raising, it is presupposed that the 'raised' NP originates as an argument in the lower clause. Clause reduction is a construction where the 'raised' NP, in fact, originates as the matrix verb's argument – which is coreferential to a participant that takes place in the situation encoded in the lower clause (e.g. in *Nell made Dudley test the wort* (Noonan 1985, ex. 137) the NP *Dudley* is not 'raised', but originates as the direct object of the matrix predicate). Clause reduction is mostly restricted to one-place predicates of phase, modality, aspect, and sometimes occurs with verbs of perception and volition.

No conclusions can be drawn for a number of languages in the sample (Berber, Khakas, Blackfoot, Cree, Kipsigis, Tagalog, and Kurdish), due to the lack of information on constituency and structural tests in those languages.

3. Semantics and pragmatics of raising

It is usually claimed that the raised NP is not semantically associated with the matrix verb (see, e.g., Postal 1974, Kuno 1976, Lasnik and Saito 1991). The absence of semantic shift via raising is used as a diagnostic that distinguishes raising from infinitival control. However, this claim has been disproven even for English (Kiparsky and Kiparsky 1971, Borkin 1973, Pesetsky 1991, Langacker 1995): the choice of the raising construction or *that*-clause may be strongly influenced by the semantics of the matrix verb:

English (Germanic, Indo-European)
(17) a. *I find that this chair is uncomfortable.*
      b. *I find **this chair** to be uncomfortable.* (Langacker 1995: 5)

According to (Langacker 1995), (17a) denotes a situation in which the speaker bases his/her judgement on other people's impressions, e.g. in a survey of customers' polls, while (17b) is chosen if the speaker him/herself found the chair uncomfortable. Hence, it would be incorrect to

conclude that the semantics of the matrix verb plays no role in the choice of a raising/non-raising construction.

In some languages, pragmatic properties of the raised NP determine the choice of the construction. In this section, I consider different factors that influence this choice in the languages of my sample. For many languages, however, the relevant data are lacking; thus the conclusions drawn here are based on a relatively small number of languages.

3.1. Matrix verb class

The semantic type of the matrix verb is clearly relevant (see Table 1); many languages impose restrictions on raising with respect to matrix verb type. The following hierarchy of matrix verb types associated with raising can be proposed:

> mental verbs > *want* > perception, modal verbs > phasal, speech, emotive verbs > aspectual verbs, *wait*, causal verbs

Figure 1. Hierarchy of verb classes

The probability of raising in the languages of the sample increases from right to left along this hierarchy. However, it is not an implicational hierarchy, but only an indication of the relative frequency of raising among languages: if a language accepts raising with, for example, the verb *want*, it does not follow that it accepts raising with mental verbs. The continuity condition does not hold, either: that a language accepts raising with *want* and phasal verbs does not indicate that it accepts raising with modal verbs (see Table 1). Hence, what we have here is a frequency pattern, which seems to reflect a complex set of factors. The types of matrix verbs that allow raising depend on the type of construction: clause union most often involves phasal and modal (or, more rarely, perception) verbs, while raising to direct object most often occurs with mental verbs. Apparently idiosyncratic lexical semantics of the verbs seem to play a role as well: for example, verbs that mean *wait* more often allow raising than *hope*, and *notice* is more likely to allow raising than *see*.

3.2. Referential properties of the raised NP

The referential properties of the NP to be raised appear to play an important role in determining whether raising can occur. For example, in Tuvinian only specific NPs can be raised:

Tuvinian (Altaic, Turkic)
(18) a. ***Kəm-nə***   *košel'ok*   *čidiri-p*
          who-ACC   purse   lose-CONV
          tur-gan-ən   *esker-di-ŋ?*
          stand-NMZ.PST-ACC.POSS.3   notice-PST-2SG
          'Whom did you notice lose his purse?' [It is known that the hearer did notice someone lose his purse.]

The speaker presupposes that the hearer has seen the situation denoted by the lower clause. Hence, the subject of the dependent clause is specific and indefinite. When it is non-specific, on the other hand, raising does not occur, and the subject of the lower clauses is marked with genitive or nominative case:

(18) b. ***Kəm-nəŋ***   *košel'ok*   *čidiri-p*
          who-GEN   purse   lose-CONV
          tur-gan-ən   *esker-di-ŋ?*
          stand-NMZ.PST-ACC.POSS.3   notice-PST-2SG
          'Did you notice anyone lose his purse?' [No presupposition]

The choice of the construction in Tuvinian is thus determined by the specificity of the lower clause subject. In Khakas, it is definiteness that is relevant (E. Kalinina, p.c.): if the subject of the lower clause is definite, raising is preferred, and otherwise the non-raising construction is chosen.

   LDA constructions demonstrate the same pattern: in many languages, only specific/definite NPs can trigger LDA. Let us consider the following:

Blackfoot (Algic, Algonquian; Frantz 1978: 102)
(19) *nits-íksstaa*   *n-áxk-sskonak-ssi*   *áattsistaai.*
        1-want(**INTR**)   1-able-shoot-**COMP**   hare
        'I want to shoot rabbit(s).'

   Non-specific NPs cannot trigger LDA, and they do not participate in agreement and transitivity marking: the verb in (19) is marked as intransi-

tive. Specific NPs can trigger LDA, whereas the verb takes the marker of transitivity and direct/obviative marking:

Blackfoot (Algic, Algonquian; Frantz 1978: 90)
(20)   *nit-wikIxtatw-a:-wa*   [*n-oxkó-wa   m-áxk-a'po'taki-xsi*].
         1-want.**TR-DIR-3**   my-son-3   3-might-work-COMP
         'I want my son to work.'

The same phenomenon is observed in Hindi (Butt 1993), Kashmiri (Hook and Kaul 1987), Itelmen (Bobaljik and Wurmbrand 2005), Tsez (Polinsky 2000), Cree (James 1984), and Passamaquoddy (Bruening 2001). However, for most languages such a restriction is not a property of LDA, but a restriction on agreement in general; e.g. in Cree and Passamaquoddy it is only the proxy that can trigger agreement on the verb. The same holds for specific NPs in Kashmiri and Blackfoot.

   Thus, the acceptability or probability of raising increases when moving from left to right on the following scale:

definite >> indefinite specific >> non-specific[9]

Figure 2. Hierarchy of the raised NP properties

3.3. Raising and information structure of the sentence

In many languages raising is triggered by topicality. For example, in Tuvinian raising is unacceptable if the subject of the lower clause is focused:

Tuvinian (Altaic, Turkic)
(21)   ***Ajas***   (*[??]**Ajas-tə***)   *soŋga-nə   buzup-kan-ən*
         Ajas   Ajas-**ACC**   window-ACC   break-NMZ-ACC.POSS.3
         men   bodu-m   kər-dɣ-m.
         I   RFL-1SG   see-PST-1SG
         {The teacher is scolding Ajas because he has broken the window. Ajas says that he was not responsible. Another pupil gets up and says:} 'It was Ajas whom I saw break the window.'

The accusative case (indicating raising) is preferred if the raised NP is the topic of sentence. The same kind of restriction is observed in Tagalog

(Nakamura 2000), Passamaquoddy (Bruening 2001), and Tsez (Polinsky 2000). Creider (1979: 8) gives similar evidence for English. However, Kuno (1976) claims that not only the topical, but the focused status of an NP triggers raising in English. In focused contexts, raising is preferable to a *that*-clause, as in, for example, *Mary, I expect to come, but Bill, I don't* and *It is Mary that I expect to come*, cf. (Kuno 1976: 20, ex. 7).

Accordingly, Kuno (1976) argues that the motive of raising is "…to make the constituent subject an element that is movable to the position usually reserved for the topic or the focus of the sentence". Such a conclusion might lead to a modification of the claim above:

> The NP in question is the topic of the sentence > is focused > belongs to the same domain (topic or focus) as the rest of the dependent clause.

However, it is topicality that is more relevant for raising/LDA in Tuvinian, Tsez, Passamaquoddy and Tagalog. I argue that the information structure parameter works differently between English and those languages. It correlates with the difference in the syntactic construction: the Tsez constructions are analyzed as movement to the left periphery, as are those in Tuvinian. This difference indicates that it is not the more fine-grained information structure itself that is crucial for raising in English, but rather the 'prominence' or 'relevance' of the NP in the discourse. The same factor has been proposed by Ljutikova and Bonch-Osmolovskaja (1999) to account for LDA in Tsakhur.

3.4. Raising and animacy

Animacy is one of the most important factors determining the choice of the raising construction in Kalmyk, Tuvinian, and Finno-Ugric languages. More precisely, it is not animacy, but the Animacy Hierarchy (Silverstein 1976) that is important. For example, in Kalmyk personal pronouns do not allow the non-raising construction for some matrix verbs:

Kalmyk (Altaic, Mongolic)
(22) *Bi* ***čamagə*** / ??*či*   *ir-s-i-n'*
      I   you.**ACC**   you(**NOM**)   come-PART-ACC-POSS.3
      med-sən   *uga-v.*
      know-PART   COP.NEG-1
      'I didn't know you had arrived. [When did you arrive?]'

The treatment of proper names, NPs denoting humans, and animate non-humans varies among native speakers of Kalmyk. Some speakers allow both accusative and nominative cases for these types of NPs, while some only allow accusative for proper names and NPs denoting humans. Animals and non-animate NPs most often occur in nominative case; however, the accusative is also possible:

Kalmyk (Altaic, Mongolic)
(23)   *čini*   **ükər /   ükər-igə**   *dala*   *üsə*   *ög-dgin'*
         your   cow   cow-**ACC**   so   milk   give-PART
         med-sən   *uga-v.*
         know-PART   COP.NEG-1
         'I'm surprised (I didn't know) that your cow gives so much milk.'

Accusative case with non-animates occurs most rarely in Kalmyk. Native speakers draw the line differently in what concerns the acceptability/preferability of the accusative; however, the Animacy Hierarchy is respected in all the variants (the acceptability of raising increases from left to right of this scale):

> pronouns > proper nouns > people > animals > inanimate

Figure 3. Animacy Hierarchy

The Animacy Hierarchy also plays a crucial role in determining the distribution of genitive/nominative subjects in nominalizations in Mari, as shown in Table 2 (figures based on approx. 1200 examples; see Serdobolskaya 2005 for data and discussion).

Table 2. Frequency of genitive/nominative in Mari nominalizations

Case	Personal pronouns, proper names >	NPs denoting humans >	Other animate NPs >	Inanimate NPs
GEN, %	95	93	77	43
NOM, %	5	7	23	57

The animacy of the noun to be raised also influences the choice of the raising construction in Komi-Zyrian and Tuvinian (Serdobolskaya 2005). The relevance of animacy to raising could be an areal or a genetic feature,

since these languages belong to language families (Uralic and Altaic) that have a number of features in common. Similarly, animacy influences the choice of the construction in Blackfoot; however, it is a restriction on agreement in general. Therefore, it is not clear whether this parameter is important cross-linguistically; more information is needed for many of the languages discussed in this chapter.

3.5. Raising and idiosyncratic lexical semantics of the matrix verb

We return here to the argument that raising may indeed have an effect on the semantics of the matrix verb. In English, many examples exist where the change of a *that*-clause to raising yields idiosyncratic semantic shifts in the matrix verb, cf. (17a) and (b) above. The following difference in evaluation is observed: by raising, the evaluation is understood to be made directly by the speaker, while in non-raising construction, mediated evaluation is implied.

Similarly, in Japanese and Blackfoot, raising seems to be somehow connected to the speaker's emotions and/or expectations, although the data are not sufficient to clarify this. Consider the following examples:

Blackfoot (Algic, Algonquian; Frantz 1978: 96–97)
(24)   *nít-ssksiniixpa   kí'sa   ot-áyo'kaa-xsi.*
          1-know(**INTR**)   your-brother   3-sleeping-COMP
          'I know your (older) brother is sleeping.'

In Blackfoot, raising is preferred if the speaker wants the lower clause to evoke an emotion. Hence, it is more likely to occur in (25) than in (24):

Blackfoot (Algic, Algonquian; Frantz 1978)
(25)   *nít-ssksino-a-wa   kí'sa   ot-oksiná's-si.*
          1-know(**TR.AN**)**-DIR-3**   your-brother   3-cranky-COMP
          'I know that your (older) brother is cranky.'

We therefore conclude that in some languages the choice between raising and non-raising relates to idiosyncratic semantic properties of the matrix verb.

3.6. Generalizations

The distribution of the semantic and pragmatic factors that trigger raising correlates with the syntactic types outlined in Section 2.3, as illustrated in Table 3.

Table 3. Semantics and pragmatics of raising

Types of raising	Languages	Matrix verb semantics	Information structure	Referential properties	Animacy
Raising to direct object	English	+	+	-	-
	Japanese	+	?	+	-
Raising to left periphery of lower clause	Tsez	-	+	+	-
Raising to left periphery of matrix clause	Tuvinian	-	+	+	+
	Komi-Zyrian	-	+	+	+
	Mari	-	+	+	+
	Kalmyk	-	+	+	+
Clause union	Hindi	-	?	+	-
	Kashmiri	-	?	+	-
	Dargwa	-	+	+	-
?	Tsakhur	?	+	?	-
	Tagalog	?	+	?	-
	Blackfoot	+	?	+	+

Idiosyncratic semantic properties of the matrix verb trigger raising to direct object/subject, as in English and Japanese. Pragmatic and discourse factors seem to be relevant for nearly all the types of raising considered. However, it is topicality proper that is most relevant for the second and third types of raising in the table, while for English and Tsakhur this factor works differently. The second and the third type are exactly the constructions for which raising to left periphery has been postulated. As for restrictions on referential properties of the raised NP, they often follow agreement/case marking rules in particular languages.

4. Conclusions

The chapter considers the phenomenon of raising, traditionally viewed as purely 'syntactic', from a functional-typological perspective. Taking cross-linguistic data into account leads to the conclusion that the definition of raising should be reformulated. As I have proposed here, at least three distinct types of constructions, attested cross-linguistically, are similar to raising as usually understood: these are raising to direct object/subject, raising to the left periphery of the lower clause, and raising to the left periphery of the matrix clause. Still another type, constructions involving clause reduction, should be analyzed separately from raising proper (although this demonstrates syntactic properties very similar to raising). Rather than being a purely syntactic phenomenon, raising can be triggered by the topicality, definiteness, or animacy of the NP to be raised, or the idiosyncratic lexical semantics of the matrix verb. Differences between syntactic types of constructions correlate with the types of semantico-pragmatic factors that trigger raising.

Notes

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2. I use the term 'raising' (rather than 'exceptional case marking', etc.), following the terminology of typological works. This chapter focuses on raising from clauses; possessor raising is not considered. By 'raising' I mean both raising to object and raising to subject; however, for the sake of brevity, the data on raising to subject are omitted from this discussion.
3. The data come partly from reference articles and grammars, partly from fieldwork (Komi-Zyrian, Mari (fieldtrips with the MSU team headed by A.I. Kuznecova, E. Kalinina, S. Toldova), Kalmyk (Saint-Petersburg University team headed by V. Vydrin, E. Perexval'skaja), Dargwa (a project with N. Sumbatova, D. Ganenkov, supported by the Russian Fund for Humanities, grant № 07-04-00266a), Tuvinian (work with Chojgana and Ojuna Ojun), and Uzbek (work with Šerzod Tašpulatov).
4. This analysis has been refined, cf. Yoon (2003), Ohta (1997).
5. Abbreviations in glossing: NOM nominative, ERG ergative, ACC accusative, GEN genitive, DAT dative, OBL oblique, LOC locative, INSTR instrumental, EL

elative, BEN benefactive, SG singular, PL plural, SJ subject, OBJ object, PRS present, PST past, (I)PF (im)perfect, COP copula, PART participial, INF infinitive, CONV converb, MSD masdar, COMP complementizer, PTCL particle, ART article, NEG negative, TOP topic, AN animate, POSS possessive, AUX auxiliary, (IN)TR (in)transitive, DIR directive, RFL reflexive.

6.   It should be pointed out, as Polinsky (2002) has done, that many of these examples are not cases of LDA proper. Similar effects can arise due to infinitival control, raising (see the discussion of Passamaquoddy data in Bruening 2001), clause union (which probably explains patterns in Hindi, Godoberi and Bagwalal), etc. Polinsky (2002) argues that Tsez exhibits LDA proper: the noun phrase that triggers LDA is not an argument of the matrix verb, and there is evidence that LDA in Tsez is neither infinitival control, raising, nor clause union.

7.   M indicates that the raised NP shows the properties of an element of the matrix clause; S/DO/ABS – the properties of the matrix verb's subject/DO/absolutive argument; D – the properties of an element of the dependent clause.

8.   The slash symbol here means that the situation differs for different matrix verbs.

9.   Generic NPs behave either as definite, or as non-specific NPs (cf. Frantz 1978).

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