

Grammatical Agreement

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Grammatical agreement is a phenomenon in which cooccurring word forms have similar or the same values of number, gender, and person related to some entity. So all words in (1a) are singular, while all words in (1b) are plural; moreover, several words in (1a) are feminine, while the corresponding words in (1b) are masculine. (The values that a word form bears are indicated by superscripts.) The examples in (1) to (4) show some common agreement relations.

(1) French

- a. La^{fsg} fillette^{fsg} est^{3sg} belle^{fsg}.
'The girl is beautiful'
- b. Les^{pl} garçons^{mpl} sont^{3pl} beaux^{mpl}.
'The boys are handsome'

(2) Italian

- a. Tu^{2sg} l'^{3sg} hai^{2sg} vista^{fsg}.
'You have seen her'
- b. (io^{1sg}) li^{3mpl} ho^{1sg} visti^{mpl}.
'I have seen them (masc)'

(3) Finnish

- a. Taina löysi minun^{1sg}_{GEN} kirja-ni^{1sgPoss}.
'Taina found my book'
- b. Taina löysi heidän^{3pl}_{GEN} kirja-nsa^{3Poss}.
'Taina found their book'

(4) German

- a. Ein kleines^{nsg} Mädchenⁿ saß^{3sg} auf der Treppe, und es^{nsg} lachte.
'A little girl sat on the stairs, and she laughed'
- b. Ein kleiner^{mng} Junge^{mng} stand^{3sg} daneben, und er^{mng} heulte.
'A little boy stood beside, and he cried'

In (1), the definite article agrees with the noun, and both the copula and the predicative adjective agree with the subject. If one item of (1a) is exchanged by the corresponding item of (1b), the sentence becomes ungrammatical (e.g., **la fillette sont belle*). (2) shows two agreement relations interwined: the auxiliary agrees with the subject pronoun, while the participle agrees with the preceding object clitic. (3) is an example where the possessed noun agrees with the genitive possessor. In (4), the pronoun in the second clause agrees with the antecedent noun phrase in the first clause. Note that *Mädchen* 'girl' is a neuter noun, triggering a neuter pronoun, although it refers to a female being; in contrast, English pronouns are always selected on semantic grounds.

Grammatical agreement comes as an interplay of morphological, syntactic and semantic aspects (Anderson 1998, Lapointe 1988, Corbett 1994, 1995, 1998, Pollard and Sag 1994). Morphologically, some words are inflected for agreement. Syntactically, constituents stand in the agreement relation if the words they consist of bear corresponding information. Semantically, agreement serves to keep record of discourse referents: only constituents that relate to the same referent can overtly agree with each other (Lehmann 1982). The sentences in (1) are about a single person or a group of persons, while those in (2) are about two referents standing in a 'see'-relation.

Generally, agreement relations can be found among the following elements:

- (a) (NP-/DP-internally:) determiner and noun, attribute and noun, possessor and possessed noun;
- (b) (clause-internally:) a predicate and one of its arguments: verb-subject, verb-object, preposition-object, predicative-argument;

(c) (cross-clausally:) a pronoun/anapher and its antecedent.

The categories that appear in these relations are called ϕ -features, including person (1st, 2nd, 3rd, inclusive=1+2), number (singular sg, plural pl, dual), and gender (e.g., feminine f, masculine m, neuter n).

Nouns and pronouns (including pronominal affixes and clitics) function as the controller (source or probe) of an agreement relation in virtue of their features. Nouns are inherently classified for gender (or noun class), and sometimes also for number (cf. *scissors, trousers, mice, men, brethren*), whereas pronouns are inherently classified for person and number, and sometimes also for gender. The inherent classification is often semantically based: female beings are represented by feminine nouns but male beings by masculine nouns; aggregates are represented by plural nouns; addressees are represented by 2nd person pronouns while speakers by 1st person pronouns. Otherwise, feature assignment can be purely grammatical (obvious in genders such as French *lune^f, soleil^m* vs. German *Mond^m, Sonne^f* (both ‘moon, sun’), and then even override the semantic default (as in German *Mädchenⁿ* ‘girl’).

The grammatical elements that agree with the noun or pronoun are said to be the agreement targets (=controllees); in (1a), the article *la* is the target of *fillette*, which is feminine, and both the copula *est* and the adjective *belle* are targets of the DP *la fillette*, which is fsg. The agreement features of controller and target do not have to be identical, but they must be compatible with each other (such as 3sgUfsg \Rightarrow 3fsg vs. 3sgUfpl \Rightarrow *). In order for a complex DP to be the controller of an agreement relation, the features of the noun and the other DP-internal elements have to be unified. For short, ϕ -features index the referential elements of a discourse (pronouns and DPs), as well as the categories that predicate of these elements.

In the wide sense, one speaks about ‘agreement’ if, e.g., the verb bears information about arguments. Sometimes this information is clearly pronominal, sometimes it is less than that. In Italian, *ho^{1sg} vista^{fsg}* is possible alongside with *io^{1sg} l’^{3fsg} ho^{1sg} vista^{fsg}*, so that one can conclude, the information is pronominal. In German, one cannot drop the pronouns; *habe^{1sg} gesehen* (‘have seen’) is clearly incomplete. Forms such as *ich^{1sg} habe^{1sg}, du^{2sg} hast^{2sg}* ‘I have, you have’, however, are redundant because the information of the subject pronoun is doubled by the agreement morphology. Redundancy is one of the criteria for canonical agreement offered by Corbett (2003) (where he discusses 19 criteria); in that sense, agreement in German is more canonical than agreement in Italian. (Corbett (2003) discusses 19 criteria for canonical agreement.)

Siewierska (1999) distinguishes three types: „(i) Anaphoric agreement markers are in complementary distribution with free nominal or pronominal arguments; (ii) ambiguous agreement markers occur obligatorily both in the presence and absence of free nominal or pronominal arguments; (iii) grammatical agreement markers are obligatory, like ambiguous markers, but, unlike ambiguous or anaphoric markers, must necessarily be accompanied by overt nominal or pronominal arguments.“ Accordingly, Italian shows ambiguous agreement, while German shows grammatical agreement.

If the verb bears information about just one argument, it is usually about the nominative argument (the subject in nominative-accusative patterns, or the object in ergative-absolutive (=nominative) patterns). That the Italian participle can bear information about the object, has ultimately to do with the fact that these participles also occur in passive constructions.

The notion of ‘agreement’ is sometimes used in a still broader sense, including other types of correspondences as well, for instance, case concord in (5), and sortal correspondence in (6).

- (5) a. Latin: DP-internal case concord
 Illa^{fsg}-m_{ACC} femina^{fsg}-m_{ACC} bella^{fsg}-m_{ACC} videbam.
 ‘I saw that beautiful lady’

b. Finnish: DP-internal case concord

tuo-_{n_{GEN}} nariseva-_{n_{GEN}} tuoli-_{n_{GEN}} alla
 that squeaky chair under
 ‘under that squeaky chair’

c. German: Case concord between the predicative noun and its argument

Man nannte ihn_{ACC} einen Idioten_{ACC}; er_{NOM} wurde ein Idiot_{NOM} genannt.
 ‘He was called an idiot’

(6) The horse neighs; the dog barks; the cock crows.

These relations, however, differ in many respects from agreement described above, and, therefore, are not included here. Case reflects the grammatical role of a constituent (subject or object), rather than its referential status, whereas sortal correspondence is based on much finer semantic distinctions than ϕ -features can offer.

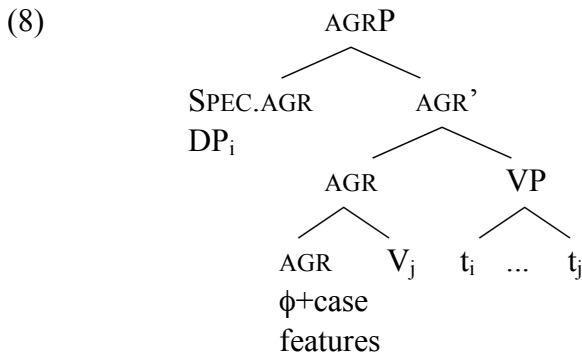
Several theories have been proposed to account for agreement phenomena. In a first systematic attempt, the constituents introduced by a phrase structure rule, such as $S \rightarrow DP + VP$, are indexed with the same set of ϕ -feature values:

- (7) a. $S \rightarrow DP^{\phi^i} + VP^{\phi^i}$ (subject+verb phrase)
 b. $DP^{\phi^j} \rightarrow D^{\phi^j} + NP^{\phi^j}$ (determiner+noun phrase)

This account does not allow the instantiation of different (although still unifying) feature values, as in the French example (1), in which one constituent is fsg and another one is 3sg, and it does not account for anapher-antecedent agreement because these elements do not originate from a common syntactic node. On the other hand, this account is not specific enough because it would describe case concord with the same means. Moreover, the claim that ϕ -feature values distribute along with phrase structure rules seems rather arbitrary.

Notice that (7) is symmetric between controller and target. In contrast, General Phrase Structure Grammar proposed an asymmetric analysis: controller elements can inherit a feature structure AGR lexically, whereas target elements (mostly the functors) receive such a structure only by morphological affixation; the distribution of AGR-features within a clause is then checked by a general control-agreement principle (Gazdar et al. 1985). Again, this theory is both too general and too restricted with respect to agreement.

In the Chomskyan framework of Principles and Parameter Theory (PPT), later replaced by Minimalist Syntax (Chomsky 1995), the bearer of agreement features are functional categories represented by independent syntactic projections (Laka 1988, Pollock 1989, Chomsky 1991). Consider the schematic structure in (8). This structure describes subject-verb agreement when the AGR-node is identified with AGR_S, which is specified for certain ϕ -feature values, as well as for case features (such as NOM). In order to get marked for subject agreement morphologically, the verb stem must move to AGR_S, while the subject DP moves into SPEC.AGR_S, where it receives nominative case (both movements leave a trace, which is coindexed in (8)). Similarly, AGR_O is responsible for object-verb agreement as well as accusative case, and AGR_{POSS} is responsible for possessor-noun agreement as well as genitive case. Regardless of various modifications in detail, the basic idea remained the same: there is one syntactic configuration that determines both case and agreement. Agreement, as well as case, are checked between AGR and SPEC.AGR (and both must be licensed by a particular argument role of the verb or noun).



This configuration deals with agreement as an additional structure superimposed on argument structure (such as subject-verb, object-verb, or possessor-noun). It is unclear what additional structure would account for agreement with attributes, adverbs, secondary predicates, or dependent objects. More recently, Chomsky (2000, 2004) proposed to dispense with additional AGR structures and syntactic Spec-Head relations. Agreement is now assumed as a relation between a probing head and a target goal which is in the probe's c-command domain. Note that the terminology has been shifted: now the controller (say, a subject NP) is called target, and the controllee (the verb) is called probe. TENSE rather than arbitrary AGRS is the category responsible for subject agreement, and little *v* (which c-commands VP) for object agreement. The probing head bears unvalued ϕ -features that must find their values within the respective domain.

For most syntacticians, agreement is a local phenomenon and part of narrow syntax. The cross-sentential anapher-antecedent relation certainly is non-local and cannot be captured syntactically. There are more instances of non-local ('long-distance') agreement between matrix and embedded clauses where it is argued that they can be handled locally (see below). In view of these more complex phenomena, Bobaljik and Wurmbrand (2005) come to the conclusion that „agreement is with an (LF) phasemate“ (where a phase is something like a clause and LF is 'logical form'), thus, for these authors agreement is postsyntactic (see also Bobaljik 2008), a position that is not so far from lexically-based accounts.

Another problem for syntactic accounts comes from the assumption that agreement and case-assignment are the two sides of the same coin. If a verb agrees with just one argument, more than often it is the nominative argument: in a nominative-accusative language the verb agrees with the subject, and in an ergative-nominative ('absolutive') language with the object. Hindi is compatible with that correlation even if it is more complex in showing two types of differential realizations. Verbs select ergative for the subject only in the perfective, and accusative for the object only if that is definite or human-specific. Thus, a transitive verb of Hindi can show ERG-ACC or ERG-NOM in the perfective, but NOM-ACC or NOM-NOM in the imperfective. The agreement rule is 'Agree with the highest nominative' (which is the subject in the imperfect but the object in the ERG-NOM pattern); there is no agreement in the ERG-ACC option. Thus, Hindi very clearly exemplifies a narrow correlation between case and agreement.

But other Indo-Aryan languages (with millions of speakers) behave totally different, even if they have similar case-patterns. The Nepali verb agrees with the ergative subject in an ERG-NOM pattern (9a, Deo and Sharma 2006), while in the opposite, the Kutchi-Gujarati perfective verb agrees with the focused accusative object in a NOM-ACC pattern (9b, Patel 2007), i.e., contrary to what is expected, the verb agrees here with the marked rather than the unmarked argument in terms of case. There obviously is no case-agreement correlation in general. Wunderlich (2012) proposes an analysis where case and agreement, based on the same argument ranking, are determined by different constraint-rankings (such as *ERG \gg ERG! or ERG! \gg *ERG; AGR(S) \gg AGR(O) or *AGR(S)/context \gg AGR(S) \gg AGR(O), etc.). Nepali combines ERG! \gg *ERG with AGR(S) \gg AGR(O),

while Kutchi-Gujarati combines *ERG \gg ERG! with *AGR(S)/+perf \gg AGR(S) \gg AGR(O). (ERG! = realize ergative; *ERG = do not realize ergative, etc.)

(9) Agreement with case-marked arguments

- a. Mai-le mero luga: dho-en. *Nepali*
 I-ERG my clothes.NOM wash-PERF.1sg
 ‘I washed my clothes’
- b. Reena chokra-ne mar-ya. *Kutchi-Gujarati*
 Reena.f.NOM boys-ACC hit-PERF.mpl
 ‘Reena hit the boys’

The relation between controller and controllee is asymmetric, as well as the (reversed) relation between probing head and goal. Yet, the agreement relation itself is symmetric: agreement holds if the pieces of information on the controller and on the head are compatible. Thus, a unification-based approach might be promising.

Following the idea that ϕ -features keep record in what the individual referents are predicated of, agreement is seen as a mechanism that rests on the normal composition procedures; there is no need for a special syntax of agreement. In this spirit, agreement was analyzed as a syntax-semantics interface-phenomenon in Head-driven Phrase Structure Grammar (HPSG; Pollard and Sag 1994) as well as in Lexical Decomposition Grammar (LDG; Wunderlich 1994, 1997). In HPSG, all grammatical information of lexical items or more complex forms is encoded by means of feature structure; the ϕ -features that are shared in an agreement relation (regardless of whether they are lexically inherent or morphologically introduced) form a substructure INDEX (as part of CONTENT), and when a clause is composed, the relevant INDEX structures are unified.

In LDG, all morphological and phrasal composition is determined by the Theta Structure of lexical items, constituted as a list of lambda abstractors related to the Semantic Form (a partial semantic representation). In this theory, ϕ -features are associated with (indexed to) individual variables under a binder, such as the λ -abstractor or the Russellian iota operator ‘ ι ’; in the process of composition, these indexes are unified at the common binder of the variables in question. This is illustrated in (9), representing the composition of Latin *illa femina bella* ‘that beautiful woman’ from three individual entries; unification is represented by the sign ‘ \cup ’.

- (10) D: *illa* N: *femina* A: *bella*
 $\lambda P \iota z^{fsg} \{DISTAL(z) \& N(z)\}$ $\lambda x^{fsg} WOMAN(x)$ $\lambda y^{fsg} BEAUTIFUL(y)$
 \cup
 $NP: \lambda x^{fsg \cup fsg} \{WOMAN(x) \& BEAUTIFUL(x)\}$
 \cup
 $DP: \iota z^{fsg \cup fsg \cup fsg} \{DISTAL(z) \& WOMAN(x) \& BEAUTIFUL(x)\}$
 ‘that entity (referred to by fsg) that is distal, a woman, and beautiful’

Some of the elements may be underspecified for f or sg, but any other specification would lead to ungrammaticality (such as **illa femina bellus^{msg}*). Notice that the indexed information becomes relevant only when semantic composition takes place; therefore this account indeed locates agreement at the syntax-semantics interface. Index unification itself is symmetric; all asymmetries result from the syntactic categories. \cup

This approach can easily be extended to all other kinds of agreement, taking into account the specific mode of composition. If one forms the assertion *illa femina bella modesta est* ‘that beautiful woman is modest’, one predicates ‘be modest’ ($\lambda u^{fsg} MODEST(u)$) of the result of (10), and if one continues with the pronoun *ea^{fsg}* ‘she’, *illa femina bella* is a possible antecedent (referring to the same person) because the ϕ -features are compatible.

In the Italian example (11), the subject agrees locally with the auxiliary, and non-locally with the participle embedded in a dependent infinitive clause. The agreement facts thus indicate that ‘have fear’ and ‘be arrived too late’ predicate of the same individual referent. If one assumes that *ha paura* is a subject control verb, the identity of arguments follows from the lexical entry of control verbs; by functional composition, the argument variable of ‘be arrived too late’ then fuses with the argument variable of *ha paura*, and the ϕ -features must unify, as shown in (11c).

(11) LDA with Italian participles

a. Giovanni^{3msg} ha^{3sg} paura di essere arrivato^{msg} troppo tardi.
 G. has fear to be arrived too late
 ‘Giovanni fears to have arrived too late’

b. I ragazzi^{3mpl} hanno^{3pl} paura di essere arrivati^{mpl} troppo tardi.
 ‘The boys fear to have arrived too late’

c. ha paura di essere arrivato troppo tardi
 $\lambda P \lambda x^{3sg} \text{FEAR}(x, P(x)) \quad \lambda y^{msg} \text{ARRIVED_TOO_LATE}(y)$

$\lambda x^{3sg \cup msg} \text{FEAR}(x, \text{ARRIVED_TOO_LATE}(x))$

‘the property (of 3msg entities) of fearing to have arrived’

Another language well-known for long-distance agreement is Hindi (Mahajan 1989, Wunderlich 1994, Boeckx 2004, Bhatt 2005, Chandra 2007). An imperfective control verb such as *caah-t* ‘want’ agrees (together with a possible auxiliary) with the nominative subject (12a), while the perfective variant agrees with the embedded nominative object (12b) because ergative on the subject blocks agreement with the subject. There are two further possibilities, namely that no agreement takes place in the perfect and the verbs get the default ending msg (12c), or that the embedded verb agrees with the object in the imperfect (12d, not available in all dialects). The respective acceptability rates are 95%, 88%, 78%, and 67% according to a study by Bornkessel-Schlesewsky 2008).

(12) LDA with Hindi control verbs

a. Raam^{msg} roTii^{fsg} khaanaa^{msg} caahtaa^{msg} thaa^{msg}.
Ram bread eat.INF **want**.IMPF **be**.PAST
 ‘Ram habitually wanted to eat bread’

b. Raam ne roTii^{fsg} khaanii^{fsg} caahii^f thii^{fsg}. LDA
 Ram ERG **bread** **eat**.INF **want**.PERF **be**.PAST
 ‘Ram had wanted to eat bread’

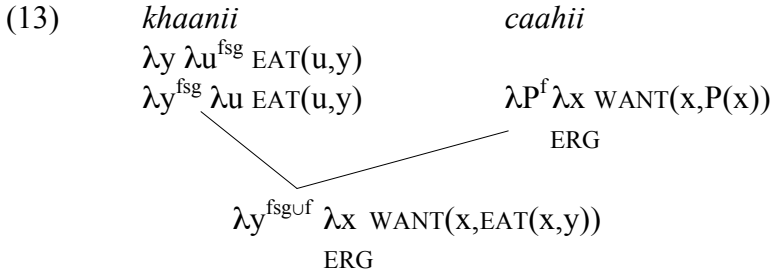
c. Niinaa^{fsg} ne roTii^{fsg} khaanaa^{msg} caahaa^{msg} thaa^{msg}.
 Ram ERG bread eat.INF want.PERF be.PAST
 ‘Ram had wanted to eat bread’

d. Raam^{msg} roTii^{fsg} khaanii^{fsg} caahtaa^{msg} thaa^{msg}.
Ram **bread** **eat**.INF **want**.IMPF **be**.PAST
 ‘Ram habitually wanted to eat bread’

Under what condition the option b or c is selected is controversially discussed. According to Chandra (2007), LDA is possible only with specific objects, while Bhatt (2005) states that the embedded object can get scope over the matrix verb only when LDA takes place. Thus, ‘Naim wanted to read every book’ with no agreement only allows the reading *want* > \forall , while the LDA version b allows both readings *want* > \forall and \forall > *want* (with the latter being preferred). Bobaljik and Wurmbrand (2003) observed a similar pattern in Itelmen, see (16c) below.

This suggests that LDA is possible by reconstruction, where a verb complex is formed and the argument structure of the lowest verb is inherited to the result. The analysis of (12b) is sketched in

(13). The suffix *-ii* in *khaan-ii* instantiates the feature complex *fsg*, which may be associated with either argument (the association with the subject ‘u’ being the default), whereas the perfect form *caah-ii* instantiates *f*, which cannot be associated with the argument role assigned ergative. In this context, only the second alternative of *khaanii* can survive because of unification.



Other types of verbs in Hindi that make LDA possible by forming verb complexes are raising-to-subject verbs like ‘seem’ in (14a), raising-to-object verbs like ‘see’ in (14b), light verbs like ‘let’ in (14c), and modals with a lexically marked subject like ‘should’ in (14d). Here, again, ergative/accusative blocks subject agreement, and a verb complex is formed.

(14) More LDA verbs in Hindi

- a. Raam ne roTii^{fsg} khaayii^f lagtii^f thii^{fsg}.
 Ram ERG bread eat.PERF seem.IMPF be.PAST
 ‘Ram seemed to have eaten bread’
- b. Raam ne billii^{fsg} aatii^f dekhii^f thii^{fsg}.
 Ram ERG cat come.IMPF see.PERF be.PAST
 ‘Ram had seen a cat coming’
- c. Nadia-ne sarosh-ko gaaRii^{fsg} chalaane d-ii^{fsg}
 Nadia-ERG Sarosh-ACC car-F.SG drive-GER.OBL let-PERF.F
 ‘Nadia let Sarosh drive car.’
- d. Raam-ko davaaii^{fsg} khaa lenii^f chaahiye thii^{fsg}.
 Ram-ACC medicine eat take.INF should be.PAST
 Ram should have taken medicine.

In principle, LDA is recursive: the following sentences, although not usual, are grammatical (Shravan Vasishth p.c.).

- (15) a. Raam ne larki^{fsg} aatii^f dekhni^{fsg} chaahii^f
 Ram-ERG girl come.IMPF see.INF want.PERF
 ‘Ram wanted to see a girl coming.’
- b. Raam-ne har kitaab^{fsg} parhni^{fsg} chaahii^f lagtii^f hai
 Ram-ERG every book read.INF want.PERF seem.IMPF be.PRES
 ‘Ram seemed to have wanted to read every book.’

LDA is found in many more languages. In Basque, the auxiliary (which encodes up to three arguments) agrees with the number of the embedded object (16a, Etxeparre 2006). In Itelmen, a Chukotko-Kamchatkan language, the matrix verb agrees with person.number of the direct or indirect embedded object (16b,c, Bobaljik and Wurmbrand 2003, 2005); (16c) shows the same scopal reading as found in Hindi. Note that the matrix verbs here are control verbs, i.e. restructuring verbs forming a verb complex.

(16) LDA with restructuring verbs in Basque (a) and Itelmen (b,c)

- a. [liburu-ak itzultze-ko] eskatu dizkidate
 book-pl.NOM give-back asked have.3plERG.1SDAT.3plNOM
 ‘They asked me to give back the books’

- b. əntxa-βum=nIn kəma-nk nən¹č i zəl-es.
 forget-**1sg**=3.CL **me**-DAT fish INTERJ give-INF
 ‘He forgot to give me (a) fish’
- c. t¹-əntxa-ce?n [miλ okno?-n sop-es]
 1sg-forget-**3pl**.OBJ [all window-**pl** close-INF]
 ‘I forgot to close all the windows’ (∇ > *forget*)

Another group of LDA-languages includes the NE Caucasian Daghestan languages. In Tsez, the matrix verb agrees with the gender class of the embedded object (17a); Polinsky and Potsdam (2001) state the following conditions: “(i) The embedded clause must be in the absolutive position, (ii) the trigger must be the absolutive argument of the embedded clause, (iii) the absolutive NP must be the topic of the embedded clause.” In Khwarshi, the matrix verb likewise agrees with the gender class of the embedded object, but under slightly different conditions: the embedded object must be either topic (17b) or focus (17c), and it must be moved into initial position (Khalilova 2007). Note that ‘know’ is not a restructuring verb because the embedded clause is finite. Just to illustrate what LF-‘phasemate’-ship (Bobaljik and Wurmbrand 2003) here means, (17a) might be paraphrased as ‘the mother knows of the bread (=topic) that the boy ate’.

(17) LDA with non-restructuring verbs in Tsez (a) and Khwarshi (b,c)

- a. eni-r [už –aa magalu b-aac’ -ru-λi] **b-iy-xo**
 mother-dat boy-erg bread.**III**.NOM III-eat-PASTPARTIC-NOML **III**-know-PRES
 ‘The mother knows that the boy ate the bread.’
- b. Zihe-n uža-l b-iq’-še **b-iti-xx-u**.
 cow(**III**)-TOP boy.OBL-LAT **III**-know-PRES III-divide-CAUS-PASTPARTIC
 ‘The boy knows that the cow was stolen’
- c. K²aba zihe b-ot’uq’q’-u **b-iq’-še** uža-l.
 black cow(**III**) III-come-PASTPARTIC **III**-know-PRES boy.OBL-LAT
 ‘The boy knows that the black cow has come’

Despite theoretical differences, all accounts of LDA are agreed that apparent non-local agreement is in fact local. Either the matrix verb and the embedded verb form a verb complex in which subject and embedded object are clausemates (clause union in Hindi, Basque, Itelmen etc.), or the embedded object is moved into a peripheral position (topic or focus) in which it is accessible to the next higher domain (in the spirit of Chomsky’s 2000 edge condition) – which is the case in the Daghestan languages (17).

Since LDA in the sense of (16) always is lexically triggered by the matrix verb (note that Kutchi Gujarati has just one lexical item of this sort, namely *par* ‘have to’, according to Patel 2007), lexically-based accounts like HPSG and LDG seem especially suitable for the analysis of these constructions: there is something in these lexical items that makes them able to ‘see into’ a dependent clause. Furthermore, discourse categories like topic and focus (to be dealt with in discourse-semantics) seem to play an important role for connecting matrix and dependent clause. In contrast, syntactic accounts assuming that agreement is mediated by extra-syntactic AGR heads (like Mahajan 1989) come in trouble to analyze LDA; therefore, the syntactic minimalism in Chomsky (2000) was a major step for approximating syntactic theory to lexical frameworks.

Most languages have the possibility of ‘no agreement’ in using a default verb form that otherwise could agree, such as neuter, 3rd person or masculine singular. In these cases, the feature complex introduced by the verb form is not associated with an argument variable. Since in German only nominative forms can agree with the verb, agreement is possible in (18a), but is blocked in (18b), so that only the default form *friert*⁰, lacking an index value, can appear.

- (18) a. Ich^{1sg}_{NOM} friere^{1sg} ‘I am cold’
 b. Mich^{1sg}_{ACC} *friere^{1sg} / *friert^{3sg} / friert⁰ ‘I am cold’

Not all languages use agreement. Clearly, a language such as Chinese with nearly no morphology cannot have agreement, but also Malayalam (a Dravidian language spoken in Kerala, SW India), which shows rather rich derivational morphology and also morphological case, nevertheless does not have any agreement. Moreover, the extent to which agreement is used, differs from language to language. Not only may the number of distinctions in the gender, number, and person categories, as well as the richness of inflectional affix inventories vary, it also depends on language-specific grounds in which contexts agreement is obligatory, optional, or even forbidden.

Hungarian marks plural on nouns, adjectives, and verbs. However, adjectives only agree with a noun when they are used predicatively (19a,b). Surprisingly, in the context of a numeral, which inherently contains the concept of plurality, the noun must not be marked for plural (19c). Furthermore, a predicative adjective or verb only agrees with a subject phrase which is overtly marked for plural, see (19d,e).

(19) Hungarian plural agreement

- a. *gyors hajók^{pl} / *gyorsak^{pl} hajók^{pl}*
'fast ships'
- b. *Ezek^{pl} a hajók^{pl} gyorsak^{pl} / *gyors^{sg}.*
'These ships are fast'
- c. *öt hajó^{sg} / *öt hajók^{pl}*
'five ships'
- d. *Az öt hajó^{sg} gyors^{sg} / *gyorsak^{pl}.*
'The five ships are fast'
- e. *Az öt nagynéni^{sg} sört iszik^{3sg} / *isznak^{3pl}.*
DET five aunt beer drinks
'The five aunts drink beer'

Since Hungarian has the plural forms *gyorsak* 'fast' and *hajók* 'ships', these forms must somehow be blocked in (19a,c). Ortmann (1999) proposed that the agreement facts in (19) follow from the interaction of economy and expressivity principles. More specifically, if one assumes the economy constraint 'Avoid multiple expression of plurality in NPs' to rank above the expressivity requirement 'Mark plural on the noun!', both *gyors hajó* and *gyorsak hajók* would violate one of these constraints, and *gyors hajók* turns out to be the optimal form in a context in which more than one ship is meant. In contrast, the singular form *öt hajó* is preferred because the numeral *öt* 'five' already expresses plurality; in this case, it is better to violate the lower-ranked constraint rather than the higher-ranked one. The tableau illustrates that the winner exhibits the fewest violations of higher-ranked constraints.

	several fast ships are meant	Avoid multiple expression of plurality in NPs!	Mark plural on the noun!
a.	<i>gyors hajó^{sg}</i>		violated
⇒	<i>gyors hajók^{pl}</i> <i>gyorsak^{pl} hajók^{pl}</i>	violated	
b. ⇒	<i>öt⁵ hajó^{sg}</i> <i>öt⁵ hajók^{pl}</i>	violated	violated

If plural is unmarked on the noun, the noun phrase is sg and thus incompatible with a plural verb form, as shown in (19e).

As we have seen, Hungarian (unlike English and German) avoids NP-internal agreement. There are also languages that avoid subject-verb agreement, even if they have the suitable affixes. Kurdish, for instance, marks plural only on the verb, see (21). In contrast, Georgian marks plural on the verb only if the subject refers to animate beings, see (20).

- (20) Kurdish
 Mirov /*mirovan^{pl} hat-in^{3pl}.
 man come.past-3pl
 ‘The men came’
- (21) Georgian
 a. Burt-eb^{pl}-i goravs³ / *goraven^{3pl.anim}.
 ball-pl-NOM roll
 ‘The balls are rolling’
 b. Knut-eb^{pl}-i goraven^{3pl.anim} /*goravs³.
 kitten-pl-NOM roll
 ‘The kittens are rolling’

These few examples show that the implementation of agreement considerably varies from language to language.

Additional literature

Baker 2008, Boeckx 2006, Corbett 2003, Corbett 2006, D’Alessandro 2008

References

- Anderson S R 1998 Inflection. In: Hammond M, Noonan M (eds.) *Theoretical Morphology. Approaches in Modern Linguistics*. Academic Press, San Diego, CA, pp. 23–43
- Baker, M C 2008 *The Syntax of Agreement and Concord*. Cambridge University Press
- Bhatt R 2005 Long-distance agreement in Hindi-Urdu. *Natural Language and Linguistic Theory* **23**: 757-807
- Bobaljik J D, Wurmbrand S 2003 Long distance object agreement, restructuring and anti-reconstruction. In: Kadowaki M, Kawahara S (eds.) *Proceedings of NELS 33*. GLSA, Amherst, pp. 67-86.
- Bobaljik J D, Wurmbrand S 2005 The domain of agreement. *Natural Language and Linguistic Theory* **23**: 809-865
- Bobaljik J D 2008 Where’s Phi? Agreement as a post-syntactic operation. In: Harbour D, Adger D, Béjar S (eds) *Phi-Theory: Phi features across interfaces and modules*. Oxford University Press, Oxford, pp. 295-328
- Boeckx C 2004 Long-distance agreement in Hindi: Some theoretical implications. *Studia Linguistica* **58**: 23-36.
- Boeckx C 2006 *Agreement Systems*. John Benjamins, Amsterdam
- Bornkessel-Schlesewsky I et al. 2008. Bridging the gap between processing preferences and typological distributions: Initial evidence from the online comprehension of control constructions in Hindi. In: Richards M, Malchukov A L (eds.) *Scales* (=Linguistische Arbeitsberichte 86), pp. 397-436. Institut für Linguistik, University of Leipzig
- Chandra P 2007 *(Dis)Agree: Agreement and movement reconsidered*. Ph.D dissertation, Univ. of Maryland, College Park
- Chomsky N 1991 Some notes on economy of derivation and representation. In Freidin R (ed.) *Principles and Parameters in Comparative Grammar*. Cambridge, MA: MIT Press.
- Chomsky N 1995 *The Minimalist Program*. MIT Press, Cambridge, MA
- Chomsky N 2000 Minimalist inquiries: The framework. In: Martin R, Michaels D, Uriagereka J (eds) *Step by Step: Essays on Minimalist Syntax in honor of Howard Lasnik*. MIT Press, Cambridge, MA, pp. 89–155.
- Chomsky N 2004 Beyond explanatory adequacy. In: Belletti A (ed.) *Structures and Beyond. The Cartography of Syntactic Structures*. Oxford University Press, Oxford, vol. 3, pp. 104-131

- Corbett G G 1991 *Gender*. Cambridge University Press, Cambridge, UK
- Corbett G G 1994 Agreement. In R. E. Asher (Ed.), *Encyclopedia of Language and Linguistics* Pergamon Press, Oxford, UK, Vol. 1 pp. 54–60
- Corbett G G 1995 Agreement. In: Jacobs J, von Stechow A, Sternefeld W, Vennemann T (eds.) *Syntax: An International Handbook of Contemporary Research*. De Gruyter, Berlin, Vol. 2, pp. 1235–1244
- Corbett G G 1998 Morphology and agreement. In: Spencer A, Zwicky A M (Eds.) *The Handbook of Morphology*. Blackwell, Oxford, UK, pp. 191–205
- Corbett G G 2003 Agreement: the range of the phenomenon and the principles of the Surrey Database of Agreement. *Transactions of the Philological Society* **101**: 155–202
- Corbett G G (ed.) 2003 Agreement: A Typological Perspective. Special issue of *Transactions of the Philological Society* **101**: 149–370
- Corbett G G 2006 *Agreement*. Cambridge University Press, Cambridge
- D'Alessandro R, Fischer S, Hrafnbjargarson G H (eds) 2008 *Agreement Restrictions*. De Gruyter, Berlin
- Deo A, Sharma D 2006 Typological variation in the ergative morphology of Indo-Aryan languages. *Linguistic Typology* **10**: 369–418.
- Etxepare, R 2006 Number long-distance agreement in (substandard) Basque. *ASJU=International Journal of Basque Linguistics and Philology* **40**: 303–350
- Gazdar G, Klein E, Pullum G, Sag I 1985 *Generalized Phrase Structure Grammar*. Blackwell, Oxford, UK
- Khalilova, Z 2007 Long-distance agreement in Khwarshi. In: Kokkonides, M (ed.) *Proceedings of LingO*. Faculty of Linguistics, University of Oxford, pp. 116–123
- Laka I 1988 Configurational heads in inflectional morphology: The structure of the inflected forms in Basque. *International Journal of Basque Linguistics and Philology* **22**: 343–365
- Lapointe S G 1988 Toward a unified theory of agreement. In: Barlow M, Ferguson C A (eds.) *Agreement in Natural Language: Approaches, Theories and Descriptions*. CSLI, Stanford, CA, pp. 67–87
- Lehmann C 1982 Universal and typological aspects of agreement. In Seiler H, Stachowiak F J (eds.) *Apprehension: Das sprachliche Erfassen von Gegenständen*. Narr, Tübingen, Germany, vol. 2 pp. 201–267
- Mahajan, Anoop K. 1989. Agreement and Agreement Phrases. *MIT Working Papers in Linguistics* **10**, 217–252. Cambridge, Mass.
- Ortmann A 2000 Where plural refuses to agree: Feature unification and morphological economy. *Acta Linguistica Hungarica*, **47**: 249–288
- Patel, Pritty. 2007. *Split ergativity and the nature of agreement*. University College London.
- Polinsky M, Potsdam E 2001 Long-distance agreement and topic in Tsez. *Natural Language and Linguistic Theory* **19**: 583–646
- Pollard C, Sag, I A 1994 *Head-driven Phrase Structure Grammar*. The University of Chicago Press, Chicago
- Pollock J-Y 1989 Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* **20**: 365–424.
- Siewierska, A 1999 From anaphoric pronoun to grammatical agreement marker: why objects don't make it. In: Corbett G G (ed.) *Agreement*. Special issue of *Folia Linguistica* **33(2)**:225–51
- Wunderlich D 1994 Towards a lexicon-based theory of agreement. *Theoretical Linguistics* **20**: 1–35
- Wunderlich D 1997 Cause and the structure of verbs. *Linguistic Inquiry* **28**: 27–68
- Wunderlich D 2012 Case and agreement variation in Indo-Aryan. Ms. Leipzig, Dec. 5, 2012 (<http://www.zas.gwz-berlin.de/wunderlich.html>)