

# Appendix A:

## Glossary

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- ↑ ('UP') In an annotation on a daughter category in a phrase structure rule, the f-structure corresponding to the mother node. See Belyaev 2023c: 4.2 [this volume].
- ↓ ('DOWN') In an annotation on a daughter category in a phrase structure rule, the f-structure corresponding to the daughter node on which the ↓ annotation appears. See Belyaev 2023c: 4.2 [this volume].
- ⋆ In an annotation on a daughter node in a phrase structure rule, the mother node in the constituent structure tree. See Belyaev 2023c: 4.2 [this volume].
- \* In an annotation on a daughter node in a phrase structure rule, the daughter node on which the \* annotation appears. See Belyaev 2023c: 4.2 [this volume].
- <\* In an annotation on a daughter node in a phrase structure rule, the immediate left sister of the daughter node on which the annotation appears. See Belyaev 2023a: 4.2.1 [this volume].
- \*> In an annotation on a daughter node in a phrase structure rule, the immediate right sister of the daughter node on which the annotation appears. See Belyaev 2023a: 4.2.1 [this volume].
- ← In an off-path constraint, the f-structure immediately containing the feature on which the annotation appears. See Belyaev 2023a: 3.2.2 [this volume].



- In an off-path constraint, the f-structure value of the feature on which the annotation appears. See Belyaev 2023a: 3.2.2 [this volume].
- $>_f$  See Functional precedence.
- $=_c$  See Constraining equation.
- $\multimap$  See Linear implication.
- $\wedge$  See Conjunction.
- $|$  See Disjunction.
- $\vee$  See Disjunction.
- $/$  At the end of the list of daughters in a phrase structure rule: see ‘Ignore’ operator.
- $\backslash$  Following an f-structure reference: see Restriction.
- $-$  After a symbol: see Instantiated symbol.
- , (COMMA) Between daughter categories in a phrase structure rule: see ID/LP rule. Between sequences of categories enclosed by square brackets in a phrase structure rule: see ‘Shuffle’ operator.
- $\phi$  PROJECTION The  $\phi$  projection is a projection function from nodes of the constituent structure to their corresponding functional structures.
- $-1$  See Inverse correspondence function.
- $\epsilon$  The empty string.
- $X^0$  In X-bar theory, a zero-level or lexical category, usually a single word. For example, the noun *horse* is of category  $N^0$ , and can appear as the head of a phrase of category NP.
- $X'$  In X-bar theory, a single bar level category, projected from the X head.
- $\hat{X}$  See Non-projecting word.
- A-STRUCTURE The linguistic representation of the information in argument structure.

- ADJ** The adjunct grammatical function. At functional structure, a feature whose value is a set of f-structures.
- ADJUNCT CONTROL** A construction in which a control relation holds between an argument in the matrix clause and an unexpressed argument in an adverbial subordinate clause. See Vincent 2023 [this volume].
- ANAPHORIC CONTROL** A control construction in which an argument of a matrix clause is required to corefer with the subject of a closed clause such as *COMP*. See Vincent 2023 [this volume].
- ANNOTATED PHRASE STRUCTURE RULE** A phrase structure rule in which the daughter categories are annotated with constraints on the functional structures and other levels of representation to which they correspond. See Belyaev 2023c: 4.2 [this volume].
- ARGUMENT STRUCTURE** A level of linguistic structure which represents the aspects of meaning that are relevant for determining the syntactic role of the argument of a predicate. Its representation is referred to as *A-structure*. See Findlay et al. 2023 [this volume] and, for a historical perspective, Booth & Butt 2023: 3.2 [this volume].
- ATOMIC VALUES** Feature values which have no internal structure, as opposed to complex values such as functional structures or semantic forms.
- ATTRIBUTE** See *Feature*.
- ATTRIBUTE-VALUE MATRIX** See *Attribute-value structure*.
- ATTRIBUTE-VALUE STRUCTURE** A structure containing attributes (features) and values, usually represented graphically as a list in which each line contains an attribute followed by its value, with the entire list enclosed in square brackets. Functional structure is generally represented as an attribute-value structure.
- BACKWARD CONTROL** A control construction in which the controller appears overtly in the embedded clause and the controlled argument is in the matrix clause. See Vincent 2023 [this volume].
- BACKWARD RAISING** A construction which shares all the distributional properties of a raising construction except that the embedded subject appears in the embedded clause and not in the matrix clause. See Vincent 2023 [this volume].

C      See CP.

C-COMMAND A relation between nodes of the constituent structure tree. Several slightly different definitions of c-command have been proposed, but a commonly accepted one states that a node  $n1$  c-commands a node  $n2$  if and only if all of the nodes which dominate node  $n1$  also dominate node  $n2$ .

C-PRECEDENCE The left-to-right precedence relation holding between nodes of the constituent structure tree. See Belyaev 2023a: 3.2.6 [this volume] and Rákosi 2023: 2.3 [this volume].

C-STRUCTURE See Constituent structure.

CAT PREDICATE A predicate relating a functional structure to the category labels of the constituent structure nodes that correspond to it via the inverse of the  $\phi$  projection. CAT takes two arguments: an f-structure, and a set of constituent structure category labels. The CAT specification requires that at least one of the c-structure nodes corresponding to the specified f-structure has one of the labels in the set. For instance, assume that an f-structure  $f$  is related via the inverse  $\phi$  correspondence to c-structure nodes labeled NP, N', and N; in this case, all of the following predicates hold:  $\text{CAT}(f, \{\text{NP}, \text{N}', \text{N}\})$ ;  $\text{CAT}(f, \{\text{NP}\})$ ;  $\text{CAT}(f, \{\text{NP}, \text{AP}\})$ . The CAT predicate is interpreted distributively and thus may help in describing unlike category coordination: if  $f$  is a set of f-structures representing a coordination, each f-structure in  $f$  must correspond to at least one node with a label in the set. For example, the specification  $\text{CAT}(f, \{\text{AP}, \text{PP}\})$  allows  $f$  to correspond to a conjunction of APs, a conjunction of PPs, or a conjunction of unlike categories composed of APs and PPs. See Patejuk 2023 [this volume]. A related definition is sometimes assumed: in Belyaev 2023c [this volume], Bond 2023 [this volume], and Sadler 2023 [this volume], CAT is a function over f-structures, returning the set of labels of the c-structure nodes to which the f-structure corresponds. According to this definition, if  $f$  is related to c-structure nodes with categories NP, N', and N,  $\text{CAT}(f) = \{\text{NP}, \text{N}', \text{N}\}$ .

CLAUSE-TYPE Feature whose value is the type of the clause. Typical values are DECL for declarative, IMP for imperative, and INT for interrogative. Sometimes as CLTYPE.

CLTYPE See CLAUSE-TYPE.

**CODESCRIPTION** The simultaneous description of more than one level of linguistic structure, as opposed to description by analysis. See Belyaev 2023c: 5 [this volume].

**(F-STRUCTURE) CO-HEAD** At constituent structure, an  $X^0$  node is an f-structure co-head with another  $X^0$  node if both nodes correspond to the same functional structure.

**COHERENCE** The requirement that an f-structure may not contain governable grammatical functions that are not selected by the predicate (the semantic form value of the **PRED** feature). See Belyaev 2023a: 3.4.3 [this volume].

**COMP** A grammatical function typically associated with sentential complements.

**COMP,X** In constituent structure, the complement of  $X$ ; that is, the non-head daughter of  $X'$  which is sister to the head,  $X^0$ . See X-bar theory.

**COMPFORM** Feature whose value is the form of the complementizer, for example **THAT** or **WHETHER** for English. Sometimes as **COMP-FORM**, especially in the ParGram grammars.

**COMPLETENESS** The requirement that all governable grammatical functions required by the predicate (the semantic form value of the **PRED** feature) must be present. See Belyaev 2023a: 3.4.2 [this volume].

**COMPLEX CATEGORY** A constituent structure category consisting of a category label (such as **I**, **NP**, or **V'**) and a set of features or parameters. For example, **VP[fin]** is a complex category, with category **VP** and parameter 'fin' for finite. See Booth & Butt 2023: 4.2 [this volume], and for an implementational perspective, Forst & King 2023: 2.2 [this volume].

**COMPLEX PREDICATE** A construction in which there is a mismatch in the number of predicates at functional structure and the number of forms at constituent structure which express them. See Andrews 2023b [this volume].

**CONCAT** Built-in template in XLE taking two or more arguments. All arguments except the last one are concatenated, and the result is the final argument. For example, in **@(CONCAT look '- up %FN)** the first argument is 'look', the second argument is '-' (which must be explicitly quoted with the back quote in XLE), the third argument is 'up', and %FN would be 'look-up'.

**CONCORD** Feature whose value is an f-structure containing certain agreement features, typically including the features **GEND**, **NUM**, and **CASE** and their values. See Haug 2023a: 3 [this volume].

**CONFIGURATIONAL LANGUAGE** See Configurationality.

**CONFIGURATIONALITY** A language type in which grammatical functions are often or always associated with particular constituent structure positions. Also see Non-configurationality.

**CONJ** Feature whose value is the form of the conjunction in a coordinate phrase, for example **AND** or **OR** in English. Sometimes represented as **CONJFORM** or **CONJTYPE**.

**CONJFORM** See **CONJ**.

**CONJTYPE** See **CONJ**.

**CONJUNCTION OF FUNCTIONAL DESCRIPTIONS** Conjunction of functional descriptions is usually implicit, but is sometimes represented as  $\wedge$ .

**(PRINCIPLE OF) CONSERVATION** A general constraint on linguistic derivations that requires a bounded relationship between the amount of information (the sizes) of every pair of corresponding structures. This is a sufficient condition for the decidability of many important computational problems. See Kaplan & Wedekind 2023 [this volume].

**CONSISTENCY** The requirement for a feature to have exactly one value, and not more than one. See Belyaev 2023a: 3.4.1 [this volume].

**CONSTITUENT STRUCTURE** The linguistic level representing word order and phrasal constituency, represented as a phrase structure tree. See Belyaev 2023c: 3 [this volume] and Andrews 2023a [this volume]; for a historical perspective, see Booth & Butt 2023: 4 [this volume].

**CONSTRAINED LEXICAL SHARING** A restricted theory of lexical sharing. See Booth & Butt 2023: 4.4 [this volume].

**CONSTRAINING EQUATION** An equation that must hold of the minimal f-structure solution to all of the defining equations in a functional description. Constraining equations are distinguished from defining equations by the presence of a subscript *c* on the equals sign:  $=_c$ . See Belyaev 2023a: 3.2.2 [this volume].

**CONSTRUCTIVE CASE** The view that case specifications on an argument determine its grammatical role. Formally, constructive case specifications are encoded by means of Inside-Out Functional Uncertainty. See Butt 2023 [this volume].

**CONTROL** a) Structures in which an overt argument in one clause is partially or fully co-referential with and determined by an expressed argument in another clause, most commonly but not necessarily a higher clause. There are various sub-types: adjunct, backward, exhaustive, implicit, partial, split control. b) The mechanisms by which such structures are analysed, namely functional control, anaphoric control, quasi-anaphoric control. See Vincent 2023 [this volume].

**COPY RAISING** A construction in which the subject argument of an embedded predicate is realized as the grammatical subject of the matrix verb, and its place in the embedded clause is occupied by a pronominal copy, as in English *Sarah<sub>i</sub> seems like she<sub>i</sub> is asleep*. See Vincent 2023 [this volume].

**CORRESPONDENCE FUNCTION** A function which relates components of one level of linguistic structure to components of another level. For example, the  $\phi$  projection is a correspondence function relating nodes of the constituent structure to functional structures.

**CP** Originally ‘complementizer phrase’, a constituent structure category. Now used for a phrase that consists of a full clause and possibly additional material such as a complementizer or a displaced phrase.

**D** Determiner. See DP.

**DECIDABILITY THEOREMS FOR LFG** Decidability can be relevant for parsing, generation, or other properties of linguistic systems. For example, if the parsing problem for a linguistic system is decidable, it is possible to determine for any given sentence whether it is licensed (admitted) by a particular grammar of that system in a finite number of computational steps. If it is not always possible to make that determination, the parsing problem for that system is not decidable. The parsing problem for LFG has been shown to be decidable under certain constraints: the Nonbranching Dominance Constraint of earlier formulations has now been replaced by the linguistically more appropriate Proper Anchoring Condition. See Kaplan & Wedekind 2023 [this volume].

**DEFINING EQUATION** An equation requiring an f-structure to contain a feature with a particular value. See Belyaev 2023c: 4.1 [this volume] and Belyaev 2023a: 3.2.1 [this volume]. Also see Constraining equation.

**DESCRIPTION BY ANALYSIS** The description of one level of linguistic structure on the basis of properties of another level, as opposed to codescription. See Belyaev 2023c: 5 [this volume].

**DIFFERENTIAL OBJECT MARKING** Non-uniform grammatical marking of objects. See Zaenen (2023) and Laczkó (2023).

**DIRECT SYNTACTIC ENCODING, PRINCIPLE OF** A principle stating that syntactic rules may not alter grammatical functions, originally proposed by Kaplan & Bresnan (1982). For example, according to the Principle of Direct Syntactic Encoding, passivization cannot be treated as a syntactic operation that converts an active clause into a passive clause by converting the object into a subject.

**DIS** A grammatical function for displaced phrases, for example the displaced or fronted object in an example like *Who did you meet?*. Sometimes as OP or UDF. Also see Overlay function, and Kaplan 2023 [this volume] for discussion of an alternative analysis in terms of information structure.

**DISCOURSE CONFIGURATIONALITY** A language type in which discourse functions are often or always associated with particular constituent structure positions. See Zaenen (2023), Booth & Butt (2023), and Laczkó (2023).

**DISJUNCTION** A disjunction over functional descriptions or over sequences of categories on the right-hand side of a phrase structure rule is generally enclosed in curly brackets, with the options separated by a vertical line: ‘A or B or C’ is represented as {A|B|C}. Sometimes  $\vee$  is used instead of the vertical line: {A $\vee$ B $\vee$ C}. If the scope of the disjunction is clear, the curly brackets are sometimes omitted.

**DISTRIBUTIVE/NONDISTRIBUTIVE FEATURE** If the value of a distributive feature is specified for a set of attribute-value structures, each structure in the set is required to have the specified value for that feature. If the value of a nondistributive feature is specified for a set of attribute-value structures, the set of f-structures as a whole has the specified value for the feature. The distributive/nondistributive distinction is relevant only when specifying the value of a feature for a set of attribute-value structures. See Haug 2023a [this volume].



**DP** Determiner phrase (a constituent structure category).

**ECONOMY OF EXPRESSION** A principle of competition among different potential constituent structure analyses for a sentence which allows only the smallest constituent structure analyses, and rules out larger structures.

**ENDOCENTRICITY** A principle of phrasal organization which requires phrases of a particular phrasal category to contain a head of the same category. It is a central principle of X-bar theory. For growth of endocentric structure in historical change, see Booth & Butt 2023: 4.3 [this volume].

**EQUI** A label for the class of control verbs in which the controlling argument has a semantic role with respect to both the matrix and the embedded predicate. This class is traditionally contrasted with raising verbs, in which the shared argument has a semantic role only in the embedded clause. See Vincent 2023 [this volume].

**EVIDENTIALITY** The linguistic marking of the nature of evidence for a given statement. See Laczko (2023).

**EXHAUSTIVE CONTROL** Control constructions in which the embedded argument is coreferential with the controlling argument. See Vincent 2023 [this volume]. Also see Partial control.

**EXISTENTIAL CONSTRAINT** A requirement for the presence of a feature in the minimal f-structure solution to all of the defining equations in a functional description, but with no constraints on the value of that feature. For example, the requirement for a clause to be tensed can be enforced by the existential constraint ( $f$  TENSE), which requires the f-structure  $f$  for the clause to contain the TENSE feature, without specifying a particular value for TENSE.

**EXOCENTRIC CATEGORY** A phrasal category which does not contain a head in the sense of X-bar theory, but can be headed in the sense of the mapping from constituent structure to functional structure by a node of any category with annotation  $\uparrow=\downarrow$ . LFG assumes at least one exocentric category, the clausal category  $S$ . See Belyaev 2023a: 2.1 [this volume].

**EXTENDED COHERENCE CONDITION** An extension of the Coherence condition which requires f-structures with non-argument roles such as DIS, FOCUS, or TOPIC to be integrated into the f-structure by functionally or anaphorically binding an argument. See Kaplan 2023 [this volume].

EXTENDED HEAD See (F-structure) co-head.

F-COMMAND There are several definitions of f-command. According to a commonly assumed definition, an f-structure *f*1 f-commands an f-structure *f*2 if *f*1 does not contain *f*2, and there is some f-structure *g* which immediately contains *f*1 and also contains *f*2. F-command is analogous to the c-command relation on constituent structure nodes.

F-DESCRIPTION See Functional description.

F-PRECEDENCE See Functional precedence.

F-STRUCTURE See Functional structure.

FEATURE An attribute which has a value in an attribute-value structure. For example, the f-structure [TENSE PST] has the feature/attribute TENSE with value PST.

FOCUS The new information contributed by a sentence, or the portion of a sentence which contributes the new information. At functional structure or information structure, the value of the FOCUS feature is the linguistic material associated with the focus role. See Zaenen 2023 [this volume].

FORM Feature whose value is the form of a particular word. For example, weather verbs in English (such as *rain* or *snow*) require their subject to have the form *it*. To allow this requirement to be enforced, one of the lexical entries for *it* has the feature FORM with value IT, and accordingly the verb *rain* requires its subject to include the feature FORM with value IT.

FRAGMENTABILITY OF LANGUAGE A principle stating that incomplete fragments of utterances are able to be assigned partial syntactic and semantic analyses on the basis of their lexical and phrasal properties.

FUNCTION-ARGUMENT BIUNIQUENESS A principle of alignment between the semantic roles and grammatical functions of a predicate, stating that no grammatical function can be associated with more than one semantic role, and no semantic role can be associated with more than one grammatical function.

FUNCTIONAL CATEGORY A phrase structure category generally associated with closed-class function words. Commonly assumed functional categories are D/DP, C/CP, and I/IP. For the emergence of functional categories in historical change, see Booth & Butt 2023: 4.3 [this volume].

**FUNCTIONAL CONTROL** A control construction in which an argument of a matrix clause is also the subject of an open grammatical function such as *xCOMP* or *xADJ*. See Vincent 2023 [this volume].

**FUNCTIONAL DESCRIPTION** A set of defining equations and constraining equations describing a set of linguistic structures and the relations among them. See Belyaev 2023c: 4.1 [this volume] and Belyaev 2023a: 3.2.1 [this volume].

**FUNCTIONAL PRECEDENCE** A precedence relation holding between *f*-structures, defined in terms of the *c*-precedence relation at constituent structure. See Belyaev 2023a: 3.2.6 [this volume].

**FUNCTIONAL STRUCTURE** The linguistic level representing grammatical functions such as subject and object, and grammatical features such as voice, person, number, and case. See Belyaev 2023c: 4 [this volume].

**FUNCTIONAL UNCERTAINTY** A type of constraint on the relation between two attribute-value structures which is stated in terms of a regular expression over a sequence of features. See Belyaev 2023a: 3.2.3 [this volume] and Kaplan 2023 [this volume]. Also see Inside-Out Functional Uncertainty.

**GENERATION** In LFG, the problem of finding the set of sentences that the grammar assigns to a particular functional structure, if the *f*-structure is realized by the grammar. Also see Realization.

**GF** Metavariable representing any grammatical function.

**$\hat{\text{GF}}$**  The grammatical function borne by the thematically most prominent argument. See Belyaev 2023b [this volume].

**GGF** Metavariable representing any governable grammatical function.

**GLUE** A theory of the syntax-semantics interface which expresses constraints on the combination of meanings via statements in a resource logic, Linear logic. See Asudeh 2023 [this volume].

**GOVERNABLE GRAMMATICAL FUNCTIONS** Governable grammatical functions are those which can be subcategorized, or required, by a predicate. The governable grammatical functions that are usually assumed are *SUBJ*, *OBJ*, *OBJ<sub>θ</sub>*, *COMP*, *xCOMP*, and *OBL<sub>θ</sub>*.

**GRAMMAR WRITER'S WORKBENCH** A computational grammar development platform for LFG, developed in the 1980s and 1990s at the Xerox Palo Alto Research Center. See Forst & King 2023: 1.1.3 [this volume].

**GRAMMATICAL FUNCTION HIERARCHY** An ordering of grammatical functions, with SUBJ at the top of the hierarchy, followed by OBJ and OBL<sub>θ</sub>. See Belyaev 2023b [this volume].

**GW** See Grammar Writer's Workbench.

**I** See IP.

**ID/LP RULE** A phrase structure rule in which precedence relations are specified separately from mother-daughter relations: an ID (Immediate Dominance) rule specifies the permissible daughters of a mother node, and an LP (Linear Precedence) rule specifies the permissible order among the daughters. In an ID rule, the daughters are separated by commas.

**'IGNORE' OPERATOR (/)** In a phrase structure rule, the Ignore operator is written as a forward slash at the end of the rule, and is followed by the Ignore category sequence. Such a rule licenses any number of instances of the Ignored category sequence, interspersed at any position among the specified daughter nodes. For example, the rule 'VP → [V NP]/AdvP' (VP dominates V and NP, ignoring AdvP) is a shorthand for 'VP → AdvP\* V AdvP\* NP AdvP\*' (using the Kleene star '\*'), allowing VP to dominate any sequence of categories containing V and NP, and also any number of AdvPs in any position.

**IMPLICIT CONTROL** Structures in which a missing argument is inferred from the extrasentential context rather than being determined within the clause by a controlling argument. See Vincent 2023 [this volume].

**INDEX** Feature whose value is an f-structure containing the INDEX feature bundle, typically including the features PERS, NUM, and GEND and their values. See Haug 2023a: 3 [this volume].

**INFORMATION STRUCTURE** The linguistic level representing how linguistic information is structured for presentation in a particular context, distinguishing old from new information, focused from background information, and other distinctions. See Zaenen 2023 [this volume] and, for historical change, Booth & Butt 2023: 4.5.2 [this volume].

- INSIDE-OUT FUNCTIONAL UNCERTAINTY** A type of constraint on the relation between two attribute-value structures, stated in terms of a regular expression, and specified in terms of the position of the more embedded of the two attribute-value structures. See Belyaev 2023a: 3.2.3 [this volume].
- INSTANTIATED SYMBOL** A feature value which can be instantiated only once. A well-formed functional description may not contain more than one equation specifying an instantiated value. Notationally, an instantiated symbol ends with an underscore:  $X_.$
- INT** Interrogative. Sometimes as **INTER**.
- INVERSE CORRESPONDENCE FUNCTION** The inverse of a function  $\alpha$ , written  $\alpha^{-1}$ , reverses the argument and result of  $\alpha$ . For example, the  $\phi$  projection is a function from c-structure nodes to f-structures, and the inverse  $\phi^{-1}$  projection is a relation between f-structures and the c-structure nodes to which they correspond.
- IP** Originally ‘inflection(al) phrase’, a constituent structure category. Now used for a clausal constituent. Also see **CP**.
- KLEENE STAR (\*)** In a regular expression, an operator that allows repetition of a string zero or more times.
- KP** ‘Case phrase’, consisting of a nominal phrase with a case clitic (a constituent structure category. See Belyaev 2023a: 2.1 [this volume].
- LDD** See Unbounded dependency.
- LEXEMIC INDEX (LI)** A unique identifier associated with a morphological root in the lexicon. See Asudeh & Siddiqi 2023 [this volume].
- LEXEMIC ENTRY** An entry in the lexicon specifying the form of a root morpheme, any non-predictable morphological alternations, the syntactic, semantic, and other information associated with the root, and a lexemic index for the root. See Asudeh & Siddiqi 2023 [this volume].
- LEXICAL (REDUNDANCY) RULES** Rules stating generalizations over classes of lexical items.
- LEXICAL INTEGRITY PRINCIPLE** The principle that the properties of words are established in the lexicon, and cannot be modified in the course of syntactic derivation. See Belyaev 2023a: 2.2 [this volume] and Asudeh & Siddiqi 2023 [this volume].

**LEXICAL MAPPING THEORY** A version of Mapping Theory which assumes that the relation between argument roles and grammatical functions is established in the lexicon. See Findlay et al. 2023 [this volume].

**LEXICAL SHARING** The view that a single word can be dominated by more than one node in the Constituent structure tree. See Belyaev 2023a: 5.2.2 [this volume] and, for a historical perspective, Booth & Butt 2023: 4.4 [this volume].

**LEXICALIST HYPOTHESIS** See Lexical Integrity Principle.

**LFG-DOP** A hybrid grammatical model combining LFG and Data-Oriented Parsing. See Cahill & Way 2023 [this volume].

**LINEAR IMPLICATION** A linear logic connective similar to implication, written as  $\multimap$ . See Asudeh 2023 [this volume].

**LINEAR LOGIC** A resource logic in which each premise is a resource which can be used only once. See Asudeh 2023 [this volume].

**LINKING RULES** See Lexical Mapping Theory.

**LMT** See Lexical Mapping Theory.

**LOCAL NAME** A name used to refer to a particular f-structure in a functional description. The reference of the local name is restricted to the functional description in which it appears. A local name begins with a percent sign, %. See Belyaev 2023a: 3.2.5 [this volume].

**LOGICAL SUBJECT** The most prominent argument of a predicate at argument structure.

**LONG-DISTANCE DEPENDENCY** See Unbounded dependency.

**MACRO** A macro is used in capturing generalizations across phrase structure rules. It associates a name with a sequence of annotated constituent structure categories. As with templates, a call to a macro is preceded by an ‘at’ sign, @.

**MAPPING THEORY** The theory of the relation between argument structure and functional structure roles. See Findlay et al. 2023 [this volume] and, for a historical perspective, Booth & Butt 2023: 3.2 [this volume].

**MAXIMAL PROJECTION** In X-bar theory, the XP level. LFG often assumes a two-level version of X-bar theory in which  $XP = X''$ .

**MEANING CONSTRUCTOR** In the glue theory of the syntax-semantics interface, a complex expression with two parts: one part expresses a linguistic meaning, and the other part is an expression of linear logic expressing how the meaning combines with other meanings in semantic composition. See Asudeh 2023 [this volume].

**MINIMAL COMPLETE NUCLEUS** Relative to a designated f-structure  $f$ , the smallest f-structure which properly contains both  $f$  and a PRED feature. The minimal complete nucleus is often assumed to be relevant for specification of anaphoric binding constraints: see Rákosi 2023 [this volume].

**MINIMAL FINITE DOMAIN** Relative to a designated f-structure  $f$ , the smallest f-structure which properly contains both  $f$  and a feature specifying a value for the TENSE feature. The minimal finite domain is often assumed to be relevant for specification of anaphoric binding constraints: see Rákosi 2023 [this volume].

**MORPHOLOGICAL BLOCKING PRINCIPLE** A principle stating that the existence of a more specified form blocks the use of a less specified form. See Asudeh & Siddiqi 2023 [this volume] and Kuhn 2023 [this volume].

**N** Noun. See NP.

**NEGATIVE EXISTENTIAL CONSTRAINT** A constraint forbidding the appearance of a feature in an attribute-value structure. For example, the constraint  $\neg(f \text{ TENSE})$  prevents the f-structure  $f$  from having an attribute TENSE with any value.

**NONBRANCHING DOMINANCE CONSTRAINT** A constraint disallowing constituent structure trees in which two nodes of the same category dominate the same terminal substring, as in the illustration. This constraint is sufficient to ensure decidability of LFG parsing, but is not sufficient to ensure decidability of LFG generation. The stronger principles of Conservation and Proper Anchoring guarantee decidability of both computational problems. See Kaplan & Wedekind 2023 [this volume].

Disallowed:

$\begin{array}{c} | \\ \text{CP} \\ | \\ \vdots \\ | \\ \text{CP} \\ | \\ \dots \end{array}$

**NON-CONFIGURATIONALITY** Refers to a language type in which grammatical functions are not associated with particular constituent structure positions, but can often be identified via agreement and/or casemarking. Also see Configurationality.

**NONDISTRIBUTIVE FEATURE** See Distributive/nondistributive feature.

**NON-PROJECTING WORD** A word that does not project a larger phrase and so cannot have a phrase structure complement or specifier. Non-projecting words of category *X* are annotated with a circumflex, as  $\hat{X}$ . See Belyaev 2023a: 2.1 [this volume].

**NONTHEMATIC ARGUMENT** An argument that is not assigned a semantic role. In English, the pleonastic/‘dummy’ subject *it* of a weather verb like *snow* is a nonthematic argument, as is the raised argument of a raising verb like *seem*.

**NP** Noun phrase (a constituent structure category).

**NSEM** Feature whose value is a bundle of syntactically relevant semantic features of nouns and noun phrases. Used in ParGram grammars. The value of this feature is an f-structure with features **COMMON**, **NUMBER-TYPE**, **PROPER**, **TIME**.

**NSYN** Feature whose value is a bundle of syntactic features of nouns and noun phrases. Used in ParGram grammars. The value of this feature is an f-structure with features **COMMON**, **PRONOUN**, **PROPER**.

**NTYPE** Feature whose value is an f-structure containing the set of syntactic and semantic features of nouns and noun phrases. Used in ParGram grammars. The value of this feature is an f-structure with two features, **NSYN** and **NSEM**.

$\pm o$  ‘Objective’ (object-like) feature cross-classifying grammatical functions. The objective grammatical functions **OBJ**, **OBJ2**, **OBJ<sub>θ</sub>** are  $+o$ , and the non-objective grammatical functions **SUBJ**, **OBL<sub>θ</sub>** are  $-o$ . Used in Mapping Theory (see Findlay et al. 2023 [this volume]).

**OBJ** The grammatical function borne by (primary) objects.

**OBJ<sub>θ</sub>** The grammatical function borne by thematically restricted objects.

**OBJ2** The grammatical function borne by secondary objects.



- OBL<sub>AGENT</sub>** The grammatical function borne by oblique agent phrases.
- OBLIQUE ARGUMENT** An argument of a predicate which is marked by an adposition or by casemarking marking a particular semantic role. See Belyaev 2023b: 3.5.2 [this volume].
- OBL<sub>θ</sub>** The family of oblique grammatical functions associated with particular semantic roles: for example, OBL<sub>AGENT</sub>.
- OCR** Optical character recognition: converting an image of text into the corresponding text.
- OFF-PATH CONSTRAINT** A constraint on a feature which specifies required properties of the f-structure containing the feature, or of the f-structure value of the feature. See Belyaev 2023a: 3.2.2 [this volume] and Kaplan 2023 [this volume].
- OP** See DIS.
- OPEN GRAMMATICAL FUNCTION** Grammatical function corresponding to a phrase which does not contain an internal SUBJ, and whose subject is functionally controlled by an external argument. The open grammatical functions that are usually assumed are xCOMP and xADJ. See Vincent 2023 [this volume].
- OT-LFG** Optimality Theoretic LFG, a hybrid grammatical model combining LFG and Optimality Theory. See Kuhn 2023 [this volume] and, for a perspective from historical change, Booth & Butt 2023: 5 [this volume].
- OVERLAY FUNCTION** A secondary grammatical function which may be borne by an argument. Overlay grammatical functions are sometimes associated with discourse functions such as FOCUS or TOPIC.
- P** Preposition or postposition. See PP.
- PARGRAM** A consortium of grammar development efforts by industrial and academic institutions, with the aim of producing computational LFG grammars for a typologically diverse set of languages, written under a commonly-agreed set of linguistic assumptions. ParGram grammars are written using the XLE grammar development platform. See Forst & King 2023: 3 [this volume].

**PARSING** In LFG, the problem of finding the set of functional structures that the grammar assigns to a particular sentence, if the sentence is recognized by the grammar. Also see Generation.

**PARTIAL CONTROL** Control constructions in which the reference of the controlled argument includes but is not restricted to the controlling argument. See Vincent 2023 [this volume]. Also see Exhaustive control.

**PASSIVE** Feature encoding voice. When this feature appears, its value is + if its clause is passive, and either – or absent if its clause is not passive. A common alternative is to encode voice via a **VOICE** feature with values such as **ACTIVE** or **PASSIVE**.

**PCASE** Feature encoding the grammatical function borne by a prepositional phrase, as required by the preposition. For example, the English preposition *to* is associated with the oblique goal function, so it would contribute a **PCASE** feature with value  $\text{OBL}_{\text{GOAL}}$ .

**PHRASE STRUCTURE RULE** A rule specifying well-formed phrase structure configurations involving a mother node and its daughters. In LFG, the right-hand side of a phrase structure rule is a regular expression. See Belyaev 2023c: 3 [this volume].

**PIVOT** (grammatical function) A grammatical function which plays a role in connecting its clause to other clauses. **PIVOT** is often assumed to be an overlay function.

**POSS** (grammatical function) The grammatical function borne by possessors in a nominal phrase.

**PP** Prepositional or postpositional phrase (a constituent structure category).

**PRED** The f-structure feature whose value is a semantic form. See Belyaev 2023a: 3.3.4 [this volume].

**PREDLINK** (grammatical function) The grammatical function of a predicative complement. The English verb *be* is sometimes analyzed as taking as its arguments a **SUBJ** and a **PREDLINK**.

**PRIORITY UNION** (/) An operation that combines two attribute-value structures, with one of the structures having a distinguished status: the priority union of *f* with *g*, where *f* is the distinguished structure, is written as *f/g*. The

features of the resulting structure are the union of the features in  $f$  and  $g$ , and the value of each feature  $a$  in the resulting structure is the value of  $a$  in  $f$  if it exists, and otherwise the value of  $a$  in  $g$  (in cases of conflict, the distinguished structure ‘wins’). Unlike unification, priority union does not fail.

**PROJECTION ARCHITECTURE** Levels of linguistic representation and the relations among them. See Belyaev 2023c: 5 [this volume].

**PROJECTION FUNCTION** A projection function relates components of one level of structure to components of another level. For example, the  $\phi$  projection is a function relating c-structure nodes to their corresponding f-structures.

**PROPER ANCHORING CONDITION** A specific, easily computable condition on strings, constituent structures, and functional structures that guarantees that they satisfy the bounding requirement of Conservation. See Kaplan & Wedekind 2023 [this volume].

**PROTO-ROLE ARGUMENT CLASSIFICATION** A classification of roles at argument structure which distinguishes roles in terms of their agent-like or patient-like properties. See Findlay et al. 2023 [this volume].

**QUASI-ANAPHORIC CONTROL** A control construction in which an argument of the matrix clause co-refers with the subject of the embedded clause but where the connection is defined in semantic rather than syntactic terms. See Vincent 2023 [this volume]. Also see Anaphoric control.

$\pm r$  (mapping feature) ‘Restricted’ feature cross-classifying grammatical functions. The (thematically) unrestricted grammatical functions SUBJ, OBJ are  $-r$ , and the restricted grammatical functions OBJ $_{\theta}$ , OBL $_{\theta}$  are  $+r$ . Used in some versions of Mapping Theory (see Findlay et al. 2023 [this volume]).

**RAISING** A construction in which the subject argument of an embedded predicate is realized as the grammatical subject or object of a matrix predicate, but does not receive a semantic role from the higher predicate. The term is still widely used as a descriptive label even when, as in LFG, the argument in question is not thought to have undergone a syntactic movement process. See Vincent 2023 [this volume].

**REALIZATION** In LFG, the problem of determining whether there exists at least one sentence that is assigned to a given f-structure by a given LFG grammar. Also see Generation.

**RECOGNITION** The problem of determining whether a given sentence belongs to the language of a grammar. Also see Parsing.

**RE-ENTRANCY** See Structure sharing.

**REGULAR EXPRESSION** An expression that allows the combination of regular predicates via disjunction, conjunction, or negation. A regular expression describes a *regular language*. The right-hand side of a phrase structure rule in LFG is a regular expression; see Belyaev 2023c: 3 [this volume]. Regular expressions are also used in the encoding of functional uncertainty.

**REGULAR PREDICATE** An expression that can include disjunction, optionality (via parentheses), and unbounded repetition (via the Kleene star). In LFG, regular predicates can also include operators such as the ‘Ignore’ operator and the ‘Shuffle’ operator.

**RESTRICTED GRAMMATICAL FUNCTIONS** ( $\text{OBJ}_\theta$ ,  $\text{OBL}_\theta$ ) See  $\underline{+r}$ .

**RESTRICTION** ( $\backslash$ ) In a functional description, the Restriction operator is written as an f-structure reference, followed by a backslash, followed by one or more features: for example,  $f \backslash_{\text{SUBJ}}$  refers to the f-structure  $f$  with the attribute SUBJ and its value restricted out. The f-structure  $f \backslash_{\text{SUBJ}}$  has all of the features and values of the f-structure  $f$  except for the feature SUBJ and its value, which may then be specified differently from the value of SUBJ in  $f$ .

**RESUMPTION** A construction involving an unbounded dependency containing a resumptive pronoun.

**RESUMPTIVE PRONOUN** A pronoun which participates in an unbounded dependency and is bound by an overlay function. See Sadler 2023 [this volume].

**S** The clausal category S is exocentric, meaning that it has no head. See Belyaev 2023a: 4.3.5 [this volume].

**SEMANTIC FORM** Value of the PRED feature at functional structure, encoding syntactic predicate-argument structure. A semantic form consists of the name of the predicate and its arguments, with thematic arguments enclosed in angled brackets, and nonthematic arguments outside the angled brackets. A semantic form is instantiated to a unique value on each occasion of use of the word or construction which contributes it. See Belyaev 2023a: 3.3.4 [this volume].

**‘SHUFFLE’ OPERATOR (,)** In a phrase structure rule, the ‘shuffle’ operator indicates that two sequences of daughters can be interspersed. Each sequence is enclosed by square brackets, and the two sequences are separated by a comma. For example, the rule ‘S  $\rightarrow$  [XP1 XP2], [XP3 XP4]’ licenses any order of the four daughters XP1, XP2, XP3, XP4 as long as XP1 precedes XP2, and XP3 precedes XP4. See ID/LP rule.

**SPEC,XP** In constituent structure, the specifier of XP; that is, the non-head daughter of XP which is sister to the head X’. Also see X-bar theory.

**SPLIT CONTROL** A control construction in which two different matrix arguments taken together provide the antecedent for the unexpressed subject argument of an embedded clause. See Vincent 2023 [this volume].

**STRUCTURE SHARING** The situation when two features in an attribute-value structure share the same value. See Belyaev 2023c: 4.4 [this volume].

**STRUCTURE-FUNCTION MAPPING** A general term for the mapping between structure (in LFG, usually constituent structure) and syntactic function (in LFG, usually functional structure).

**SUBJ** The grammatical function borne by subjects.

**SUBJECT CONDITION** The requirement for clausal functional structures to contain a SUBJ. See Belyaev 2023b: 4.2 [this volume].

**SUBJECT, LOGICAL** See Logical subject.

**SUBSUMPTION** An f-structure  $f$  subsumes an f-structure  $g$  ( $f \sqsubseteq g$ ) if all of  $f$ ’s features and values are also in  $g$ . Notably,  $g$  may contain additional features that are not present in  $f$ . For example, if  $f$  is the structure  $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$  and  $f$  subsumes  $g$ , then  $g$  contains the feature  $a$  with value  $b$  and the feature  $c$  with value  $d$ , and may also contain additional features and values.

**TEMPLATE** A template associates a name with a set of constraints, and allows that name to be used to represent those constraints. See Belyaev 2023a: 5.1 [this volume].

**THEMATIC ARGUMENT** An argument of a predicate which is associated with a semantic role.

**TOPIC** (grammatical function) A grammatical function associated with the information structure role of topic. When it is assumed, **TOPIC** is usually analyzed as an overlay function.

**UD** (**UNIVERSAL DEPENDENCIES**) A system for annotating grammatical functional dependencies. See Haug 2023b [this volume].

**UDF** See **DIS**.

**UNBOUNDED DEPENDENCY** A potentially unbounded relation between a displaced constituent and the position normally associated with its syntactic role. See Kaplan 2023 [this volume].

**UNIFICATION** ( $\sqcup$ ) An operation that combines two attribute-value structures. If the structures are compatible, the resulting structure contains all of the structure from both of the input attribute-value structures. If the structures are not compatible, unification fails. There is a straightforward relation between unification and conjunction of descriptions: if  $f$ -structure  $f_1$  satisfies a description  $d_1$ , and  $f_2$  satisfies a description  $d_2$ , then if  $d_1$  and  $d_2$  are consistent,  $f_1 \sqcup f_2$  satisfies  $d_1 \cup d_2$ .

**UNIQUENESS** See **Consistency**.

**V** Verb. See **VP**.

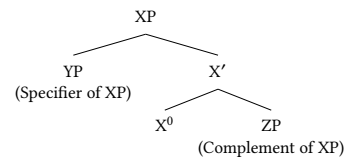
**VERBAL MODIFIERS** (**VMS**) A categorially heterogeneous group of constituents that must occupy the immediately preverbal position in neutral sentences in some Finno-Ugric languages. See Laczkó (2023).

**VFORM** Feature whose value specifies the form of a verb, for example **PPART** for past participle. Also see **VTYP**.

**VP** Verb phrase (a constituent structure category).

**VTYP** Feature whose value specifies verb type. Typical values are **FIN** for finite, **INF** for infinitive, and **PST.PTCP** for past participle.

**X-BAR THEORY** A theory of the organization of constituent structure. Many LFG analyses assume the version of X-bar theory that is depicted in the figure, ignoring linear order (that is, the specifier may precede or follow the  $X'$  head, and the complement may precede or follow the  $X$  head. See Belyaev 2023a: 2.1 [this volume].



**xADJ** The open grammatical function borne by adjunct phrases.

**xCOMP** The open grammatical function borne by complement phrases.

**xCOMP-PRED** (grammatical function) A grammatical function for a non-verbal open grammatical function. Used in ParGram.

**XLE** A computational grammar development platform for LFG, developed at the Xerox Palo Alto Research Center. See Forst & King 2023: 1.1.3 [this volume].