

Lexical Parameters and Apparent Diversity of Languages

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1 Diversity

Three aspects of language pull grammatical organization in different directions: 1) logical form (LF) and argument structure, including phenomena of binding and control; 2) surface syntax and constituency, including case, agreement and the long-range dependencies involved in relativization and coordination; and 3) word-order and flexibility in word-order.

The morphological resources of a language may be at odds with the controllee's syntactic behaviour.

Morphological Ergativity:

- (1) a. *Arnaq yurar-tuq*
woman-ABS dance-IND.3SG
 \mathcal{S}
'The woman dances.' Yup'ik (Bok-Bennema, 1991)
- b. *Angutem tangrr-aa arnaq*
man-ERG see-IND.3SG.3SG woman-ABS
 \mathcal{A} \mathcal{P}
'The man sees the woman.'

Syntactic Ergativity:

- (2) [*bayi burrbula baŋgul gubi-ŋgu bara-n*] [*baji-gu*]
I.ABS.TH B.ABS I.ERG.TH doctor-ERG punch-NFUT fall.down-PURP
 \mathcal{P} \mathcal{A} \mathcal{S}
'The doctor punched Burrbula_i and _i fell down.' Dyrirbal (Manning, 1996)

In Basque, a morphologically ergative language, the controllee can be the absolutive \mathcal{S} NP (3a), or the ergative \mathcal{A} NP (3b), hence cross-cutting the $\mathcal{S}=\mathcal{P}$ alignment provided by morphology. In a case-marking accusative language such as Turkish, the controllee is always the nominative NP (4), hence conforming to the $\mathcal{S}=\mathcal{A}$ alignment.

- (3) a. *Nik [joan] nahi dut*
I-ERG go-INF want have.1SG.3SG
'I want [to go].'
- b. *Nik [kafea egin] nahi dut*
I-ERG coffee-ABS do-INF want have.1SG.3SG
'I want [to make coffee].'
- (4) a. *Ben [gitmek] istiyorum*
I.NOM go-INF want-TENSE-1SG
'I want [to go].'

- b. *Ben [kitabı okumak] istiyorum*
 I.NOM book-ACC read-INF want-TENSE-1SG
 ‘I want [to read the book].’

But, assuming a uniform grammatical resource provided by language’s morphology (e.g. absolutive or ergative case) is not possible, because, for example, some absolutive arguments cannot be controlled in Basque (5).

- (5) **Aitak [semeak ikusi] nahi dut*
 Father-ERG Son-ERG see-INF want have.3SG.3SG
 * for ‘The father wants the son to see him (father).’ Alan King (p.c.)

In contrast, Dyirbal operates on a uniform morphological resource, as only absolutes can be controlled in Dyirbal (6a–b): the agent of the transitive (\mathcal{A}) cannot be controlled.

- (6) a. *Bayi yara walngarra [naba-ygu]*
 I.ABS.TH man.ABS want-NFUT bathe-PURP
 ‘The man wanted [to bathe].’ (Manning, 1996)
- b. *Naja bayi yara giga-n [gubi-ngu mawa-li]*
 I.NOM I.ABS.TH man.ABS tell-NFUT doctor-ERG examine-PURP
 ‘I told the man to be examined by the doctor.’
 lit. ‘I told the man [doctor examine].’

The controllee in (7a) cannot also be the syntactic subject, as Inuit surface grammar works on $S=P$ alignment, not $S=\mathcal{A}$, for syntactic subject.

- (7) a. *Miiqqat [Juuna iku-ssa-llu-gu] niriursui-pp-u-t*
 children.ABS J.ABS help-FUT-INF-3SG promise-IND-INTR-3PL
 ‘The children promised [to help Juuna].’ (Manning, 1996)
- b. *Miiqqat [qiti-ssa-llu-tik] niriursui-pp-u-t*
 children.ABS dance-FUT-INF-4PL promise-IND-INTR-3PL
 ‘The children promised [to dance].’

Moreover, in languages where morphology plays little part in surface syntax, it is still possible to discern the syntactic nature of control in the language. For example, although it is quite clear that agents can be controllees in English (8a), what is controlled is actually the syntactic subject, as the passive example (8b) and the unaccusative (8c) show.

- (8) a. *John wants to clean the window.*
 b. *The dog wants to be petted.*
 c. *The window tries to open.*

Morphological coding of the subject may matter as well. For example, in German, dative objects (which are sometimes spoken of as logical subjects) cannot be controlled (9). But there seems to be no control of the ergative argument alone, the accusative argument, or control of logical objects that are not syntactic subjects.

- (9) a. *er gefällt mir.*
 he.NOM pleases I.DAT
 ‘he pleases me.’ = ‘I like him.’ (Stiebels, Słodowicz and Yang, 2003)
- b. **Ich_i hoffe [___i er zu gefallen]*
 I hope \emptyset .DAT he.NOM to please
 ‘I hope to like him.’
- c. *er_i hofft [___i mir zu gefallen]*
 he hopes \emptyset .NOM I.DAT to please
 ‘he hopes to please me.’

The use of morphological resources may be at odds with surface syntax as well. For example, in Basque, although morphology provides $S=P$ and \mathcal{A} , its syntax allows $S=\mathcal{A}$ because logical subjects can be shared in conjunction reduction (10).

- (10) a. *Amak [seme-a eskola-n utzi] eta [klase-ra joan zen]*
 Mother-ERG son-ABS school-at leave and class-to go AUX
 ‘Mother left her son at school and went to class.’

Word-order, and in particular free-word-order, compounds the problem of keeping morphosyntax and semantics in harmony, and introduces another domain of asymmetry, namely the sensitivity of extraction and coindexation to linear order in languages with relatively free word-order. For example, in Dyirbal, although absolutive and ergative NPs can occur sentence-initially, only absolutive NPs can be sentence-initial topics to be shared across the topic chains (11): ergative NPs (denoting the \mathcal{A} relation) cannot (Dixon, 1972).

- (11) a. *bayi yara walmanu*
 I.ABS.TH man.ABS got up
 ‘The man got up.’ (Dixon, 1972, p.67)
- b. *bayi yara wayndin*
 I.ABS.TH man.ABS went uphill
 ‘The man went uphill.’
- c. *bayi yara walmanu wayndin*
 ‘The man got up (and then) went uphill.’
- (12) a. *Ken-ga Naomi-o, Erika-ga Sara-o tazuneta*
 K-NOM N-ACC E-NOM S-ACC visit-PAST.CONCL
 ‘Ken visited Naomi, and Erika, Sara.’ Japanese (Steedman, 2000, p.172)
- b. **Ken-ga Naomi-o tazunete, Erika-ga, Sara-o.*
- c. *Chonaic Eoghan Siobhán agus Eoghnaí Ciarán.*
 saw Eoghan Siobhán and Eoghnaí Ciarán
 ‘Eoghan saw Siobhán, and Eoghnaí, Ciarán.’ Irish (Steedman, 2000, p.177)
- d. **Eoghan Siobhán agus chonaic Eoghnaí Ciarán.*

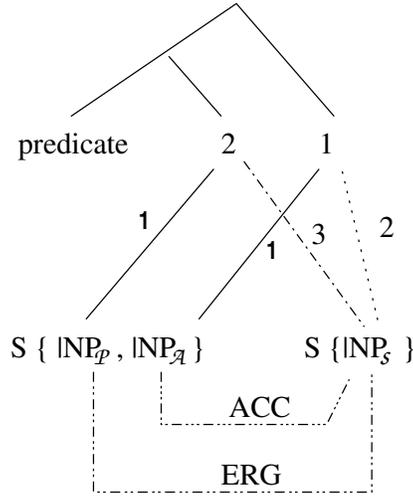


Figure 1: Possible mappings of semantic and lexical syntactic structure.

- (15) Syntactic asymmetries are mediated by the syntactic subject S , and semantic asymmetries are mediated by the semantic subject 1, via lexical types for the category of the head of the construction.

3 Examples: control parameter

Syntactic uniformity: The controlled clause has the syntactic category $S_{\text{inf}}|NP_{\text{cp}}$ cross-linguistically, where cp is the value of the control parameter in the lexicon. Its value shows the subjecthood that the language employs for control (NP_1 being the semantic subject, and NP_S being the syntactic subject). A language can use one of these aspects but cannot leave it completely underspecified, hence the most general syntactic type $S|NP$ is unavailable for control (cf. no evidence of NP_2 , NP_3 , or NP_{acc} , NP_{dat} control unless they encode subjects).

1. $S_{\text{inf}}|NP_1$: Basque, Inuit, Tagalog
2. $S_{\text{inf}}|NP_S$: Dyirbal (where S case is abs); English, German, Turkish (where S case is nom)
3. No control : Mayali (Evans, 1991), Mohawk (Baker, 1996), Nungubuyu (Heath, 1975)

3.1 Dyirbal: An ergative S -control Language

- (16) a. $walygarra := S\{\backslash NP_{\text{abs}}, |(S_{\text{inf}}|NP_{\text{abs}})\} : \lambda P \lambda x. \text{want}(P(\text{ana } x_1))x_1$
 b. $giga := S\{\backslash NP_{\text{erg}}, |(S_{\text{inf}}|NP_{\text{abs}}), \backslash NP_{\text{abs}}\} : \lambda x_2 \lambda P \lambda x_1. \text{tell}(P(\text{ana } x_2))x_2 x_1$

- (17) a. $\frac{\text{I.ABS.TH man.ABS } \textit{baya yara}}{\text{NP}_a} \quad \frac{\text{want-NFUT } \textit{walngarra}}{\text{S}\{\backslash\text{NP}_a, |(\text{S}_{\text{inf}}|\text{NP}_a)\}} \quad \frac{[\textit{\eta}aba-ygu] \text{ bathe-PURP}}{\text{S}\backslash\text{NP}_a}$
 $\xrightarrow{\text{S}\backslash\text{NP}_a}$
 $\xleftarrow{\text{S}\backslash\text{NP}_a}$
 S : want(bathe(*ana* man))man
 ‘The man wanted to bathe.’
- b. $\frac{\text{I.ABS.TH man.ABS } \textit{baya yara}}{\text{NP}_a} \quad \frac{\text{want-NFUT } \textit{walngarra}}{\text{S}\{\backslash\text{NP}_a, |(\text{S}_{\text{inf}}|\text{NP}_a)\}} \quad \frac{\text{II.ERG.TH woman-ERG } [\textit{bangun yibi-}\eta gu] \text{ see-PURP}}{\text{NP}_e} \quad \frac{\text{see-PURP } \textit{bura-li}}{\text{S}\{\backslash\text{NP}_e, \backslash\text{NP}_a\}}$
 $\xrightarrow{\text{S}\backslash\text{NP}_a}$
 $\xleftarrow{\text{S}\backslash\text{NP}_a}$
 $\xrightarrow{\text{S}\backslash\text{NP}_a}$
 $\xleftarrow{\text{S}\backslash\text{NP}_a}$
 S : want(see(*ana* man) woman)man
 ‘The man wanted the woman to see him.’

3.2 Basque: An ergative 1-control language

- (18) a. $\textit{niriursui} := \text{S}\{\backslash\text{NP}_{\text{abs}}, \backslash(\text{S}_{\text{inf}}|\text{NP}_1)\} : \lambda P \lambda x_1. \text{promise}(P(\textit{ana} x_1))x_1$
- b. $\frac{\text{children.ABS } \textit{Miiqqat}}{\text{NP}_a} \quad \frac{[\textit{Juuna } \textit{ikiu-ssa-llu-gu}] \text{ help-FUT-INF-3SG}}{\text{NP}_a} \quad \frac{\text{promise-IND-INTR-3PL } \textit{niriursui-pp-u-t}}{\text{S}\{\backslash\text{NP}_e, \backslash\text{NP}_a\}} \quad \frac{\text{promise-IND-INTR-3PL}}{\text{S}\{\backslash\text{NP}_a, \backslash(\text{S}_{\text{inf}}|\text{NP}_1)\}}$
 $\xrightarrow{\text{S}\backslash\text{NP}_e}$
 $\xleftarrow{\text{S}\backslash\text{NP}_a}$
 $\xleftarrow{\text{S}\backslash\text{NP}_a}$
 S: promise(help*juuna*(*ana* children))children
 ‘The children promised to help Juuna.’ (Manning, 1996)
- c. $\frac{\text{children.ABS } \textit{Miiqqat}}{\text{NP}_a} \quad \frac{[\textit{qiti-ssa-llu-tik}] \text{ dance-FUT-INF-4PL}}{\text{S}\backslash\text{NP}_a} \quad \frac{\text{promise-IND-INTR-3PL } \textit{niriursui-pp-u-t}}{\text{S}\{\backslash\text{NP}_a, \backslash(\text{S}_{\text{inf}}|\text{NP}_1)\}}$
 $\xrightarrow{\text{S}\backslash\text{NP}_a}$
 $\xleftarrow{\text{S}\backslash\text{NP}_a}$
 S: promise(dance(*ana* children))children
 ‘The children promised to dance.’

4 Examples: Ergativity parameter

4.1 Turkish: An accusative language with morphologically-marked S

Turkish contrasts with English and Icelandic in the way \mathcal{S} is encoded in surface syntax. The syntactic subject is not characterized as ‘ $\backslash\text{NP}$ ’ because, as a head-final language, all arguments are on the same side of the verb.

Left- and -right-node raising of non-subjects:

- (19) a. $\textit{kitab-a/-*1} \quad [\textit{adam } \textit{bak-t1}] \text{S}\backslash\text{NP}_{\text{dat}} \quad [\textit{\c{c}ocuk } \textit{da } \textit{oku-du}] \text{S}\backslash\text{NP}_{\text{acc}}$
 book-DAT/*ACC man look-PAST child and read-PAST
 ‘the man looked at and the child read the book.’

- b. *Kitab-ı/-*a* [adam oku-du]_{S\NP_{acc}} [çocuk da bak-tı]_{S\NP_{dat}}
c. [*Adam bak-tı*]_{S\NP_{dat}} [çocuk da oku-du]_{S\NP_{acc}} *kitab-ı/-*a*
d. [*Adam oku-du*]_{S\NP_{acc}} [çocuk da baktı]_{S\NP_{dat}} *kitab-a/-ı**

Left- and right-node raising of subjects:

- (20) a. **Kız-ı* [adam gördü]_{S\NP_{acc}} [çocuğ-a da baktı]_{S\NP_{nom}}
girl-ACC man.NOM saw child-DAT and looked at
* for 'The man saw the girl and the girl looked at the child.'
b. * [*Adam-ı gördü*]_{S\NP_{nom}} [çocuk da baktı]_{S\NP_{dat}} *kız-a*
man-ACC saw child.NOM and looked at girl-DAT
* for 'The girl saw the man and the child looked at her.'

We claim that these facts point to the presence of a pivot in Turkish lexicon for VP coordination, and for the existence of a non-pivot for node-raising of non-subjects.

4.2 *Dyirbal: An Ergative Language with Widespread Syntactic S Asymmetry*

- (21) a. *bayi yara miyanda -ŋu yanu*
I.ABS.TH man.ABS laugh -REL go.NFUT
NP_a/NP_a NP_a S\NP_a (NP[↑]\NP_a)\ (S\NP_a) S\NP_a
NP_a > NP[↑]\NP_a <
NP[↑]=S/(S\NP)
S

'The man who was laughing went.' (Manning, 1996)

- b. *balan yibi baŋgul yara-ŋgu miyanda -ŋu -ru bura-n*
woman.ABS man-ERG laugh -REL -ERG see-NFUT
NP_a NP_e S\NP_a (NP[↑]\NP_a)\ (S\NP_a) (NP[↑]\NP_e)\ (NP[↑]\NP_a) S\{NP_e, \NP_a}
NP[↑]\NP_a <
NP[↑]\NP_e <
NP[↑]=(S\NP_τ)/(S\NP\NP_τ)
S\NP_a >
S : and (laugh man) (see woman man)

'The man who was laughing saw the woman.'

- c. *bayi yara jilwal -ŋa -ŋu guda-gu yanu*
man.ABS man.ABS kick -ANTIP -REL dog-DAT go.NFUT
NP_a S\{NP_e, \NP_a} IV_a\TV (NP[↑]\NP_a)\ (S\NP_a) IV_a|IV_a S\NP_a
S\NP_a <
NP[↑]\NP_a <
NP[↑]=S/(S\NP)
S/(S\NP_a) > B
S : and (antip(kickdog man))(go man)

'The man who kicked the dog went.'

Dyirbal's coordination point to existence of a lexical pivot for that too.

5 Conclusion

- Apparent diversity is actually predictable from a set of parameters with very limited value ranges.
- Proposal: a theory of grammar in which the only components are a parametric lexicon, which embodies the lexicalized grammar of a particular language, and a universal combinatory system which “projects” the lexical information out to phrasal (sentential) predicate-argument structures, including long-range dependencies.
- The lexicon therefore becomes the competence grammar of an individual as (s)he acquires language-particular rule accessibility of an invariant UG—the combinatory rules—and masters the production and interpretation of words used in constructions.
- The asymmetric phenomena studied in this research, which in other frameworks have led to proposals for multi-tiered grammar architectures, can be handled without intermediate representational levels.
- The theory makes no use of such surface syntactic enhancements as traces, surface PRO, empty categories and the like.
- We claim that certain aspects of the lexicon in this extended sense are predictable from UG and the parameters, namely, the skeleton of argument-taking entities once the types of the arguments are determined by the value of the parameters (their grammatical role, relation and order).

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